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LOYOLA MARYMOUNT UNIVERSITY

Linking Resource Allocation to Student Achievement:
A Study of Title 1 and Title 1 Stimulus Utilization

by

Kati P. Krumpe

A dissertation presented to the Faculty of the School of Education,
Loyola Marymount University,
in partial satisfaction of the requirements for the degree
Doctor of Education

2012

Linking Resource Allocation to Student Achievement:
A Study of Title 1 and Title 1 Stimulus Utilization

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by

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This dissertation written by Kati Krumpe, under the direction of the Dissertation Committee, is approved and accepted by all committee members, in partial fulfillment of requirements for the degree of Doctor of Education.

Date January 31, 2012

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Finally, to my husband Paul, I could not have done this without your love, enthusiasm, patience, and support.

DEDICATION

This dissertation is dedicated to my dad, Fred Petersen, AKA “Coach Pete”, whose love for education and kids gave me the passion for teaching and to my two sons, Tyler and Cameron who I hope have learned that they can do whatever they set their mind to. And finally, to my entire family who has always been there for me. Thank you.

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ABSTRACT

Linking Resource Allocation to Student Achievement:
A Study of Title 1 and Title 1 Stimulus Utilization

By

Kati P. Krumpe

With the emphasis on high standards and fiscal accountability, there is a heightened need to inform the research linking student achievement to the allocation of resources. This mixed methods inquiry sought to study how schools utilized Title 1 and Title 1 stimulus funding from 2009-2011 to determine if correlations existed between areas of resource utilization and student achievement by studying both the use of funding and the processes that fifteen elementary and middle Title 1 schools in southern California utilized. The focus was to document resource use of Title 1 and Title 1 stimulus allocations and determine if a correlation existed between expenditures and improved student achievement (quantitative) and to discover themes that existed in student achievement improvement, especially including factors that affect the decision making process at the school (qualitative). Findings suggested that expenditures for professional development and programs for at-risk students played a key role in student achievement growth. The leadership of the school principal was also an indicator of student achievement growth.

The use of Title 1 monies, including the increase in Title 1 stimulus monies, were beneficial to schools and positively contributed to the increase in student achievement. Overall, money, when spent well, led to improved student achievement.

CHAPTER 1

INTRODUCTION

Background

With the promised reauthorization of the Elementary and Secondary Education Act (ESEA) stalled, school leaders are challenged with drastic state budget cuts and unprecedented federal accountability (Legislative Analyst Office [LAO], 2011; US Department of Education [USDOE], 2011a). Even proposed federal relief from key provisions of ESEA through a waiver process will require a commitment to new key reforms such as an overhaul to the teacher and administrator's evaluation process (ASCD, 2011). The challenge to target finite resources without reducing accountability continues to be an on-going legislative priority (LAO, 2011). While the focus on accountability-driven initiatives is not new, the United States has engaged in ambitious educational reforms for the past two decades (Cooley, Shen, & Miller, 2006; Odden & Archibald, 2009).

Although the U.S. Constitution sets the primary responsibility of education with the states, the federal government has continuously played a key role emphasizing education as an antipoverty program (Wells, 2009). Throughout the history of the United States, few areas in public policy have received the flurry of reforms as K-12 public education including the reauthorization of the ESEA in 2001 (Clotfelter & Ladd, 1996).

In the original 1965 signing of ESEA, Eisenhower's primary emphasis was to improve educational opportunities for poor children by providing additional funding to schools for these children (Wells, 2009). With the reauthorization of ESEA, coined the

No Child Left Behind (NCLB) Act of 2001, the emphasis expanded to include an unprecedented focus on standards-based education reform, including measurable goals to improve individual student outcomes in education. Currently, another reauthorization of NCLB is looming and the heightened emphasis on accountability that the original 2001 NCLB authorization brought to schools, districts, and states promises to be even more demanding (US Department of Education [USDOE], 2010). While the reauthorization may provide some relief from the heavily criticized expectation that 100% of all students will be proficient in mathematics and English language arts by the year 2014, and a move toward a growth model to measure student achievement may occur, many sanctions that the federal government imposes on schools that do not make adequate growth are expected to continue (USDOE, 2010).

The monitoring and accountability on fiscal management are predicted to be even more demanding than those included in previous federal statutes. Categorical programs provide money from both the state and federal level that target specific programs (class size reduction, technology) or groups of students (Gifted and Talented Education [GATE], English Language Learners [ELL]). Within NCLB, federal dollars are provided to districts as categorical dollars, or dollars allocated for specific programs to serve educationally disadvantaged children such as high poverty, low achieving, English language learners, or special education students (EdSource, 1997).

Title 1 is one such federal categorical program providing funds to schools and districts with high percentages of poor children to help ensure that all children meet academic standards (USDOE, 2004). Currently the United States spends approximately

16% of a \$450 billion education budget on Title 1 programs, with the highest state expenditures in California (EdSource, 2010a). While categorical programs traditionally have stringent guidelines for spending that are often criticized for not allowing schools to make decisions in the best interest of their students, a call within the reauthorization is for flexibility in how school districts spend federal dollars as long as they continue to focus on improving outcomes for students (Kulman, 2010).

The heightened focus on accountability, funding from federal policy, and promised flexibility occurs during the most volatile state budget crisis in California history, when districts are cutting millions of dollars from annual operating budgets and have already cut approximately 30% of their budget over the last three years (EdSource, 2011a). Because of the poor budget outlook, the idea of accountability in exchange for flexibility is being strongly debated in California (Education Sector, 2007).

Considering both the increased mandates on schools and the economic slide, children of poverty are taking an even harder hit (Wells, 2009). Even in the one area of social policy where the United States previously excelled, the delivery of educational services is still the most uneven and dependent on states and local communities (Hirschland & Steimos, 2003). Despite the passage of ESEA, decades of funding and structural inequalities between high and low income communities and educational experiences for students continue (Darling-Hammond, 1998; Kozol, 1991). Given the deep-rooted history of social inequality in the United States, disadvantaged individuals and/or groups may require more resources to meet student achievement targets (North, 2008; Odden & Picus, 2008).

A tenet within the field of social justice is that the distribution of resources is equitable (Bell, 1997). The 1954 Supreme Court ruling in *Brown v. the Board of Education in Topeka, Kansas* that separate educational resources and facilities are inherently unequal laid the foundation for educational equity (Rebell & Block, 1985). While equity may guarantee a minimum, equal funding distribution to schools, it does so without regard to sufficient funding to ensure academic achievement and bridge the achievement gap of disadvantaged students (Walter & Sweetland, 2003).

Funding limitations aside, examining resource use patterns to determine strengths and weaknesses regarding allocation decisions may help schools develop fiscal efficiency and instructional strategies that have the potential to improve student performance. Understanding how to improve student performance while maximizing the effective use of resources requires the examination of several topics. Two critical research areas include school finance and school improvement strategies.

This study attempted to find a correlation between resource utilization and student achievement in Title 1 elementary and middle schools. Accordingly, the purpose of this mixed-methods research study was to investigate both resource utilization in Title 1 schools and to discover how the two-year increase in federal Title 1 stimulus monies, from 2009-2011, were utilized and the decision-making processes behind determining how to spend the stimulus monies and whether the schools saw growth in student achievement. From 2009-2011, the federal government provided Title 1 stimulus monies to schools in an effort to jump-start the economy and improve student achievement.

Problem Statement

Educational leaders have long sought to understand how to allocate resources to improve student achievement. Schools and school districts receive categorical funding, (dollars allocated annually for specific programs or to serve educationally disadvantaged children, from both the state and federal level) for the sole purpose of improving educational opportunities and achievement for students. Yet the benefits of increasing those resources are widely disputed (Goe, 2006; Grubb, 2006). Current research reports that the level of resources in a school does make a difference in student achievement (Archibald, 2006; Odden & Archibald, 2009; Odden, Goertz, & Goertz, 2008). Increases in funding, utilized effectively and efficiently, does increase student achievement (Archibald, 2006; Grubb, 2010; Odden & Archibald, 2009; Odden et al., 2008). However, limited research exists in determining whether the use of categorical funding and increases in such funding improve student performance.

Structurally, studying the amount of resources and finances that schools and districts have spent to improve student achievement is difficult at best (Grubb, 2006; Miles, Hawley, Odden, & Fermanich, 2005; Odden, Goertz, & Goertz, 2008; Picus 2004). Resource effectiveness is often challenging to study because the lack of disaggregation of district and school level expenditures (Odden & Picus, 2008). Districts have not historically kept track of categories of expenditures and are unable to aide researchers in their quest for financial data separated by theme.

Many issues amplify the importance of effective resource utilization because of the affect on school funding for California schools. The current state of the economy in

California is reducing funding to schools; the states' 2009 decision to make two-thirds of categorical programs flexible, further reduces categorical allocations to schools; the reauthorization of the Elementary and Secondary Education Act (ESEA) is leading away from formula grants (given to schools per Average Daily Attendance [ADA]) and focusing instead on competitive grants, jeopardizing even more funding. Seventeen billion or almost 30% of funding has been eliminated during the past two years for K-12 schools (Fixschoolfinance.org, 2010). Over 4.5 billion dollars of categorical funding has been approved for general educational purposes, removing incentives designed to ensure schools are providing effective instructional programs for all students (Legislative Analysts Office [LAO], 2010). According to the United States Department of Education (2010) the reauthorization of NCLB could see approximately 30% of federal monies directed away from the students that need it most, with some getting more and others getting less, as they make the monies competitive rather than as a per-student allocation. Schools are under even greater pressure to do more with less and maintain a clear process to decide how to allocate resources in areas that are needed the most and are the most effective. An important concern then, is understanding the connection between resource utilization, data-directed decision-making, and monitoring the use of resource utilization in schools to improve student achievement.

Purpose Statement

The purpose of this mixed-methods study was three-pronged: (a) to discover how Title 1 funds and Title 1 stimulus were used by schools. (b) to discover how funding decisions were made by schools, and (c) to compare both the use of funding and the

decision-making process to guide schools on how categorical funding might best improve student achievement. With reduced funding coming at a time of increased accountability, the results of this study are intended to be utilized and/or duplicated as other funding sources become available. Results are also intended to influence policy decisions on the use of categorical funding to determine if limited categorical program flexibility should be allowed.

Significance of the Study

Due to the emphasis on high standards and fiscal accountability, there is a need to inform the research linking student achievement to the allocation or reallocation of resources. Schools and leadership teams need current, reliable research and guidance to make fiscally sound decisions so that students can experience the best education possible. There is a need for studying how schools spend their funding, and whether there is a significant correlation to student achievement. Findings could aid schools in deciding which programs should stay, be expanded, be reduced, or cut.

Additional roadblocks lay ahead for schools making this topic of study even more vital. Since 1965, Title 1 money has been given as a formula grant to schools with a large percentage of students in poverty. This means that schools are given a per-student dollar amount aimed at helping those students. With the draft of the ESEA reauthorization, that type of funding may be in jeopardy. The current federal administration is moving away from formula grants and providing more funding in the form of competitive grants, where school districts must compete to receive federal funding (US Department of Education, 2011b). For schools that may see reduced funding, there is a need to know the programs

to keep and which are not as valuable. The schools receiving additional funding need help in formulating a plan of action to make the best use of available funding. In addition, many within the field of education doubt that educators can make the fiscal decisions necessary to boost student achievement (Duncan, 2010; Grubb, 2010; Hanushek & Lindseth, 2009).

While an increase in funding to schools is needed, additional money does not guarantee sound decision making by schools (Grubb, 2010; Hanushek & Lindseth, 2009). Studies such as this are important to provide schools with more information about the processes that work in schools to lay the foundation for more sound fiscal decisions for resource utilization. The 2004-2006 school years found schools in California with eight new categorical programs, all with different rules, foci, and spending timelines. This study intended to show successful strategies to improve student achievement based on using Title 1 stimulus monies productively.

Theoretical Framework

With an historical focus on educational equity, the US has concentrated on providing equal educational rights, and thus dollars to education. This emphasis is shifting, though, beyond fiscal equity (as in the Brown decision) toward fiscal adequacy. The discussion is moving away from an equal funding distribution to the amount of funding provided to a school or district deemed adequate to produce the desired level of performance (Odden, 2003; Odden & Picus, 2008).

States play an active role in K-12 education funding with over 40 states utilizing funding formulas to distribute monies to public schools (Park, 2004). These funding

formulas are often initiated by legal action to remedy inequities so that wealthier districts were not funded at a higher level than poorer districts (Toutkoushian & Michael, 2008). In the pursuit of equity, the equality of funding can easily lead to a funding level inadequate to educate students (Rossmiller, 1994). Equal expenditure per pupil will not achieve equal educational opportunity for all children (AECT, 1965). Children with dissimilar circumstances will require more funding (Verstegen & Driscoll, 2008). Odden (2003) argued that as funding formulas are revised to ensure adequacy, there will be an improvement in fiscal equity.

Adequacy

The notion of adequacy is the framework of this study (Baker, 2005; Odden, 2003; Rebell, 2007). For the purpose of this study, adequacy is defined as educational adequacy, or sufficient per pupil funding for schools and districts to execute plans and strategies in order to help students reach high levels of performance. Through this lens, two key factors describe an adequate school finance system: (a) Whether adequate revenues are provided for the average school to teach the average student the state-determined performance standards and (b) Whether adequate additional resources are provided for students who require extra help to reach those same performance levels (Odden, 2003; Odden & Picus, 2008). So the shift then is not whether a student, school, or district has more or less funding than another, but whether they have an adequate amount of funding to meet high standards. It is important to emphasize that adequacy prescribes not only a method to determine funding levels, but also a requirement that schools manage resources effectively so that students learn. Educational adequacy

research examines which resources are necessary to ensure that all students receive an adequate education. It is therefore appropriate for the current investigation to focus on how schools are allocating their resources and how this relates to achievement (Picus, 2000).

Research Questions

The following research questions guided the inquiry into school-level resource allocation decisions involving the use of categorical funding and the connection of those decisions to school planning and improvement processes. Odden and Archibald (2009) and Odden and Picus' (2008) work on adequacy framed the basis for these questions.

1. How did elementary and middle schools utilize Title 1 and Title 1 stimulus monies from 2009-2011?
2. How did the expenditures of Title 1 and Title 1 stimulus money affect student achievement as measured by state tests in 2009-2011?
3. What process did schools utilize to allocate Title 1 stimulus funds? To what extent did the current (2009-2011) budget situation within California (both budget reduction and categorical flexibility) play a role in the decision making process?

Research Design and Methodology

A mixed-methods research approach was used to answer the research questions for this study. To assess Title 1 and Title 1 stimulus utilization and academic growth, I reviewed multiple forms of quantitative data: An e-mail survey to school principals, each school's Single Plan for Student Achievement (SPSA), school and district budget reports, and California Department of Education (CDE) reported achievement data. While the

main emphasis was quantitative, qualitative interviews were conducted with four school principals, providing a voice and story of the school in the decision-making process.

This study included a purposeful sampling of Title 1 public (non-charter) elementary and middle schools located in Southern California with at least a 40% or above threshold of poverty and a traditional (K-5, K-6, 6-8, 7-8) school composition. To better isolate the factors that may increase student achievement via utilizing resource allocation, schools were chosen based on similar proportion of English Language Learner (ELL) students, students with disabilities (SWD), student to teacher ratio, length of school day, and school size.

This study used descriptive statistics to describe both the demographics of the participating schools, the allocation of Title 1 and Title 1 stimulus funding, and each school's Academic Performance Index (API) and Adequate Yearly Progress (AYP) scores. Used in California, API is reported as a single number, ranging from 200-1000, measuring the academic performance and growth of schools (California Department of Education [CDE], 2010a). Used federally, AYP (for grades 2-8) is reported as the percent of students that are proficient in mathematics and English language arts (California Department of Education [CDE], 2010b). The focus was to document resource use of Title 1 and Title 1 stimulus allocations to determine if a correlation existed between expenditures and improved student achievement (quantitative) and to discover themes that existed in student achievement improvement, especially including factors that affected the decision making process at the school (qualitative).

Limitations

The small sample size of Title 1 elementary and middle schools in southern California may limit the generalizability of the findings to other schools. Also due to the small sample size, the strength of the correlations found may be a limitation as the size of the effect was also utilized to determine correlations (Cohen, 1992). The correlational design of the study may be a limitation as causality may not be assumed. Additionally, multiple correlations were run within this study and it is possible that a correlation may be due to chance. Looking at data throughout the 2010-2011 and 2011-2012 school years provided a discrete time frame to study resource allocation and student achievement growth so the results may not be generalizable over time. The current budget situation in California was also a limitation to the study. Because of the drastic reductions to the California budget (and the loss of over 40 categorical programs) schools may have had to eliminate successful programs that were funded through other budgets. Additionally, they may have covered programs once funded by other budgets with Title 1 monies, further reducing decision-making in schools.

Delimitations

In studying Title 1 elementary and middle schools, results may not be generalizable to high schools. Results may also not be generalizable to elementary or middle schools that did not receive Title 1 funding. Choosing schools only within Los Angeles County, the results are not transferable beyond Southern California schools with similar demographics. In determining school selection for this study, it was important to

control for variables that may influence the relationship between funding and achievement (Gay, Mills, & Airasian, 2009). Schools were controlled for percent of English Language Learners, percent of Socio-Economically Disadvantaged students, student to teacher ratio, school size, and length of day. The purpose of setting these criteria was to ensure greater validity of the findings studied (resource allocations, expenditures, and student achievement).

Assumptions

This study assumed that both the quantitative data and qualitative data, including survey data and interviews with school and district administrators regarding school improvement and resource allocation, reflect true and accurate information.

Definition of Terms

1. Academic Performance Index (API): Single number, ranging from a low of 200 to a high of 1000, that reflects a school's, a local educational agency's (LEA's), or a subgroup's performance level, based on the results of statewide testing (CDE, 2010a).
2. Adequacy: An approach to school funding that begins with the premise that the amount of funding schools receive should be based on some estimate of the cost of achieving the state's educational goals. This approach attempts to answer two questions: How much money would be enough to achieve those goals and where would it be best spent (Odden & Picus, 2008).
3. Adequate Yearly Progress (AYP): A state's measure of progress toward the goal of 100 percent of students achieving state academic standards in at least reading/language arts and math, which sets the minimum level of proficiency that the

- state, its school districts, and schools must achieve each year on annual tests and related academic indicators (CDE, 2010a).
4. The American Recovery and Reinvestment Act of 2009 (ARRA): Public Law 111-5, which is an economic stimulus package enacted by the 111th United States Congress in February 2009. The Act of Congress was based largely on proposals made by President Barack Obama and was intended to provide stimulus to the U.S. economy in the wake of the economic downturn (CDE, 2010a).
 5. Categorical funds: Monies allocated for specific programs or to serve categories of students with special needs (EdSource, 2010a).
 6. Elementary and Secondary Education Act (ESEA): Reauthorization of the No Child Left Behind Act of 2002 is the main federal law affecting education from kindergarten through high school. ESEA is built on four principles: accountability for results, more choices for parents, greater local control and flexibility, and an emphasis on doing what works based on scientific research (US Department of Education [USDOE], 2004).
 7. Growth Model: A way of measuring a student, school, or state's achievement that demonstrates progress over time. Also called the value-added approach (USDOE, 2010).
 8. Growth Target: California sets Academic Performance Index growth targets for each school as a whole and for each numerically significant subgroup in the school. The annual growth target for a school is 5% of the difference between a school's Base API and the statewide performance target of 800. Any school with an API of 800 or

- more must maintain an API of at least 800 or more in order to meet its growth target (CDE, 2010a).
9. Evidence-based Model: The evidence-based model is a system of schools of certain sizes at each level for which a recommended a set of resources for school-wide instructional improvement strategies is designed to maximize student achievement (Odden & Picus, 2008).
 10. No Child Left Behind Act of 2002 (NCLB): A federal law holding K-12 schools accountable for student achievement results that allows for more choices for parents, gives greater local control and flexibility, and emphasizes scientifically-based research practices (US Department of Education [USDOE], 2006).
 11. Instructional strategies: A school’s vision and instructional plan for producing student achievement (Odden & Picus, 2008).
 12. Title 1: Is the largest compensatory federal education program—currently about \$12 billion annually—aimed at improving the educational opportunities of disadvantaged students (USDOE, 2010).

Summary/Organization of the Study

Chapter 1 provided an overview of this study, the purpose, significance, and parameters, highlighting key terms and concepts. Chapter 2, the literature review, discusses five main topics: School finance, both at the state and federal level, including Title 1 and Title 1 stimulus funding, educational equity and adequacy, resource allocation and use, the evidence based approach, and data-driven best practices. Data-driven best practices include intensive-ongoing professional development, strategies for at-risk

learners, and extended learning time. Chapter 3 provides the study's methodology which includes a description of the research design, sampling, instruments, procedures, and data collection. Chapter 4 presents the study's findings including student achievement data, resource utilization, correlations linking resource utilization to student achievement, and noted data-driven instructional strategies. Chapter 5 includes a discussion of the results, a summary of the study, research conclusions, and implications for further consideration.

CHAPTER 2

LITERATURE REVIEW

Overview

The No Child Left Behind Act (NCLB), authorized in 2001, placed an increased emphasis on accountability and emphasized the need for continuous improvement in schools (Bernhardt, 2004; Cooley et al., 2006; Salpeter, 2004; Wohlstetter, Datnow, & Park, 2008). NCLB also made the use of data imperative and increased the need for continuous improvement processes in schools (Barnhardt, 2004). Funding limitations of NCLB aside, the use of data-driven decision-making has the potential to increase student performance (Odden & Archibald, 2009; Peterson, 2007; Waters, Marzano, & McNulty, 2004; Wohlstetter et al., 2007).

Resources for schools and the value of increasing those resources to improve student achievement have been widely disputed (Archibald, 2006; Grubb, 2006; Odden & Archibald, 2009; Odden et al., 2008). Educational leaders, policy makers, and researchers have long sought to understand how to utilize resources in schools to improve educational opportunities and achievement for all students.

Examining resource use patterns in schools to determine strengths and weaknesses regarding allocation decisions may help schools develop the fiscal efficiency and structures that have the potential to improve student performance. Understanding how to improve student performance while maximizing the effective use of resources requires the examination of several topics. Two critical research areas which support this study include school finance and school improvement strategies. Within these two

research areas, this literature review will include a review of five key themes: California school finance, educational equity and adequacy, resource allocation and use, the evidence based approach, and instructional best practices and links to student achievement. The first three topics will include a theoretical base including the rationale for the study and the final two will provide the framework for the study.

School finance will be reviewed, both in California and at the federal level. A historical review of policy and litigation and the movement from equity to adequacy will follow. For the purpose of this review, educational adequacy is defined as sufficient per-pupil funding for schools and districts to execute plans and strategies in order to help all students reach high levels of performance (Odden, 2003). School resource allocation and utilization will also be reviewed. Also for the purpose of this review, school resources are defined as both the funding that a school or district receives and/or how the funds are allocated. Teachers, technology, books, materials, etc. are all examples of school resources, just as the categorical funding that a school receives is also an example of a school resource.

This review will also include the framework of the evidence-based approach, explaining how funding and adequacy studies inform the study of resource allocation decision making in schools. Finally, the review concludes with the inclusion of the best practices school improvement literature, focusing on school leadership, data-driven decision-making, professional development, and effective programs for Title 1 students.

School Finance

California School Finance

California schools receive the majority of their funding directly from the state, giving state legislative bodies much of the control over education dollars (EdSource, 2010a). California's funding formulas for K-12 education are perhaps the most complex of the 50 states (Picus, 1998).

History. Throughout the history of school finance in California, there has been a shift from total local control of funding, where individual school boards made most funding decisions related to their districts, to total legislative control of funding, where the state controls educational funding decisions (EdSource, 2010a). With each legislative, judicial, or voter-driven action, local districts have been stripped of most decision making powers (Fuhrman, Clune, & Elmore, (1988), which has resulted in a complicated education budget riddled with a multitude of programs and layers of additional funding formulas (Picus, 1998).

Prior to 1967, districts had total decision-making control. Schools set their own calendars, graduation requirements, and class sizes. Schools received funding entirely from local property tax revenue. In many cases, wealthier districts spent twice as much per student as lower-wealth districts (Murray, Evans, & Schwab, 1998). In fact, this discrepancy in spending was even larger. By 1968, school districts received \$274.00 per student at the lower-funded districts with an incomparable \$1710.00 per student being received from the highest. This represented a 6.2:1 ratio in funding (Townley,

Schmieder-Ramirez, & Wehmeyer, 2005). This inequality was the beginning of many lawsuits resulting in a shift away from local control (EdSource, 2010a).

The *Serrano v. Priest* decision restructured California Educational finance from local to state control. Although originally filed in 1968 and rejected by both the Superior and Appeals Courts, the 1971 California Supreme Court ruled that the *Serrano v. Priest* case was allowed to move forward. The premise of the 1976 *Serrano I* ruling shifted funding from a local tax base system to a state baseline funding system. The basis of the *Serrano* lawsuit focused on the lack of equity and fairness with the current funding system (EdSource, 2006). This led to an overhaul in California's school finance system where all public schools received relatively the same per pupil baseline which was tied to total state revenues (Ed-Data, 2007; EdSource, 2010a). From 1972 to 1978, the state determined each district's state equitable support. Senate Bill 90 followed, establishing revenue limits, a ceiling on the unrestricted general fund money that a school district can receive (Ed-Data, 2007). The districts were then expected to supplement this state aid with their own property tax revenues up to the revenue limit. Many revisions and challenges to *Serrano* continued, and in late 1982, the case was back in court with a new case, *Gonzalez v. Riles*. Known as *Serrano II*, the judge ruled that sufficient parity had been achieved. By 2000, 97% of districts were within a band of about \$350.00 (Ed-Data, 2007), meaning that most districts received equal funding, with a discrepancy band of \$350.00 per average daily attendance (ADA). The *Serrano II* decision still allows for a disparity equal to \$7 million for a school district with 20,000 students. Odden and Picus'

(2008) Evidence Based Model suggests that funding would go a long way in supporting at-risk students in schools (this model will be discussed later in the chapter).

In 1978, California spent 20% above the national average and ranked 17th in spending (Townley et al., 2005). With the passage of Proposition 13 in 1978, the property tax revolt in California, the transfer of power from local to state continued. As a result of Proposition 13, property taxes were rolled back and tax rates were limited to one percent of a property's assessed value. This severely reduced the available property tax revenue for the state to supply to schools, reducing local property tax revenues by 60% (EdSource, 2010a). The state, then, had to replace lost property tax dollars with state monies. With this move, the state took control of school district funding and according to Townley et al. (2005) school finance became much more complex.

With the passage of Proposition 98 in 1988, a guaranteed of minimum funding level from state and property taxes was voted into law (EdSource, 2010a). This included follow up legislation in 1990, Proposition 111, tying the funding guarantee to the overall growth of the California economy. Proposition 98, with amendments, still exists today as the funding formula for California's schools. Unfortunately, the Proposition 98 minimum funding guarantee, as required by law, is rarely met. The figure below shows the deficits in allocation of required Proposition 98 monies to schools.

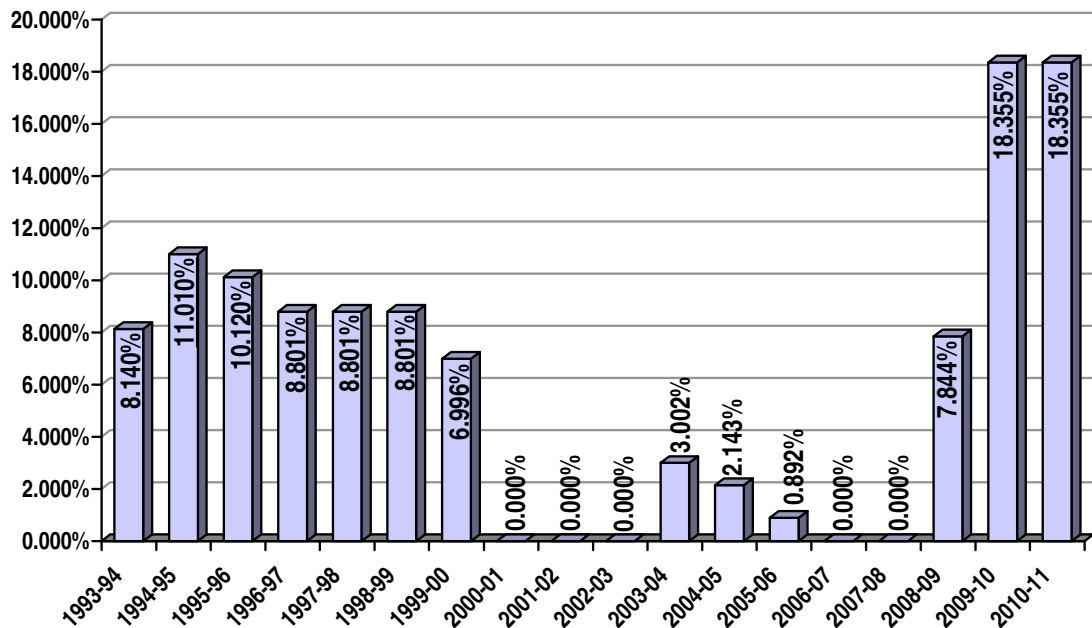


Figure 1. Proposition 98 Funding Deficits. Source: School Services of California [SSC], 2010a.

Figure 1 shows that despite 20 years of Proposition 98 and a minimum funding guarantee, K-12 schools have received that guarantee in only five years (SSC, 2010a).

Beginning in the 1990s, additional laws were put into place that began to monitor school districts' local decision making authority of the funding they receive from the State. AB 1200 required a school district to submit budgets two-years out from the current fiscal year and AB 2756 required bi-annual financial reports and a formal annual certification. The Williams Case settlement of 2004 provided even more fiscal oversight to local districts, establishing minimum standards for school facilities, teacher quality, and instructional materials (Ed-Data, 2007).

Current budget situation. California's current school finance system is called a revenue limit program. This means that the state determines the allowable revenue limit

for each district and provides aid that is the difference between that limit and local property tax revenue. Except for a few special circumstances such as the modernization of schools passed by voters as bonds, local districts cannot raise additional revenue for education (Odden, 1987). Currently, California funding is based on the following:

1. ADA—the average number of students attending school during the year.
2. General purpose—revenue limit money a district receives based on ADA.
3. Special Support—categorical aide from the state and federal government in support of special populations of students or for particular programs.
4. Lottery Funds.
5. Local Funding.

Figure 2 below compares national and state funding averages per student.

