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RELATIONSHIP BETWEEN TITLE I FUNDING AND STANDARDIZED TEST SCORES OF TITLE I AND NON-TITLE I MIDDLE SCHOOLS IN SOUTHWEST OKLAHOMA

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THE RELATIONSHIP BETWEEN TITLE I FUNDING AND STANDARDIZED TEST SCORES OF TITLE I AND NON-TITLE I MIDDLE SCHOOLS IN SOUTHWEST OKLAHOMA

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DEDICATION

Trust in the LORD with all your heart and lean not on your own understanding; in all your ways acknowledge Him, and He will make your paths straight.

Proverbs 3:5-6

I would like to dedicate this dissertation to my mother and father, Billie Jean and Fred Thomas, who have encouraged me throughout my life. You instilled lifelong moral values in me, and I hope I always make you proud. I likewise dedicate this to my brother, Paul Clark, whom I know always has my back. I also dedicate this, to my late dear friend, Sheila Straehla. You were my friend, mentor, and role model. I wish we would have had more time and laughs together.

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Abstract

The purpose of this qualitative analysis utilizing a hierarchical multiple regression analysis and a one-way analysis of covariance (ANCOVA) was to investigate whether the allocation of Title I monies affect the academic achievement of students attending Title I schools in Southwest Oklahoma. This investigation analyzed standardized test scores of Title I and non-Title I sixth through eighth graders in the areas of reading and math from 2009-2012. Data were mined from existing school financial and testing archives. Four questions framed this study: What are the trends and relationship between Title I expenditures and middle school reading and math achievement, controlling for overall expenditures, gender, special education, and socioeconomic status, and are there differences in reading and math achievement between students in Title I schools and non-Title schools, controlling for overall expenditures, gender, special education, and socioeconomic status. The results in a partial correlation indicated no significant association between expenditures and reading and math achievement. The further hierarchical analysis found no effect on Title I expenditures when controlling for overall expenditures, gender, special education, and socioeconomic status. The results of the ANCOVA analysis comparing Title I and non-Title I schools were similar and revealed no significant difference in math and reading achievement score between Title I and non-Title I schools. These findings conclude Title I funding does allow for the equalization of Title I schools compared to Non-Title I schools in the district.

Chapter 1

INTRODUCTION

Introduction to the Study

Since 1965, with the passage of Title I, the Improving Academic Achievement of the Disadvantaged Act, the federal government began allocating additional funding to close achievement gaps between students of disadvantaged backgrounds and high socioeconomic status (Jennings, 2001). Students qualifying under Title I include low achieving students in poverty schools, those with limited English proficiency, children of migrant workers, disabled children, Native American students, delinquent and neglected students, and children and their parents who need family-literary services (Wong & Nicotera, 2007). The objective of Title I was to ensure all students in the United States would receive equal opportunities for success through the implementation of additional funding in low-income schools and improve achievement in the disadvantaged population.

Title I funding has been the single largest federal investment in public schools totaling 12.7 billion, or one-third of federal K-12 spending in 2006 (US Department of Education, 2011). A Title I school is a school in which at least 40% of its students qualify for free or reduced lunch based on a parent's income ("Improving Basic Programs Operated by Local Educational Agencies: Title I-Part A", 2010). Title I schools implement programs focusing on facilitating students to meet state testing standards in core testing subjects, such as reading and mathematics. In 2006-2007 approximately 17 million students were assisted in Title I federally funded schools. The grade level of those students consisted of 60 percent kindergarten through fifth grade

students; 21 percent were middle school sixth through eighth grade, and 16 percent were high school grades nine through twelve (U.S. Department of Education, 2011a).

As school funding comes under more scrutiny, more financial accountability is required of Title I schools, who receive billions of dollars in federal and state subsidizing; research on the effectiveness of such programs becomes imperative. Research studies conducted by Scott (2005) and Palk (2011) both in Tennessee and Bland-Washington (2009) in Georgia have also investigated math and reading scores of fourth grade students comparing Title I and non-Title I schools. More research is needed in the area of Title I funding and student achievement, therefore this study will contribute to limited body of knowledge.

Statement of the Problem

Title I schools are currently receiving thousands of dollars in monies budgeted to improve student performance and prepare students to be productive members of a global society. In a time in our economy where funds are especially scarce, it is important to question whether investments are having a positive impact on student academic achievements on standardized tests. Title I budgets allocated through the federal government have increased in the past years in an attempt to close the achievement gap between Title I and non-Title I schools (United States Department of Education, 2009). However, currently the federal government has no regulations established to monitor whether student achievement has been affected by Title I, but only regulations to monitor the programs themselves. Therefore, more research studies are necessary in the area of Title I expenditures and student academic success.