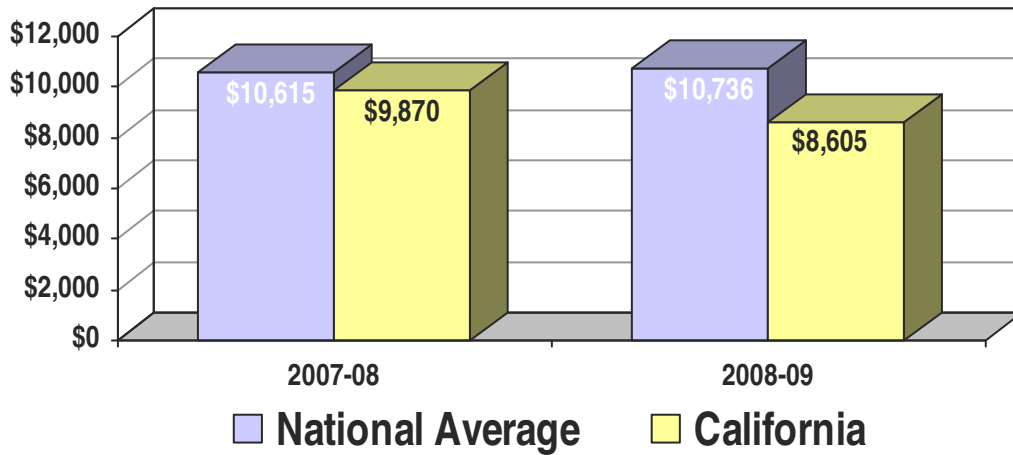


Figure 2. National Versus State per Pupil Spending Averages. Source: School Services of California (SSC), 2010b.

In 2008-2009 (the latest year data is available), California currently ranked 44th in per-pupil spending (SSC, 2010b). According to Figure 2 above, the current per student

funding allocation was approximately \$8,605.00, compared to the national average of \$10,736.00 (a gap of \$2,131 per student). This represented a widening gap. During 2007-2008, California spent \$9,870 per student, \$745.00 less than the national average.

Quality Counts, a second group reporting on school finance, compared funding while adjusting for regional cost of living. While the 2006-2007 school year was the most current reporting year for this report, which was the single largest year of California funding in history, California still ranked 46th among the 50 states and Washington, D.C. It stands to reason that comparisons for subsequent years will show California dropping even farther down in the rankings (SSC, 2010b).

Within the structure at the time of this writing, approximately 90% of funding came from the State of California. Proposition 98 legislation provided for approximately 75% of total revenues to schools. Of that, approximately 55% was general fund monies and 20% was from local property taxes. Fifteen percent of monies came from outside of the Proposition 98 guarantee from funding such as lottery funds, local bond measures, and parcel taxes. Finally, federal funding completes the picture, providing approximately 10% of California education funding (Odden & Picus, 2008; Townley et al., 2005).

Current federal assistance in California. California received approximately three billion dollars through NCLB allocations, although with President Obama signing the American Recovery and Reinvestment Act (ARRA) in February 2009, federal funding significantly increased (EdSource, 2010b). Coined “stimulus funding,” California received an additional \$3.8 billion in 2008-2009 and an additional increase of \$2.3 billion in 2009-2010. These monies were seen as vital to school districts in

California during the extreme budget cuts to education. Despite the increase in federal funds, there was still a \$2.7 billion net decrease in direct funding to school districts, with an additional \$1.7 billion loss of other sources to California schools (EdSource, 2010a). This is over a \$470 per pupil decrease to every student in California.

In addition to stimulus funding, the Obama administration rolled out a \$3.4 billion competitive grant program. The Race to the Top School Reform Grant (RTTT) challenged states to compete with one another for one-time funding to focus on school reform. California did not receive RTTT funding. An example of the reduction of local educational control, this program exemplifies what Ravitch (2010) described as a shift from providing schools, districts, and states with financial assistance (with guidance) to improve student achievement, to providing them with financial mandates. RTTT mandates included linking teacher evaluations to standardized test scores, placing the most effective educators in struggling schools, and improving instruction through the improved use of data. RTTT also continued the move from formula, per student grants to competitive grants. These monies, according to Odden, Picus, & Goetz (2010) led to greater inadequacies in many states.

Categorical Programs

Categorical programs provide monies from both the state and federal level that are targeted at specific programs (class size reduction, technology) or groups of students (GATE, ELL, special education). These monies are typically very restrictive on both how the money can be spent and who the money can serve (EdSource, 1997). Generally, approximately one-third of K-12 funding comes in the form of state and federal

categorical dollars (Ed-Data, 2010a). Some of these dollars are distributed to schools based on the number of students eligible for the program. Others are grants that come to schools either automatically or as competitive grants (Townley et al., 2005).

California categorical programs. California's categorical programs are intended to remedy inequalities among students and to ensure that all students are served, especially the students with the most challenges (EdSource, 1997). The first categorical program began as a fiscal reform initiative meant to provide incentives to local districts (Fuhrman, Cline, & Elmore, 1988). In 1983, Senate Bill 813 provided restrictive dollars for mentor teacher stipends, lengthening the school day, higher beginning teacher salaries, more rigorous graduation requirements, and the implementation of curriculum standards (Ed-Data, 2010a; Fuhrman et al., 1988).

Whereas many programs in California have a long history with both the funding and purpose remaining relatively constant through the years (i.e. EIA/LEP funding), many categorical programs are based on the whims of legislators, such as the Physical Education Teacher Incentive Block Grant (Fuhrman et al., 1988). Moreover, Fuhrman et al. (1998) indicated that many categorical programs were the result of California State Republicans working to curb the power of organized teachers. Regardless of the purpose behind the funding, schools are charged with being productive and efficient with the money by making sound decisions to improve student achievement (Odden & Picus, 2008).

By 1997 70 federal and state categorical programs in California were in place. Further, when teachers and administrators returned in the fall to begin the 2006-2007

school year, they found eight new categorical programs to manage. Schools received the following new categorical funds:

1. Site block grant for technology, equipment, educational materials, and plant upgrades.
2. Instructional materials, library materials, and Education Technology Block Grant for additional materials and supplies within the mentioned categories.
3. Supplemental Counseling Block Grant provided additional counseling at middle and high schools.
4. PE Teacher Incentive Block Grant for increased student to teacher ratio in K-6 physical education.
5. Educational materials, library materials, and technology block grant.
6. Career Technology Block Grant focused on grades 6-8.
7. Art and Music Block Grant.
8. PE, Art, and Music Block Grant.

Each program had a different focus, served a different grade level of students, and had different fiscal and programmatic requirements and restrictions. Picus (1998) emphasized that the difference in funding results in a system was so complex that “only a few individuals in Sacramento are able to navigate through the thicket” (p. 8). While Odden and Picus’ (2008) School Finance Theory suggested a more straightforward and simple approach to school finance, possibly leading to a more productive, efficient, and thus successful model for school budgeting, California continues to add layers to the

funding formula, making it difficult to analyze the effectiveness of the programs (Rebel, 2007).

Federal categorical programs in California. Prior to the 1950s, the federal government had little influence over education, believing education to be a responsibility of the states (Townley et al., 2005). The federal government's participation in education was primarily focused on providing land or minor funding for special projects. With the Russian launch of Sputnik in 1957, the federal presence intensified, beginning to provide specialized funding in education. The National Defense Education Act was signed into law by President Eisenhower, providing funding to schools in the area of mathematics and science. President Truman followed with the national school lunch program. It was not until the Elementary and Secondary Education Act (ESEA) was passed in 1965 under the Johnson administration, though, that there was a large federal presence in education (Office of Education, 1969). President Johnson's goal was to eliminate poverty with education and the focus of ESEA was one of equity (Robelen, 2005; Wells, 2009). This led to a shift in federal funding from providing funding toward, instead, mandating outcomes of under-performing students (Wells, 2009).

Title 1. Title 1 was the core of ESEA. This program focused on educating children from low-income families to provide the financial assistance necessary to improve the educational programs to meet the educational needs of these children (Office of Education, 1969). Even though multiple reauthorizations of ESEA have occurred throughout the years, the intent of Title 1 has remained structurally unchanged. Three key premises of the legislation are:

- Identify educationally disadvantaged children in high poverty areas.
- Determine the needs of the children.
- Design projects to carry out the purposes of the programs.

The criterion for selection of schools and districts to receive Title 1 funding is based on family income. Today, most Title 1 monies are distributed based on the current number of students that qualify for free and reduced price lunch (USDOE, 2010).

Title 1 has been governed under many federal authorizations of ESEA. From the Improving American's Schools Act of 1994, Goals 2000, and the No Child Left Behind Act of 2001 (NCLB), a growing emphasis has been placed on standards, assessment, and high-stakes accountability (USDOE, 2010). NCLB was the first reauthorization that introduced the notion of highly qualified teachers (HQT). In addition, NCLB placed an unprecedented focus on standards-based education reform and measurable goals to improve individual student outcomes in education. In addition, with a possible 2012 reauthorization of NCLB, tentatively coined the Blueprint for Reform, the emphasis on accountability and the effectiveness of instruction is even greater, including a heightened responsibility to make fiscally sound decisions, with greater scrutiny than ever before in the history of school finance (USDOE, 2010; EdSource, 2010b).

As of 2012, California currently receives approximately \$3 billion in federal categorical spending. Title 1 grants comprise two-thirds of that amount (Legislative Analyst Office [LAO], 2011). Although Title 1 was and still is the basis for federal support, other programs have received continued federal support. In 1967 three additional programs were added to ESEA. Funding for students with disabilities; programs and

support for migrant, neglected, or delinquent children; and support for bilingual education were introduced (USDOE, 2010). While the names may have changed, these programs still exist today through three Title programs. Title 1 includes both migrant education and homeless student assistance. Title II focuses on highly qualified teachers, and Title III provides funding and support for English Language Learners. Additionally, through the Individuals with Disabilities Education Act (IDEA), schools receive partial funding to support special education students (USDOE, 2010).

Categorical program flexibility. The “mega-item” program, allowing for transfers in and out of specific categorical programs, was California’s first attempt in giving districts more flexibility in spending within categorical programs. Enacted for the 1991-92 school year, the legislature combined approximately 30 programs into a mega-item (Picus, 1998). Originally proposed to prevent the governor from vetoing individual program dollars (Townley et al., 2005), the move provided needed flexibility in allowing districts to transfer dollars among programs. For example, districts could transfer money out of their transportation account into instructional materials in a heavy textbook adoption year. While some programs were excluded, the mega-item allowed a district to take 20% away from any one program and transfer 25% into any one program. Although controversial with some because it challenged the philosophy of categorical programs existing to meet the special and unique needs of students and teachers, it provided a needed shift of responsibility back to local control, making it the local district’s responsibility to make good funding decisions (Picus, 1998; Townley et al., 2005).

To help with the current budget crisis in California, the legislators passed a categorical flexibility bill in February 2009 that made more than 40 programs flexible through the 2012-2013 school year (LAO, 2010). School districts can use the \$4.5 billion (a 20% cut from 2008-2009 funding levels) in any way to help balance their budgets (EdSource, 2010a). Twenty-one additional categorical programs were not provided this flexibility. Of those, 11 of them received the same 20% cut as the flexible dollars, but their existing rules continued. These represented smaller programs (\$300 million in total). The remaining 10 categorical programs (mostly large programs) did not receive a cut and represented \$9.6 billion of the budget. Special education, Economic Impact Aid (EIA), class size reduction, and after school programs were within this category. It was unfortunate that the largest flexibility legislation since the mega-item came at a time when many districts had little choice in how to utilize the dollars that were now flexible. Most had to use the dollars to simply balance their budgets (EdSource, 2010a; LAO, 2011).

The ups and downs of California funding for education may put the Serrano requirement in jeopardy. The concept of equal opportunity plays an important role recognizing the varying needs of students and the need to provide funds supplemental to the minimal amount allocated to each student (Townley et al., 2005). As federal resources for education grow, allocation decisions are fueled with a push for adequacy (Brimley & Garfield, 2005).

The Movement from Equity to Adequacy

A tenet within the field of social justice is that the distribution of resources is equitable (Bell, 1997). Every child should be given equal access to education regardless of his or her socio-economic standing, ethnicity, or gender. Having this access to an adequate education should not be a privilege of wealth (Rawls, 1971). Despite many legislative and policy mandates, glaring gaps of equity in education still exist (Anyon, 1997; Darling-Hammond, 1998; Kozol, 1991).

History of Equity

The legal battles over the segregation of school children have spearheaded equity cases in education for over a century. The Plessy v. Ferguson court decision of 1896 ruled policy for over half a century. As long as students were given access to equal school resources and school facilities, according to Plessy, school segregation was legal (Rebell & Block, 1985). The Plessy decision was overturned in 1954 when the Supreme Court ruled in Brown v. the Board of Education in Topeka, Kansas that separate educational resources and facilities are inherently unequal (Rebell & Block, 1985). While the initial intent was to give Black students an equal opportunity, “imbedded beneath the surface were the seeds of a results-orientated approach to educational equity” (p. 28), desegregation, and equal access lawsuits continued through the 1970’s (Rebell & Wolff, 2008). Equity in educational funding also began to be questioned.

As such, financial equity lawsuits began to emerge. In 1973, in San Antonio Independent School District v. Rodriguez, the United States Supreme Court ruled that education is not a fundamental right and thus, is not protected by the Constitution (Public

Education Network, 2005). It is, though, a fundamental interest under many state constitutions (Rebell & Wolff, 2008). Consequently, litigation has been challenged through state supreme courts. Utilizing Brown and the decision on equity as the frame for these lawsuits, two-thirds of cases throughout the 1970s and 1980s were lost (Public Education Network, 2005). Since 1989, though, reframing the argument through an adequacy lens, 70% of the cases have been successful (20 of 27 cases) (National Access Network, 2010).

Yet, equality continues to be separate and unequal with few states claiming success in equalizing the funding needed for learning (Darling-Hammond, 1998). In fact, vast discrepancies exist in resources available to schools even if they are in close proximity (Tye, 2002).

Current State of Equity in Education

Considering both the increased mandates on schools and the economic slide, children of poverty are taking an even harder hit (Wells, 2009). Even the one area of social policy where the United States stood above the rest, the delivery of services, is still the most uneven and dependent on states and local communities (Hirschland & Steimos, 2003). Since the inclusion of ESEA, we have experienced decades of funding and structural inequalities between high and low income communities (Anyon, 1997; Darling-Hammond, 1998; Noguera, 2003). MacPhail-Wilcox & King (1986) found that “school expenditures correlate positively with student socioeconomic status and negatively with educational need” (p. 425) despite their substantial greater need (Kozol, 1991). In fact, given the deep-rooted history of social inequality in the United States,

individuals and/or groups may require more resources to become productive (North, 2008). While equalization may guarantee a minimum funding distribution to schools, it does so without regard to the sufficiency of funding to ensure academic achievement (Walter & Sweetland, 2003). The emphasis of school finance has seen a shift from one of equity to one of adequacy (Odden, 2003).

History of Adequacy

According to Odden et al. (2010) adequacy is formally defined as:

Providing a level of resources to schools that will enable them to make substantial improvements in student performance over the next 4 to 6 years as progress toward ensuring that all, or almost all, students meet their state's performance standards in the longer term (p. 630).

The funding levels must be high enough for schools and districts to provide the research based programs and strategies so that all students are successful in achieving their state's required performance standard (Odden, 2003). When funding levels are adequate to produce the desired level of student performance, fiscal equity will be improved (Odden, 2003).

The shift from equity to adequacy encompasses more than just a fiscal focus. With the emphasis on adequacy, the focus also includes the fiscal connection to educational programs that lead to a growth in student achievement (Odden, 2003). There are two key reasons for the shift. First, standards and accountability levels have made expectations for schools clearer. Second, because of these standards and accountability

levels, it is easier to seek legal measures when states are negligent in providing adequate funding (WestEd, 2000).

Sixty-nine percent of cases have been won since 1989, arguing responsibility is on the states to ensure that all children have the opportunity to receive a quality education (National Access Network, 2010). Odden (2003) describes the courts “legal litmus test” as whether enough revenues were provided to schools for the average student to achieve state standards of achievement (proficiency) and whether enough additional (supplemental) resources were available to help students at-risk to achieve at those same standards.

In the landmark case *Abbott v. Burke*, the State of New Jersey, in *Abbott IV* of 1997 and *Abbott V* of 1998, ruled based on this litmus test, mandating the shift from equity to adequacy. Coined the “Abbott Adequacy Decision,” the New Jersey courts called for the addition of rigorous content standards supported by state per-pupil funding (Ed Law Center, 2010). Additional funds were mandated for high quality pre-school programs for all three and four year olds, new facilities, supplemental at-risk programs, intensive early literacy, small class sizes, and social and health services for high poverty students (Ed Law Center, 2010). Similar decisions followed in many states including Arkansas’ 2003 *Lake View v. Huckabee* decision (National Access Network, 2010), and New York’s 2004 campaign for fiscal equity suit (Brennan Center, 2006). As many states have followed suit, the Alabama adequacy lawsuit defined equity as a quality education that is adequate to meet student achievement needs (Darling-Hammond, 1998).

According to Picus (2000), expenditure levels can no longer be minimal (i.e. the Proposition 98 minimum funding base in California) but must be adequate for all students. This shift to adequacy was based on three key factors. The first is whether spending levels are adequate for schools and districts. Next, resource allocation or use needs to be studied. And finally, the use of resources needs to be linked to student outcomes (Picus, 2000). Adequacy requires schools and districts to effectively manage resources so students meet proficiency (Odden, 2003).

Subsequently, school finance policy should now focus on the application of resources to provide an adequate education so all students can achieve proficiency levels in the core academic content areas. Educational adequacy research examines which resources are necessary to ensure students receive an adequate education (Picus, 2000).

Adequacy Cost Study Models

Adequacy studies have established an adequate foundation level for the typical student in the typical district (Picus, 2000). Four models of determining adequacy are currently utilized. These models are the: Cost Function Approach; Successful School Approach; Professional Judgment Approach; and Evidence-Based Approach.

Cost Function Approach. The Cost Function Approach uses district data (ELL levels, poverty) with a complex statistical regression analysis to correlate levels of student performance with dollars (WestEd, 2000). Not popular politically based on its complicated statistical analysis (Odden, 2003), this cost approach has huge dollar ranges within a state that are difficult for most to comprehend. Wisconsin was a range from a low of 49% to a high of 460% in funding to local school districts, with the larger urban

school districts receiving the largest proportional funding. Because of the difficult formulas and huge variances in funding recommendations, no state currently utilizes this model to determine funding to schools (Odden, 2003).

Successful Schools and District Approach. Sometimes also called the Typical High Performing Schools Approach, the Successful Schools and District Approach identifies districts that are doing well (performance) and uses their spending levels to determine adequate funding. Although more popular than the Cost Function Approach because this approach utilizes successful evidence of schools and districts to determine the funding base (WestEd, 2000), Odden (2003) reported the method difficult to relate to rural and urban schools. Most often, after removing high and low outliers from the calculation, a suburban, average-sized district is most often used in the calculation which does not take into account financial needs of different school districts.

Both the Cost Functions Approach and the Successful Schools Approach link spending levels to performance levels, something attractive to policy makers and politicians. They fall short, though, in differentiating which strategies produce the given performance levels. The final two methods attempt to solve this gap.

Professional Judgment Approach. Also known as the Resource Cost Model, the Professional Judgment Approach utilizes panels of educational professionals (teachers, principals, curriculum experts) to identify successful strategies necessary to reach the performance level required, and calculates the cost of implementation to determine adequate levels of funding (Odden, 2003; WestEd, 2000). Although a move in the right direction, this approach utilizes examples of what schools could and should be doing with

resource allocations to improve student achievement. However, it lacks research and statistical support (Odden, 2003; Rebell, 2007; WestEd, 2000).

Evidence Based Model. This model identifies components necessary to increase and improve student performance based on evidence of success and determines the cost to implement these components at a school. It provides a plan for schools and districts while also providing a clear idea of what the money is buying at our schools (Odden, 2003; Picus, 2000; Rebell, 2007; WestEd, 2000). It perhaps provides an adequacy model that schools could use as a base for comparison to measure what they are providing to students and identify where gaps in support exist for future planning.

The Evidence Based Model has been used most recently by the states of Kentucky, Arkansas, Arizona, Wyoming, and Washington to determine adequacy levels within education funding (Odden & Picus, 2008). As the basis for the framework for this study, this model will be elaborated upon later in this literature review.

Adequacy in California

Adequacy in California is framed by the expectation that all students will achieve at proficient or above levels in reading and math and meet all rigorous core content standards. The state standards specify what students are expected to learn, and state assessment and accountability systems identify certain gaps in student preparation and achievement in relation to those expectations (Rebell, 2007). California has an established accountability system, but is this sufficient for schools to provide an adequate education? Do increased expectations equal an adequate education and ensure student achievement? According to WestEd (2000), the answer to these two questions is no. Even

though California is a high-wealth state, it is near the bottom in spending. In addition, minimal staffing levels leave little leeway for lowering class sizes, providing staff development, expanding early literacy programs or providing extended learning time for at-risk learners, suggestions that are found within both adequacy lawsuit settlements (Brennan Center, 2006; Ed Law Center, 2010; National Access Network, 2010), and research to improve student achievement (Odden & Archibald, 2009). In light of our California's current state of the economy, it becomes crucial to boost student performance within adequate funding and study the efficiency of resource allocation and use (Odden et al., 2008).

Resource Allocation

History

The benefits of the allocation of resources to schools have been continually argued (Greenwald, Hedges, & Laine, 1996a, 1996b). Beginning with the 1966 *Equality of Educational Opportunity Report* commonly known as the Coleman Report (Coleman, 1966), Coleman reported in this seminal work that “differences between schools account for only a small fraction of differences in pupil achievement” (p. 22) emphasizing that expenditure differences were not as important to student achievement as community and social factors. Many reports followed Coleman citing similar conclusions (Alexander, 1998).

While even Coleman emphasized a relationship between higher achievement and higher per-pupil expenditures comparing students with similar backgrounds (1966), Jencks (1979) reported that even when controlling for family background, money does

not have an effect on student achievement. Both reports cast a shadow on the value of public education funding (Alexander, 1998).

Hanushek (1991) followed, concluding that a relationship does not consistently exist between resources and student performance. This began a debate between educators, statisticians, and economists that still continues today (Alexander, 1998; Greenwald, Hedges, & Laine, 1996a; Hanushek, 1996; Hedges, Laine, & Greenwald, 1994; Picus, 1995). Many reanalyzed each others' work criticizing the methodology, statistical analysis, and conclusions drawn in each other's work (Greenwald et al., 1996a; Hanushek, 1996; Hedges et al., 1994). One such debate involved the argument over utilizing meta-analysis versus utilizing new data sets. While much of the early work on resource allocation utilized multiple reanalysis on the same original data set, experts argued the value of utilizing new data sets and favored replication studies (Greenwald et al., 1996a).

Hanushek has shifted slightly from believing that there is no statistical effect of the allocation of resources on student achievement to agreeing that some schools have shown that greater resources improve student achievement (Greenwald et al., 1996a; Hanushek, 1996). Both researchers concluded that identifying and improving practices and policies in resource allocation to improve student achievement are possible if money is spent wisely and effectively (Greenwald et al., 1996a).

Alexander (1998) found better designed studies that provide more carefully derived data in regards to school expenditure and achievement relationships. Recent research has found that the level of resources in a school does make a difference in how

much students learn (Archibald, 2006; Grubb, 2010; Odden & Archibald, 2009; Odden et al., 2008).

Research Challenges

Structurally, studying the amount of resources and finances that schools and districts spend to improve student achievement is difficult at best (Grubb, 2006; Miles, Hawley, Odden, & Fermanich, 2005; Odden et al., 2008; Picus, 2004). Historically, districts do not track and are unable to aide researchers in their quest for financial data separated by theme. Odden et al. (2008) described work with state departments of education and provided guidance to them on better ways to collect data on financial resources from districts. At least in state and federal categorical programs, districts are required to report identified categories of disbursement. While this facilitates better analysis for researchers, districts are not required to disaggregate their data by school (Odden et al., 2008). Most research has been phenomenological, providing qualitative and quantitative research, usually by case studies and interviews, only after the improvement to student achievement has occurred.

Resource Use

While the debate continues on whether “money matters,” Picus (2007) suggested that the wrong research questions are being asked and suggested that rather than continue to analyze whether additional resources will improve student achievement, we should be asking how we should be directing additional resources to improve student achievement. Hanushek (1996) agreed emphasizing the need to analyze the efficiency of school resource use.

While research differs on which strategies have a greater impact on student achievement, commonalities and themes are present within the sources. Archibald (2006) studied the expenditures of four categories: instruction, instructional support, leadership, and operations and maintenance. The results of the study found that the greatest correlation with expenditures in the categories of instruction (teachers) and instructional support (professional development) demonstrated the greatest influence in an increase in reading achievement, especially in elementary schools. As previously mentioned under research challenges, the lack of disaggregation of district and school level professional development allocations made it difficult for Archibald (2006) to hypothesize whether the greater impact of resource allocation was toward an improvement in reading achievement or whether the impact was due to a greater allocation of resources for the professional development of English language arts.

In studying resource allocation specifically focused on students that were not yet proficient on state assessments, individual tutoring was found to be the most effective extra-help strategy, especially with elementary school students (Torgeson, 2004). Torgeson's study focused on documenting resources within a school and found improvement in all schools, regardless of how they allocated their funding, but noted that all but one school (that made the smallest gain) utilized tutoring for the students needing additional instruction.

Odden and Archibald (2009) identified, through case study investigation, the most current and comprehensive strategies that have raised student achievement. The ten most identified strategies were:

- Understanding the performance problem and challenge.
- Setting ambitious goals.
- Changing the curricular program and creating a new instructional vision.
- Utilizing formative assessments and data-based decision making.
- Ongoing, intensive professional development.
- Using time efficiently and effectively.
- Extending learning time for struggling students.
- Collaborative, professional culture.
- Widespread and distributed instructional leadership.
- Using professional and best practices.

Odden and Archibald (2009) concluded that the above cited strategies are not unique but are well tested in the research as solid examples to raise student achievement. The goal, then, becomes “getting more schools and districts to implement these strategies in a more wide-spread and consistent manner” (p. 60).

Some research has found that key strategies for student achievement do not necessarily require large amounts of additional resources (Archibald, 2006; Odden & Archibald, 2009; Odden et al., 2008). Assuming that a minimum structure of collaboration exists within schools, understanding the performance problem and challenge, setting ambitious goals, using time efficiently and effectively, creating formative assessments, and data-based decision making are all key strategies that require time, leadership, and a willingness to work on student achievement but can be worked on

during common collaboration time, without the investment of large amounts of resources (Odden & Archibald, 2009; Picus, 2004).

Much more research exists, though, on the allocation or reallocation of resources to improve student achievement (Archibald, 2006; Grubb, 2006; Miles et al., 2005; Odden & Archibald, 2009; Odden et al., 2008; Picus, 2004). Odden et al. (2008) studied the difference in instructional minutes, the variation in length of English language arts classes, class size, and extra-help for struggling students. The study also emphasized the importance of preparation time for teachers, professional development, and instructional coaches for teachers. All schools studied had an increase in student achievement. Additional studies showed similar results. Professional development and the use of instructional coaches were linked to positive student achievement (Archibald, 2006; Grubb, 2006; Miles et al., 2005; Odden et al., 2008). Further, both Odden & Archibald (2008) and Miles et al. (2005) took an in-depth look into professional development, designing funding models and providing average amounts per student to spend on professional development. Odden and Archibald (2008) found a 57% difference in spending per teacher with a range of \$4,606 to \$7,534. The average difference was a \$345 per student spending allocation. Odden and Archibald (2009), further broke down professional development into both out of school professional development (expensive if the cost is within the teacher contract, but less expensive if teachers are paid a professional hourly rate for attendance outside of the school day) and within-school professional development (not ideal as teachers are not in the classrooms instructing students, but cheaper as the cost of a substitute teacher is much cheaper than the daily

rate of a contracted teacher). Trainers, coaches, and district office curricular support were also mentioned as necessary for a successful professional development model.

Resource Flexibility

So what does this all mean for schools? According to Hill (2008), not a lot. He argued that the amounts spent and how the amounts are spent does not derive from analysis of what is needed and what it should cost. Hill also argued that the funding we give to schools is often disjointed and governed by different levels of government, legislative bodies, school boards, and unions. If data-driven decision making is to be emphasized within successful school models, then states need to allow for flexibility in financial decision making (Hill, 2008). He questioned whether decisions are made for school performance and whether a school has the authority and autonomy to “cash in one kind of resource and use it for another” (p. 240). For example, Picus (2004) found that schools would rather use instructional coaches to aid in professional development and raise class size. Can schools cash in a teacher and utilize the funds to improve technology within the school? Picus (2004) emphasized the need for schools to be allowed the flexibility and responsibility for such a decision. While emphasizing rigorous development and testing of new instructional programs, every level of government should permit experimentation with alternative use of funds, reproduce effective schools and programs, and abandon ineffective ones (Hill, 2008).

The Evidence Based Model

As discussed prior, many models of adequacy have received attention and support. For the purpose of this study, the Evidence Based Model (Odden & Picus, 2008) is applied for the following three reasons: First, it identifies a set of ingredients required to deliver a high-quality, comprehensive, school wide instructional program. Second, it determines an adequate expenditure level by assigning a price to each ingredient and aggregating a total cost. Finally, it is driven by research suggesting it is an effective adequacy approach (Odden, 2003; Picus, 2000; Rebell, 2007; WestEd, 2000). According to Odden (2003) the evidence based approach more directly identifies educational strategies that produce desired results, thus helping guide schools in the most effective use of their dollars. The evidence-based model builds adequate funding from the school site up to the district level, and includes effective instructional strategies that are based on educational research in staff development, instructional improvement, educational improvement, and curriculum and instruction. Currently, for a school of 500 students Odden and Picus (2008) and Odden et al. (2010) have recommended the following structure:

- An extended teacher year that includes, in addition to 180 days of pupil instruction, 10 additional days for professional development.
- One principal and one librarian in each school as well as two clerical positions.
- Two and a half instructional coaches.
- Full day kindergarten.

- Class sizes of 15 to 1 for grades K-3 and 25 to 1 for 4th and above for core instruction areas (English, mathematics, science, social studies).
- Specialist teachers that would teach art, music, physical education, and other noncore academic classes at an approximate rate of an additional 20 percent of FTE teachers that would provide for one period of planning and preparation time a day.
- Tutors that are highly qualified teachers, to provide help for struggling students. One tutor for every 100 low income students.
- Tutors that are highly qualified teachers, to provide extended day help for struggling students. One tutor for every 30 low-income students.
- Summer school for struggling students; one tutor for every 30 low-income students.
- One additional FTE for every 100 ELL students.
- One additional FTE and a 1.5 FTE aide position for every 150 students to provide services for special education students.
- Professional development at \$100 per student.
- Technology hardware and software at \$250 per student to cover purchase, upgrades, and repair.
- One pupil support/family outreach for every 100 low-income students with an additional counselor at secondary schools for every 250 students.
- Supervisors for recess, lunch, dismissal, etc.

- Funding for instructional materials at \$165 per student and an additional \$250 per student for school activities.
- Funding for gifted and talented students at \$25 per student.
- Appropriate central office support for a typical district including curricular, business, maintenance, purchasing, and IT support.