The state of Oklahoma uses the Oklahoma School Testing Program (OSTP) consisting of three types of assessments for Grades 3-8, required by federal accountability standards stemming from the No Child Left Behind Act of 2001 (Oklahoma State Department of Education, 2011a). These three assessments include the Oklahoma Core Curriculum Tests (OCCT), which all students in Oklahoma must take unless they are on an Individualized Educational Plan (IEP). If a special needs student qualifies and meets specific requirements according to their IEP then they are required to take the Oklahoma Modified Alternate Assessment Program (OMAAP) or Oklahoma Alternate Assessment Program (OAAP) utilized by those identified with severe cognitive abilities. These three assessments comprise of Reading and Mathematics in grades 3-8, along with Science, Social Studies, and Writing in Grade 5 and 8. While the OMAAP modified tests only include Reading and Math, and Science in Grade 5 and 8 (Oklahoma State Department of Education, 2011b). According to NCLB regulations, students in Oklahoma must meet adequate yearly progress through these assessments. Schools that fail to meet yearly progress face undesirable public consequences ranging from negative reputations, loss of student enrollment, and financial support (Scott, 2005). Therefore, school efficacy is even more crucial now for both Title I and non-Title I schools. Currently, the state of Oklahoma has 62.8 percent of its schools receiving Title I funding1 (Oklahoma State Department of Education, 2011a).

Purpose of the Study

This study investigated whether the allocation of Title I monies affect the academic achievement of students attending Title I schools in Southwest Oklahoma. This quantitative investigation analyzed the overall OCCT, standardized test scores of

Title I and non-Title I sixth through eighth graders in the areas of reading and math in a Southwest Oklahoma school district from 2009-2012. Reading and math OCCT scores were analyzed to ascertain if Title I schools outperform schools with similar demographics not receiving Title I funding. As a method to compare student achievement within the extraneous groups of gender, special education, and economically disadvantaged individual student test scores were compared between Title I and a non-Title I schools. The results of this study will assist school administration, and Title I and non-Title I stakeholders, evaluate their educational expenditures, and improve student academic achievement.

Research Questions

This study investigated the relationship between Title I monies and student achievement ascertained by each middle school's OCCT scores in the district, specifically to determine if there was a significant difference between Title I and non-Title I schools. The following questions correlate to sixth through eighth grade middle school students in the content areas of reading and math. A quantitative post ex facto study will guide the following research questions:

1. What are trends in the relationship between Title I expenditures and middle school reading achievement, controlling for overall expenditures, gender, special education, and socioeconomic status?
2. What are trends in the relationship between Title I expenditures and middle school mathematics achievement, controlling for overall expenditures, gender, special education, and socioeconomic status?

3. Are there differences in reading achievement between students in Title I schools and Non-Title I schools, controlling for overall expenditures, gender, special education, and socioeconomic status?
4. Are there differences in mathematics achievement between students in Title I schools and Non-Title I schools, controlling for overall expenditures, gender, special education, and socioeconomic status?

Significance of Study

This study is necessary for several reasons. No Child Left Behind mandates the consideration of Title I expenditures. Therefore this study will reveal which allocations were most beneficial to student achievement and will benefit Title I districts during financial budget crises and limited economic years. Currently, as the country faces more financial struggles, researching trends in expenditures and student achievement could provide insight into how particular subgroups including gender and socioeconomically disadvantaged students academically perform in various school settings. According to the United States Department of Education, "the scientific evidence on the effectiveness on education programs is weak, inconsistent, or nonexistent. Evidence is needed on the effectiveness of specific interventions to inform Title I program improvement" (United States Department of Education, 2007a, p.2). Therefore, this study will provide information on the effectiveness of Title I programs in student achievement to educational district leaders and teachers associated with Title I schools to assess their spending. Any further beneficial information concerning Title I funding will be acknowledged and distributed to assist district leaders.

Furthermore, the findings of this study will provide a catalyst for further studies in Title I funding and academic achievement. The study added to the limited Title I body of knowledge to assist professional educators, legislative representatives, school systems and other concerned stakeholders to make conversant assessments concerning educational performance on state accountability exams. According to Shoaf, Shoaf, & Leck (2006), there is not a large body of knowledge that specifically looks at developing new programs to assist students living in poverty. Therefore, the conclusions of the analysis could be employed to modify expenditures.