Though the Evidence Based Model recommends specific allocations for staff and programs, some of which may not be likely under the current California school finance funding system, it can be a useful framework to inform schools on how to use their existing resources more efficiently (Goe, 2006). It provides a framework for California schools to analyze their resource allocation patterns and determine if their utilization of existing resources align with best practices research. As schools face continued pressure to make dramatic improvement gains on standardized assessments within a backdrop of scarce resources, they must use their resources more productively by reallocating them to effective instructional strategies (Odden, 2003).

Instructional Best Practices

Before discussing the many practices within the field of education to improve student achievement, two areas important within this section and within this study are described. The first is an overview of student accountability and student achievement and second is the link to Title 1 stimulus funding. Both are key variables within this study.

Student Accountability-Student Achievement

The academic success of students can be defined in a variety of ways. Some educators prefer a broader, richer definition that includes academics, essential life skills,

and responsibility to the community (Messersmith, 2007). Other educators include skills such as effective communication, reading to infer/interpret and draw conclusions, support arguments with evidence, and the ability to solve complex problems as a definition of student achievement (Barkley, 2007; Schmoker, 2011).

Since the mid-1990's though, student achievement has focused on meeting state standards as measured on standardized tests (EdSource, 2011b). Both California and the federal government have their own accountability measures for student achievement.

California accountability-Academic Performance Index. The California state legislature established the current accountability system in 1997 to measure how well students in grades 2-11 perform on state content standards (California Department of Education [CDE], 2011). There are three purposes to the accountability system: first, to provide individual student scores; second, to provide school and district scores; and finally, to provide results for the required federal Adequate Yearly Progress (AYP) monitoring. The Academic Performance Index, or API, is reported as a single number, ranging from 200-1000 measuring the academic performance and growth of schools (CDE, 2010a).

Federal accountability-Adequate Yearly Progress. The federal government established Adequate Yearly Progress, or AYP, with the approval of NCLB in 2001. The purpose was to measure year-to-year progress in student achievement (CDE, 2010b). Each state was required to set target goals in gradual increments so 100 percent of students would become proficient on state assessments by the 2013-2014 school year. Used federally, AYP (for grades 2-8) is “a series of annual academic performance goals

established for each school,” reported as the percent of students that are proficient in mathematics and English language arts (CDE, 2010b, p. 7)

Title 1 Stimulus Link

With federal stimulus monies designed to jump-start the economy while saving or creating jobs and stimulating the economy (US Department of Education [USDOE], 2009), Title 1 stimulus monies, in addition to jump-starting the economy, were intended to also improve results for all students by increasing teacher effectiveness, utilizing data for improvement, and providing additional learning opportunities for struggling students (California Department of Education [CDE], 2009). Focusing on these three key areas requires strong school leadership. School leaders were given the following three guidelines in the utilization of Title 1 stimulus funding received from 2009-2011:

1. Increase capacity. How will the use of Title 1 stimulus funds increase educators’ long-term capacity to improve results for students?
2. Avoid the cliff and improve productivity. How will the use of Title 1 stimulus funds avoid recurring costs that schools are unprepared to assume when this funding ends? Given these economic times, will the proposed resource use serve as “bridge funding” to help transition to more effective and efficient approaches?
3. Foster continuous improvement. Will the proposed use of funds include approaches to measure and track implementation and results and create feedback loops to modify or discontinue strategies based on evidence?

While many practices within the field of education have the potential to improve student achievement, the need is to focus on the instructional best practices that improve the academic achievement of our lowest performing students and schools. As Title 1 stimulus federal guidelines suggest, strong leadership is required to improve student learning through developing intensive-ongoing professional development, utilizing data for improvement, and providing additional learning opportunities for struggling students. Although leadership is not a methodological focus within this study, leadership provides the base for effective school decision-making (Fullan, 2010).

Leadership

Leadership is a complex task (Marzano, Waters, & McNulty, 2005). Fullan (2003) stated that “only principals who are equipped to handle a complex, rapidly changing environment can implement the reforms that lead to sustained improvement in student achievement” (p. 16). Although there is not one commonly accepted definition of leadership (Maldonado & Lacy, 2001; Northouse, 2007), Senge (1990) defined leadership as “the ability to mobilize people to tackle tough problems” (p. 342). Having the ability to establish trust, lead necessary change, being both moral and transformational are all characteristics that define leadership.

Trust. For success in developing climate, culture, and community, the notion of trust is vital. “Trust is the extent to which one engages in a relationship and is willing to be vulnerable to another” (Daly and Chrispeels, 2008, p. 33). Bryk and Schneider (2002) reported on trust in schools as it applies to the moral imperative. Trust is built by being consistent as a leader. It also entails showing concern, doing what you say you are going

to do, and taking appropriate actions to solve problems, which help build trust. Of these characteristics in building trust, most important, they conclude, is doing what you say you are going to do.

Utilizing Bryk and Schneider's (2002) definition of trust, Fullan (2003) examined possible problems within school leadership if trust is lost. Focusing on his second level of moral imperative, he described how principals and school communities have reacted in key situations. When faced with challenges, Fullan (2003) emphasized the necessity to ensure integrity and courage to continue to build trust within your school and school community (continue to do what you say you are going to do). Further, when faced with adversity and dissent, refrain from taking a low-key approach. Fullan (2003) described how this reduces the trust within your school community. Bryk and Schneider (2002) found that schools reporting strong positive trust levels were much more likely to show improvement in student achievement (three times more likely). In contrast, schools reporting weak trust reports had virtually no improvement to student achievement. Similarly, Fullan (2003) reported on the destructive nature within a school community when it does not have a high level of trust with the school principal. The need for capacity building, to have a solid perception of your school and community, as well as a grasp on the demographics, both student and staff demographics, can help gain the trust within your school (Bernhardt 2004).

Change agent. "Leaders must be agents of getting us there" (Fullan, 2003, p. xiv). Reeves (2009), described a leaders' need to be a change agent, emphasizing the importance of realizing that establishing a culture for change takes time. Stakeholders

need to be viewed as keys to effective change rather than treating them as a hindrance (Reeves, 2009). Reaffirming what is valued and done well within a school helps develop the positive culture to effect change (Sosik & Dionne, 1997). Reeves (2009) further reminded and cautioned leaders to be patient. Leaders are less apt to allow things to take root before pulling the plug and implementing new programs. Finally, faculty collaboration is the foundation of fairness. Emphasizing the moral imperative for a necessary change, rather than emphasizing compliance with an external authority, grows leadership (Fullan, 2003).

Moral leadership. Leadership is a moral task. Moral leadership rests with the institution's leader (Quick & Normore, 2004). In fact, Campbell (1997) noted the need for a more ethically aware leadership in schools, especially with the complex social issues and sharp dilemmas in schools and society today. Given this impact, it is necessary to define what characterizes a moral leader. Maldonado and Lacey (2001) defined moral leadership as "behavior that influences followers' values, beliefs, and behaviors so objectives can be achieved" (p. 80). They emphasized that moral leaders are those who have a positive, lasting effect or influences on others and/or the world.

Transformational leadership. Transformational leadership is "leadership that inspires others to perform at optimal levels so that vision maybe achieved" (Hacket and Hortman, 2008). Whereas a transactional leader is predominantly viewed as a manager who completes tasks, controls behaviors, and treats others as subordinates, a transformational leaders has vision, inspires followers and problem solves and makes decisions for the good of the group. Maldonado and Lacey (2001) described many traits

of a transformational leader where principals cultivate collaborative relationships based on mutual interests while assisting followers to reach greater levels of morality and motivation.

Data-Driven Decision-Making

Fullan (2010) described data-driven decision-making as a process involving a plan of action, strategies to overcome setbacks, and a monitoring process. Within the components of data-driven decision-making, there must be a process of decision-making where teams of individuals work together to establish goals within a common vision, utilizing data to indicate the goals, and determining the actions to reach the goals in a collaborative fashion. Multiple models of data-driven decision-making exist within education.

Models. Multiple models of data driven decision making are widely used in schools and school districts today (Daggett, 2006; Dufour, 2003; Fox, 2003; Good, 2006; Killion & Harrison, 2006). In Good (2006), a Data Collaborative Model analyzed the impact of a data analysis process to improve instruction. In the model, six steps were utilized:

- Assessment of students.
- Reflection on the results of students' assessments.
- Professional dialogue.
- Professional development for teachers.
- Intervention for students, based on data.
- Reassessment of the students to measure the impact of the intervention.

Similarly, Daggett (2006) emphasized a backward-mapping model of data-driven decision-making utilizing a performance planning model where curriculum planning steps led to an inter-woven instruction and assessment step. Feedback and Evaluation steps looped back to the curriculum planning steps.

Bernhardt (2004, 2006, 2009) suggested that multiple-measures of data continuum be used as a model for continuous improvement. Bernhardt (2006) suggested that utilizing summative data that is typically reviewed at the beginning of the school year by central office, school administrators, and school staff is just the beginning of effective data-driven decision-making. Bernhardt (2009) further described a model by which schools utilize four key domains of data to effectively begin to make quality decisions to lead to school improvement: demographic data, school perceptions, student learning, and school processes. She cited a key example where a school chose to focus on math because scores indicated it was the lowest area at the school (student learning). As a year-long emphasis, the school implemented intervention strategies with before-school tutorials, after-school math homework help, and a summer school program for students that were not yet proficient on their state math assessment. The staff was devastated when the scores actually decreased from the previous year. Upon further review though, the school discovered that the average experience of the teaching staff (demographic) was less than six years and the teachers also did not feel the students had the ability to do the work (perceptions). Continued discussion also revealed that the teachers were re-teaching what had been taught without determining what the students needed and they were not really sure to what extent they were focusing on the standards (processes). They began to

question whether teaching the district adopted curriculum correlated to teaching the standards. Having an understanding of comprehensive performance problem and challenge is a first step in improving student performance (Odden & Archibald, 2009).

Data analysis. Schools need to be able to access data, interpret data, and apply their interpretations (Cooley et al., 2006; Reeves & Burt, 2006; Salpeter, 2004; Shen & Cooley, 2008; Schmoker, 1996). The success of establishing a data-directed decision-making model requires strong leadership to inspire and share a vision to ensure implementation (DuFour, 2003). It also takes a strong leader to ensure the analysis and use of data (Bernhardt, 2004). The strength of the school principal is a vital factor in student achievement (Deal & Peterson, 1990; Fullan, 2003; Waters et al., 2004). In addition to being able to establish a school culture in which data inquiry takes place (Salpeter, 2004), principals need to create a new instructional vision (Odden & Archibald, 2009) and be information-driven, committed to shared leadership, and relentless about continuous improvement (Reeves & Burt, 2006).

In addition, there needs to be positive central office support (Bernhardt 2006; Salpeter, 2004; Wohlstetter et al., 2008) for school leadership to implement the results of their data analysis. They need to support ongoing, intensive professional development (Odden & Archibald, 2009; Shen, & Cooley, 2008). Within the coordination, communication, and support between and school and district office, data-driven decision-making models have implementation limitations (Shen & Cooley, 2008).

Factors and problems to consider in data-driven decision-making. Although negative in connotation, literally every article researched cautioned about the limitations

in implementing a successful data-driven decision-making model in schools and districts (Cooley et al., 2006; Reeves & Burt, 2006; Salpeter, 2004; Shen & Cooley, 2008; Wohlstetter et al., 2008). Structure and design problems such as lack of access to the data and lack of resources to extract that data (Cooley et al., 2006) should be alleviated before initial training takes place. Many problems can be avoided by well-thought out, sustainable professional development. Reports on lack of knowledge (Reeves & Burt, 2006), lack of professional development, lack of time, lack of ability to development assessments, lack of skills, and a lack of capacity to implement what research suggests (Cooley et al., 2006; Reeves & Burt, 2006; Wohlsetter et al., 2008) can be minimized with such a professional development delivery model. It is important to note the limitations that the district office may place on schools that can greatly hinder the implementation of their data-based decisions. Union contracts may add layers of bureaucracy and lead to stymied progress. The district office may restrict the use of school resources and may not allow the hiring decisions to be made at school sites (Wohlsetter et al., 2008). School districts need to be cognizant of the forward progress of schools and should work to eliminate the hindrances described.

The principal-agent theory model in data-driven decision-making also describes pitfalls to avoid within a school. Formally, the principal-agent theory is in effect when the principal needs a task carried out, lacks the time or expertise to do it personally, and delegates the task to the agent (Wohlstetter et al., 2008). In the application of data-driven decision making, Wohlstetter et al. (2008) discussed that often decision rights occur with the principal-agent theory where the agent typically has more knowledge than the

principal. It is also noted that the principal-agent theory can be expanded to include the central office (principal) and the site administrator (agent). A key example within this research demonstrated the point: the district offered literacy training for every teacher in the district when the real need of teachers was in differentiating instruction with English Language Learners. The authors further emphasized that often the central office makes decisions based on “incomplete information and imposes those decisions on site level teachers and administrators” (p. 242). They further note that the principal should be cognizant of the theory so that they can be effective in setting up systems of decision-making in schools.

Additional challenges to mention include lack of teacher or community buy-in (Wohlstetter et al., 2008), and data overflow (Reeves & Burt, 2006). As Bernhardt (2004) stated, “it takes a strong leader to inspire a shared vision and to ensure its implementation. It also takes a strong leader to ensure...the analysis and use of data” (p. 18). One way to help teachers to embrace change is through professional development.

Professional Development

Ongoing, sustainable professional development is a key effective strategy in raising student achievement (Fullan, 2010; Hargreaves & Shirley, 2009; Odden, 2009; Odden & Archibald, 2009; Odden & Picus, 2008). Odden and Archibald (2009) defined effective professional development as “professional development that produces change in teachers’ classroom based instructional practice” (p. 106). Fullan (2010) further emphasized “quality instruction requires getting a small number of practices right...becoming better at what they are doing while they continue to seek better

methods” (p. 6). Research exists on what constitutes effective and high quality professional development (Elmore, 2002; Fullan, 2010; Joyce & Showers, 2002; Odden & Archibald, 2009).

Fullan (2010) inferred the topic of professional development must begin with how to identify what students have and have not learned, then must include training on tailoring intervention and instruction on teaching what students cannot yet do. Others (Elmore, 2002; Joyce & Showers; Odden, Archibald, Fermanich, & Gross, 2003) identify key factors within the research of effective sustainable professional development programs. With an emphasis on continuous and ongoing sustainable professional development (Fullan, 2010; Hargreaves & Shirley, 2009), six key features have been identified:

1. How the professional development is organized (workshops, collaboration, study groups) with a de-emphasis on the one day workshop model.
2. The duration of the professional development (100-200 hours recommended).
3. The professional development should include all stakeholders (whether a grade level, content area, or school).
4. The professional development should have a strong content focus as well as a strong base for how students learn the particular content.
5. The professional development provides for engagement and active learning opportunities.
6. Coherence with school and district goals.

Structurally, Odden and Archibald (2009) and Odden et al. (2003) defined four steps for successful ongoing, sustainable professional development. The first, is the utilization of pupil-free days (their research suggest at least 10 days) which can include hiring substitutes, extending the school-year, and embedding professional development days throughout the school year or during the summer. Funding for the pupil-free days could be woven into the salary schedule or teachers could be paid an hourly rate for attendance. Second, effective trainers are integral to professional development. Usually employed at the district level, trainers facilitate data analysis and provide the professional development for the teaching staff. Odden and Picus' (2008) Evidence Based Model suggested \$100 per student to be spent on professional development trainers. Next and most importantly, is the use of instructional coaches. Coaches are seen as key to making professional development work and prompting a change in instructional practice (Hargreaves & Shirley, 2009; Odden, 2009; Odden & Archibald, 2009; Odden & Picus, 2008). Finally, effective professional development must allow for collaboration within the school day, providing opportunities to discuss finely targeted topics.

Both Odden and Archibald (2009) and Odden and Picus (2008) emphasized the difficulty in funding adequate professional development. Utilizing 2005 dollars, they suggested a total of \$450 per pupil for professional development including \$42 per pupil for 10 days of staff training, \$311 per pupil for instructional coaches; one per 200 students, and \$100 per student for district trainers. Odden and Picus (2008) emphasized the reallocation of dollars as vital to funding both professional development and other aspects of the Evidence Based Model. For example, non-core teachers in physical

education, art, and music can provide collaboration time for grade level and content matter teachers. Instead of hiring classroom instructional aides, funding could be utilized for additional teachers and coaches. Many of the uses of resource allocation and reallocation as suggested by the Evidence Based Model can also be applied to strategies to assist at-risk learners.

Effective Strategies for the At-Risk Learner

Most strategies for the at-risk learner involve extended learning time (Odden & Archibald, 2009). Given sufficient time, most students can learn (Donovan & Bransford, 2005; Fullan, 2010). Extended learning time can occur during the school day, outside of the school day, or during the summer.

During the school day, elementary and middle school students can be placed in individual or small group tutoring (Torgeson, 2004). In addition, middle school students can be placed in double periods (Odden, 2009), usually receiving assistance in reading or mathematics. Outside the school day, both elementary and middle school students can benefit from before school, after school, or Saturday tutorials. Assistance can be individual or small group (no more than 5 students) and can involve homework help (Odden & Archibald, 2009). Summer can be also be very effective for the at-risk learner (Odden & Archibald, 2009) with a clear academic focus.

Tying it All Together

Grubb (2010) and Fullan (2010) discussed decision-making and planning in resource allocation and use. Grubb's research emphasized a simple, compound, and complex decision-making process that categorized funding decisions in three ways. First, schools make simple decisions that include one type of funding utilization. Schools may purchase new computers for teachers. Or, a teacher may attend a conference on something that interests them. Grubb (2010) emphasized that simple purchases do not yield increases in student achievement. Next, schools make compound decisions that include two types of funding utilization. A teacher may attend a professional development session that utilizes a digital camera and then the school purchases a digital camera for the teachers' use. Grubb (2010) emphasized that a compound resource use yields greater student achievement improvement. Finally, Grubb (2010) emphasized that a complex purchase or a purchase utilizing multiple resource uses, yields the highest student achievement growth. In addition to purchasing a digital camera after attending a professional conference, the teacher would bring the professional development back to others, work collaboratively on lessons to incorporate the digital camera, and revisit the implementation of those lessons to discuss teacher effectiveness and student response. Based on Grubb's (2010) work, Fullan argued that student achievement growth is not based on any one program or purchase. Fullan (2010) cautioned against a "piecemeal" model and suggested more comprehensive planning.

Conclusion

While the review of the literature revealed both qualitative and quantitative research studies to define strategies that improve student performance, three areas stood out as gaps in the research. First, there was little quantitative data to help schools inform their decisions about research allocation and use. Many noted the difficulty of getting the necessary types of data for this to occur (Goe, 2006; Odden & Picus, 2008). Therefore, most research utilized case studies, interviews, and the use of already available data as the methodological mode of study. Second, most studies reported a focus on studying total dollar allocation to student achievement. Further research is recommended to assess which use of resources (toward the use of specific strategies) influence student achievement the most. It was difficult within the research to distinguish which of these strategies had an impact on raising student achievement. Although Archibald (2006) and Torgeson (2004) found that purchasing instructional strategy resources, and tutoring, respectively, had an impact on raising student achievement, it would be beneficial to find which instructional strategy and what kind of tutoring was impactful for students. Finally, the majority of research focused on schools that were succeeding in improving student achievement. Comparing research use and implementation of improvement strategies between similar schools (demographically) that have been successful (and have not been successful) would help inform the research.

Importance of Findings

Understanding the recent research and models of adequacy was important in my field of inquiry. Wanting to research the use of Title 1 stimulus monies through the two

year allocation time frame necessitated understanding the models districts were using in their student achievement process. Most important to my inquiry was linking the current research on specific resource allocations to student achievement. Understanding strategies that the research supported as areas to focus on to raise student achievement was also important to follow schools through their two-year Title 1 stimulus program. Key links discovered through this literature review were strategies that utilized current resources that exist within schools and did not require additional funding to raise student achievement. The reallocation of resources and giving schools the latitude to allocate resources to make necessary changes within their schools was a vital link to the success of programs.

Next Steps

Affording a school the opportunity to address objectives between central office and schools, to align goals, to align curriculum and assessments, and to establish common language within the school community represents forward progress (Cooley et al., 2006). Providing teachers with the professional development, the time to collaborate with peers, and training in standards and assessment allows them the expertise to design and implement benchmark formative assessments within their classrooms. Not only does the utilization of formative assessments improve student achievement (Odden & Archibald, 2009), it also validates student progress and helps build and maintain teacher morale (Cooley et al., 2006). Further, Salpeter's (2004) research results showed that principals surveyed stressed the need to assess student learning and to collect real-time achievement data on a continuum—quarterly, monthly, weekly, and even daily.

While researching data-driven decision-making, the theories, the design, benefits and cautions, very little attention was provided by the researches on what schools did with the research and how they applied resources decisions to their decision-making process. This gap in the research has become a major focus of my research questions.

This focus shaped the methodology for the study described in Chapter 3, led to a presentation of the data in Chapter 4, and the methodological conclusions and recommendations for next steps in Chapter 5.

CHAPTER 3

METHODOLOGY

Introduction

With the introduction of the No Child Left Behind (NCLB) Act in 2001, there has been an unprecedented focus on standards-based education reform and measurable goals to improve individual student outcomes in education. In addition, with a possible 2012 reauthorization of ESEA, tentatively coined *The Blueprint for Reform*, the emphasis on accountability became even greater, including heightened responsibility to make fiscally sound decisions, with greater scrutiny than ever before.

This mixed-methods study intended to help schools and school districts by examining effective resource allocation of categorical dollars in order to improve student achievement. Specifically, this study examined how California school districts allocated and utilized Title 1 stimulus monies received during the 2009-2010 and 2010-2011 school years and the local decision-making processes that occurred regarding the allocation of the stimulus monies. Finally, whether these schools saw improvement in student achievement, as defined by both the Academic Performance Index (API) and Adequate Yearly Performance (AYP) growth, was analyzed. Used in California, API is reported as a single number, ranging from 200-1000, measuring the academic performance and growth of schools (CDE, 2010a). Used federally, AYP (for grades 2-8) is “a series of annual academic performance goals established for each school,” reported as the percent of students that are proficient in mathematics and English language arts (CDE, 2010b, p. 7).

Research Questions

With the emphasis on high standards and fiscal accountability, there is a need to inform the research linking student achievement to the allocation or reallocation of resources, particularly categorical resources. Schools and leadership teams need current research and guidance to make fiscally sound decisions so that students can experience the best education. The current budget situation in California places an even greater emphasis on the efficiency of school resource allocation. The following research questions guided the inquiry into California school-level resource allocation decisions involving the use of categorical funding and the connection of those decisions to school planning and improvement processes. The research of Odden and Archibald (2009) and Odden and Picus (2008) framed the basis for these questions.

1. How did elementary and middle schools utilize Title 1 and Title 1 stimulus monies from 2009-2011?
2. How did the expenditures of Title 1 and Title 1 stimulus money affect student achievement as measured by state tests in 2009-2011?
3. What process did schools utilize to allocate Title 1 stimulus funds? To what extent did the current (2009-2011) budget situation within California (both budget reduction and categorical flexibility) play a role in the decision making process?

Categorical programs, targeted at specific programs or groups of students, provide money to schools and school districts from both the state and federal level (EdSource, 1997). Title 1, a federal categorical program, provides money targeted for educating children from low-income families to ensure all children meet high academic standards

(USDOE, 2004). Additionally, Title 1 stimulus monies were provided to schools for the 2009-2010 and 2010-2011 school years. Intended to jump-start the economy, stimulus monies were also intended to improve results for all students by increasing teacher effectiveness, utilizing data for improvement, and providing additional learning opportunities for struggling students (CDE, 2009). As described above, both AYP and API are measures of student achievement for this study.

Methods

The results of this mixed-methods study could help inform schools in making decisions about the use of categorical funds to improve student achievement. Because the questions are complex, a mixed-methods research approach was used to answer the research questions for this study. To assess Title 1 and Title 1 stimulus utilization and academic growth, this study reviewed multiple forms of quantitative data: An e-mail survey from 15 school principals, each school's Single Plan for Student Achievement, school and district budget reports, and California Department of Education (CDE) reported achievement data. To assess the process that schools utilized to allocate funding, four hour-long individual interviews with school principals were conducted. According to Cresswell and Plano Clark (2007) a mixed-methods design "provides researchers, across research disciplines, with a rigorous approach to answering their research questions" (p. xv), giving the researcher "a better understanding of the problem than if either data set had been used alone" (p. 7).

Participants

Most research to date on the allocation of resources and their use included a study of the total resources within schools (Grubb, 2010; Odden & Archibald, 2009; Odden & Picus, 2008). The results of those studies focused on total school improvement. Yet, a wide range of variables have been found to influence student achievement (Greenwald et al., 1996a; Hanushek, 1998; Hedges, Laine, & Greenwald, 1994), including family background (poverty levels), teacher-pupil ratio, rural/urban location, and expenditures per-pupil. The current study attempted to control for these variables because they are not within the realm of a school's decision making power and thus, would skew possible findings.

Specifically, Monk and Underwood (1988) suggested that controlling for family background improves the relationship between input (resources) and output (student achievement). Hedges, Laine, and Greenwald (1994) concurred, emphasizing that poverty levels and teacher-pupil ratio are factors, in addition to funding levels that contribute to student achievement. As such, these factors were held constant in the study by selecting schools with similar poverty levels and teacher-pupil ratios.

Vignoles, Levacic, Walker, Machin, and Reynolds (2000) concluded that sufficient evidence does not exist linking input to output as the large majority of educational expenditures are encompassed in salary and administrative costs. Therefore, imposing criteria and controlling for such costs further validates studies on additional funding such as categorical funding, and has implications in the research and education for Title 1 schools (Monk & Underwood, 1988).

District selection criteria. This study included a purposive sample of Title 1 public (non-charter) elementary and middle schools located in Southern California, utilizing demographic data from the 2008-2009 school year. At the time of sampling, 2008-2009 data was the most recent data released by the CDE. Beginning with the preliminary Title 1 American Recovery and Reinvestment Act (ARRA) entitlement information (CDE, 2009), 87 districts received both Title 1 and Title 1 stimulus funding. Utilizing this sample, I imposed three initial criteria for enrollment in the current study. First, this study intended to study elementary and middle schools. Therefore, all high school only districts were eliminated. This reduced the sample by 13, leaving 74 districts. Next, to standardize and eliminate the influence of socioeconomic status, only districts with at least one school with a 35% or above threshold of poverty were eligible. An additional 17 districts were eliminated. Finally, I included districts that had a traditional K-5 or K-6 elementary model and a traditional 6-8 or 7-8 school composition (versus an untraditional K-2, 3-5, K-8 or K-12 composition), leaving 51 districts in the sample (Ed-Data, 2010b).

Twenty total districts (of the 51) were selected for this study. Five were selected for convenience (proximity) for survey data collection and follow-up interviews. At least one school from each of these districts participated in an initial field study to test the survey regarding the Title 1 funding and expressed interest in participating in this study. Additionally, I utilized a random numbers chart (StatTrek.com, 2010) to select an additional 15 districts to yield the 20 districts in the sample. Table 1 lists the initial sample size.

Table 1

Sample Selection

District	Total # of schools	Total Elementary	Total Middle
1	25	19	6
2	3	2	1
3	9	5	4
4	6	5	1
5	10	10	0
6	13	10	3
7	10	7	3
8	8	5	3
9	6	5	1
10	15	12	3
11	12	10	2
12	24	19	5
13	1	1	0
14	4	4	0
15	1	1	0
16	5	4	1
17	4	4	0
18	8	6	2
19	9	8	1
20	11	9	2
Totals	184	146	38

School selection criteria. As indicated in Table 1 above, 20 districts were selected for participation in the survey. To better isolate the factors that increased student achievement via utilizing resource allocation, and thus increased the possible validity and generalizability of the study, I imposed another layer of selection criteria: Schools within the 20 districts were also matched based on a similar proportion of English Language Learner (ELL) students, students with disabilities (SWD), student to teacher ratio, and length of day. To further increase the ability to compare schools and isolate the influence

of resource allocation, I eliminated very small schools (fewer than 300) and very large schools (over 1000) from the sample. These school selection criteria were based on the Evidence Based Model (Odden & Picus, 2008), which suggested that different school characteristics affect resource needs within a school. Because this study analyzed Title 1 and Title 1 stimulus funding rather than comparing whole-school funding, these characteristics were used as selection criteria. As a result, 184 total schools within the 20 schools were selected for participation in the study.

Survey and interview selection criteria. School principals are the leaders of their schools. As such, each has the ultimate responsibility as the key decision-maker of the site and each provided the data collected for this study. School principals completed the quantitative on-line survey and were utilized during the qualitative interviews.

Procedures

Recruitment. Initially, I attempted to contact the principals of the 184 selected schools (representing 20 districts) to invite them to participate in the study. E-mail addresses were retrieved through each of the 20 school districts' websites. Ten of the districts had an e-mail system that disallowed unsolicited e-mails without sending an e-mail request form. Permission via the request had to be granted for the e-mail to be forwarded to the principal. As such, access to the principal by e-mail was not available. Without a response to the request within two weeks, I attempted to contact either the Superintendent or Chief Academic Officer to receive permission to contact their principals. Although three districts considered the request, I did not receive permission from any of the 10 districts that required e-mail requests. For the remaining 10 districts, I

contacted the principals via e-mail and invited them to participate in the upcoming study. In this e-mail solicitation, I informed them of the topic and purpose of the study, that participation was voluntary, assured them of confidentiality, and requested they complete the survey.

To encourage participation and increase the response rate, principals received a follow-up e-mail three weeks after receiving the initial e-mail. In the follow-up e-mail, I asked the principals if they had any questions about participation in the study and expressed interest in a follow-up interview. Principals were asked to provide consent, were instructed that the school data would remain confidential, had the opportunity to opt out of the study at any time, and received information about the results of the study (see Appendix A).

Quantitative data collection. Several sources of quantitative data were gathered to analyze the relationship between resource allocation and student achievement.

Online survey. To determine how schools allocated resources in Title 1 and Title 1 stimulus funding for both the 2008-2009 and the 2009-2010 school years, data collection occurred via a survey sent to the principals by e-mail, using the survey software, Qualtrics. Principals were asked to record the dollar amounts that their schools spent within the areas of professional development, strategies for at-risk learners, technology, and curriculum. The approximate length of time to take the survey was one hour. They were asked questions such as: How much money was spent on instructional coaches during the 2010-2011 school year? How much money was spent on summer school for at-risk learners during the 2010-2011 school year? (See Appendix B).

Achievement data. To determine student achievement data, the Ed-Data and CDE websites were used to retrieve school-wide API data and AYP data in both English language arts and mathematics. There has been a long tradition of using test scores to measure student achievement (Ferguson & Ladd, 1996). While some suggest other measures of school success (highest level of education level reached, SAT scores, future income), the time between the treatment and results make these measures less valid (Ferguson & Ladd, 1996). Because the API and AYP data are available currently with the time that education is provided, they are more reliable and valid measures for this study. Data were collected for a four-year period of time to determine academic growth both in the two years before the Title 1 stimulus monies were allocated to schools and during the two years the Title 1 stimulus monies were allocated to schools.

Documents. To triangulate the data, I reviewed two additional documents within the quantitative analysis section. Each school that receives state and/or federal categorical funding is required to submit a single plan for student achievement (SPSA), on an annual basis, for school board approval. The SPSA includes funding specificity for both Title 1 and Title 1 stimulus funding. Each school district also provides funding information to the CDE on an annual basis. This information is provided by resource (the program) and by object (the specific funding category). Title 1 and Title 1 stimulus funding are separate resources and thus have separate data. Data were reviewed by utilizing Microsoft Access software.

Qualitative data collection. To provide the voice of the school in the decision-making process, qualitative data were also collected.

Interviews. To determine the processes schools utilized to allocate Title 1 funds and whether the current budget situation played a role in the decision-making process, I conducted personal interviews with the principals from the four schools. I used a purposeful convenient sample to select a total of four principal interviews, two elementary schools, and two middle schools in two districts. I based the selection on the availability of survey data returned and its analysis. In interviews, principals responded to questions such as: How did you determine Title 1 stimulus resource use at your school? And, what data are utilized to determine the goals and actions at your school? (See Appendix C).

Debriefing. A summary of findings was shared with the participating principals, schools, and districts.

Analytical Plan

Research Question #1

This study used descriptive statistics to describe both the demographics of the participating schools, the allocation of Title 1 and Title 1 stimulus funding and the utilization of Title 1 and Title 1 stimulus monies by the schools during the 2009-10 and 2010-2011 school years. The following Table 2 describes the 15 participating schools:

Table 2

Participant Demographics

School Name	Enrollment	% ELL	% SED	% SPED	Student/Teacher Ratio
Elementary School #1	593	25.0	63.5	14.0	22.8
Elementary School #2	413	23.5	41.5	17.9	20.4
Elementary School #3	590	18.6	51.5	12.2	20.2
Elementary School #4	364	15.9	43.1	22.5	19.7
Elementary School #5	588	31.6	41.9	17.0	21.2
Elementary School #6	511	22.1	44.8	16.4	23.2
Elementary School #7	805	37.0	65.2	16.0	19.2
Elementary School #8	445	33.7	48.1	12.6	23.4
Elementary School #9	453	30.7	49.9	18.5	20.1
Elementary School #10	506	30.2	48.0	19.0	18.7
Elementary School #11	373	23.0	46.0	15.0	22.6
Middle School #1	512	23.0	62.0	12.0	20.5
Middle School #2	585	24.0	54.0	18.0	24.3
Middle School #3	930	18.6	40.8	18.0	22.6
Middle School #4	741	23.0	51.0	15.0	28.5

Research Question #2

Achievement data. I recorded each school's test scores, as measured by API, AYP mathematics, and AYP English language arts during the two-year span before stimulus monies and the two years span during the stimulus funding. For the purpose of this study, API point growth, rather than a school's reported score, was used. According to the validity section of the CDE test analysis website (CDE, 2010a), comparison of longitudinal growth between scores utilizing point growth only was used. This is further complicated by the state releasing two scores annually for each school. In August, a school receives a growth score. This score represents the growth that the school achieved during that school year. Early the following year, the school receives a new base score.

The base score is recalculated on the factors to be measured during the future year test (CDE, 2010a). In other words, each year, there are changes in how sub tests are weighted and in the factors included in the calculation. In analysis, it does not work to compare a growth score for the 2009-2010 school-year with the base score in the 2009-2010 school year. Instead, a comparison of the base score in the 2009-2010 school year with the growth score in the following (2010-2011) school year must be used. Therefore, the school's base score from the previous year will be compared with the growth score in the current year, and the point growth (or loss) will be recorded. AYP scores, on the other hand, are reported as the percent proficient on the mathematics or ELA exam without any change within a school year. For consistency, these data were recorded as the growth (or loss) and the percent proficient in ELA and mathematics.

Correlation data. Utilizing SPSS software, I ran a Pearson's correlation coefficient, or "r" value, between growth (or loss) in achievement and categories of funding. Although a low sample size may make statistical significance difficult to establish, Cohen (1992) addressed the possibility of interpreting correlations even with a small sample size. While researchers and editors seem most concerned with the presented statistical test and its corresponding "p" value, or significance, Cohen (1992) emphasized that possible correlations may very well be missed. Utilizing what Cohen (1992) described as the alternate-hypothesis population, it is possible to see a correlation with small samples and interpret this value as the size of the effect. As such, a correlation of .1 would be considered a small effect, a .3 would be considered a medium, and a .5 would be considered a large effect (Cohen, 1992). To determine if there were any differences

between grade spans, the correlation data were run comparing growth and resource use in total, in elementary schools, and in middle schools.

Research Question #3

I utilized a pattern analysis to analyze and organize the results of the qualitative data. Patten (2002) emphasized the need to analyze qualitative data in a “reduction and sense-making effort” (p. 453) to identify core patterns and meanings from the data. Interviews were taped, transcribed, and initially assigned many different codes. From the coding, the results of the interview were further divided into themes and finally, collected into patterns. In the four structured interview with elementary and middle school principals, the following three core patterns emerged: Strengths in decision- making, positive utilization of Title 1 and Title 1 stimulus expenditures and on-going fiscal challenges. These categories were used to establish if there were similarities or differences in the ways schools implemented the Title 1 and Title 1 stimulus funds and whether trends could be detected with each school interviewed. From the three patterns, multiple sub-patterns emerged. Table 3 below presents each pattern and the corresponding sub-pattern that emerged from the interview data.

Table 3

Qualitative Data Organization

Pattern	Sub-Pattern
1. Strengths in Decision-making	1a. Level of Involvement
	1b. Depth in Data Analysis
	1c. Presence of Monitoring the Use of Funding
2. Positive Utilization of Title 1 and Title 1 Stimulus Expenditures	2a. Professional Development Strengths
	2b. Professional Development—Conflicting Results
	2c. At-Risk Student Strategies
	2d. At-Risk Program Strategies
3. On-going Fiscal Challenges	3a. Decreased Funding Consequences
	3b. Categorical Flexibility—a loss for schools
	3c. Accountability Challenges

Through the interviews, I evaluated the three patterns. First was the strength in decision-making related to student achievement growth. Second was how the increase in Title 1 allocation with the introduction of the 2009-2011 Title 1 stimulus monies led to the implementation of planned programs. And, finally was the effect of budget cuts and categorical flexibility on decisions related to the Title 1 funding and whether programmatic changes were made at school sites.

Limitations

The small sample size of Title 1 elementary and middle schools in southern California may limit the generalizability of the findings to other schools. Looking at data throughout the 2009-2010 and 2010-2011 school years was a brief time period to study resource allocation and student achievement growth, and future studies would benefit from an analysis over a longer span of time. The correlational design of the study may be a limitation as it may not be possible to establish causality. Additionally, multiple correlations were run within this study and it is possible that a correlation may be due to chance. The current budget and economics relative to California also present a possible limitation. Because of budget reductions, Title 1 monies may not have been applied as planned, because of utilizing this funding to cover the costs of programs that were cut by other funding.

Delimitations

In studying Title 1 elementary and middle schools, results will also not be generalizable to Title 1 high schools nor to elementary, middle, or high schools that did not receive Title 1 funding. Choosing participating schools only within Los Angeles County may limit transferring beyond Southern California to schools with similar demographics. In determining school selection for this study, it was important to control for variables within this study. The percent of English Language Learners, percent of socio-economically disadvantaged students, student to teacher ratio, school size, and length of day in the schools chosen for the study were controlled. The purpose of

controlling for these variables in this study was to ensure the ability to isolate the main variables of interest (resource allocations, expenditures, and student achievement).

Assumptions

This study assumed that both the quantitative and qualitative data, including survey data and interviews with school and district administrators regarding school improvement and resource allocation, reflected true and accurate information.

CHAPTER 4

FINDINGS

Overview

As the debate continues about whether money matters in schools, researchers have suggested that improving practices and policies in resource allocation can improve student achievement if money is spent effectively (Hanushek, 1996; Greenwald et al., 1996a; Grubb, 2010; Odden & Archibald, 2009). Schools are under great pressure to do more with less and maintain a clear process to decide how to allocate resources to areas that need it the most and can make the most effective use of it (USDOE, 2010).

For schools, most fiscal decision-making responsibility involves categorical funds. Categorical programs provide additional monies to schools targeted at specific programs or educationally disadvantaged groups of students such as high poverty, English language learners, or special education students (EdSource, 1997). Title 1, a federal categorical program, provides financial assistance to meet the educational needs of children from low-income families (Office of Education, 1969). From 2009-2011, the federal government provided Title 1 stimulus monies to schools. Title 1 stimulus monies, in addition to jump-starting the economy, were intended to improve results for students by increasing teacher effectiveness, utilizing data for improvement, and providing additional learning opportunities for struggling students (CDE, 2010a).

The purpose of this mixed-methods study was three-pronged: (a) to discover how Title 1 funds were used, (b) to discover how funding decisions were made by schools, and (c) to compare both the use of funding and the decision-making process to guide

schools in identifying where categorical funding might best improve student achievement. These outcomes were explored among Title 1 elementary and middle schools in southern California during 2009-2010 and 2010-2011. With reduced funding coming at a time of increased accountability, the results of this study were intended to influence policy decisions on the use of categorical funding. Three research questions guided this study:

1. How did elementary and middle schools utilize Title 1 and Title 1 stimulus monies from 2009-2011?
2. How did the expenditures of Title 1 and Title 1 stimulus money affect student achievement as measured by state tests in 2009-2011?
3. What process did schools utilize to allocate Title 1 and Title 1 stimulus funds? To what extent did the current (2009-2011) budget situation within California (both budget reduction and categorical flexibility) play a role in the decision making process?

This chapter begins with an introduction to the 15 schools that participated in this study including both demographic and achievement data. The next two sections provide the results of the quantitative analysis for the first two research questions including the use of the Title 1 and Title 2 stimulus funding within the two-year 2009-2011 school years, with findings on the effect of the expenditures on student achievement. The final section reports on results for the third research question, including the qualitative results from the four principal interviews

Demographic Data

From 184 schools within 20 districts that were part of the initial sample, 15 elementary and middle schools from five districts in Southern California completed the survey and participated in this research study. Participating schools were public, non-charter schools with traditional K-5 (elementary) and 6-8 (middle) grade distributions, a traditional school-year calendar (September-June), and a traditional bell schedule (no block scheduling). Table 4 below describes demographic information of the 11 elementary and four middle schools that participated in the study.

Table 4

School Demographics

School Name	District	Enrollment	% English Language Learners (ELL)	% Socio-Economically Disadvantaged (SED)	% Special Education (SPED)	Student to Teacher Ratio
ES #1	District #1	593	25.0	63.5	14.0	22.8
ES #2	District #2	413	23.5	41.5	17.9	20.4
ES #3	District #3	590	18.6	51.5	12.2	20.2
ES #4	District #2	364	25.9	43.1	22.5	19.7
ES #5	District #2	588	31.6	41.9	17.0	21.2
ES #6	District #2	511	22.1	44.8	16.4	23.2
ES #7	District #4	805	37.0	65.2	16.0	19.2
ES #8	District #2	445	33.7	48.1	12.6	23.4
ES #9	District #2	453	30.7	49.9	18.5	20.1
ES #10	District #1	506	30.2	48.0	19.0	18.7
ES #11	District #3	373	23.0	46.0	15.0	22.6
MS #1	District #5	512	23.0	62.0	12.0	20.5
MS #2	District #2	585	24.0	54.0	18.0	24.3
MS #3	District #4	930	18.6	40.8	18.0	22.6
MS #4	District #2	741	23.0	51.0	15.0	28.5

Enrollment for participating schools ranged from 373 students for the smallest elementary school to 930 students for the largest middle school. The percent of English Language Learners (ELL) ranged from 18.6% to 37.0%. All participating schools had above a 40% poverty level with a range of socioeconomically disadvantaged (SED) students between 40.8% and 65.2%. Special education populations (SPED) ranged from 12.0% to 19.0% and except for middle school #4 with a high of 28.5 students to 1.0 teacher ratio, there was a 5.6 % variance between schools. A state reported statistic, the student-to-teacher ratio is not to be misinterpreted as class size but represents the certificated adults working with students on a campus. Figure 3 below describes the average class size of the participating schools.

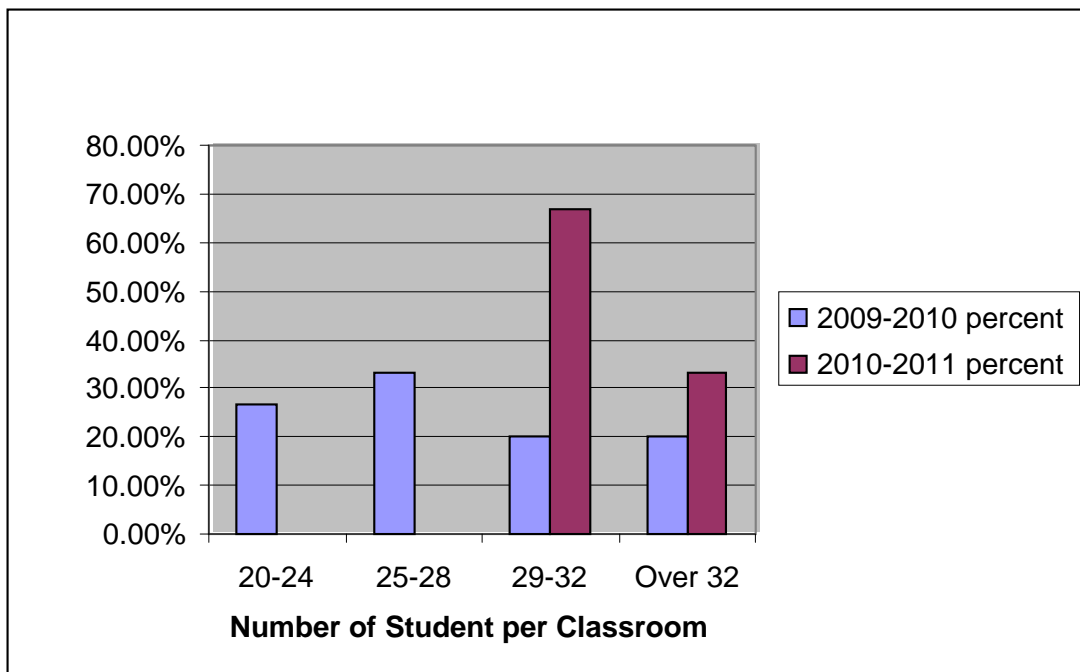


Figure 3. Class Size

It is interesting to note the change in class size between the two years of the study. While 60% of schools reported having a class size of 28 students or fewer in 2009-2010 (26.7 % reporting a class size of 20-24 and 33.3% reporting a class size of 25-28), not one school reported having a class size of 28 or fewer in 2010-2011, with 66.67% having between 29-32 students and 33.33% reporting a class size over 32 students. Although many studies emphasized the lack of correlation between lower class size and student achievement (Odden, 2009), schools interviewed during this study reported that fewer staff provided them with far less flexibility in class choice, course options, and intervention sections.

Both the number of years that principals worked at their current school and the total number of years that they had been a principal were included in the survey to establish the experience level of the administrators participating in this study and to ascertain whether there was a relationship between the level of experience and both the achievement of the school and the funding decisions within the school. Table 5 below shows the amount of principal experience of the participating schools.

Table 5

Principal Experience

No. of Years	At Current School		As a Principal	
	No. of Principals	%	No. of Principals	%
1	1	6.60%	0	0.00%
2-5	9	60.00%	9	60.00%
6-10	1	6.60%	2	13.20%
Over 10	4	26.80%	4	26.80%

While one principal was new to the school site during the 2010-2011 school year, it was not a first-year principal assignment. None of the administrators participating in the survey were completing their first year as a principal. The majority (60%) had been both principals (and principals at their current school site) for two to five years with a strong percentage, 26.8%, having been at their sites for over 10 years.

Achievement Data

Table 6 below shows whether schools saw improvement in student achievement, as defined by both the Academic Performance Index (API) and Adequate Yearly Performance (AYP) growth. Used in California, API is reported as a single number, ranging from 200-1000, measuring the academic performance and achievement growth of schools (CDE, 2010a). Used federally, AYP (for grades 2-8) is reported as the percent of students that are proficient in mathematics and English language arts (CDE, 2010b). Growth data are presented for the federal AYP (English language arts and mathematics) and California state API for the 2009-2010 and 2010-2011 academic years, including a two-year 2009-2011 overall comparison.

Table 6

AYP and API School Achievement Growth

School No.	09-10 ELA	10-11 ELA	09-11 ELA	09-10 math	10-11 math	09-11 math	09-10	10-11	09-11
ES 1	-4	-3	3	8	0	8	33	-15	18
ES 2	8	-7	1	-3	4	1	15	-16	-1
ES 3	-4	12	8	1	15	16	-5	57	52
ES 4	-1	2	1	-7	3	-4	0	-5	-5
ES 5	1	-1	0	0	-3	-3	0	-5	-5
ES 6	1	6	7	-3	8	5	1	31	32
ES 7	3	7	10	7	9	16	26	26	52
ES 8	-1	8	7	5	3	8	9	21	30
ES 9	-2	2	0	-2	1	-1	-1	9	8
ES 10	-1	3	2	2	-3	-1	9	3	12
ES 11	1	-7	-6	3	-2	1	19	-36	-17
MS 1	3	-3	0	5	-3	2	27	-11	16
MS 2	8	0	8	9	-2	7	27	-1	26
MS 3	6	-1	5	2	3	5	22	0	22
MS 4	-2	-4	-6	1	-7	-6	8	-33	-25
AVG.	1.07	0.93	2.67	1.87	1.73	3.60	12.67	1.67	14.33

Generally, the two-year 2009-2011 comparison demonstrated that most schools showed an increase in AYP ELA scores, with 13 of the 15 schools demonstrating growth and an overall average AYP growth of 2.67% in ELA. In mathematics, 9 of 15 schools demonstrated growth with an overall 3.60% average increase. A two-year average 14.33 point API growth was found with 10 of 15 schools showing API point growth. Figure 4 compares achievement results by school level.

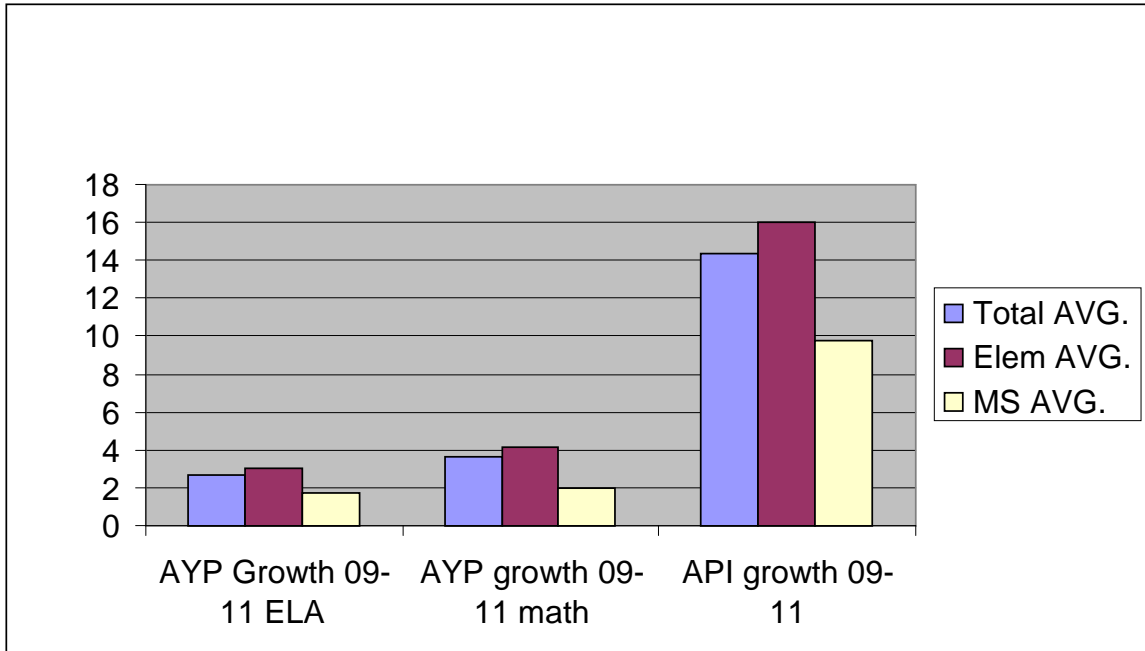


Figure 4. AYP and API Growth Averages by Total and by Level.

Figure 4 shows elementary schools demonstrated slightly higher overall gains in all three comparison areas. AYP scores for ELA increased 3.0% compared with 1.75% increase in middle schools. In AYP scores for mathematics, elementary scores improved by 4.2% compared to a 2.0% middle school increase. In overall API performance, elementary schools rose 16 points from 2009-2011 compared with 9.75 points in middle schools. These were interesting findings based on the reported class size growth. Elementary schools reported an overall class size growth of 10 students per class over the two years in the study compared with an overall class size growth of three to five students in middle school. Additionally, as described later in the chapter, expenditure examples reported by elementary schools emphasized professional development and extended learning time activities with an English language arts focus as opposed to a mathematics focus.

An analysis was also performed between the growth from 2007-2009, the two years before Title 1 stimulus monies were given to the schools and 2009-2011, the two years that the Title 1 stimulus monies were given. Figure 5 shows the comparison of achievement growth.

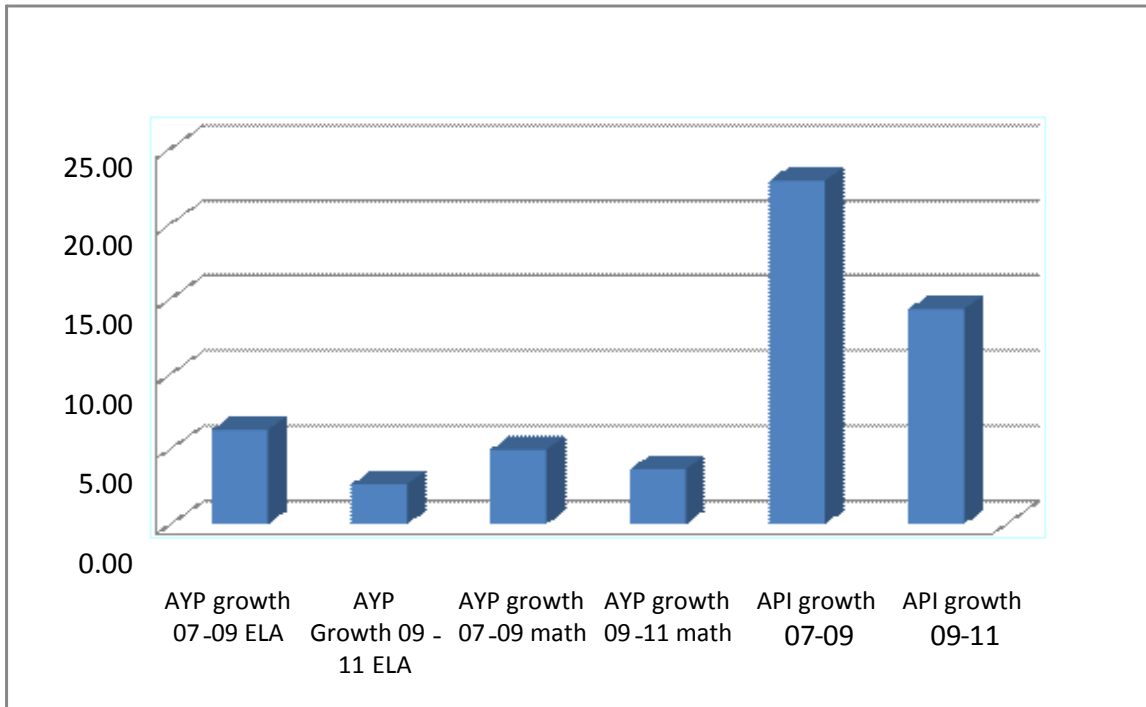


Figure 5. Achievement Growth Comparisons.

In all three comparisons (AYP ELA, AYP mathematics, and API) growth was greater in the two years before Title 1 stimulus funding was provided to schools.

Although Title 1 stimulus money did not provide additional student achievement growth, interview results emphasized the loss of multiple categorical programs that could suggest that without the funding, growth would have been reduced or absent.

Categories of Expenditures

The following section provides information about the categories of expenditures that are discussed throughout the chapter. Key abbreviations and category descriptors are provided. Table 7 provides the abbreviations that are utilized throughout the study.

Key Abbreviations

Table 7

List of Abbreviations

No.	Category Title	Category Abbreviation
1	Administrative Professional Development Teacher Professional Development-Conference	AdPD
2	Attendance	TchPD
3	District Provided Professional Development-Teachers	DstPD
4	School Collaboration-Teachers	CollPD
5	Professional Development for Teachers-Coaching	CchPD
6	Intervention for At Risk Learners-During the School Day	InvDur
7	Intervention for At Risk Learners-Extended Learning Time before and after school	ELTba
8	Intervention for At Risk Learners-Extended Learning Time-Summer School	ELTss
9	New Curricular Programs-software, materials, books, non core	Curr
10	Technology for Learning	Tech
11	Instructional Supplies	Supp
12	Counselors	Coun
13	Additional Teaching Staff	AdTch
14	Parental Involvement	ParInv

Table 7 represents the categories of funding that schools reported utilizing during the 2009-2010 and 2010-2011 school years in Title 1 and Title 1 stimulus expenditures. While schools reported during interviews that other categories of funding occurred at the school (such as Saturday boot camp, matriculation to middle school, and classified

support staff such as instructional assistants), Title 1 monies were not utilized to fund these programs or positions.

Category Descriptions

Within the survey, principals were asked to provide descriptions of expenditures. The categories of expenditures provided can be further organized into three main areas: Professional development, strategies for at-risk students, and other support strategies. A description of each area with examples from the research follows.

Professional development. The study analyzed five different types of professional development expenditures: Administrative professional development, teacher professional development, district provided professional development, school collaboration, and coaching.

Results showed that administrative professional development included both opportunities for administrators to receive training within their capacity as school leaders and participation in content training alongside their teachers. For example, administrators participated in county- and state- sponsored leadership conferences. They also participated in a week-long Title 1 leadership training with teacher leaders from their school sites and writing content training alongside grade-level teachers. Expenses for these trainings included conference registration and accompanying travel costs (hotel and airfare, when applicable).

According to the data reported, teachers also participated in various trainings sponsored by different content associations, such as the California Math Council, California Science Teachers Association, and California Association of Bilingual

Education. They also reported attending conferences on topics such as classroom management, differentiated instruction, response to intervention, and working with autistic students. Expenses for these trainings included conference registration and substitute teacher costs. Most reported attending conferences within driving distance not requiring hotel or airfare costs.

District professional development included both required and optional professional development opportunities for teachers and administrators. Trainings were held during the school day, after school, and during the summer. Expenses for these trainings varied. If the training was during the school day, substitute teachers were required to cover the teachers' classes. If the training was held after school or during the summer, teachers received either an hourly rate or a stipend to attend the workshops and trainings. Both types of expenses (substitute and teacher hourly costs) were covered within this area and reported within the data collected.

School collaboration occurred in a variety of ways at school sites. All elementary and middle schools reported having weekly time within the school day carved out of the school bell schedule for collaboration. There was no cost for the weekly collaboration. Schools also reported utilizing substitutes to release teachers for collaboration during the school day to work on a variety of areas. Grade level content, formative assessment analysis, designing student intervention, and meeting with intervention teachers were all areas of collaboration reported by school sites.

Content coaching at sites included elementary guided reading coaching for first grade reading recovery teachers (a primary reading intervention program), middle school mathematics, writing in grades K-8, and middle school English language arts.

Strategies for at-risk students. This study analyzed three different types of expenditures for the at-risk student: intervention during the school day, extended learning time before and after school, and extended learning time during the summer.

Intervention during the school day included a variety of structures. Hourly teachers provided small group (3-8 students) sessions in reading or mathematics content. Sessions ranged from 30 minutes twice a week to 60 minutes daily, depending on student need. Both part-time and full-time teachers provided small group (1-5 student) and large group (20-30 student) sessions. Many times students were scheduled into hour long daily periods of instruction in English, mathematics, or ELD intervention classes.

Results showed expenditures for before and after school intervention included 30 to 60 minute sessions two to three times a week, providing students with the opportunity to extend their day for additional instruction in their area of need. Sessions were typically six to eight weeks long and were offered throughout the school-year. Expenditures for before and after school interventions included the hourly salary of the teacher providing the tutoring.

Similar to before and after school intervention, summer school also extends the instructional time for the student, but extends the school year rather than the school day. Schools reported two to six week sessions in English, mathematics, and ELD. Expenditures in this category are for the hourly teacher salary of the teacher.

Other support strategies. Many other areas of expenditures were reported by schools. New curricular programs included software purchases, supplemental books, and specialized programs utilized during intervention sessions. For example, two schools reported purchasing an algebra readiness program for use in after school and summer intervention programs. Another school reported purchasing additional reading books for use in ELD support sections. Software purchases included school-wide support, web-based supplemental instructional support, and practice activities for students.

Technology expenditures included improving the infrastructure (new servers, wireless access points for classrooms), computer purchases (both desktops, laptops, and tablets) as well as SMART Boards, document cameras, and LCD projectors. Instructional supply expenditures varied from additional copy paper to printing costs for workbooks.

Counselors and additional teaching staff provided some schools with additional student support based on need. Some schools reported utilizing these positions for bullying sessions, drop-out prevention programs, and effort and motivation classes.

Finally, parental involvement expenditures included evening sessions for parents on how to help their students with homework, reading strategies, math help, and study skills. Some sessions included student participation while others were only for parents. Expenditures within this category also included child care costs during the parent sessions, dinner (when appropriate), and supplies for parents to use with their children at home. The following section provides the expenditure data for each site, followed by expenditure data of each of the areas just described.

Use of Title 1 and Title 1 Stimulus Funding

The first research question in this study addressed how elementary and middle schools utilized Title 1 and Title 1 stimulus monies from 2009-2011. Table 8 represents overall expenditures of Title 1 and Title 1 stimulus monies.