Study Methods and Design

A quantitative design was applicable to this type of research because it examined numerical data results. Therefore, this study was a quantitative, correlational investigation employing archived ex post facto data. Information gathered from OCCT test results required by the State of Oklahoma Department of Education was utilized. District testing results derived over the years 2009 -2012 from a southwest Oklahoma school district was harvested from the district's Office of Accountability. For the purpose of this summative study, reading and math scores were analyzed to ascertain if Title I middle schools outperformed schools with similar demographics who did not receive Title I funding. A stratified random sampling technique was applied to the sample data, then using SPSS statistical analysis software version 19. A hierarchical regression analysis was used on questions 1 and 2 in the study, and an ANCOVA analysis was used to answer questions 3 and 4.

Definition of Terms

A petite exposition of definitions is offered to clarify terminology occur throughout the study, and are distinctive to Title I legislation.

1. Accountability Tests: a requirement resulting from NCLB for each state, which include traditional standardized achievement tests and customized standards-based test (Popham, 2008).

2. Economically Disadvantaged: "An economically disadvantaged student is a student who is a member of a household that meets the income eligibility guidelines for free or reduced-price meals" (Economically Disadvantaged Status, 2009, p. 1). In 2011, a family of three's household income must be below $2,008.00 monthly to qualify for free lunch (U.S. Department of Agriculture, 2011).

3. Full Academic Year *(FAY):* Students who are enrolled continuously for a full academic year and are included in the AYP calculations for each school district. FAY in Oklahoma is prescribed as a student who has been continuously enrolled beginning within the first ten days of the academic school year and not had a lapse of ten or more consecutive days (Barresi, 2011, p 1).

Limitations of the Study

This study had notable limitations that are listed:

1. The research will be limited to a diverse southwest Oklahoma school district; therefore, the results may not be generalized to other geographical regions, charter, or private schools.

2. This study will be limited to only sixth through eighth grade student test scores within a particular southwest school district, and comprised of only math

and reading scores, making sampling purposeful and grouped; hence the study will be deficient in the validity of a controlled randomly sampled population (Lomax, 2005).

3. The efficiency and consistency of between the district Title I schools could be another factor needing to be recognized and examined. Title I schools in the district utilize various school specific programs distinctive to their needs, to meet Title I regulations and standards.

4. The focus of Title I will be limited to the analysis of study to only two subject areas: math and reading.

Assumptions

No Child Left Behind generated a need for higher learning standards in the United States (Voltz, Sims, and Nelson, 2010). Therefore, the accountability component resulting from NCLB should warrant and support an aligned curriculum throughout the district, state, and nation.

The following were considered assumptions of the study:

1. The individual campuses selected are truthful in the compilation of their test scores and were not influenced by outside entities.
2. All Title I funds were spent according to federal mandated guidelines.
3. The data received from the school district was accurate and comprehensive.
4. All data was assumed to be finalized, and the security and confidentiality was maintained through the state assessment program.
5. All financial records, reports, and data were accurate from school district.

Schools across the country are spending more in an effort to raise student academic achievement. In today's stringent economic era it is becoming necessary to scrutinize the billions of financial subsidizing designed for underprivileged students, and evaluate if it is enough to assist them in achieving proficiencies on standardized tests. According to the United State Department of Education (2011), Title I is the single largest federal investment in our countries public schools, investing approximately 12.7 billion in 2006. Currently, there is a limited body of research documenting student performance in reading and mathematics comparing Title I and non-Title I campuses. The benefits of this research are intended to augment existing knowledge and assist school districts close the achievement gap regarding Title I expenditures for economically disadvantaged students.

Chapter One provided an introduction to the study, statement of the problem, purpose of the study, research questions, significance of the study, study methods, definitions, limitations, and basic assumptions of the study. The remainder of this dissertation will consist of four chapters and appendices. Chapter Two will comprise of a literature review on the history of Title I, NCLB, testing and accountability. It will also include current and related research of Title I student equality endeavors. Chapter Three will describe the quantitative research methodology used in this study. Chapter Four will contain the analysis findings for the data, including tables and figures. In conclusion, chapter five will contain a discussion of the analysis and recommendations for further research studies, especially those pertaining to students who are listed as economically disadvantaged.