Table 8

Title 1 and Title 1 Stimulus Expenditures-Total Dollars

Participating Schools	<u>Title 1 Expenditures</u>		<u>Title 1 Stimulus Expenditures</u>	
	2009-2010	2010-2011	2009-2010	2010-2011
Elem. School #1	\$137,269	\$138,977	\$31,099	\$6,660
Elem. School #2	\$132,517	\$95,212	\$28,751	\$40,792
Elem. School #3	\$102,000	\$121,000	\$70,000	\$0
Elem. School #4	\$163,155	\$93,899	\$31,076	\$53,020
Elem. School #5	\$173,942	\$155,764	\$50,883	\$54,985
Elem. School #6	\$129,335	\$99,640	\$21,108	\$50,235
Elem. School #7	\$180,000	\$162,000	\$46,500	\$46,500
Elem. School #8	\$119,671	\$91,542	\$21,114	\$36,355
Elem. School #9	\$230,030	\$130,923	\$50,935	\$73,834
Elem. School #10	\$227,382	\$139,414	\$52,073	\$53,197
Elem. School #11	\$106,883	\$60,584	\$22,388	\$36,807
Middle School #1	\$100,000	\$91,000	\$80,000	\$80,000
Middle School #2	\$238,578	\$82,726	\$29,975	\$42,609
Middle School #3	\$154,000	\$176,000	\$0	\$0
Middle School #4	\$270,729	\$146,342	\$42,164	\$50,583

The numbers reported in Table 8 represented actual expenditures for each school. This differed from reporting allocations for each year. Allocations were the total dollars that schools received each school year while expenditures were the actual dollars spent by a school. Because of carry over rules (monies that may be allowed to be used in subsequent years), it would have been possible to count the same dollar amount twice if

the dollars would have been included in the 2009-2010 allocation but were left unspent and then were rolled over into the 2010-2011 allocation. Stimulus monies were given to school districts in 2009 as a lump sum to be spent over a two-year period of time. Some districts reported receiving 50% of the allocation each year and some reported receiving 100% of the allocation to utilize over the two-year period. For example, Elementary School #1 utilized \$31,099 in 2009-2010, carrying over \$6,660 for 2010-2011. Elementary School #3 utilized their entire allocation in 2009-2010 and thus had no expenditures in 2010-2011. Middle School #3 did not receive stimulus funding from their district, noting that the monies were used centrally for elementary school early literacy programs.

In addition to the loss of multiple California categorical programs beginning with the 2009-2010 school year, many schools also received cuts to their individual Title 1 budgets. Middle School #4 for example, saw their 2010 Title 1 allocation cut by almost 50%, from \$270,729 to \$146,342. Elementary School #9 saw a loss of almost \$100,000. As schools and districts moved into program improvement, they lost flexibility in how to spend their dollars. Instead, mandatory dollars had to be allocated as set-asides to be used for district professional development, transportation for students opting to change schools (school choice) and for supplemental educational services (SES), where outside tutoring companies are paid out of Title 1 funds to work with SED students.

To analyze the use of Title 1 and Title 1 stimulus monies, the following section provides the breakdown of expenditure by category. First, a breakdown by category of Title 1 and Title 1 stimulus expenditures from 2009-2011 is provided. Next, expenditures

are broken down by individual year 2009-2010 and 2010-2011 and finally, an analysis of expenditures is broken down by grade level span (elementary and middle school, separately). Table 9 includes Title 1 and Title 1 stimulus monies from 2009-2011.

Table 9

Total Title 1 and Title I Stimulus Expenditures, by Percentage 2009-2011

School	AdPD	TchPD	DstPD	CollPD	CchPD	InvDur	ELTba	ELTss	Curr	Tech	Supp	Coun	AdTch	ParInv
ES 1	3	2.5	1	7.5	35	20	13.5	8.5	2	4	2	0	0	1
ES 2	4	2	4	2.5	17	44	10.5	4.5	1.5	2	3	0	4	1
ES 3	10.5	5	5.5	3	24	18.5	22.5	3.5	1.5	2.5	2.5	0	0	1
ES 4	2.5	1	2.5	1.5	26	53.5	7.5	0	0.5	1.5	2.5	0	0	1
ES 5	2.5	2.5	3	2.5	22	48	5.5	4.5	0	0	8	0	0.5	1
ES 6	5	1	1.5	2	27.5	44	3	7	3.5	0	2.5	0	2	1
ES 7	3	18.5	6.5	4	16	30.5	2.5	9	1	3	5	0	0	1
ES 8	6	0.5	6	0	22.5	35.5	18.5	0	0	0	10	0	0	1
ES 9	2.5	2.5	2.5	0.5	22	42	1.5	14	3.5	1.5	5.5	0	1	1
ES 10	2.5	2.5	2	0.5	23.5	51.5	1.5	8	0	0	6.5	0	0.5	1
ES 11	3	2	4.5	13.5	27.5	43	0.5	0.5	0.5	1.5	2.5	0	0	1
MS 1	1.5	3.5	2	2	15.5	30.5	13.5	4	7	3	10.5	0	6	1
MS 2	3	3	7.5	2	34	10	9.5	4.5	6.5	0.5	1	17	0.5	1
MS 3	3	3	16.5	2.5	1	23	29	6.5	2	7	5	0	0	1.5
MS 4	5	2.5	4.5	0.5	31.5	18.5	12.5	3.5	1	0.5	8	8	3	1
AVG.	3.8	3.5	4.6	3.0	23.0	34.2	10.1	5.2	2.0	1.8	5.0	1.7	1.2	1.0

Total Title 1 and Title 1 Stimulus Expenditures, 2009-2011

Analysis of the 2009-2011 Title 1 and Title 1 stimulus expenditures revealed that the top percentages of expended funds were intervention during the school day (34.2%), coaching (23.0%), and extended learning time before and after school (10.1%). Extended learning time for summer school (5.2%), money spent on instructional supplies (5.0%) and district professional development (4.6%) were the next highest categories of expenditures.

Coaching. Money spent on all professional development activities utilized 37.9% of total expenditures. Coaching was the largest professional development expenditure. Coaching in elementary literacy, intervention, guided reading, and middle school mathematics were examples of expenses in coaching professional development. Elementary schools reported, though, that this cost could also have been considered part of teacher professional development in either district professional development or school collaboration. Many schools that were part of the same district reported favorable contact with coaches but mentioned that there were two coaches hired for eight elementary and two middle schools so that the coaches spent their time helping with small group collaboration, professional learning community development, and district professional development. It was also interesting to note, that while the coaching positions were eliminated with the end of Title 1 stimulus funding, many of the elementary schools that worked with the coaches were trying to fund some form of coaching back at their school sites. Within the middle schools, two reported having intensive coaching support through

a mathematics system that was new for the 2010-2011 school year. Another middle school reported having district literacy coaches that worked with their teachers.

District professional development. District professional development accounted for 4.6% of Title 1 and Title 1 stimulus expenditures. Schools noted that week-long Title 1 leadership training, work on common assessments and analysis, intervention training, and work on academic vocabulary were all supported with Title 1 funding. Professional development regarding technology purchases was also provided including work with SMART Boards, document cameras, netbooks and common assessment administration. One principal noted that once technology is purchased at schools, technology for learning resource teachers provide training for staff at both the district and school site. Additionally, intensive work on elementary-level guided reading instruction was provided that included purchasing literature, substitutes for trainings, and follow-up coaching as part of the professional development.

Other professional development categories. Although accounting for just 3.8% of total funding, administrative professional development was extensive. Many principals reported attending district sponsored leadership trainings including summer intensive trainings, monthly book talk collaboration, and work on instructional best strategies. Principals also reported attending the annual Association of California School Administrators (ACSA) Annual Leadership Summit as well as ACSA Leadership Academies. Cognitively Guided Instruction (CGI) training, math and science teaching training (MAST), and Los Angeles County Office of Education (LACOE)-sponsored

conferences on data analysis and program improvement were also noted as examples of administrative professional development.

Teachers attended conferences and trainings (3.5% of expenditures) and spent time collaborating on their school site (3.0%). Teachers worked on grade level collaboration, Response to Intervention (RtI), participated in school study teams, and had release time for observations, and spent time working with intervention teachers on their sites on pre-post test design, implementation, and data analysis and time to collaborate between classroom and intervention teachers.

Intervention during the school day. Money spent providing intervention during the school day had the highest percentage of expenditure (within a single category) averaging 34.2% of all funding. In elementary schools, many reported funding hourly intervention teachers that provided small group pull-out intervention for reading recovery and additional guided reading assistance. Leveled Literacy Intervention (LLI), a guided reading intervention program was also provided to students. In middle school, most reported funding additional teaching sections so that a student could have an intervention section, as their elective, in math or language arts. A few middle schools also reported funding some push in hourly intervention teachers to work with at-risk students within their classes and some pull-out small group instruction during physical education or elective courses.

Before and after school extended learning time. Extended learning time in the form of before- and after-school intervention utilized 10.1% of the total allocation. Hiring both intervention teachers (typically part-time hourly teachers) and classroom teachers

(paid hourly after the end of their work day) were both utilized to provide at-risk students with additional learning time. Although most reported extended learning time as a positive strategy to improve at-risk student achievement, some reported that the most at-need students don't always participate. Finding qualified and willing teachers coupled with inconsistent attendance of students were also reported challenges.

Summer school extended learning time. A total of 5.2% of expenditures were used on summer school programs. Elementary schools reported utilizing most of their monies in this category on providing an introduction to Kindergarten, jump-start programs the two to three weeks before school starts to provide at-risk students with an introduction to the upcoming grade level (rather than offering a remediation program) and additional programs for English Language Learners (ELLs). Middle School summer school programs were utilized primarily for additional work on English language arts and mathematics instruction. A few reported offering an introduction to middle school programs to improve motivation and ease the transition from elementary to middle school.

Other categories of spending. Expenditures for six additional categories of funding were reported totaling 12.7% of funding and included curricular purchases, technology purchases and general instructional supplies. Two schools reported funding for additional counselors on their staff (both middle schools) and nine of the 15 reported some kind of expense for additional teaching support. Although not reported as counseling, many elementary schools reported some kind of work on bullying, motivation, and self-esteem. For what some called a "friendship club" a credentialed

teacher was hired with a counseling background to provide lessons and support to individuals, small group, and entire classrooms. All schools reported spending at least the minimum 1% (the federal mandate) for parental involvement activities.

Total Title 1 and Title 1 Stimulus Expenditures by Year, 2009-2010 and 2010-2011

Comparing total Title 1 and Title 1 stimulus expenditures from 2009-2011 with expenditures from each year separately, 2009-2010, and 2010-2011, there were no significant differences in expenditures (see Appendix D). Intervention during the school day was the largest expense in both individual years of funding, utilizing 29.8% of expenditures in 2009-2010 and increasing to 41.6% of expenditures in 2010-2011. Similarly, professional development-coaching was the second largest expense, utilizing 24.7% of expenditures in 2009-2010 and 20.0% in 2010-2011.

There was an increase in expenses for extended learning time for summer school between the two years. With only 2.5% being expended for summer school in 2009-2010, 8.5% of expenditures were utilized for summer school programs in 2010-2011. One school noted that they had previously multi-funded a large summer school program. Between multiple programs, but with the loss of other categorical monies, Title 1 funding was the only funding available to them in the summer and could perhaps explain the increase in funding in this area. District professional development funding decreased from 6.6% in 2009-2010 to 2.6% in 2010-2011 with principals reporting that because of the decrease in funding, the district supported professional development with other available funding. With the loss of flexibility with Title 1 funds due to schools entering program improvement, keeping monies for central support professional development

would have further decreased school site budgets. The following tables show differences in funding between elementary and middle schools.

Table 10

Elementary School Only, Total Title I and Title I Stimulus Expenditures, by Percentage 2009-2011

School	Ad PD	Tch PD	Dst PD	Coll PD	CchPD	InvDur	ELTba	ELTss	Curr	Tech	Supp	Coun	Ad Tch	Par Inv
ES 1	3	2.5	1	7.5	35	20	13.5	8.5	2	4	2	0	0	1
ES 2	4	2	4	2.5	17	44	10.5	4.5	1.5	2	3	0	4	1
ES 3	10.5	5	5.5	3	24	18.5	22.5	3.5	1.5	2.5	2.5	0	0	1
ES 4	2.5	1	2.5	1.5	26	53.5	7.5	0	0.5	1.5	2.5	0	0	1
ES 5	2.5	2.5	3	2.5	22	48	5.5	4.5	0	0	8	0	0.5	1
ES 6	5	1	1.5	2	27.5	44	3	7	3.5	0	2.5	0	2	1
ES 7	3	18.5	6.5	4	16	30.5	2.5	9	1	3	5	0	0	1
ES 8	6	0.5	6	0	22.5	35.5	18.5	0	0	0	10	0	0	1
ES 9	2.5	2.5	2.5	0.5	22	42	1.5	14	3.5	1.5	5.5	0	1	1
ES 10	2.5	2.5	2	0.5	23.5	51.5	1.5	8	0	0	6.5	0	0.5	1
ES 11	3	2	4.5	13.5	27.5	43	0.5	0.5	0.5	1.5	2.5	0	0	1
Avg.	4.05	3.64	3.55	3.41	23.91	39.14	7.91	5.41	1.27	1.45	4.55	0.00	0.73	1.00

Table 11

Middle School Only, Total Title 1 and Title 1 Stimulus Expenditures, by Percentage 2009-2011

School	AdPD	TchPD	DstPD	CollPD	CchPD	InvDur	ELTba	ELTss	Curr	Tech	Supp	Coun	Ad Tch	Par Inv
MS 1	1.5	3.5	2	2	15.5	30.5	13.5	4	7	3	10.5	0	6	1
MS 2	3	3	7.5	2	34	10	9.5	4.5	6.5	0.5	1	17	0.5	1
MS 3	3	3	16.5	2.5	1	23	29	6.5	2	7	5	0	0	1.5
MS 4	5	2.5	4.5	0.5	31.5	18.5	12.5	3.5	1	0.5	8	8	3	1
AVG.	3.13	3.00	7.63	1.75	20.50	20.50	16.13	4.63	4.13	2.75	6.13	6.25	2.38	1.13

Total Title 1 and Title 1 Stimulus Expenditures by School Level, 2009-2011

Whereas the previous section provided expenditure data in total (with all 15 schools in the study), this section provides key similarities and differences between the expenditures of elementary and middle schools. Many categories show similar patterns of expenditures between elementary and middle schools, but with some key differences.

Intervention during the school day. Although intervention during the school day remained the highest category of expenditure for both, elementary schools reported spending 39.1% compared to middle schools spending 20.5% of their budgets. Elementary schools reported that they utilized intervention differently from middle schools. Elementary schools utilized additional teaching staff for hourly positions. They reported that having teachers work for an hourly rate provided them the flexibility to hire teachers to better fit student needs. Trying to navigate small group pull-out sessions so students did not miss core instruction time, this model allowed schools to direct the days and hours that the teachers worked. They further reported that because of budget cuts and the increase in class size, many elementary credentialed teachers had been laid off throughout Southern California, giving schools a pool of qualified candidates. In better times, they doubt that there would be qualified staff to work within their current model. Middle schools reported that the majority of interventions during the school day take place in a single class period where students are scheduled for a semester or yearlong intervention course in English language arts or mathematics. They reported having less flexibility in finding qualified math and language arts teachers and often used full time staff already working at their school sites.

Professional development. Middle schools reported spending double the percentage of funding on district-wide professional development (7.6% compared to 3.6% in elementary schools) noting the need to collaborate with other sites to develop common assessments (benchmarks) and analyze data. With many middle schools having 1 or 2 teachers within a subject matter (Algebra 1 or 7th grade science) a greater need arises to collaborate on a district-wide basis. Likewise, elementary schools spent almost twice as much (as a percentage) on school site collaboration (3.4% compared with 1.8% in middle school) perhaps because elementary sites generally had more teachers within a grade level to collaborate with and were able to facilitate the needed collaboration within their school site. Because they had additional intervention staff (as opposed to middle schools utilizing existing staff for intervention) there was a greater need to have collaboration time for intervention teachers to meet with classroom teachers.

First Research Question Summary

Overall, sites expended the majority of funds within two overall categories of funding-professional development and strategies for at-risk learners. Both were well supported within the research as effective strategies to improve student achievement (Odden & Archibald, 2009; Odden & Picus, 2008). Large expenditures for additional staff members such as additional administrators, clerical staff, Title 1 school coordinators, instructional assistants, and security staff were not noted in this study, also supporting the evidence-based model (Odden & Picus, 2008) used as the basis for this study. The next section answers the second research question and provides correlations between categories of expenditures and student achievement growth.

Correlations of Expenditures to Student Achievement

The second research question compared the expenditures of Title 1 and Title 1 stimulus monies to student achievement as measured by state tests in 2009-2011. A bivariate Pearson's correlation was utilized to establish relationship between the categories of expenditures and three student achievement areas: AYP ELA, AYP mathematics, and API. Additionally, although a low sample size may make statistical significance difficult to establish, Cohen's (1992) alternate-hypothesis population was used to analyze if correlations existed between categories of expenditures and student achievement. According to Cohen (1992), it is possible to see a correlation with small samples and interpret this value as the size of the effect. As such, a correlation of .1 would be considered a small effect, a .3 would be considered a medium, and a .5 would be considered a large effect. For this section, effects considered moderate or large, and, significant correlations (even with the small sample size), are discussed.

Correlations were analyzed in three areas: The first section compares total Title 1 and Title 1 stimulus monies over the two-year period of stimulus funding and during the 2009-2010 and 2010-2011 school years. The second section compares the separate use of Title 1 and Title 1 stimulus monies separately to student achievement growth and the final section compares elementary and middle school expenditures to student achievement growth.

Combined Correlation Analysis of Title 1 and Title 1 Stimulus Funding

Tables, 12, 13, and 14 show correlations combining Title 1 and Title 2 stimulus expenditures: first, the overall total combining 2 years of funding (2009-2011) and then by individual funding years, 2009-2010 and 2010-2011. Data are presented for all 15 participating schools.

Table 12

Correlations for Total 2009-2011 Title 1 and Title 1 Stimulus Expenditures

	AdPD	Tch PD	Ds t PD	Col l PD	Cch PD	Inv Dur	ELT ba	ELTss	Curr	Tech	Supp	Coun	Ad Tch	Par Inv
AYP growth 09to11	.34	.43	.30	-.29	-.17	-.29	.27	.19	.17	.16	-.23	.07	-.34	.13
ELA AYP growth 09to11	.50	.59*	.29	.16	-.12	-.49	.32	.12	.12	.39	-.27	-.04	-.32	.06
Math API growth 09to11	.42	.52*	.24	-.18	-.22	-.35	.29	.27	.22	.25	-.14	-.08	-.25	.09

*. Correlation is significant at the 0.05 level (2-tailed).

Table 13

Correlations for Total 2009-2010 Title 1 and Title 1 Stimulus Expenditures

	AdPD	Tch PD	Dst PD	Coll PD	Cch PD	Inv Dur	ELT ba	ELTss	Curr	Tech	Supp	Coun	Ad Tch	Par Inv
AYP growth 09to10	.42	.10	.08	.19	.17	-.45	.27	-.28	.13	.43	-.02	.09	.63*	-.16
ELA P growth 09to10	.16	.36	.07	.31	.002	-.26	-.10	-.22	-.080	.21	.13	.25	-.07	-.001
Math growth 09to10	.50	.29	.06	.49	.04	-.38	.08	-.32	-.04	.52*	.22	.13	.20	-.19

*. Correlation is significant at the 0.05 level (2-tailed).

Table 14

Correlations for Total 2010-2011 Title 1 and Title 1 Stimulus expenditures

	AdPD	Tch PD	Dst PD	Coll PD	Cch PD	Inv Dur	ELT ba	ELTss	Curr	Tech	Supp	Coun	Ad Tch	Par Inv
AYPgrowth 10to11 ELA	.07	-.18	.17	-.22	.39	.02	.02	-.15	-.18	.14	.28	-.05	-.19	.09
AYPgrowth 10to11 Math	.17	-.04	.32	.14	.47	-.02	-.01	.08	-.22	.28	-.08	-.18	-.19	-.24
APIgrowth 10to11	-.14	.24	-.17	.39	-.09	.06	-.01	-.08	.24	.18	-.03	-.18	.03	-.14

2009-2011 correlation analysis. Analysis of Title 1 and Title 1 stimulus expenditures for the combined years of 2009-2011 (Table 12 above) showed nine areas of moderate or strong positive correlation. Professional development categories showed the highest correlations ranging from $r=.30$ to $.59$ to student achievement with seven of the nine areas falling within this area. Teacher professional development showed a moderate correlation in ELA AYP ($r=.43$) and significant correlations ($r=.59$, $r=.52$) for both AYP mathematics and API scores. Administrative professional development showed a moderate correlation in all three achievement measures ($r=.34$ to $.50$) in addition to a moderate correlation with district-provided professional development for AYP ELA ($r=.30$). There were moderate negative correlations with money spent on intervention during the school day ($r=-.35$ to $-.49$) and money spent on additional teacher support ($r=-.32$ to $-.34$). Overall, seven of the 14 categories of funding (administrative professional development, teacher professional development, district professional development, intervention during the school day, extended learning time before or after school, technology and additional teaching support) had a moderate or strong correlation (positive or negative) to student achievement growth.

2009-2010 correlation analysis. Tables 13 and 14 above look at the correlational results for each academic year, 2009-2010 and then 2010-2011 for total Title 1 and Title 1 stimulus expenditures. For the 2009-2010 school year there were also seven categories of expenditures with moderate or strong correlations and eight total areas of moderate or strong correlation. Professional development expenditures continued to show positive moderate correlation, with administrative professional development, teacher professional

development, and school collaboration all showing areas of moderate correlation ($r=.30$ to $.50$) suggesting that multiple professional development activities are positively linked to student achievement growth. Intervention during the school day also showed a moderate negative correlation ($r=.38$ to $.45$), suggesting expenditures during the 2009-2010 school year did not positively affect student achievement growth. Two key differences between 2009-2011 results and 2009-2010 results show: (a) Strong significant correlations with technology expenditures and API growth and a moderate ELA AYP growth ($r=.52$ and $r=.43$ respectively) and, (b) Strong significant additional teacher support to ELA AYP growth ($r=.63$), suggesting that specific 2009-2010 school site expenditures demonstrated a stronger link to student achievement than when comparing the overall 2009-2011 expenditures in these areas. Purchasing technology for intervention programs in addition to purchasing wireless systems for entire school Internet access were key areas reported as expenditure during the 2009-2010 school years. Many schools also reported utilizing additional support staff for primary (grades K-2) reading support.

2010-2011 correlation analysis. Total 2010-2011 expenditures did not show any strong correlations and only showed three moderate correlation categories in four total areas, in district professional development (for AYP mathematics, $r=.32$), school collaboration (for API, $r=.39$), and coaching (AYP ELA and AYP mathematics, $r=.39$ and $.47$). For the 2010-2011 school year, class size significantly increased and schools reported a lack of flexibility in having staff for support roles. Comparatively, the 2010-

2011 school year could be the beginning of a trend as schools utilize available funding in the most needed areas and are not able to fund programs to the level of prior years.

Category of expenditures. Results discussed above showed comparisons between categories of Title 1 and Title 1 stimulus expenditures to student achievement by school year. Grouping the data by categories of expenditure may also help schools determine overall strengths and weaknesses in expenditure decisions. Figure 6 shows moderate and strong correlations for all three comparison groups, 2009-2011, 2009-2010 and 2010-2011, by category, for total Title 1 and Title 1 stimulus expenditures.

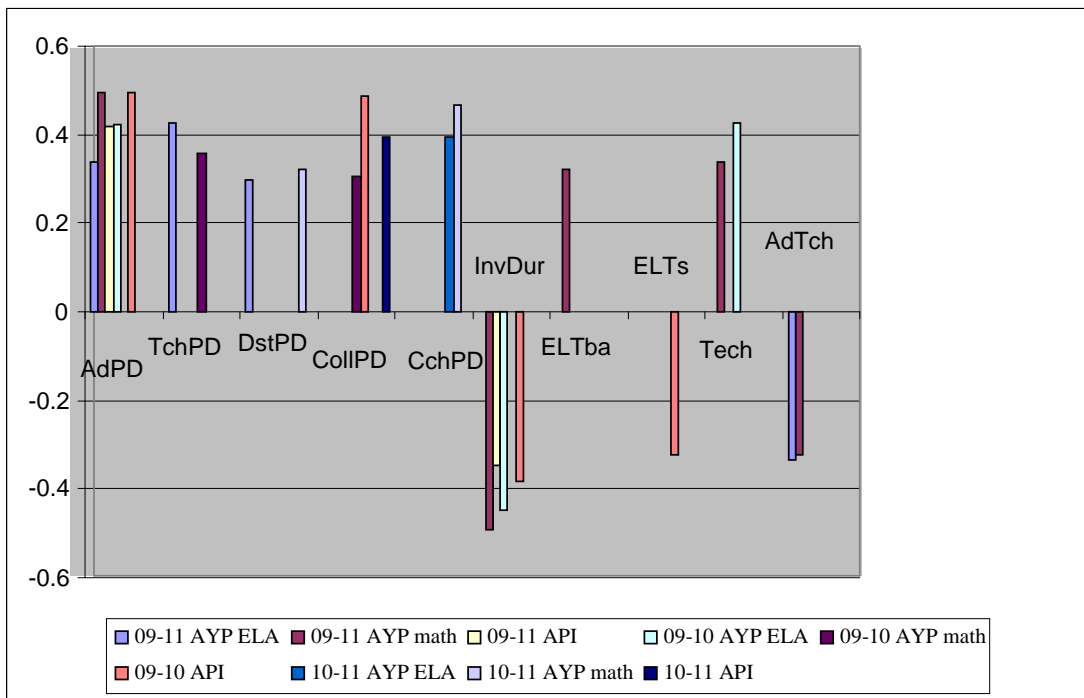


Figure 6. Category Comparisons.

Grouping the correlations in Figure 6 depicts four main areas—professional development, strategies for at-risk learners, technology, and additional teacher support.

All five categories of professional development (administrative, teacher, district,

collaboration, and coaching) showed positive correlations. Administrative professional development demonstrated the most recurring positive correlations among the results. Strategies for at-risk learners, though, whether during the day, before or after school or during the summer, did not show strong relationships; in fact, intervention during the school day had the most recurring negative correlations with AYP math (2009-2011), AYP ELA (2009-2010) and API (2009-2011 and 2009-2010). The final two categories (technology and additional teaching support) showed mixed results; technology expenditures positively correlated with AYP math (2009-2011) AYP ELA (2009-2010) and API (2009-2010) while additional teaching support negatively correlated with AYP ELA and AYP math (2009-2011).

Individual Correlation Analysis of Title 1 and Title 1 Stimulus Funding

The preceding data represents the overall expenditures of both Title 1 and Title 1 stimulus monies and provided overall results of achievement gains (or losses) by category. Further, disaggregating the data by individual funding source (Title 1 or Title 1 stimulus) provided a basis to further help schools determine whether decisions within a funding source benefitted the school. Many schools reported spending Title 1 monies on a specific program or project and spending Title 1 stimulus monies on different programs such as spending Title 1 monies for during-the-day intervention but spending Title 1 stimulus monies for after-school intervention. Another alternative was to spend Title 1 monies for summer school but utilize Title 1 stimulus monies for additional collaboration time. Analyzing data by funding source could help the school determine if a specific program or project showed a positive correlation with achievement gains. Tables 15, 16,

17, and 18 show comparisons of 2009-2011 data sets for Title 1 and Title 1 stimulus expenditures.

Table 15

Correlations for 2009-2011 Title 1 Expenditures

	AdPD	Tch PD	Dst PD	Coll PD	Cch PD	Inv Dur	ELT ba	ELTs s	Curr	Tech	Supp	Coun	Ad Tch	Par Inv
AYPgrowth 09to11 ELA	.51	.13	.18	.13	.54*	-.31	.24	.22	.12	.08	-.39	.07	-.32	.59*
AYPgrowth 09to11 Math	.74**	.48	.25	.34	.65**	-.48	.40	.34	.05	.39	-.44	-.04	-.43	.62*
APIgrowth 09to11	.64**	.38	.13	.13	.59*	-.39	.34	.29	.18	.24	-.31	-.08	-.39	.60*

** . Correlation is significant at the 0.01 level (2-tailed).

* . Correlation is significant at the 0.05 level (2-tailed).

Table 16

Correlations for 2009-2011 Title 1 Stimulus Expenditures

	AdPD	TchPD	DstPD	CollPD	CchPD	InvDur	ELTba	ELTss	AdTch	Supp
AYPgrowth09to11 ELA	-.07	.37	.36	-.46	-.20	-.15	.11	.12	-.15	.11
AYPgrowth09to11 Math	-.38	.29	.52*	.29	.01	-.39	-.15	.07	.19	.37
APIgrowth09to11	-.08	.41	.35	-.35	-.26	-.11	.03	.17	.02	.21

* . Correlation is significant at the 0.05 level (2-tailed).

Table 17

Correlations for 2009-2010 Title 1 Stimulus Expenditures

	AdPD	TchPD	DstPD	CollPD	CchPD	InvDur	ELTba	ELTss
AYPgrowth09to10 ELA	.59*	.09	-.17	.12	.14	-.36	-.08	-.27
AYPgrowth09to10M ath	.07	.56	.63*	.11	-.39	.18	-.27	-.19
APIgrowth09to10	.65**	.26	.14	.44	.03	-.25	-.29	-.31

** . Correlation is significant at the 0.01 level (2-tailed).

* . Correlation is significant at the 0.05 level (2-tailed).

Table 18

Correlations for 2010-2011 Title 1 Stimulus Expenditures

	AdPD	TchPD	DstPD	CollPD	CchPD	InvDur	ELTba	ELTss	AdTch	Supp
AYPgrowth10-11 ELA	.05	-.13	-.20	-.21	-.57*	-.18	.19	.27	-.20	.17
AYPgrowth10-11 Math	-.15	-.25	-.39	-.13	-.58*	.04	-.22	-.02	-.23	-.10
APIgrowth10-11	-.13	-.19	-.22	-.20	-.68**	-.10	.001	.21	-.14	.07

** . Correlation is significant at the 0.01 level (2-tailed).

* . Correlation is significant at the 0.05 level (2-tailed).

Title 1 only correlations 2009-2011. Table 15 above shows the Title 1 correlations between areas of expenditures and student achievement growth for the entire two year period (2009-2011). Results are presented within three general categories of expenditures: Professional development, strategies for at-risk students, and other categories of funding.

Professional development. Overall, professional development showed a positive correlation with student achievement. Results showed significant positive correlations in two areas of professional development. Administrative professional development showed a correlation ($r=.51$) with AYP ELA and showed significant correlations in AYP mathematics ($r=.74$) and API ($r=.64$), suggesting specific expenditures utilizing Title 1 funding supported student achievement growth. Second, coaching results almost mirrored the results for administrative professional development. All three categories of achievement (AYP ELA, AYP mathematics, and API) significantly correlated with coaching ($r=.54$ to $.65$). Additional moderate positive correlations were found with teacher professional development (AYP mathematics and API).

Strategies for at-risk students. No significant positive correlations were found among strategies for at-risk students. There was a moderate correlation in AYP mathematics and API for intervention before and after school ($r=.34$ to $.40$) and a moderate negative correlation in all three achievement areas for intervention during the school day ($r=-.31$ to $-.48$).

Other categories. Parental involvement programs showed a significant positive correlation in all three achievement categories (for example, r values ranged from $.59$ to

.62). There were also moderate negative correlations for expenditures on instructional supplies ($r=-.31$ to $-.44$) and additional teacher support ($r=-.32$ to $-.43$).