CHAPTER 2

REVIEW OF THE LITERATURE

Introduction

This was primarily a post-ex facto study investigating the framework of Title I spending allocations relating to the necessitation for increased academic achievement for all students. The premise of this study was to determine trends in the relationship between Title I expenditures and student achievement in both Title I and Non-Title I schools. As well as the composition of the student body and the subgroups which make up these schools. This chapter reviewed literature relevant to Title I, as well as elucidating current trends in how federal guidelines are influencing Title I and student achievement today.

As with all programs going back to the beginning and early foundations are a natural progression. It is important to know the background fundamentals of the past before we can analyze the evolution of Title I improvements for the future. In today's economy funds are being cut and budgets appear to be shrinking. Title I now more than ever is a fundamental part of our educational system, especially in disadvantaged areas and those with high poverty. The purpose of this study was not to duplicate studies done by researchers around the country which have compared the academic achievement of Title I students and non-Title I students (Bland-Washington, 2009; Scott, 2005, and Heier, 2011) but instead to look at trends between the two including the history and financial aspect, thus adding to the limited body of research.

History of Title I

The educational history leading to the evolution of today's legislation and Title I accountability can be traced all the way back to Horace Mann, who is commonly known as the Father of American Education, with his foundation of the common school in the United States (Messerli, 1972). Mann's vision was to establish a public school accessible for all students regardless of color, gender, background, or class (Mason-King, 2001). Mann's viewpoints of educational flexibility regarding common schools was to allow equal accessibility to education across various social boundaries and shrink the number of privately funded schools thus decreasing the disparity between social castes of the rich and poor (Spring, 2008).

This quest for equitable accessibility to a quality education continues even today (Chakraborty & Poggio, 2008). Historically various legislative initiatives aimed at educational reform, particularly regarding closing the achievement gap, still endures. One of the first historic landmark cases was the 1954 court case *of Brown v. Board of Education* prohibiting the separate but equal clause of *Plessy v. Ferguson* (Anderson & Byrne, 2004). Such cases were attempts to create equitable educational opportunities for all students regardless of ethnicity, and led to more integration and civil rights in our public school system. *Brown vs. the Board of Education* and its endeavor to create nondiscriminatory and equal educational opportunities for all students despite race or socioeconomic status laid the foundation of Title I (Alexander & Alexander, 1992).

A study in response to the Civil Rights Act of 1964 was commissioned by the National Center for Education Statistics. This study, referred to as the Coleman Report in the sixties, was one of the first investigations on educational inputs which included

expenditures per student, educational supplies, and teacher characteristics, and educational outputs determined by student achievement on standardized tests (Gamoran, & Long, 2006). The results of this study found attributes of schools and levels of funding had no significant impact on student achievement, and soon came under the scrutiny of other studies looking to probe deeper into its controversial findings (Biddle & Berliner, 2002). Coleman's research in later years was criticized by others who argued his statistical information and findings were not correct, were open to interpretation, and led to what researches refer to as the achievement gap (Biddle and Berliner, 2002).

During the mid-1960s, an influx of federal programs and funding emerged to meet the needs of a changing society. It was the formation of the Economic Opportunity Act of 1964 providing social programs designed to assist the health and welfare of those in poverty that paved the way for poor socioeconomic families (Koski & Hahnel, 2008). The formation of the Head Start program began, in an effort to prepare disadvantaged preschool children to enter school (Blohm, 2004). Next, in 1965 the Elementary and Secondary Act (ESEA) was founded, as one of the first Acts to financially alter the governments relationship to schools. Large funds were set aside and Title I flourished hastily from $746.9 million in 1965 to its zenith of $3,005 billion in 1980 according to (Thompson & Wood 2009).

In the early 1980s, Title I was restructured and became known as Chapter 1, and maintained most of the distinct requirements of the Title I as we know it today; however implementation was then given to the state education authorities thus taking away and reducing federal control (Pereira, 2009). It was after the "Nation at Risk"

report by the Commission of Excellence that the Hawkins-Stafford Amendments shifted financial accountability to more educational responsibility in funding (Koski & Hahnel, 2008). Three stipulations were added including school wide projects, parent involvement activities and evaluating its effectiveness, and better coordination with services like special education and students with limited English proficiency (Owens-West, 2005). In 1994, Chapter 1 again became Title I with Improving America's School Act (IASA) (Wong & Meyer, 1998). Under that premise, assessment standards approved by individual states would apply to Title I students and the need for more accountability in financial spending began.