Title 1 only correlations by year, 2009-2010 and 2010-2011. Title 1 correlations by year (2009-2010 and 2010-2011) showed no significant trends, except for a significant positive correlation between additional teaching support and ELA AYP (See appendix E). Reading recovery, a first grade literacy program, was the most reported example of expenditures in this category.

2009-2011 Title 1 stimulus correlations. Very different results were found analyzing Title 1 stimulus monies. While Title 1 correlations by individual year (2009-2010 and 2010-2011) showed no significant trends, Title 1 stimulus analysis across both years showed many correlations. Stimulus monies in 2009-2011 showed only one significant correlation in AYP math and district professional development ($r=-.52$) with many moderate positive and negative correlations (see Table 16).

2009-2010 Title 1 stimulus correlations. Stimulus correlations in 2009-2010 showed many positive correlations and effects (Table 17). Most notable were significant positive correlations between administrative professional development and AYP ELA ($r=.59$) and API ($r=.65$). Many schools reported a significant focus on administrative professional development in 2009-2010 that helped refocus their schools. Eleven of the schools noted an August week-long leadership training week where teacher leaders and site administrators participated in data-driven decision making, studying best practices and reflective planning. Additionally, sites continued the focus throughout the school year including a book study, leadership conference attendance, and debriefing sessions.

Additional positive correlations with teacher professional development and AYP mathematics ($r=.56$) and district professional development AYP mathematics ($r=.63$) also demonstrated the focus on leadership training that occurred throughout the year.

2010-2011 Title 1 stimulus correlations. In 2010-2011, though, focus changed to provide intensive intervention (Table 18). Focus shifted from leadership to intervention. Results however, showed no correlation. The only correlation was a significant negative correlation between coaching and student achievement in AYP ELA, AYP math, and API ($r=-.57$ to $-.68$). As noted previously, many schools reported a shift in job duties of the coaching positions toward other activities involving school collaboration, district professional development, and parent education support.

Strength of correlations, Title 1 and Title 1 stimulus. As discussed earlier in the chapter, finding statistical correlations with significance for the small sample within this study was not expected and instead, the intent was to look for a moderate or large effect size (.3 or .5) (Cohen, 1992). Results, though, found a number of significant correlations. The following three figures compare the total number of correlations by looking at combined 2009-2011 data and individual 2009-2010 and 2010-2011 for combined Title 1 and Title 1 stimulus, by Title 1, and by Title 1 stimulus expenditures.

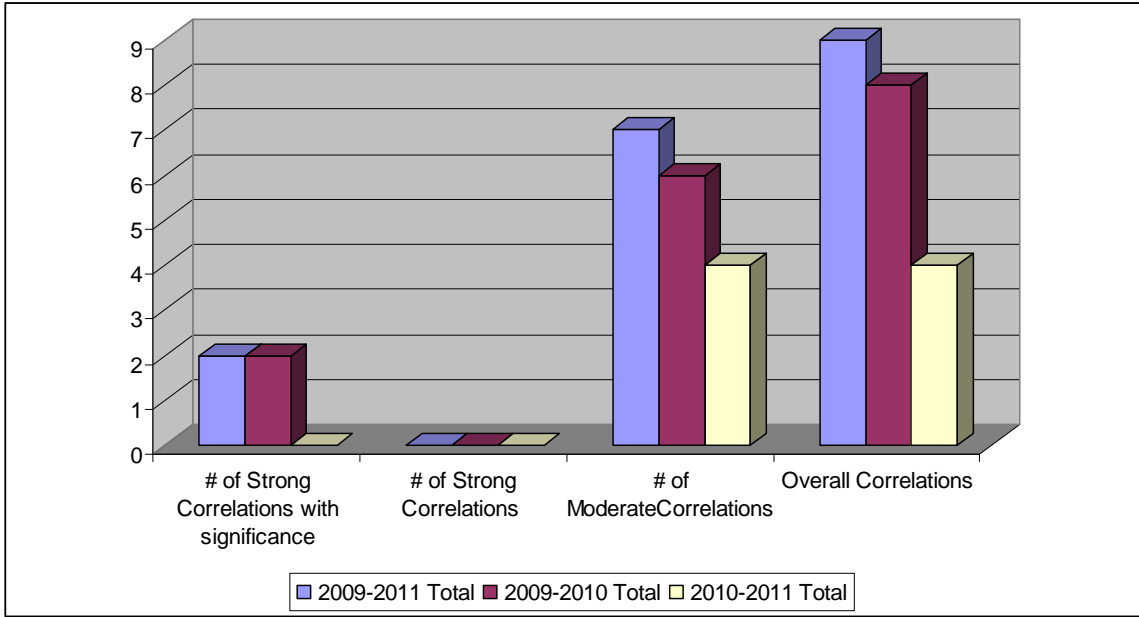


Figure 7. Title 1 and Title 1 Stimulus (Combined) Correlations.

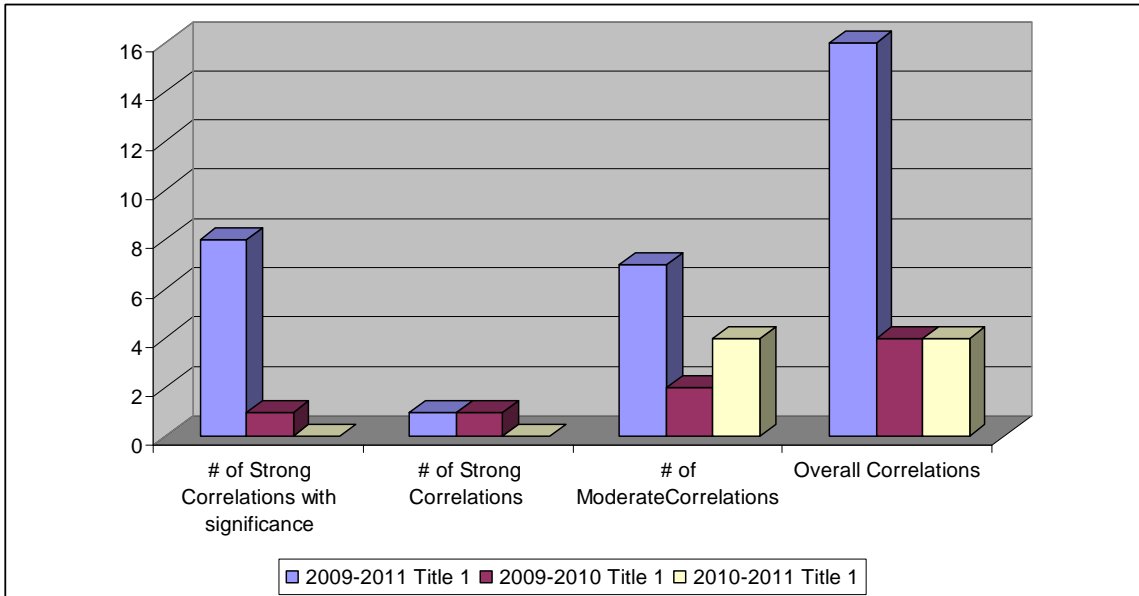


Figure 8. Title 1 Correlations.

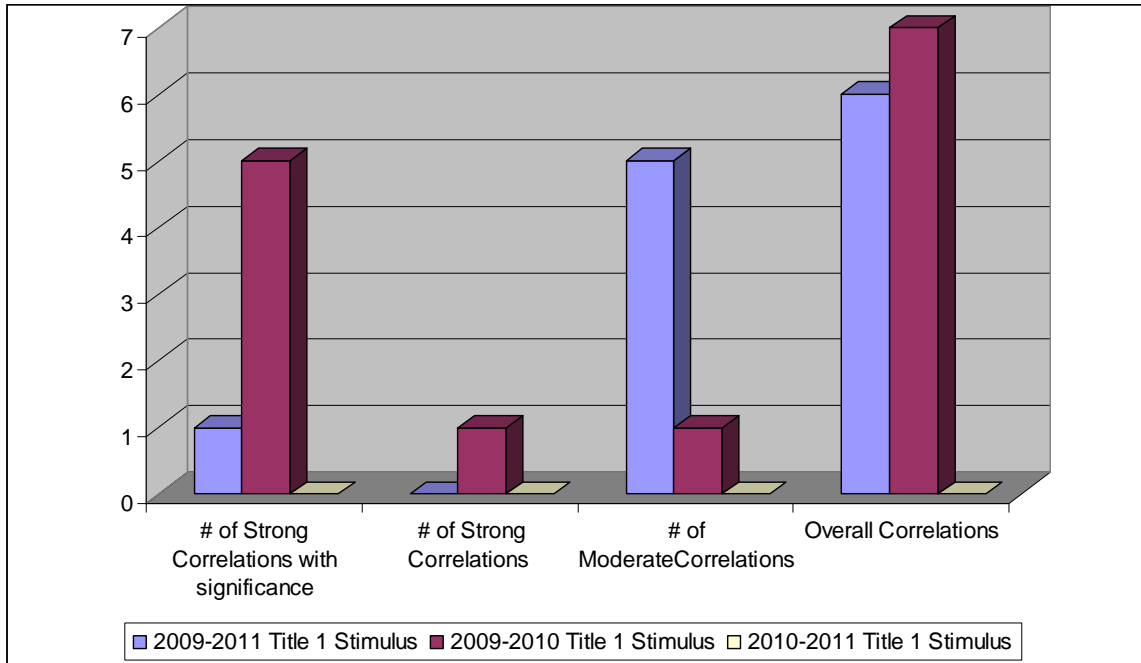


Figure 9. Title 1 Stimulus Correlations.

Correlation strength 2009-2011 demonstrated. Analyzing Figures 7, 8, and 9, a few interesting trends became evident. First, with only one exception overall, 2009-2011 data showed the same or more correlations than 2009-2010 and 2010-2011. For example, Figure 7 (Title 1 and Title 1 combined correlations) there were nine overall correlations in 2009-2011 as compared to eight in 2009-2010 and four in 2010-2011. In Figure 8, Title 1 correlations, 16 overall correlations were found opposed to four in each of 2009-2010 and 2010-2011. Only in Title 1 stimulus correlations (Figure 9) were there three strong correlations with significance as compared to one in 2009-2011.

2010-2011 analysis shows lack of correlation data. Second, 2010-2011 showed no significant correlations in any category of comparison. Title 1 and Title 1 stimulus (Figure 7) showed four moderate correlations. Title 1 (Figure 8) also showed four moderate correlations. Title 1 stimulus (Figure 9) showed no overall correlations in 2010-

2011. The results are consistent with principals reporting the loss of other categorical programs, reduced program offerings, and a decrease in additional support staff. For example, a supplemental hourly categorical program provided hourly intervention before and after school for students in grades 2-8 that were in danger of retention. Sites reported the flexibility to provide hours of instruction to at-need students with this program. Without these funds, (which schools reported receiving carryover monies for 2009-2010, sites had to fully support the continuation of these programs with Title 1 and Title 1 stimulus (with a heavy emphasis on stimulus funding).

Strong correlations despite small sample size. Lastly, strong correlations, with statistical significance, were found despite the small sample size. Schools within the study could perhaps utilize this information to determine how money was spent within the categories of strong correlation and to justify continuing the funding of those programs. This is especially true of the eight strong correlations within Title 1 funding in 2009-2011 and the three strong correlations in 2009-2010 stimulus funding. Figure 10 further shows the strong correlation data, with significance, by category.

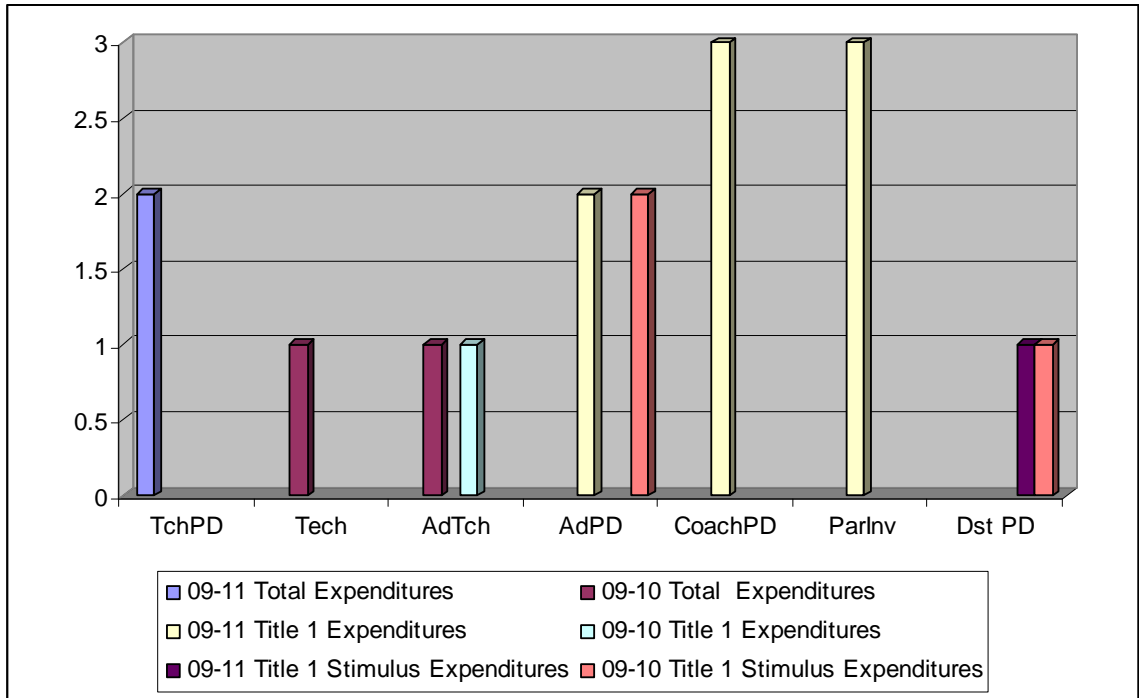


Figure 10. Strong Correlations with Significance, by Category.

Figure 10 shows the categories of expenditures that had the strongest correlations, with significance. Overall, three main areas show significance. The area with the greatest correlations was found in expenditures for professional development. Whether in professional development for teachers (two strong correlations), administrators (four strong correlations), professional development-coaching (three strong correlations) or district professional development (two strong correlations), 13 of the 17 strong correlations were in professional development.

Parental involvement programs also showed strong positive correlations (three strong correlations). The results may even be more profound considering that the majority of elementary schools (comprising 11 of the 15 schools in the study) reported spending the majority of money in this category on programs for kindergarten and first

grade parents which is not yet included in achievement data and thus not represented within the results of this study.

Technology demonstrated one strong correlation in the 2009-2010 school year. Schools reported incorporating technology into an overall expenditure plan (to be discussed in detail later in the chapter) by providing teacher professional development and an implementation/monitoring plan that required technology for the success of their overall intervention and/or instructional plan. The final comparisons for the second research question compared results between elementary and middle schools

Table 19

Comparison of Elementary and Middle School Correlations and Effects, 2009-2011

Cat.	ES/ MS AYP ELA	ELEM AYP ELA	MS AYP ELA	ES/MS AYP math	ELEM AYP math	MS AYP math	ES/ MS API	ELE M API	MS API
AdPD	.34	.53	.49	.50	.65*	.65	.42	.63*	.78
TchPD	.43	.51	.40	.59*	.63*	.57	.52*	.57	.71
DstPD	.30	.36	.53	.29	.58	.47	.24	.42	.40
CollPD	-.29	-.48	.83	.16	.01	.91	-.18	-.31	.95*
CchPD	-.17	-.24	-.20	-.12	-.09	-.30	-.22	-.17	-.40
InvDur	-.29	-.51	-.38	-.49	-.86**	-.20	-.35	-.67*	-.01
ELTba	.27	.44	.21	.32	.51	.23	.29	.43	.26
ELTss	.19	.16	.63	.12	.08	.62	.27	.24	.61
Curr	.17	.16	.48	.12	.13	.58	.22	.23	.64
Tech	.16	.14	.30	.34	.51	.37	.25	.25	.44
Supp	-.23	.14	-.77	-.27	-.11	-.63	-.14	.05	-.47
AdTch	-.34	-.09	-.61	-.32	-.25	-.46	-.25	-.19	-.30
Coun	.07	.001	.30	-.04	.001	.15	-.08	.001	-.003
ParInv	.13	.75**	.35	.06	.68*	.35	.09	.70*	.35

** . Correlation is significant at the 0.01 level (2-tailed).

* . Correlation is significant at the 0.05 level (2-tailed).

Comparison of Elementary and Middle School Correlation Results

The final area of comparison for the second research question focuses on data by school level (elementary and middle school). Studying whether similarities or differences exist between elementary and middle schools could help each school level in its fiscal decision-making. If elementary schools show stronger relationships between a category of spending and student achievement growth, the results could help middle schools (and vice versa). The following section provides elementary results, middle school results, and an overall comparison between the two school levels.

Elementary differences. Three areas of elementary results differed from middle school results. First, parental involvement was shown to be a much stronger correlation than middle school in all three achievement areas with an overall mean difference of .39. Next, a slight overall stronger correlation was found in extended learning time before and after school in elementary schools with an overall mean difference of .23. A final difference between elementary and middle school was a major negative correlation for elementary schools for intervention during the school day compared with middle school with a mean difference of -.49. This is surprising based on interviews with elementary principals about the positive growth that they attributed to intervention during the school day. Perhaps an even a stronger negative correlation exists with elementary schools if the two elementary schools with the largest achievement growth (discussed later in the chapter) indicated positive results with intervention programs during the school day.

Middle school differences. Middle school results showed many areas with a higher positive correlation than elementary schools. The largest difference was a 1.1 with

school collaboration. Middle schools reported a positive professional learning community commitment in schools (compared with elementary schools that reported a struggle in this area). Summer school programs in middle school also demonstrated a larger correlation with a mean difference of .46. New curricular purchases with Title 1 and Title 1 stimulus monies also demonstrated a mean difference of .40. Middle school principals noted that new curriculum was purchased for summer school programs (as opposed to adding curriculum to the regular school day) and that a lot of the time (and money) allocated for school collaboration was designing pre- and post-tests for identifying students for summer school, for providing data for summer school programs, and for planning time for teachers on the curriculum that would be used for summer school programs. Lastly, spending money on middle school supplies had a much larger negative correlation than in elementary schools with a mean difference of -.70.

Overall elementary versus middle school comparisons. In many areas, especially in professional development with teachers, administrators, and district sponsored professional development, no major differences were found between school levels. Schools participating in the study may use the key similarities and differences between elementary and middle schools to further analyze which programs merit further support as Title 1 stimulus monies are no longer available. Schools can use this information to decide which programs to continue to support and which may be decreased or eliminated as budgets continue to decrease.

Second Research Question Summary

The second research question compared the expenditures of Title 1 and Title 1 stimulus monies to AYP ELA, AYP mathematics, and API test scores. Comparisons were reported with Title 1 and Title 1 stimulus monies combined, Title 1 and Title 1 stimulus monies individually, and by elementary and middle school level. Despite the small sample size, multiple significant correlations were found, positively linking resource usage to student achievement in all three comparison areas. Overall, professional development showed an overall positive correlation in all areas compared: between years, between programs, and between school levels. Intervention during the school day, technology, and professional development also showed significant correlations with student achievement growth. The final section provides results of the third research question, the principal interviews.

Qualitative Interview Results

Two elementary and two middle school principals participated in an individual hour-long structured interview to address the third research question. Interviews took place after the principals completed the on-line survey and after their 2011 test scores had been released. Follow up contact was conducted as needed to clarify answers. Two of the four schools had a substantial two-year API growth of 32 points each and two of the schools had a two-year API loss of five and 25 points.

Three noteworthy topics emerged from the pattern analysis: Decision-making, expenditures of Title 1 and Title 1 stimulus monies, and on-going fiscal challenges. Additionally, sub-topics emerged within each pattern (see page 77). The following

section discusses each pattern, sub-pattern in turn, and exemplars of each pattern derived from the interview data are presented.

Strengths in Decision Making

The first part of the interview focused on the decision-making process that schools utilized to allocate Title 1 and Title 1 stimulus funds. How did schools decide on resource use allocation? All four schools described a very similar collaborative decision making process that included data analysis, time for stakeholder input, faculty meeting discussion, leadership team coordination and, ultimately, school site council approval. There was little, if any difference among the individuals participating in the decision making process. All principals cited that their teachers had chances for input into site decisions. School Site Councils and other advisory boards (English Language Advisory Committees, Title 1 Advisory Committees, and School Advisory Teams) also were provided opportunities to offer guidance in utilizing site funds. However, key differences during the decision-making process emerged. Schools that saw a growth in student achievement had an overall stronger decision-making process in place including the level of stakeholder involvement, the depth of data analysis, and presence of monitoring all of which emerged as sub-patterns from the pattern analysis.

Level of involvement. Overall, there was a difference between the schools in the level of stakeholder involvement during the decision-making process on funding utilization. While all four schools described the opportunity for input throughout the decision-making process, the two schools that exhibited the large two-year API growth described a level of involvement with their staff that went into much greater depth than

the second two schools. For the higher achieving schools, the principals and leadership teams met and discussed initial needs within the school. The leadership teams provided communication back to the stakeholders, seeking feedback and discussion. Key decisions in regards to funding were all brought to the table and were not made in isolation from the rest of the staff.

One principal described the back and forth discussion that occurred with her staff. “Many times I left a meeting with a larger to do list than when the meeting began,” she said. She described a process of buy-in with the staff and the desire for the staff to make sure they had all of the pertinent information to make key decisions. A second principal described the courageousness that was needed to ensure that the staff had all of the key information needed to make these key decisions. For example, as funding declined and cuts had to be made, one staff had a tough conversation about key positions at the site. This principal described having to work to set the tone around students and student needs and not around saving a favorite staff members’ position. “We talk positions and not people,” stated the principal on describing leading a faculty meeting where prioritizing needs were being established. There was also a trust described where the staff relied on the principal to bring current scholarship and research, as appropriate, to them. “When I first began to say ‘research says’ to the staff, eyes rolled...but gradually, I began to hear....what does the research say about that?” The faculty had developed a level of trust in the principal that was integral to the decision-making process.

This level of involvement with staff was not described by the principals at the sites with overall achievement drops. “The budget has to be decided upon by the time the

single plan for student achievement is due to the district,” stated one of these principals. While they discussed opportunity for teacher involvement in the decision-making process, the process was described as a task to be completed. One principal admitted that even though their teacher representatives on the school site council reported back to the entire faculty as decisions are made, most teachers were not involved in funding decisions. Data analysis, another sub-pattern in decision-making, emerged throughout the interviews.

Depth of data analysis. “It all starts with data,” according to one middle school principal. Most principals emphasized the importance of determining the need of the students at their schools and having a close review of data, especially California Standards Test (CST) data that included disaggregated data by numerically significant subgroups, by grade level, and by content area. A lot of time was dedicated to the analysis of CST data throughout much of the first months of each school year. One principal emphasized that she also utilized a spring recap of data analysis before teachers left for the summer that helped to jump-start fall conversations.

Most principals also described other types of data that their school utilized to make decisions about the expenditure of funds including common writing assessments, reading comprehension assessments, benchmark assessments, and pre-post intervention data. Similar to the depth differences that emerged between the schools in the level of involvement, principals differed in the depth of data analysis that occurred. The two higher scoring schools described the movement of their staff from “getting it done to doing what is needed to be able to make decisions.” Both of these principals described

that a few years ago, there was more of a struggle to get teachers to complete a data analysis inventory. Teachers did it because it was assigned by the district and not because they saw value in the process. In fact, an example of a first grade team's growth warrants explanation.

The district had a long-standing class profile sheet that involved, among other things, a beginning, middle, and end-of-the-school-year reading comprehension score. By the end of the year, teachers completed a second sheet that was sent to the district that included the number of students that were not considered at grade level in reading. It also included the specific names of students that were considered to be considerably below grade level. The district used these data to track the progress of at-risk students. The principal, new to the school two years ago, asked the first grade team what their classroom profile sheets from the prior year showed. Not one teacher could answer how many students were not making adequate progress or were considered substantially below grade level and asked if they could get the copy of the classroom profile sheet if the principal wanted to look at it with them. Within the two years, teachers had begun to be more connected with the data and had been both communicated with and asked for feedback about what the data was telling them. The principal reported that rarely were decisions made without the teachers wanting to have their most current classroom data with them. In fact, they were working on a program this year that further disaggregated the results of common assessments from looking at the overall scores (a two out of four on a writing assessment or a 72% on a mathematics benchmark) to looking at which areas within a benchmark the students knew and did not know so they could focus their

instruction. This example is a direct contrast to the school that had the largest loss of API scores.

The middle school principal that had a 25 point loss over two-years reported that there was a lack of consensus at his school about the benefits of data analysis. Teachers reported that they were tired of using test data, did not see the value of looking at data, and argued that focusing on their drop in scores did not help with the morale of the school. Although shorter pre-post test formative assessments were utilized, there was not school-wide buy-in for this process and teachers often complained that the time it took the students to complete the assessments took away from valuable teaching time. The teaching staff did not buy into the fact that checking for understanding and formative assessments were an important part of the teaching process (DuFour & Marzano, 2011; Schmoker, 2011). The principal did realize that until this issue was resolved, his school achievement would continue to struggle. The final sub-pattern, presence of monitoring the use of funding, emerged as a theme that was newer to schools during their decision-making process.

Presence of monitoring the use of funding. Although all four principals reported the presence of a system of monitoring funding uses based on student progress, analysis of the interview data determined a lack of process between the linkage of expenditures with student achievement results with some of the schools. A key difference was in the buy-in with the teaching staff on the importance of student monitoring. Intervention (including before- and after-school and during school intervention) was the area where the most monitoring took place. Most schools reported some kind of monthly or quarterly

meeting where the regular education teachers and the intervention teachers meet with the principal to monitor student progress. During these sessions, they decide whether students need to continue in intervention, and if so, what the focus should be.

There was a desire on the part of the principals interviewed to progress from an intervention monitoring process to a within-class monitoring process. And although discussed later, the principals all emphasized that the lack of funding for collaboration time hinders a focus on continual student monitoring. In the two elementary schools interviewed, teachers did not receive a conference period and there was no additional (or auxiliary) staff to provide any release time during the school day without purchasing substitute teachers to cover classrooms. They reported a 45 minute weekly professional learning community (PLC) time as the real only time when the monitoring could occur without additional costs.

Although the middle schools interviewed had more time for collaboration, they also discussed how class size increases and reduced staff did not provide them with the flexibility of having common planning periods for grade levels or content areas as easily as two to three years previously. Although they tried to target key content areas (especially mathematics and language arts) for common conference periods, they often had to split the common conference period between sixth grade (one period off) and seventh and eighth grade (a different period off), leaving little time for all three grade levels to collaborate and monitor student progress. All four principals, despite the lack of adequate funding to monitor student progress in the way they would have preferred, cited an increased emphasis in monitoring student progress, noting more teacher buy-in to

monitoring the progress of student achievement. Without the Title 1 stimulus monies, they noted, the expenditures for substitutes both at the site and district level to write common assessments and to create pre-post assessments would not have provided the opportunity for growth in this area. The next portion of the interview provides an in-depth look at Title 1 and Title 1 stimulus funds that schools expended from 2009-2011.

Positive Utilization of Title 1 and Title 1 Stimulus Expenditure 2009-2011

An in-depth discussion of how schools expended funds in the major categories of funding within the study occurred as part of the interview process. In general, professional development and programs for at-risk students dominated the principal's reporting on the use of Title 1 and Title 1 stimulus monies.

The descriptions of the types of professional development and program for at-risk students the principals provided helped validate the survey results described in the quantitative data section. Principals described the added emphasis on professional development for administrators and school leaders with the addition of Title 1 stimulus monies. They reported a greater connection with current research and a sense of collegiality with their peers that had not been a focus in the two years prior to Title 1 stimulus monies. Additionally, the emphasis on providing extended learning time (before or after school and during the summer) or intervention during the school day (small group instruction or a scheduled period of intervention) helped schools develop programs that either did not exist or existed in small doses prior to the addition of Title 1 stimulus funding.

All four principals, in varying degrees, defended both main categories of funding even knowing that achievement results in the two years prior to stimulus funding was greater than the two years with the funding. Professional development and strategies for at-risk students' strengths and challenges emerged as sub-patterns throughout the interview data.

Professional development strengths. “Participating in a week-long August professional development gave me an added vision in my role as a leader in my school,” said one elementary school principal. In addition to an added focus on administrative professional development, principals described many different professional development programs teachers had participated in during the past two years. Both elementary principals interviewed described the emphasis on language arts, especially in the primary grades (K-2) and provided multiple opportunities for teachers to participate in guided reading, writing strategies, and academic vocabulary. Both noted a lack of mathematics training and mentioned that the district did not have any curricular experts to assist them in this area. The two middle school principals described professional development opportunities for teachers that also included a lot of language arts support. One middle school utilized a district resource teacher to teach a period of seventh grade English, creating a demonstration classroom for school site on-going professional development. He considered the collaborative setting a key reason for an 8% growth from 2009-2011 on the CST ELA test. The second middle school principal emphasized that he would love an opportunity to start over and was unsure that he made progress with the professional development opportunities at his school. “I was not immediately able to implement all of

the ideas that I came up with during the leadership trainings,” he said. There was a general consensus that the investment in professional development (measured by state test scores) was perhaps not immediately evident, noting that the changes being implemented take time. They were confident that the investment would provide positive achievement results within the next few years.

Professional development-conflicting results. Monies spent on coaching in the two middle schools interviewed during the 2010-2011 school year also helped to explain the mixed results with the quantitative correlations. During last year, the middle schools began to implement an expensive mathematics program that provided monthly intensive professional development during collaboration time and was followed up with intensive coaching that included class observations, debriefings, and detailed analysis (by the teacher and the coach). According to the principals, most teachers did not have a strong enough understanding to implement the program until late in the school year, suggesting it would not be until the 2011-2012 school year when teachers could fully implement what was learned in 2010-2011. Now in year two, as teachers have continued to receive monthly professional development and intensive coaching the principals predicted greater growth in mathematics achievement.

One school, though, showed strong growth in two of the three grade levels (in pre-algebra and Algebra 1) in 2010-2011, which was a pleasant surprise to the principal (and teachers). The second school did not show growth in any of the three grade levels. Upon further conversation, a very interesting story arose with the two middle school principal interviewed that helped to explain some of the mixed results with coaching

during 2010-2011. While the \$6,000 per teacher spent by each school (\$30,000 for one school and \$36,000 for another) was a similar investment in a coaching professional development program, results were very different. In fact, the second school reported being uninvited to participate in the program this year based on the lack of teacher buy-in to the program. Both schools had spent a considerable amount of time the year prior to implementation in learning about the program. They observed teachers in other districts that utilized the system of teaching, had time to discuss the program with the teachers they observed, and were able to decide as a department whether to begin the program. In fact, one school within the same district went through the same process and decided not to participate. It was the belief of both principals that their teachers were able to “opt in” to the program.