Accountability

In 2001, the No Child Left Behind Act (NCLB) changed the model of the federal education paradigm by requiring all states to acquire and employ a system of accountability as a stipulation of obtaining Title I federal funds (U.S. Department of Education, 2002). One of the main premises for Title I sought to close the achievement gap between low achievers and those from disadvantaged backgrounds (Konstantopoulos, 2009). While NCLB has not been flawless and throughout the literature received a lot of criticism, NCLB has required all schools in a Title I district to be assessed and confront consequences based on whether or not disadvantaged students make advancements toward academic standards. This accountability not only applied to Title I schools, but all schools to even those at that high achieving facilities, which then had to move to levels of growth rather than fixed levels of performance for all students across the United States (Kress, Zechmann, & Schmitten, 2011).

A new standard of accountability using the term Adequate Yearly Progress (AYP) was established as an accountability instrument measuring how much a student learned in one year. Failure to meet AYP would result in a school being placed on a list of schools needing improvement, as expressed by each state's department of education. Parents of students in that school would receive written notification of the schools needs improvement status, and would have the right to transfer their student to another school making AYP (U.S. Department of Education, 2002). Many of these schools on the school improvement list are identified as Title I schools.

The United States Department of Education (2011) stated there are three key principles derived from NCLB with direct ties to Title I, including stronger accountability for results, greater flexibility in federal funds for states, school districts, and schools, and more emphasis on research based instructional methods. These principles along with Barack Obama's 2010, similar decree calling for equitable educational standards in the Race to the Top initiative disregards socioeconomic status claims, "Every child in America deserves a world-class education" (USDOE 2010, p i3). Research studies indicate gaps in schools' and students' achievement continues to exist, especially in the nation's disadvantaged population. Therefore, more government educational transformations of accountability are being legislated to close gaps in schools in throughout the United States.

Taxpayers also want increased accountability in their schools. Parents want to know their students are in a quality school, and according to regulations if they are not receiving a quality education, under Title I funding, they have a choice to move their students to charter schools (Hinojosa, 2009). "Charter schools are not included in

Education's Title I formula calculations, but are guaranteed funding on an equal basis with other school districts" (Title I, 2002, p. 19). This accountability allows charter schools to gain from federal allocations, while allowing parents more input on education.

Standardized Testing

Currently, over 40 states have started raising their educational standards due to reform efforts by the National Governors Association in collaboration with Council of State School Officers with a new accountability system known as Common Core Standards (CCSS). "These standards define the knowledge and skills students should have within their K-12 education careers so that they will graduate high school able to succeed in entry-level, credit-bearing academic college courses and in workforce training program" (Common Core State Standard, n.d., ¶4). With current research and program allocations focusing on improving school success it would be expected that academic achievement in Title I schools would also be improving.

The upcoming Common Core Standards and the current AYP measure of student achievement on statewide assessments, aim at graduating students who are productive and competitive citizens (Heil, 2012). Currently, local school districts must make AYP towards the objective of all students meeting the standards set up by the state. This goal applies to both Title I and non-Title I schools, who are expected to meet or exceed AYP goals by educating each student in such a way to make them successful on standardize tests.

Each school must also demonstrate progress from previous years. Districts are required to meet minimum levels of improvement based on preset proficiency goals,

where a majority of the student population is required to take the test and pass. The student population must have a certain percentage of students in every subgroup. Subgroups categorized by the federal government are established by certain characteristics such as ethnicity, economic status, or disability (Koch, 2013). Title I schools commonly contain more subgroups than those from more prosperous schools (U.S Department of Education, 2003).

In order to meet the ongoing demands to meet federal mandated testing regulations, NCLB researchers have investigated the pressures of standardized testing and the issues of student achievement. One common concern studies found was an over loaded curriculum and crammed instructional times (Scott, 2011). Large amounts of time investments are now being focused exclusively on math and reading, the two universal subjects of federal and state accountability. An in-depth investigation by the Center on Educational Policy (CEP) concluded over the past five years researched 349 districts consisting of both Title I and non-Title I schools. The results found schools increased their time and expenditures for tested subjects, and reduced funds from other non-tested subjects (McMurrer, 2007). The study cites in most school districts it is up to individual schools as to how much time and resources are spent on various subjects. Currently, with so much pressure for schools to reach student achievement goals, it is understandable other non-tested subjects are being overlooked (McMurrer, 2007).

Socioeconomic Status and Student Achievement

There are various assertions regarding student achievement and whether it can be tied to schools. According to Wenglinsky (1997) many scholars claim student inconsistencies are a result of student individual variances, in contrast to differences in

affluent versus poverty schools, therefore schools make little difference in student achievement, is his argument. According to Wenglinsky (1998), research suggests it is the social background of students that are the main contributing factors of student academic success, not how much money is poured into the school. However, what the author does not address or can say is, how much further behind poverty students would be if, additional funds and programs from Title I were not implemented.

Lee and Burkam's (2002) research *Inequality at the Starting Gate* contrasts that argument, with the results of their study finding students from low income socioeconomic levels began their education in consistently lower quality schools than their economically advantaged peers judged by the school's higher academic achievements. The more affluent schools had more school resources, higher qualified teachers with more positive attitudes, and better neighborhood conditions.

Fargas and Hall conducted a study on preschool students and found students from poverty were unequal to wealthier socioeconomic peers (2002). Research literature on student comparisons of children of poverty claim limited vocabulary experiences were detrimental to their early educational development. Most children from poverty have limited exposure to printed books and adult conversations, which hindered them. In addition, a majority exhibited immaturity and lack of regard to authority, which would not allow them to focus in the classroom, thus these students, entered school with an achievement gap (Fargas & Hall, 2002).

Achievement Gap

The Coleman Report was an educational research study that investigated student achievement on national assessment tests over a 12-year time span and became the

center of much controversy (Coleman, 1990). The Coleman Report examined data from 600,000 students whom he grouped into categories by race, and 60,000 teachers from approximately 4,000 schools around the United States. He found over time student scores did not increase and remained dormant. According to McCarger (2008) "The Coleman report correlated student achievement with socio-economic factors and concluded when student backgrounds were taken into account, school characteristics, such as per pupil expenditures, did not seem to influence outcomes (p. 17). Although many researchers question his statistical data and challenge some of his claims, many of the findings hold true today, in regards to low income schools having high teacher turnover rate.

Murnane (2007) studied teachers working in high poverty schools and found they had higher turnover rates and felt the demands of NCLB pressure testing practices more so than educators from affluent schools do. The Title I schools in this study, were found to have students exposed to less consistent teaching practices from inexperienced teachers as well as a high rate of administration leadership fluctuations, who transferred out frequently. Such exhausted and inconsistent leadership from administration and teachers further increases the achievement gap between low-income schools and more affluent ones schools (Bialo & Sivin, 1992). Studies find schools with affluent students have fewer fluctuations in staff and administrative changes and were more successful than Title I (Bruce, 2013).

Funding Controversies

Differences in opinions regarding the achievement gap and funding have resulted in conflicts on all government levels. One justification for this continued

dispute is the wide inconsistency in financing from school district to school district across the nation. Traditionally, research has shown students who perform the highest on academic tests tend to have the highest dollar amount per student expenditure (Rosborg, McGee, & Burgett, 2003), yet financially leveling out the economic field in education is complicated. The history of financial inequity issues has continued throughout the years and will continue to plague policymakers and school administration (Grubb, 2009). Odden's (2007) research considers a paradigm shift in school finance from equity to adequacy. Adequacy takes into account the relationship between school district expenditures and student achievement, resulting in two central viewpoints: an additional resource for education does not influence student academic achievement and the drive to a standards-based curriculum (Odden 2007). The organizers of NCLB did not consider adequacy when they implemented the policy because NCLB requires raising student academic achievement, yet originally it did not address the funding of such endeavors (Wood, 2006).

Educational inputs referring to school resources compared to outputs such as student achievement has been part of educational funding controversies for years. According to Milanowski, Kimball, and Odden (2005) this is defined as, "The level of educational productivity, which like other types of productivity, depends on how well inputs are turned into outputs by the behavior or processes of individual and organization" (p. 137). Hanushek's (1994) research on educational inputs and outputs was the catalyst of many debates over the student achievement gap. Hanushek did not believe increasing educational funds could increase student achievement and bridge that gap (Hanushek & Lindseth, 2009). In Hanushek's findings of more than 187 studies

using educational data to assess funding issues and the achievement of students from poverty, he concluded increased instructional expenditures for students is not related to student performance. He argued that increases in the cost to additional funding would eventually surpass increases in student achievement (1996).

According to the literature, Hanushek is not alone in his argument that increased funding is not related to student achievement. Stiefel, Schwartz, Armor, and Kim also compared school resource variables and found no relationship (2005). Research by Bibb in the area of school district expenditures, also found no significant relationship to American College Testing (ACT) writing scores for high school students in the state of Tennessee (2009).