The lack of teacher buy-in with the second school was immediately evident and the principal reported that the teachers even sabotaged their participation and were happy that they were not invited back to participate. The teachers looked at the program as punitive and even though two of the higher achieving schools in the district were also participating, they believed that they really did not have a choice to participate because they had recently begun program improvement and the principal was going to make them do something so they might as well do this program.

The importance of leadership and a culture of trust, described by Fullan (2011) did not exist between the principal and the mathematics department. In the discussion with the principal, there was not a clear separation between coaching and evaluation that Fullan (2011) reported vital for coaching to be successful. Regardless, it is important to

note that the quantitative data did not tell the entire story and the two expenditures perhaps cancelled each other out, providing results that might have been stronger if the second school had had a more positive experience with the program.

At-risk student strategies. All four principals interviewed mentioned the newness within their schools in providing intervention programs. Their schools had a long standing culture to utilize a large percentage of funding (especially in elementary schools) on instructional assistants. Popular with parents and teachers, schools had to decrease hours of most instructional aide staff and eliminate entire positions with the budget cuts that occurred six to ten years ago. When the budget turned around, positions were not reinstated as three out of the four principals noted that increased research did not support the use of instructional assistants to work to boost student achievement and to help our most at-risk students.

Principals reported implementing an intervention program without any training or coordination district-wide as tremendously difficult. “Fortunately we received Title 1 stimulus monies to implement intervention programs for our students, but unfortunately the money came at a time when district positions were being cut,” said one elementary principal. “There weren’t very many district folks that could help introduce, train, and implement a program,” she added.

The principal of the middle school that has struggled for the past few admitted that his teachers have become used to the extra money that after school tutoring, Saturday classes and summer school provides. Perhaps the best teachers are not the teachers interested in the extra time outside of class.

At-risk program strategies. One principal (my final interview) discussed the growth of her professional development and that of her staff in the intervention design and credits the school's intervention model as a major reason the school grew by 32 API points this year. She openly admitted that in her first year at the school (2008-2009) there was little focus on what the hourly intervention teachers did. Anyone interested in working with a small group of students before or after school was given permission to run an intervention class. There was little pre-post data and the typical student invited to participate was low in language arts or mathematics. A typical session would be a second grade teacher providing reading assistance for a group of 10-15 students. The state provided intervention monies in the form of a categorical program to districts. The program reimbursed only the cost of the hourly teacher rate for the actual time that the teacher was instructing students. No preparation time or monies were available to purchase curriculum.

Seeing little or no growth, the principal worked in year two (2009-2010) with credentialed teachers looking for hourly work. Utilizing Title 1 stimulus funding, intervention programs were purchased. Intervention teachers participated in district training that focused on small group instruction. School Study Teams (SST) met every six to eight weeks to monitor progress of the students.

It was this past year (2010-2011) according to the principal, when the classroom teachers bought into the program. There was adequate support, materials, preparation time, and collaboration. The school designed a "power hour" where two additional intervention teachers pushed in with a grade level (that typically had three teachers at a

grade level) so that five teachers divided the work with students based on need. The interesting twist is that the two intervention teachers provided average and above average students (about 60-70% of the grade level) with enrichment activities, allowing the three classroom teachers to have small classes with the at-risk students. Every day, for one hour, teachers focused on the skills that students needed help with. Every four weeks, grade levels met during release time to shuffle kids, analyze pre-post test data, and establish priorities for the next four weeks. “After the first two years, I got smart and wrote goals with the teachers rather than for the teachers,” admitted the principal. “And it worked!”

Despite the relative newness of intervention programs, all of the school principals believed that they would continue to improve in the implementation of intervention strategies and wondered whether, with the loss of Title 1 stimulus monies and state revenue, they would be able to continue to offer the level of support they had offered throughout the previous two years. Discussions such as this led to the on-going fiscal challenges in our schools today—the final pattern that emerged from the interview data.

On-Going Fiscal Challenges

School principals discussed how the on-going fiscal challenges (including decreased funding and categorical flexibility) had affected their funding decisions. The bump in funding of Title 1 stimulus monies came at a time of fiscal crisis. Although not asked within the context of the interview, three of four principals reported on the decrease of faculty morale as a result of the multi-year decreases in funding, including

the loss of teachers at their sites. Decreased funding, the change in categorical flexibility, and the increases in accountability all emerged as sub-patterns from the interview data.

Decreased funding consequences. Schools have had many challenges and tough fiscal decisions to make because of the multi-year, on-going decreases in funding. One result of the funding decrease, the growth of class size, has created multiple consequences in schools. The most obvious is that large classes are not conducive to working with our most at-risk students (Picus, 2005). More subtle issues, though, have occurred at school sites. Moving from 20 to 30 students per class reduced average school staff (with 600 students) from 30 to 20. With the loss of less veteran teachers, many reported that the most recently trained teachers with current pedagogy training had been terminated. One school principal reported losing an additional seven teachers because of the seniority of the teachers at her school. “I had a very young staff so when the seniority list for the district was released; I lost 17 teachers over two years.” While she reported losing a net of 10 teachers, she was “given” teachers that were excessed from more veteran school sites. “My entire school culture changed and I felt I had to start over,” she said.

This mass movement meant that teachers were not only new to their sites but were new to their grade levels. Many teachers moved from kindergarten to 5th or 6th grade. And unfortunately, major cuts to the district office staff meant that staff developers were not available to provide training and support to the teachers in their new grade levels.

Having fewer teachers also meant fewer teachers within a grade level, providing less opportunity to collaborate within a grade level. Many went from five or six teachers

at a grade level to two or three teachers. Elementary principals reported more combination classes, further reducing the morale on campus.

Principals also reported the loss or reduction of successful programs. Intervention programs were cut or eliminated. Many schools canceled or reduced the number of days that summer school programs were offered. Additional staff positions were eliminated so that push-in instructional assistance (additional teachers that work with small groups of students within an existing class) was eliminated. With the loss of intervention positions at sites, flexibility was reduced for placing students in intervention based on specific need. For example, one middle school principal reported only having six total intervention classes, one for each grade level (6th, 7th, and 8th) for English language arts and mathematics. While admitting that non-Title 1 sites may not have even these six sections, they had offered double the number of sessions so that classes with 15 students were formed based on specific student need (reading comprehension vs. writing or number sense vs. conceptual understanding). Now, 30 students who were all “behind” were in an intervention section, leaving sites to wonder if the sections were worth the money.

One principal reported that it used to be much simpler to try, pilot, or explore new ideas or programs and feel the stress of accountability. “I feel forced into decisions because of the unavailability of funding,” he stated. “Can I afford an automatic telephone system to inform parents about upcoming events at the expense of an extra section of help for English Language Learners? Can I pay for an on-line study program that students can use at home at the expense of offering after school homework help?” he wondered.

Principals reported having to be more careful with money and regretted making choices between two programs that both benefited students. All four principals interviewed were thankful that federal stimulus funding came when state categorical flexibility had devastated budgets, funding, and programs at their school sites.

Categorical flexibility—a loss for schools. The concerns that principals spoke about regarding the loss of categorical flexibility closely mirrored answers regarding the decrease in funding. All four principals interviewed reported receiving very little, if any, of the money that districts received when state legislators approved categorical flexibility in 2008. Discussions regarding categorical flexibility concerned decision-making about what to do with the small amount of money that was still available to school sites.

An additional concern was the loss of some categorical programs that were not directly tied to student achievement. The Site Block Grant, Art and Music Block Grant, and the Technology and Educational Materials Block Grant were all examples of categorical funds that schools received for specific purposes or programs that did not require a link to improving student achievement (and thus inclusion into the single plan for student achievement). While principals were in agreement about the need to have fiscal decisions based around student needs, they also reported a need to update broken equipment, update a copy machine, repair a fence, or pay for a field trip. While PTAs, booster groups, and local businesses have come to the rescue in some instances, schools reported that they have less flexibility with local donated monies. One noted that it was ironic that the district gained flexibility while the schools lost the flexibility and none of the principals believed that added flexibility did anything other than prevented further

teacher job loss. While California legislators applauded flexibility as the return to local control so that districts could make decisions that best affected students (LAO, 2011), the result, especially during tough budget cuts, was that the categorical dollars simply went to help the bottom line.

One middle school principal explained that they previously had drug and tobacco prevention monies to offer a wide variety of after-school programs for students ranging from a running club, a book club, a tin can drum band, line dancing, and drama. Now, none of these programs exist and instead have been replaced with academic intervention programs.

Accountability challenges. Although not part of the structured interview, three principals mentioned that the challenge of the increased accountability further reduced decision-making flexibility at their sites. Two schools were in their second year of program improvement. They cited losing 10% of their Title 1 budget because their district was in Program Improvement and another 20% of their Title 1 budget to pay for students to receive tutoring from outside agencies and to provide transportation to students that could leave their school sites to go to non-program improvement sites.

The school that had the largest API growth moved into their first year of program improvement despite raising API, AYP ELA, and AYP math test scores both school-wide and in each significant subgroup. Unfortunately, in one subgroup (AYP ELA for English Language Learners), they did not grow enough to make the 67.6% 2011 AYP target. Despite the school successes, they lost the flexibility of making their own decisions about what works best for their students. They put 10% of their budget aside for professional

development and must follow state adopted program improvement guidelines on how to improve student achievement. The overall loss of funding (they also lost an additional 30%) because their district was in program improvement and there are schools in their second year of program improvement (20% funding for transportation and outside group tutoring) meant that they further reduced and eliminated programs that had demonstrated success throughout the past two years.

Third Research Question Summary.

Despite the negativity surrounding budget cuts, loss of staff, low morale, and difficult funding decisions, three of the four principals interviewed were not negative about the fiscal state of their schools or districts. They seemed to be taking the challenges in stride and discussed openly the severity of the fiscal crisis and their plans to move their school forward. Not one of the three principals used funding decreases as an excuse for smaller gains in student achievement. The leadership of the principals was evident during the interviews. One creative principal provided a simple visual to her staff on their first day back this fall. They have slowly grown from being one of the lowest achieving Title 1 school in the district to the highest Title 1 school (API 883). Their motto is 900 or Bust!

CHAPTER 5

DISCUSSIONS AND CONCLUSIONS

Throughout the past four years, California schools have been challenged to do more with less, facing drastic budget cuts and growing federal accountability. State funding has decreased by over 30% in general fund allocations. Schools have seen over 40 categorical programs become flexible, allowing districts to utilize funds once preserved for special programs or students, any way they see fit (LAO, 2011). For example, the class size reduction categorical program has become flexible, allowing districts to raise class size from 20 to 30 and retain the money they receive within this program for other district expenses. The severe budget cuts to schools are heightened by a lack of reauthorization in NCLB, which expired in 2008. Without a reauthorization, approximately 80% of schools faced funding sanctions (10% of the budget for district professional development, 20% of budget lost to pay for transportation and outside tutoring, 10% for school professional development) that further reduce budget flexibility (USDOE, 2011). Taken together, the state and federal budget and accountability issues reduce school decision-making authority.

The ability for schools to understand the connection between resource utilization and student achievement growth has become more important than ever. Schools need to examine resource use patterns to help decide which programs to keep and which are not as valuable.

This mixed-methods inquiry sought to study how schools utilized Title 1 and Title 1 stimulus funding (funds for schools to help ensure that socioeconomically

disadvantaged students meet academic standards) from 2009-2011 and determine if correlations existed between areas of resource utilization and student achievement. Results of this study offered opportunities for schools, districts, and policy makers to have current data on how to best allocate resources to areas of greatest need where they will be most effective.

This chapter is organized into the following six sections: A discussion of findings, implications of findings, an introduction to the Resource Use Planning Model, recommendations for practice, recommendations for future research, and overall conclusions. The first section, including a methodological overview, presents a discussion of findings organized by research question: first a discussion on funding utilization; second, funding correlation and achievement analysis; and finally, principal interviews are discussed.

Discussion of Findings

Methodological Overview

Fifteen elementary and middle school principals completed an extensive quantitative survey, providing Title 1 and Title 1 stimulus expenditure data for the 2009-2010 and the 2010-2011 school years. Qualitatively, four principals were interviewed to analyze the decision-making process to guide schools on how categorical funding might best improve student achievement, as defined by the California state API score and the federal AYP ELA, and AYP mathematics. Three research questions framed this study:

1. How did elementary and middle schools utilize Title 1 and Title 1 stimulus monies from 2009-2011?

2. How did the expenditures of Title 1 and Title 1 stimulus money affect student achievement as measured by state tests in 2009-2011?
3. What process did schools utilize to allocate Title 1 stimulus funds? To what extent did the current (2009-2011) budget situation within California (both budget reduction and categorical flexibility) play a role in the decision making process?

Across all three research questions, findings suggested that two areas of resource allocation were emphasized by schools. Expenditures both for professional development and programs for at-risk students played a key role in student achievement growth and are a focus throughout this chapter.

Funding Utilization Discussion

The first research question studied the utilization of Title 1 and Title 1 stimulus monies from 2009-2011. Overall results demonstrated 82.1% of expenditures in Title 1 and Title 1 stimulus monies fell within two main categories: Professional development (37.9%) and strategies for at-risk learners (44.2%). Additionally, principals reported most new curriculum and technology expenditures further supported intervention programs, suggesting that almost 50.0% of funding was focused on the most struggling students.

Research suggested that if schools utilized resources in alignment with certain strategies, student achievement improved (Odden & Archibald, 2009; Odden & Picus, 2008). Overall, schools that participated in this study utilized funding in alignment with such instructional strategies, suggesting they were utilizing instructional best practices to raise student achievement.

Professional development. On-going sustainable professional development is a key effective strategy in raising student achievement (Fullan, 2010; Hargreaves & Shirley, 2009; Odden, 2007, 2009; Odden & Archibald, 2009; Odden & Picus, 2008). Further, continued emphasis in administrative professional development (Fullan, 2010), collaboration (Odden & Archibald, 2009) and instructional coaching (Odden & Picus, 2008) were well modeled by the schools participating in this study. Many professional development expenditures within a school were linked together. For example, administrators and teachers both participated in training focused on effective instructional strategies. According to the survey results, having common experiences within training, teachers collaborated at least monthly on the successes and needs within that instructional purpose with administration participating alongside them. Coaching was then provided to the teachers based on the needs that surfaced during collaboration. In addition to expending funds on professional development activities, connections existed throughout many aspects of professional development within a school. Schools within this study may want to ensure a connectedness between expenditures such as professional development.

Elementary schools utilized a greater percent of funding for school collaboration (3.4% compared with 1.8% for middle schools). Middle schools, utilized a greater percentage in district professional development (7.6% compared to 3.6% for elementary school. The results may be explained by the need for district assistance for middle school collaboration. While most elementary schools have many teachers within a given grade level, middle schools may have a single teacher for a content area (one algebra teacher or one seventh grade science teacher). Elementary schools, thus, can effectively collaborate

within their school. An important result to emphasize is that regardless of the type of professional development, sites were able to decide on the structure that best fit the needs of the students and teachers at their site.

Strategies for at-risk learners. Justification for providing intervention and tutoring for struggling students, both during and after the school day (including summer school) is well supported within the research (Fullan, 2010; Odden, 2007, 2009; Odden & Archibald, 2009; Odden & Picus, 2008; Torgeson, 2004). Schools participating in this study provided strong evidence of providing additional assistance for the at-risk learner with 34.2% of total expenditures utilized for intervention during the school day, 10.1% for extended learning time before and after school, and 5.2% on summer school programs.

Elementary schools expended 39.1% of funds for intervention during the school day as opposed to 20.5% for middle school. The result may be explained by the availability of highly qualified elementary teachers due to the magnitude of layoffs due to budget cuts. It may also be easier within the structure of elementary schools to provide a double dose of instruction when needed, giving students' small group intervention after an initial lesson, during another subject, in lieu of an elective, computer time, or library visits. According to the middle school principals interviewed, the middle school structure makes it much more difficult to pull students for small group instruction. Most intervention within the school day mandated students enrolled in an additional intervention period for at least a semester of instruction. Cost-wise, most additional

sections for intervention are provided by full-time contracted teachers, reducing the availability of funding within the middle schools for this area.

Funding Correlation Discussion

The second research question studied how Title 1 and Title 1 stimulus monies affected student achievement as measured by state tests in 2009-2011 (API, AYP ELA, and AYP mathematics). Analyses are presented in three categories: (a) Results for Title 1 and Title 1 stimulus combined; (b) Results for Title 1 and Title 1 stimulus individually; and (c) Results for elementary and middle school, individually.

Title 1 and Title 1 stimulus combined analysis. In general, professional development correlated positively with student achievement growth. Administrative professional development, one specific area of professional development studied, showed five positive correlations with achievement. In overall 2009-2011 funding, three positive correlations were found in ELA AYP, ELA mathematics, and API. In 2009-2010, two positive correlations were found in AYP ELA and API. Teacher professional development showed four positive correlations and two each for district professional development, collaboration, and coaching. Taken together, these findings suggested that money expended for professional development led to increases in student achievement.

Strategies for at-risk learners, however, did not show an overall relationship to growth in student achievement when looking at combined Title 1 and Title 1 stimulus expenditures. Two of the three categories of funding analyzed in this area, intervention during the school day and extended learning time-summer school, both showed negative correlations. Intervention during the school day showed a negative correlation in both

AYP mathematics and API in 2009-2011 and AYP ELA and API in 2009-2010. Summer school also showed a negative relationship in overall API scores in 2009-2010. Only before or after school intervention showed a positive correlation in AYP mathematics from 2009-2011. In general, findings suggested that strategies for at-risk learners did not show a relationship to growth in student achievement. Schools may want to focus expenditures on activities that provide extended learning time within the regular school year (September-June). Schools may also want to review expenditures for summer school and during-the-school-day intervention to evaluate the strengths and weakness of their programs.

Additionally, technology expenditures showed a positive correlation to student achievement growth in AYP mathematics (2009-2011) and AYP ELA and API (2009-2010) and additional teacher support showed a positive ($r=.63$) significant correlation to AYP ELA achievement in 2009-2010.

Title 1 and Title 1 stimulus-separate analysis. While it is important to look at the overall picture of combined Title 1 and Title 1 stimulus monies, an analysis of correlations of Title 1 or Title 1 stimulus monies independently with student achievement may help schools link expenditures to particular programs and resource decisions. After all, Title 1 has a long funding tradition in schools and schools may have established programs that warrant review. With the Title 1 stimulus monies available for only two years, schools may have introduced new programs or provided added emphasis to existing programs. A separate analysis may help schools better know which programs provided the desired positive student achievement effect.

Title 1. Many positive correlations were found between Title 1 expenditures and student achievement. Professional development, similar to results found when studying combined Title 1 and Title 1 stimulus relationships, showed positive correlations with student achievement. Administrative professional development showed a strong, significant positive correlation between Title 1 2009-2011 to AYP ELA ($r=.50$), AYP mathematics ($r=.74$), and API ($r=.64$). Coaching also showed similar results, demonstrating a strong, significant positive correlation in all of the three achievement areas (AYP ELA, AYP mathematics, and API) ranging from $r=.54-.65$. Teacher professional development and collaboration also demonstrated positive correlations in AYP mathematics and API scores.

Also similar to the combined Title 1 and Title 1 stimulus relationships, negative correlations were found with strategies for at-risk learners. Intervention during the school day was negatively correlated in all three achievement areas to Title 1 expenditures. Only intervention before and after school showed a positive relationship with AYP mathematics and API achievement results. As stated previously, results suggested that schools should evaluate the decisions made regarding providing additional services for at-risk students toward a model that involves extended learning time for students. Differently from the combined Title 1 and Title 1 stimulus relationships, summer school showed a positive correlation in AYP math to Title 1 expenditures, suggesting a possible review of the program provided in the summer and exploring whether there is a difference between the offerings for mathematics and ELA (as no relationship was found for ELA).

Title 1 stimulus. Title 1 stimulus monies indicated mixed results with student achievement, suggesting schools may have used the new funding in a variety of ways, with a variety of levels of success. While administrative professional development showed significant positive correlations in AYP ELA and API test scores in 2009-2010, a negative correlation was found in 2009-2011 AYP mathematics. This represented the first negative relationship in any professional development category and may have been due to the emphasis on language arts (and not mathematics) during the trainings. During interviews, principals noted a lack of mathematics emphasis during professional development. Teacher professional development showed positive correlations in AYP ELA and API in 2009-2011 and in AYP mathematics in 2009-2010. District professional development showed a significant positive correlation with AYP mathematics and correlations with AYP ELA and API in 2009-2011 and a significant positive correlation in 2009-2010. A moderate negative correlation was found with district professional development and AYP mathematics in 2010-2011. Also interesting to note was the significant negative correlation to coaching in 2010-2011 with all three levels of student achievement. Twelve of the 15 schools mentioned that coaching was new to their schools. During interviews, principals mentioned that two coaches were being utilized by 10 schools, suggesting that the new model of professional development led to the negative relationship with student achievement and perhaps an effective model of coaching was not experienced.

Despite the small sample size, 17 statistically significant correlations were found in analyzing Title 1 and Title 1 stimulus monies separately, suggesting a strong link

between expenditures and student achievement. Perhaps correlations between expenditures and student achievement were stronger when looking at Title 1 and Title 1 stimulus monies individually as many schools reported treating Title 1 and Title 1 stimulus monies separately (and not as a combined program). For example, a school may have paid for one type of professional development out of Title 1 and an additional type of professional development out of Title 1 stimulus. Schools may have paid for intervention during the school day out of Title 1 and paid for after school intervention out of Title 1 stimulus. The strength of results may demonstrate a clearer picture for schools concerning possible next steps; to look to see what they actually spent their money on to determine successful programs compared to programs that might need to be eliminated.

Elementary and middle school analysis. No major differences were found between elementary and middle schools with professional development and student achievement growth. With the continued results that have demonstrated a positive correlation between professional development activities and student achievement growth, both levels are encouraged to emphasize continued on-going intensive professional development with Title 1 resource utilization.

Parental involvement resource utilization showed a much larger relationship with elementary student achievement growth ($r=.75$) than middle schools ($r=.35$). Although the expenditures were the same (approximately 1% of expenditures) between elementary and middle schools, elementary schools reported much greater variety of choice for parents such as family math nights, literacy nights, trainings for specific grade level spans, as well as topic conversations with the principal, than middle schools.

Middle schools showed a much stronger relationship with summer school and student achievement growth ($r=.63$) than elementary schools ($r=.16$) as well as a positive correlation between new program purchases and student achievement. Middle school principals did report that new program purchases were for summer school and professional development was coordinated by the school and the district for summer school teachers.

Examination of elementary school student achievement growth with successful middle school programs, and middle schools reviewing key successes in elementary programs could provide added information about what specific implementation nuances each level utilized to improve student achievement.

Interview Findings

In general, interviews helped tell the story of resource allocation and expenditures within a school site and the factors considered by schools in deciding how to best utilize limited funding. Three main patterns emerged during the interviews. First, the strength in decision-making was a strong indicator of student achievement. Second, positive funding utilization existed within Title 1 and Title 1 stimulus programs. And, finally, the on-going fiscal challenges prohibited school progress.

Strengths in decision-making. Overall, schools that grew in student achievement had a stronger decision-making processes than schools that declined in student achievement. Their process included a greater level of involvement of stakeholders, a depth of data analysis, and evidence of monitoring resource use.

Level of involvement. These schools had a level of involvement appropriate for the situation. While principals reported that major decisions included all stakeholders, a level of trust existed for leadership teams or the school principal to make decisions regarding the use of funds. These decisions were not seen as decisions made in isolation. Rather, decisions were believed to be a collaborative process regardless of who was making the decisions. This may be further explained through a second layer of involvement that emerged from the data. Principals reported that their staffs were not only involved in decision-making but were becoming better informed. Successful schools have established a culture of involvement where stakeholders are viewed as key to effective decision-making rather than a hindrance to the process (Fullan, 2003; Reeves, 2009). Three of four principals interviewed reported that they were able to develop a climate of trust, staff buy-in and involvement necessary for the challenges within their schools today, suggesting that school leaders emphasize the importance of stakeholder involvement in the decision-making process within their school sites. Bryk and Schneider (2002) found that schools reporting strong positive trust levels were three times more likely to show improvement in student achievement than schools without trust in the principal.

Depth of data analysis. Generally, a dedication to continuous data analysis and a plan of monitoring programs throughout the school year were evident. Results mirrored the literature on data-driven decision-making models emphasizing multiple measures of data analysis as a process to improve instruction (Daggett, 2006; DuFour, 2003; Fox, 2003; Good, 2006). There was a difference, though, between the schools that made

positive student achievement growth and those that did not in the depth of data analysis. While all four school principals reported effectively utilizing CST data in the decision-making process, the two schools that made the most growth described a depth of involvement in the data analysis (similar to the differences in the level of involvement found in the previous section). While these principals reported the depth of analysis as a growing process that still has room for improvement, these schools utilized a variety of data including running records, quarterly writing assessments, and benchmark tests. Schools should continue to utilize frequent formative assessments in addition to the summative CST test analysis to make decisions about student needs.

Monitoring. Although covered in more detail in the next section, schools should also ensure that monitoring is continuous as even the most successful schools within the study noted a need to improve in this area. Schools did have monitoring processes in place for intervention programs but need to expand student monitoring within classrooms. As reported by principals, when schools utilized a monitoring strategy, results improved.

On-going fiscal challenges. Multiple fiscal challenges emerged during the interview process. Principals recognized that the fiscal fluctuations over the past four years have been the most challenging in their careers. And for Title 1 schools, this comes at a time when NCLB accountability has sanctioned schools that have not achieved an almost 70% proficiency in ELA and mathematics including both school-wide (overall school scores of percent proficient) and in all numerically significant subgroups (African American, Hispanic/Latino, SWD, ELL, SED, etc.). A decrease in funding, the increase

in California categorical flexibility and the challenges with federal accountability all emerged as sub-patterns in the data.

Decreased funding. The decrease in funding led to increases in class size, reduction or elimination of support programs and a decrease in staff at each school site. Within California, a marked 30% decrease in general fund allocations has been experience by districts (LAO, 2011). Principals reported not only the challenge of on-going budget cuts and deciding which programs to continue to support or not, but cited huge staff changes as a secondary consequence of the budget situation suggesting a need for leaders in schools that can establish a positive school climate and foster a sense of trust throughout the school community. Principals further reported that the cuts to the budget have been amplified because of their loss of multiple categorical programs.

Flexibility challenges. The 40+ state categorical programs that have become flexible have further reduced budgets to school sites. Federal Title 1 dollars, even with the addition of the 2009-2011 stimulus monies, are being stretched to cover programs once funded by many other programs. Principals reported during interviews that they received little to none of the monies that districts received due to the flexibility. Principals further emphasized that this issue has been heightened at Title 1 schools because they did not have the fiscally rich PTA, booster club support groups, and financial parent support that many non-Title 1 school reported were helping to bridge the gap, creating an even larger funding gap between high and low socioeconomic students. The loss of California categorical flexibility, for Title 1 schools has been further heightened due to the increase in federal accountability.

Accountability challenges. In addition to the loss of state funding, heightened accountability sanctions are providing even less flexibility for schools. As districts and schools move into program improvement status, (as 80% are projected to be by next year), a possibility of an additional 30% of Title 1 funding is moved from school budgets to district professional development programs (10%) and outside tutoring groups and transportation for student wishing to change schools (20%). While not a reduction in funding, schools in program improvement status are required to spend at least 10% of their remaining allocation on professional development. Although results of this study have indicated that money spent on professional development positively correlated with student achievement growth, it still reduces the decision-making flexibility within a school.

This section provided a discussion of findings through which an analysis was presented for each of the three research questions in this study. Through the analysis, four implications emerged and are presented in the following section: Professional development, strategies for at-risk learners, leadership, and monitoring.

Implications of Findings

Professional Development

Based on the findings from the schools participating in this study, professional development should have a defined role within the decision-making process at school sites. Not only did the schools participating in this study spend approximately 40% of their Title 1 and Title 1 stimulus budgets on professional development, professional development significantly correlated with positive student achievement growth 17 times.

Schools should also ensure that administrative professional development is an integral part of their school plan as this area significantly correlated with positive student achievement growth six times. Results of this study are well supported in the literature, which suggests that on-going, sustainable professional development is a key effective strategy in raising student achievement (Fullan, 2010; Hargreaves & Shirley, 2009; Odden, 2009; Odden & Archibald, 2009; Odden & Picus, 2008). Professional development can/should be in the form of:

- Collaboration—time for teachers to work together at their school site with a focus on instruction (Fullan, 2010; Odden & Archibald, 2009).
- District Sponsored Professional Development—should include training for administrators and teachers to learn methods to get better at what they are already doing (Fullan, 2010). As reported during this study, the design for district professional development should include sessions where principals attend training alongside their teachers.
- Intensive teacher workshops and trainings—as opposed to one-day professional development, trainings need to be on-going, intensive, and sustainable for maximum benefit.
- Coaching—Fullan (2010) reported on the struggles in implementing new coaching models within a school or district. Although the results of coaching were mixed throughout this study, Fullan argued that adequate time needs to be given to develop an effective program (2010). Additionally, Odden and Picus (2008) suggested, through the evidence-based model, that two and a half coaches serve a

school of 500 students. Within this study, principals within one district reported a total of two coaches for 10 schools (approximately 6,000 students), suggesting that schools should implement coaching utilizing the evidence-based model and allowing for development and implementation before determining the effectiveness of the program.

Strategies for At-Risk Learners

Based on the findings, a second implication within this study relates to specific academic strategies schools utilize for at-risk learners that exist within the resource use decision-making process. Almost 50% of Title 1 and Title 1 stimulus funding was allocated to support the most struggling students. The preferred structure should include extended learning time in the form of before- and after-school intervention/tutoring, where students receive a double dose of instruction in the content area in which they need assistance. Extended learning time is also well supported in the literature (Donovan & Bransford, 2005; Fullan, 2003; Odden & Archibald, 2009). Also based on the findings, summer school programs and intervention during the school day did not show consistent positive correlation to student achievement growth. Utilizing funds for these programs may require careful monitoring, additional teacher professional development, and the purchase of appropriate curricular materials to increase the likelihood of student achievement growth. Similarly with the coaching process described above, principals reported a newness to intervention programs that could perhaps explain negative results. Similar caution exists for schools to avoid eliminating programs that have not had enough time to show positive results.

Leadership

Throughout the interviews, strong leadership themes emerged from schools that had positive student achievement growth. As Fullan (2003) stated “only principals who are equipped to handle a complex, rapidly changing environment can implement the reforms that lead to sustained improvement in student achievement’ (p. 16). As school-wide Title 1 schools that are working hard to avoid the sanctions of federal program improvement, these school leaders provided what Reeves (2009) and Sosik & Dionne (1997) described as a culture ready for effective change and improvement. In contrast, the school with the large drop in student achievement did not exhibit strong culture building strategies. The school principal discussed the dissent within the staff and questioned how they would go about making positive progress. District decision makers should work to provide the strongest leaders at our most at-need schools and provide additional assistance in developing trust and a positive school culture for school administrators.