Greenwald et al (1996) criticized Hanushek's argument and contended indeed increased spending in schools with high populations of poverty students did show increases in student achievement, especially when funds were spent on global resource variables particularly increased per-pupil expenditures, as well as resources to fund smaller class sizes (Hedges, Laine, & Greenwald, 1994).

The concerns of student standardized testing and accountability regarding both Title I and non-Title I schools continues to lead controversial concerns on national, state, and local levels (McMurrer, 2007). McMurrer found, schools are investing more time and money in tested subjects, at the expense of other subjects in the curriculum (2007; Grubb 2009). As educational budgets come under more strain and accountability, this concern will continue to plague all educational stakeholders. Studies on public school finance structures have yet to successfully confront the concept of equity and efficiency (Knoeppel, Verstegen, & Rinehart, 2007; Grubb, 2009, Moore,

2012;). Although there have been studies to address this issue, conflicting research and the limited body of literature regarding student achievement and educational resources continues to be disputed (Drews, 2007; Stiefel et al, 2005;, Odden & Piccus, 2004; Grubb, 2009). Many researchers credit this discrepancy on the variety of different levels of analysis and the variables considered within each study (Archibald, 2006). Consequently, the literature remains disproportionate and insufficient to conclude any definitive deductions regarding Title I expenditures and student achievement (Archibald, 2006; Knoeppel, Verstegen, & Rinehart, 2007; Kohl, 2013).

Although Title I does specifically provide financial support for supplementary educational services in math and reading, research shows many states and districts replace local funding with Title I funds resulting in limited funding increases in already impoverished schools (Leuven, et al 2007). For example, in a study by Roza, Miller, and Hill (2005) discovered the highest-poverty schools in four out of five districts, received less funds than their lowest-poverty schools. Until the American Recovery and Reinvestment Act of 2009 (AARA) data on school site expenditures were not commonly accessible based on school accounting systems, however since the implementation of AARA all schools receiving Title I funds, are now required to list their per-pupil education expenditures to the U.S. Department of Education. Still research studies continue to show various discrepancies in regards to what constitutes Title I educational resources (Granger, 2009).

Another controversy related to Title I funding, is many schools have become dependent on Title I funds. These funds often become part of the general operating budget, which pay for educational assistants and counselors. If the Title I funding was

not there then it is possible these schools may not have been able to afford these important members of the staff. Title I funds are frequently spent on personnel and programs which do not immediately influence students from poverty (Farkas & Hall, 2000). Granted, these programs may be beneficial, however assessing the effectiveness of such expenditures is difficult. For example, funds may be used for after-school, pull-out programs, or tutoring, designed to increase academic achievement, yet is difficult to assess which service was responsible for any academic gains. One student may have participated have in a combination of the services offered or none at all. Therefore, it is an arduous task to discern and conclude which program was successful, without exhaustive investigations (Lovell, 2006). School wide Title I funds are flexible, although the areas they are required to be assigned to are consistent.

Schools and school districts can be very flexible in their spending and labeling of such funds. Title I district funding research is still underrepresented in literature studies (Roza et al 2007). Areas of Title I funding can include flexible categories of spending in the areas higher order reasoning activities, parental involvement activities, and collaborative planning among teachers (Taylor & Teddlie, 1999).

Effective Title I Schools

Extant research shows leadership from administration is a common trait successful schools share, especially in Title I schools, where students from diverse backgrounds may not have strong role models at home can perceive positive role models (Palk, 2011). Strong administrative leadership is not only needed for poverty students but is also necessary for the school staff. Effective Title I schools with strong leadership allows inexperienced teachers to have mentors, encouragement, and

professional development to meet the needs of their students from poverty. They have the financial funding to enrich the curriculum with researched based instructional strategies that the Title I program promotes (Pechman & Fiester, 1996).

Strong ties to the community is another factor literature shows successful Title I schools utilize. In many studies, Title I schools employ school wide teams to evaluate the needs of the surrounding community then use that information to plan community and parent activities such as technology nights, ESL workshops, and practical life skills nights, to create a partnership atmosphere (Pechman & Fiester, 1996). Many research studies find students from poverty have parents from poverty who have had bad experiences with the school, and have a negative association with education before they ever enter a building. Therefore as a requirement of Title I, schools have many requirements related to parental involvement and Title I, as listed in Title I, Part A programs (Title I, 2002).