Monitoring

As a final implication, findings from the study suggest that schools need to continuously monitor the effects of resource allocation decisions to know which programs to keep when unexpected fluctuations in funding sources occur. In addition, schools need to continuously monitor resource use within a given year to ensure its effectiveness. Like a good coach, who makes halftime adjustments if necessary, schools must check-in with a structured monitoring process to ensure that needed adjustments in

instruction, student selection, and curricular selection are occurring. Additionally, like coaches who take-time outs when needed, schools need to ensure that an on-going process exists for needed modifications to existing programs. If a student is in need of help, schools need to provide assistance and not wait until the semester or the next school year. Similarly, when students no longer need assistance, there should be a process to exit them from the added support. If students needing additional assistance are not making adequate progress, a process needs to exist to ensure that teacher collaboration exists about appropriate next steps for these students.

The Resource Use Planning Model

Throughout the interviews with the four school principals, the two that had the largest API growth described how they made funding decisions. What emerged is perhaps a beginning of a decision-making process that Grubb (2010) and Fullan (2010) describe as a complex decision-making process where purchases involve multiple resources (professional development, new program purchase, technology, and collaboration). Schools reported, though, struggling to link purchases to need. They further reported struggling with a true process to monitor the benefits of their funding decisions. This is consistent within the literature. Fullan (2010) emphasized that schools struggle the most with the sophistication of a whole-system resource plan. Grubb (2010) agreed, claiming that many school and districts with the largest expenditures per student invested them in single (simple) resources that showed little effect on student achievement. And while much research exists supporting the cohesion in planning that Fullan (2010) and Grubb (2010) discussed, principals participating in this study reported

a lack of district-adopted processes to assist schools with such a plan. As such, a gap between research and practice exists.

Through my work within both the doctoral program and this study, I designed an original model to assist schools in resource use decision-making. The Resource Use Planning Model, shown in Figure 11, could be utilized to assist schools in better resource allocation decision-making and help bridge the gap between research and practice.

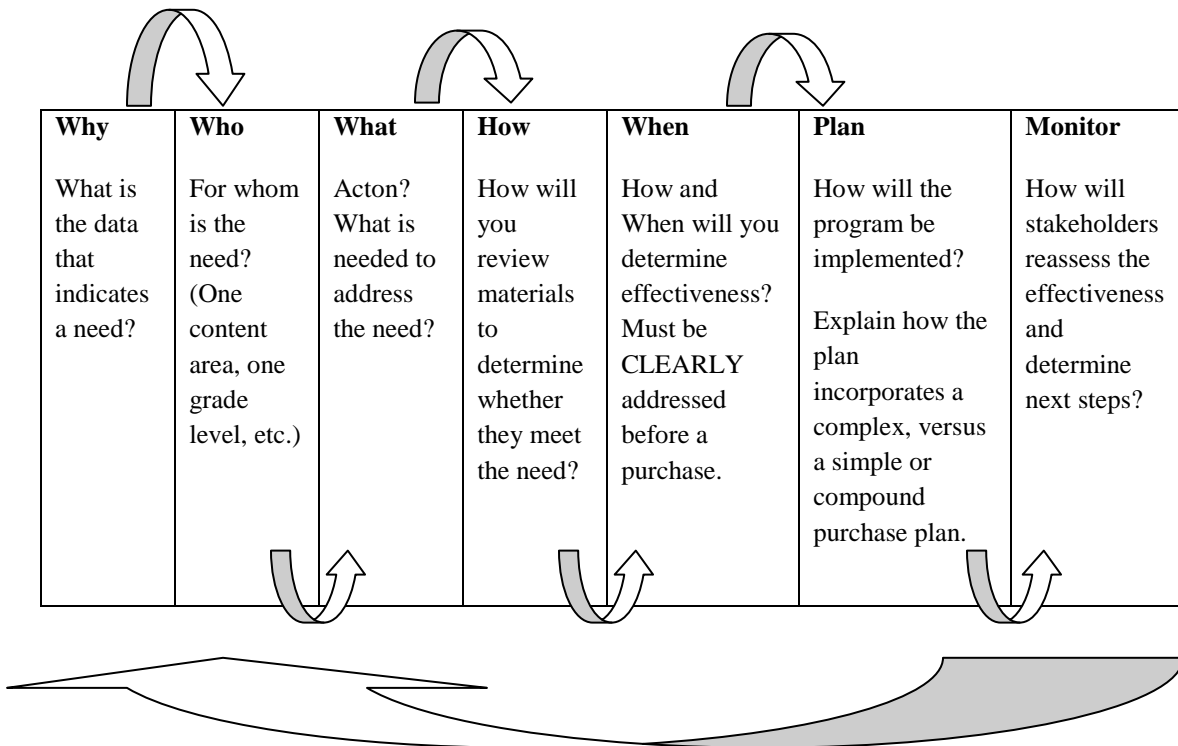


Figure 11. Resource Use Planning Model.

Schools reported typically starting out with a purchase. For example, a teacher wants a SMART Board for his/her classroom, a grade level wants student workbooks for reading comprehension, or math teachers want a new summer school curriculum. The model provided suggests that a school first starts with a need. Why is there a need? What data are being utilized to establish a need at a school? Who is this need for? A single

classroom, a grade level, the whole school? And, how will the school ensure that the proposed expenditure is the best purchase to fit that need?

The Resource Use Planning Model is currently being piloted in one district that participated in the study during the 2011-2012 school year. A key example: Data indicated as many as 40% (the why) of kindergarten and first graders (the who) were not reading at grade level. There was an additional need for English Language Learners (ELL), socioeconomically disadvantaged (SED), and students with disabilities (SWD) that were performing at less than 50% proficient on state assessments (an added who). There was a need for an intervention program for reading comprehension in elementary schools (the what). After researching and reviewing many programs with a small committee of primary literacy experts within the district, a leveled literacy intervention program was selected (the how). It was determined by the committee that they would pilot (now coined an initial implementation) with six elementary schools. Two focused on instruction with ELL students, two schools focused on SED students and two focused on students with disabilities. The next step (the when) is a step that most schools skip. Before the program was purchased and implemented, a monitoring process was established that included a two-week, four-week, and final eight-week check-in. Teachers that were going to be teaching with the leveled literacy intervention program were brought-in and they decided what student data they would bring to discuss for each of the three monitoring sessions. Finally, the overall plan (the last step) was organized. This included what Grubb (2010) and Fullan (2010) described as a complex resource plan. This included a purchase of the program, a six-session training program for the teachers

implementing the program, and the establishment of the on-going monitoring of the program.

Many times, schools see a need (the what) and purchase a program for teachers to use. They do not go through any process to ensure that the actual need is established and that a collaborative process is utilized to decide how to work on the need at the school. Teachers wait for the purchase to arrive and work independently to implement the program in their classroom.

Other times, teachers are interested in a particular training and ask permission to attend isolated one-day trainings. They are given permission to go to the training or conference but come back and implement in isolation, or are not provided the time or support to implement what is learned at the conference. Rarely are there established protocols in place for sharing of what was learned, or for the training to be a piece of a plan. It usually comprises the whole plan (providing teachers the opportunity to attend training).

Rarely are purchases and professional development intertwined into a complex implementation plan. As Grubb (2010) and Fullan (2010) emphasized, a model providing a move away from a simple purchase (the kit) or a compound purchase (the kit with professional development) toward a complex plan (the kit with the professional development and a monitoring/implementation plan) provides the most opportunities for student achievement growth.

The schools that raised their API by over 30 points both described pieces of the above model and provided the insight and inspiration for the above model to be piloted.

The Resource Use Planning Model is being implemented within one district that participated in this study and may perhaps be used for other schools and districts to provide a more effective resource decision making process.

Recommendations for Practice

One purpose of this study was to offer opportunities for schools, districts, and policy makers to have current data on how to best allocate resources in the areas that are needed the most and are the most effective. Based on the analysis and implications previously presented, I offer recommendations for practice to education practitioners, state policymakers, federal policymakers, and to university programs.

Education Practitioners

A huge responsibility exists for schools and districts to utilize data to make decisions on the adequate use of funding for the purpose of improving student achievement. Schools, faced with the challenges of budget cuts and heightened accountability must ensure that they are monitoring the use of funding to determine what works and what does not. The Resource Use Planning Model may help play a role in the planning and decision making that schools undertake.

Many effective strategies and programs were highlighted within this study and recommendations have been given to help schools utilize resources for more effective and higher student achievement growth. Ensuring that on-going professional development exists within a school plan is one such suggestion. Strategies for at-risk learners, especially before and after school intervention, have been a second suggestion. A major finding and recommendation for schools, though, is that success has not been

because of any one area of resource allocation but rather application of the funding within an implementation plan. Following the Resource Use Planning Model may guide schools through effective implementation of programs.

State Policymakers

Schools require flexible categorical programs to ensure adequate funding is available for at-risk students. While state categorical flexibility was welcomed by many, current law allows for over 40 state categorical programs to be utilized “any way a district sees fit” with funding becoming part of the general fund. Most districts report utilizing the flexibility to solve budget deficiencies (LAO, 2011). Even assuming the budget situation improves, general fund dollars can be used at the bargaining table in all union negotiations. Therefore, money cannot be guaranteed for our most at-need students and should not be part of the general fund allocation to school districts.

Instead, state categorical funds should remain restricted but under local district control. Categorical flexibility should be given to schools for specific students or programs and remain flexible for schools and districts to utilize all categorical dollars to raise student achievement.

Federal Policymakers

Federally, consistency in funding for Title 1 schools is vital. Title 1 schools must be able to maintain effective programs for socioeconomically disadvantaged students. Accountability sanctions must be reworked so that schools are not forced to eliminate or reduce effective programs. Even Title 1 schools that meet annual accountability standards

are penalized by losing at least 30% of their funding if their district (or other schools within their district) does not meet annual standards.

Federal policy makers should mirror the recommendations that came with Title 1 stimulus funding. Title 1 stimulus funding was intended to increase teacher effectiveness, utilize data for student improvement, and provide additional learning opportunities for struggling students (CDE, 2010a). Providing research-based guidelines for schools and holding them accountable for utilizing monies within those guidelines would be a more appropriate funding accountability measure for schools, enabling them to maintain effective programs and receive the funding assistance necessary to work with our most at-need students.

University Programs

The importance of effective leadership was consistent throughout this study. School principals need an opportunity to learn about building a positive school climate and culture, how to utilize data to effectively design, implement and monitor programs, in addition to understanding the complex world of educational finance. School leaders must comprehend the importance of building trust with their faculty and school communities. University programs play a large role in developing leaders. They need to ensure that graduates are prepared to deal with the complexities of today's principalship.

Recommendations for Future Research

The following three recommendations are offered for future research: First, to broaden the scope of the study to include both high schools and a larger sample size. Second, continue to follow the schools within this study. And lastly, to expand the scope of the study to include all categorical programs within a school site.

Broaden the Study

This study reported on elementary and middle schools in Southern California and thus, results cannot be generalized outside of these narrow parameters. Having the opportunity to include high schools could help analyze further differences in resource allocation and student achievement linkages that could help schools determine the effectiveness of their school programs. Although not including high schools was a limitation of the current study, this decision was purposeful because their API and AYP scores are based on the high school exit exam, and are not based on the California Standards Test, thus preventing similar correlations between elementary, middle and high schools.

Increasing the sample size of the study could also provide additional generalizability to larger groups of schools. Studying outside of the Southern California area, both throughout California and across the United States, could increase the generalizability of the study and further help schools make good decisions about categorical resource allocation.

Continue to Follow the Schools within the Study

It would be interesting to continue this study for the two years after Title 1 stimulus funding to study the sustainability of the funding. Building sustainability was one of the federal goals of stimulus funding. Would there continue to be an increase of student achievement with the effective use of Title 1 stimulus monies or will schools see a decrease in student achievement with the loss of the funding? Many principals reported during the study that all effects of stimulus resource allocation have not been recognized, especially with the focus on primary grades that have not yet been tested in the state and federal accountability system.

Expand the Scope of the Study

This study only reviewed Title 1 and Title 1 stimulus funding. Perhaps studying how all categorical funding was utilized at a school site and studying the effects of expenditures would paint a larger picture for schools about which programs and decisions regarding funding were successful.

Conclusion

Based on everything learned from this dissertation study, two conclusive ideas emerged. First, money, if spent well, leads to better achievement, especially when spent on research-supported strategies. And second, adequacy in funding must exist to provide students with the best education possible. Without adequacy, equity cannot occur.

Money Matters

This study adds to the body of research that supports the assertion that money provided to schools does matter as schools continued to increase student achievement

despite increases in class size, a loss of instructional support staff and huge budget cuts. With the added Title 1 stimulus monies, schools were able to provide extensive on-going professional development to administrators and teaching staff. They were able to provide intensive interventions for at-risk students, including both during and after the school day. Despite critics who doubt schools' ability to make wise budget decisions (Hanushek, 1996) this study demonstrated that schools spent over 90% of Title 1 and Title 1 stimulus funding on strategies that Odden and Picus' (2008) Evidence Based Model supports as effective strategies to raise student achievement. Further, over 80% of expenditures were for professional development and strategies for at-risk students. Despite the large percentage of expenditures, funding for schools participating in the study still did not come close to matching the dollars that the Evidence Based Model suggests. For example, the model suggests 10 full days of professional development plus an additional \$100.00 per student of professional development funding. For a school of 600 students, that translates to \$60,000 in professional development costs, more than 13 of the 15 Title 1 schools' stimulus budgets for 2010-2011. Regardless of not being able to fund programs based on the dollar amounts proposed by the Evidence Based Model, schools did make funding decisions based on the effective strategies mentioned within the model.

Schools utilized data to make challenging decisions about student needs and resource allocation. Despite the small sample size in this study, 17 statistically significant correlations were found, suggesting a strong link between expenditure decisions and student achievement. While schools in this study made good use of the resources

provided to them, work must continue at the local, state, and federal level to ensure schools receive adequate funding.

Adequacy—A Necessity for Equity

The premise of adequacy in funding first requires a determination of whether spending levels are adequate and then requires schools and districts to effectively manage resources so students meet proficiency targets (Odden, 2003; Picus, 2000). This study contributed to the body of research on how schools and districts effectively manage resources so students can meet proficiency goals. The adequacy of spending levels, though, needs to be maintained. While schools must maintain the responsibility ensuring that available resources are utilized productively, policy makers must focus on providing resources for an adequate education so all students can achieve proficiency in all core academic content areas.

And yet after all of this, with schools doing their part to ensure that funding is being utilized in the best ways possible, with schools receiving a two year “bump in funding” from Title 1 stimulus monies, inadequacies remain. In fact, in a report released in December, 2011, Arnie Duncan, United States Secretary of Education, reported that despite the two-year Title 1 stimulus program, more than 40% of low-income schools received LESS funding than higher income schools. So when the premise of adequacy requires providing additional monies (not equal-but additional) to low-income students to provide the extra support and resources that they need, they are receiving less (US Department of Education [USDOE], 2011).

To achieve equity, less is not more. State and federal policymakers need to do their part. State categorical programs must remain as categorical programs so that additional funding is available for the students who need it most and cannot be utilized for general fund purposes (away from the students who need it most). The federal government must continue to fund Title 1 programs in a formula grant structure, and not as competitive grants, so that some states, districts, or schools receive more and others less (more money away from students who need it most). Or else, students with the greatest need will fall even further behind. As educators, we have the ultimate responsibility to help all students achieve.

This research examined how schools utilized Title 1 and Title 1 stimulus monies and whether there was a link between expenditures and student achievement growth. Results of the study concluded that the use of Title 1 monies, including the increase in Title 1 stimulus monies, were beneficial to schools, positively contributing to the increase in student achievement. I leave educational practitioners, state policymakers, and federal policymakers with the following three overall recommendations: First, consider future categorical funding with rules similar to the Title 1 stimulus guidelines. Title 1 stimulus guidelines mandated funding utilization to increase capacity (sustainability), improve productivity (effective, efficient) and foster continuous improvement (including the monitoring of student progress). Title 1 stimulus guidelines offered schools the opportunity to have the flexibility to make decisions that best meet the needs of the students of the school. Second, consider strong district-wide guidelines mandating a resource use funding process similar to the Resource Use Planning Model as the schools

that made the largest overall student achievement growth acknowledged that such a process played a large role in student achievement success. Finally, school finance, and the funding that schools receive, is an important social justice issue and one that needs to be on the forefront of every discussion and decision that is made regarding funding to low socioeconomic schools. If indeed 40% of low socioeconomic schools receive less funding than higher socioeconomic schools, we must work to ensure adequate funding for the next generation of students.

APPENDIX A

LETTER OF CONSENT

Dear Title 1 Principals,

As a doctoral student at Loyola Marymount University, I am interested about the use of categorical dollars, how schools go about making decisions about the utilization of those dollars, and whether growth in student achievement can be linked to those decisions. To help inform my study, I would like to you complete the following questionnaire. I will be happy to share results with you, upon completion of my study.

Kati Krumpe, Director of State and Federal Projects, Torrance Unified School District and doctoral student at Loyola Marymount University.

Loyola Marymount University
Informed Consent Form
School utilization of Title 1 and Title 1 stimulus funds

I hereby authorize Kati Krumpe, Doctoral Student, to include me in the school utilization of Title 1 and Title 1 stimulus funds study. I have been asked to participate in this research project which is designed to study how schools utilize categorical funding and which consists of me filling out an on-line survey on my schools' spending. I might be contacted afterwards for additional questions and a follow-up interview. It has been explained to me that the reason for my inclusion in this project is because I am the principal of the school. I am aware that this is a confidential study and that information revealed will not be shared with my district or linked to my school.

During the study I will be asked to honestly answer questions on the survey. This will require use of data on Title 1 and Title 1 stimulus funding from the 09-10 and 10-11 school years.

I understand that there is no deception involved in this study. Furthermore, I will not be required to undergo any experience whatsoever beyond the above mentioned requirements.

If I feel uncomfortable due to my participation in this study I realize that I may speak individually to Kati Krumpe at KKrumpe@lion.lmu.edu about any questions or concerns about my participation in this study.

I understand that I may withdraw from this study at any time. I am not waiving any legal claims, rights or remedies because of my participation in this research study. I understand that I can ask the interviewer if I have any questions about this form.

In signing this consent form, I acknowledge a receipt of a copy of this form.

Agree
Disagree

APPENDIX B

E-MAIL SURVEY

Allocation of 2009-2010 and 2010-2011 Title 1 and Title 1 Stimulus Funds

Section 1: Demographics

1. What is the name of your school?
2. What level is your school?
 - Elementary
 - Middle
3. What Best describes your current kindergarten program at your school?
 - ½ day kindergarten
 - Full day kindergarten
4. What is your average class size during the 09-10 school year?
 - Below 20
 - 20-24
 - 25-28
 - 29-32
 - Over 32
5. What is your average class size during the 10-11 school year?
 - Below 20
 - 20-24
 - 25-28
 - 29-32
 - Over 32
6. How many years have you been a principal?
 - 1 year
 - 2-5 years
 - 6-10 years
 - Over 10 years
7. How many years have you been a principal at your current school?
 - 1 year
 - 2-5 years
 - 6-10 years
 - Over 10 years

Section 2 Title 1 Expenditures

- 7. What was your total allocation for Title 1 dollars in 09-10?
- 8. What was your total allocation for Title 1 Stimulus dollars in 09-10?
- 9. What was your total allocation for Title 1 dollars in 10-11?
- 10. What was your total allocation for Title 1 Stimulus dollars in 10-11?

For question 11, the same set of questions are being asked, but for different fiscal years and different resources (Title 1 and Title 1 stimulus).

	During the <u>09-10</u> school year what was the total dollar amount of <u>Title 1</u> funds expended for each of the following categories:	During the <u>09-10</u> school year what was the total dollar amount of <u>Title 1 Stimulus</u> funds expended for each of the following categories:	During the <u>10-11</u> school year what was the total dollar amount of <u>Title 1</u> funds expended for each of the following categories:	During the <u>10-11</u> school year what was the total dollar amount of <u>Title 1 Stimulus</u> funds expended for each of the following categories:
Professional Development-conference attendance of principal and/or assistant principal				
Professional development-conference attendance of certificated teachers				
Professional Development-District Training (includes substitute costs)				
Professional Development-school collaboration (includes substitute costs)				

	During the <u>09-10</u> school year what was the total dollar amount of <u>Title 1</u> funds expended for each of the following categories:	During the <u>09-10</u> school year what was the total dollar amount of <u>Title 1 Stimulus</u> funds expended for each of the following categories:	During the <u>10-11</u> school year what was the total dollar amount of <u>Title 1</u> funds expended for each of the following categories:	During the <u>10-11</u> school year what was the total dollar amount of <u>Title 1 Stimulus</u> funds expended for each of the following categories:
Professional Development-Curricular and Instructional Coaching at the school site				
Professional Development-Classified Support Staff				
Professional Development-other (explain in section 3 below)				
Intervention Instruction Programs during the school day for at risk students				
Extended Learning Time-before or after school for at risk students				
Extended Learning Time for at risk students, Summer School?				
Extended Learning Time for at risk students-Saturday School?				
Other strategies for at-risk students? (explain in section 3 below)				
Pre-school Programs?				

	During the <u>09-10</u> school year what was the total dollar amount of <u>Title 1</u> funds expended for each of the following categories:	During the <u>09-10</u> school year what was the total dollar amount of <u>Title 1 Stimulus</u> funds expended for each of the following categories:	During the <u>10-11</u> school year what was the total dollar amount of <u>Title 1</u> funds expended for each of the following categories:	During the <u>10-11</u> school year what was the total dollar amount of <u>Title 1 Stimulus</u> funds expended for each of the following categories:
New Curricular Programs? (includes software, materials, and non-core instructional programs)				
Additional Teaching Staff (Explain in section 3 below)				
Technology?				
Instructional Supplies?				
Instructional Aides?				
Counselors?				
Other Non-Teaching Support Staff (Explain in section 3 below)				
Parental Involvement?				
Other? (Explain in section 3 below)				

Section 3 Title 1 and Title 1 Stimulus Expenditure Examples

For the following topics, can you please provide two examples of how you used Title 1 and Title 1 stimulus funds (If the question does not apply to your school please type NA in the box):

	Title 1 funding use examples during the <u>09-10</u> school year	Title 1 <u>stimulus</u> funding use examples during the <u>09-10</u> school year	Title 1 funding use examples during the <u>10-11</u> school year	Title 1 <u>stimulus</u> funding use examples during the <u>10-11</u> school year
Professional Development-conference attendance of principal and/or assistant principal?				
Professional Development-conference attendance of certificated teachers?				
Professional Development-District Training (includes substitute costs)?				
Professional Development-school collaboration (includes substitute costs)				
Professional Development-Curricular and Instructional Coaching				
Professional Development-Classified Support Staff				
Professional Development-other				
Intervention Instruction Programs during the school day for at risk students				
Extended Learning Time-before or after school for at risk students				
Extended Learning Time for at risk students-Summer School?				

	Title 1 funding use examples during the <u>09-10</u> school year	Title 1 <u>stimulus</u> funding use examples during the <u>09-10</u> school year	Title 1 funding use examples during the <u>10-11</u> school year	Title 1 <u>stimulus</u> funding use examples during the <u>10-11</u> school year
Extended Learning Time for at risk students- Saturday School?				
Other strategies for at-risk students				
Pre-school Programs				
New Curricular Programs? (includes software, materials, and non-core instructional programs)				
Additional Teaching Staff				
Technology				
Instructional Supplies				
Instructional Aides				
Counselors				
Other Non-Teaching Support Staff				
Parental Involvement				
Other				

APPENDIX C

PRINCIPAL INTERVIEW

Part 1-decision-making

1. Describe the decision-making process of determining how to use Title 1 funds at your school?
2. Who was involved in the decision-making process of determining how to use Title 1 funds at your school?
3. Describe the decision-making process of determining how to use the two year Title 1 stimulus funds that were provided to your school?
4. Who was involved in the decision-making process of determining how to use Title 1 stimulus funds at your school?
5. What kinds of data were used to determine resource allocation at your school?
6. What process do you use to monitor the use of these funds?
7. What affect have the current budget cuts had on your decisions about Title 1 and Title 1 stimulus funds at your school?
8. Did the categorical flexibility given to districts in 08-09 have an affect on your decisions about Title 1 and Title 1 stimulus funds at your school?

Part 2-resource allocations

1. Describe the types of professional development that you used at your site with Title 1 and Title 1 stimulus funding.
 - Were there professional development supported by non-Title 1 funding that you feel contributed to the work within your school site?
 - PLC, school-site collaboration
 - District sponsored PD
2. Describe the types of at-risk programs that you use at your site with Title 1 and Title 1 stimulus funding.

- Were there at-risk programs that were supported by non-Title 1 funding that you feel contributed to the work within your school site?
3. Are there resource allocations that are in place at your school site based on the reallocation of school resources and not necessarily the result of additional funding at your site?
 4. What other factors occur at your school that you feel contribute to improvement in student achievement?
 5. What difference have these funds made in impacting student achievement? How do you know? In other words, if these funds were available for additional year(s), how would you defend the necessity of these funds?

APPENDIX D

EXPENDITURES BY YEAR

Table D1

Total Title 1 and Title 1 Stimulus Expenditures, by Percentage 2009-2010

School	AdPD	TchPD	DstPD	CollPD	CchPD	InvDur	ELTba	ELTss	Curr	Tech	Supp	Coun	AdTch	ParInv
ES 1	1.5	2	1	10	39	16	14.5	2.5	1	8.5	3.5	0	0	0.5
ES 2	4.5	2	6.5	3	28	31.5	19	0	0	1.5	1.5	0	2	0.5
ES 3	18.5	4.5	9.5	1.5	7	35	21	1.5	0	0	0	0	0	1.5
ES 4	3.5	2	5	3	29	35.5	15.5	0	0	2.5	3.5	0	0	0.5
ES 5	2.5	4	5.5	0	25.5	40.5	11	2	0	0	8	0	0	0.5
ES 6	7.5	0	3	1.5	38.5	29.5	4	7	5.5	0	2.5	0	0	1
ES 7	2	28	10	11	9.5	26.5	0.5	4.5	1	2.5	3.5	0	0	1
ES 8	5.5	0.5	9	0	26.5	33	16	0	0	0	5.5	0	0	1
ES 9	3	2.5	4	2.5	25	32	3	17	3.5	2.5	3.5	0	0	0.5
ES 10	2.5	3.5	4	0	22	60.5	0	0	0	0	6.5	0	0	0.5
ES 11	4	0	9.5	19.5	25.5	30.5	0.5	1	0.5	3.5	4.5	0	0	1
MS 1	2.5	3	2	3	19	45.5	12.5	0	0	0	12.5	0	0	0
MS 2	5	5	6	2	42	14.5	5	0.5	3	0.5	1	14	1	0.5
MS 3	3	2	17.5	2.5	0.5	3	52	0	3.5	6.5	8	0	0	1.5
MS 4	5	3	6	1.5	34	13.5	9.5	1.5	2.5	0.5	6	16.5	0	0.5
Avg.	4.7	4.1	6.6	4.1	24.7	29.8	12.3	2.5	1.4	1.9	4.7	2.0	0.2	0.7

Table D2

Total Title 1 and Title 1 Stimulus Expenditures, by Percentage 2010-2011

School	AdPD	TchPD	DstPD	CollPD	CchPD	InvDur	ELTba	ELT ss	Curr	Tech	Supp	Coun	Ad Tch	Par Inv
ES 1	4.5	1.5	1	5	32	23	12.5	15	3	2	0	0	0	0.5
ES 2	2	0.5	0.5	1.5	26	55.5	0	5	2	0	3	0	3	1
ES 3	4	4	4	2	3	33	17	12	2	8	10	0	0	1
ES 4	1.5	0	0.5	0	24	71.5	0	0	0.5	0	1	0	0	1
ES 5	1	0.5	1	0	19	59.5	0	8.5	0	0	8.5	0	1	1
ES 6	2.5	1.5	0	2	16.5	58.5	2	7	2.5	0	2	0	4.5	1
ES 7	4.5	1.5	2	3	23.5	32	3	19.5	1	3	6	0	0	1
Es 8	4.5	1	1.5	0	18.5	38.5	21	0	0	0	13.5	0	0	1.5
ES 9	2.5	1.5	0	0	17.5	57	0	10	4	0	4	0	2.5	1
ES 10	2.5	2	0	0.5	20	49	2	17	0	0	5	0	1	1
ES 11	2	4.5	0	7	29.5	56	0.5	0	0	0	0	0	0	0.5
MS 1	0.5	4	1.5	0.5	12.5	15	12.5	7	15	6.5	9	0	14.5	1.5
MS 2	1	0.5	9	1.5	26.5	5.5	14	9	10	0	1.5	20.5	0	1
MS 3	3	3	15	2	2	45	6	13	0	7	2	0	0	2
MS 4	4.5	2	3.5	0	29	24.5	14.5	5	0	0	10	0	6	1
Avg.	2.7	1.9	2.6	1.7	20.0	41.6	7.0	8.5	2.7	1.8	5.0	1.4	2.2	1.1

APPENDIX E

CORRELATIONS FOR EXPENDITURES

Table E1

Correlations for 2009-2010 Title 1 Expenditures

	Ad PD	Tch PD	Dst PD	Coll PD	Inv Dur	ELT ba	ELTss	Curr	Tech	Supp	Coun	AdTch	Par Inv
AYPgrowth ELA	-.29	.029	-.03	.28	-.23	.23	-.07	.07	.37	-	.10	.61*	-.13
AYPgrowth Math	.07	.43	-.07	-.07	-.39	.20	-.02	-.07	.26	.15	.26	-.10	-.03
APIgrowth	-.24	.22	-.16	.18	-.26	.18	-.11	-.10	.51	.17	.14	.18	-.17

*. Correlation is significant at the 0.05 level (2-tailed).

Table E2

Correlations for 2010-2011 Title 1 Expenditures

	Ad PD	Tch PD	Dst PD	Coll PD	Cch PD	Inv Dur	ELTba	ELT ss	Curr	Tech	Supp	Coun	Ad Tch	Par Inv
AYPgrowth10- 11 ELA	.07	-.18	.17	-.22	.39	.02	.02	-.15	-.18	.14	.28	-.05	-.19	.09
AYPgrowth10- 11 Math	.17	-.04	.32	.14	.47	-.02	-.01	.08	-.21	.28	-.08	-.18	-.19	-.24
APIgrowth10-11	.11	-.14	.24	-.17	.39	-.09	.06	-.01	-.08	.24	.18	-.03	-.18	.03

APPENDIX F
COPYRIGHT CONSENT

Kati Krumpe
Loyola Marymount University
Los Angeles, CA

John Gray
School Services of California

Dear Mr. Grey,

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I would like your permission to reprint in my dissertation the two graphs that were provided in the training materials when I attended the Governor's Budget Training 2011.

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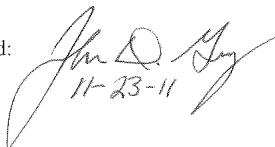
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