Parent Involvement and Student Achievement

According to the literature parental involvement is one the most important aspects of Title I yet, it also one the most unutilized. Most Title I schools are required to put aside funding for some sort of parent resource center, which according to Taylor and Teddlie (1999), go unused along with weak participation on family nights. The authors offer a suggestion to Title I school calling for schools to "involve parents as partners in their child's education rather than as visitors or volunteers in schools" (p 319). Studies show a common trait in Non-Title I school is more active and parental involvement, hence why Title I funds are required to be appropriated specifically for this use (Piekarski-Loughlin, 2008).

Schoolwide and Targeted Assistance Programs for Students and Schools

In an effort to increase student achievement in Title I schools, federal grants along with NCLB began categorical funding which allows schools the option of implementing a school wide system Title I program or targeting their assistance. Targeting assistance to students based on their overall low-income level at the school if it is 40% or higher usually resulting from Title I criteria such as free and reduced lunch data (Robey, 2011). An important distinction between the two Title I programs is school wide is a comprehensive program where all students in a school are served and many researchers feel this is more effective. This allows more flexibility and the ability to reach more students (Gilbert, 2000). On the other hand, others argue the effectiveness has been diminished by the flexibility factor and those who show the most need are not provided enough support. Pull out programs, based on research studies has not always been effective. Students may feel stigmatized and singled out by their peers. However according to Title I regulations, extra assistance may be given to students inside the classroom to prevent such instances (LeTendre, 1997). Regardless of the controversy, both programs are designed to assist disadvantaged students and to reach acceptable levels of state achievement tests using researched based methods of instruction (Hopper, 2008).

Student Beneficiaries of Title I

When reviewing literature related to Title I funding and student achievement, it is important to investigate the beneficiaries of Title I. Stein (2001) used an analytical lens of interpretative policy analysis to examine the means in which school culture and personnel are influenced by students receiving policy-funded assistances. A theoretical

framework of social constructivism was utilized to point out the unconscious individuals such as educators and policy makers who interpret and internalize bias and stereotypes through their perceived social phenomena. For example, according to Stein (2001) scholarship shows labeling certain social groupings by race and religion can frame and influence certain stereotypes and affect policies of student populations. Students in Title I schools can become labeled in policy generated language such as EDY (educationally disadvantaged youth) or LEP (limited English Proficient) and then become attached to money and programs attached to their school-based identities. Teachers who unconsciously create these school cultures may contribute to perceived negative deficiencies in students without consciously realizing it.

McDermott (1996) contended schools have funding incentives to find students; therefore, often labels acquire students rather than students acquiring the label. Various arguments throughout Title I literature raise concerns about how these labels can become destructive to members in that target population. Fogel and Nelson, (1983) state labels can be useful and required for certain programs to be funded and incorporated into a school and is to some extent unavoidable, yet such a practice can have negative ramifications.

Since the inception of Title I reviews from literature often characterize Title I beneficiaries as poor and minority youth (Chambers et al, 1993; Rotberg and James, 1993) and interpreted Title I as a minority program serving particular ethnic groups (Stringfield, 1991). This historical sequence of events has generated vocabulary associated with shortcomings and inadequacies. It wasn't until the reauthorization of Title I in 1994 which shifted identification of Title I eligibility from individual students

and dependence on test scores to free and reduced lunch eligibility looking more at overall high-poverty schools.

Stein (2001) incorporated ethnographic research, along with interviews and observations at nine urban elementary schools to serve as guide in her examination of local policy interpretation to investigate both language and routine behaviors of school-based employees. Several conceptualizations were revealed in her study, illuminated school personnel's micro-theories about student characteristics which categorized them in a Title I placement, and next comparing Title-I eligible students to a norm comparison groups consisting of non-Title I students in the school. She found some employees opposed labels and categorization practices supported by policy mechanisms, while other stretch such labels well beyond technical criteria for policy eligibility to include students' parents to be deficient as well as their family and community lifestyle.

Title I policy eligibility was found to be cast onto students' identities through both formal and informal mechanisms both in printout sheets labeling students, that went from to being stored in desks to being taped on the wall with each student's name classification marked. Interviewed personnel revealed forms of bias and stereotypes such designations gave students. The association with family poverty was a strong theme. One principal went on to say, "there really isn't a typical Title I student, but I know what would come to mind….probably a child in the lower quartile who is living in, you know, with a grand….a child living in poverty"(Stein 2001, p. 137). This same principal admitted her association comparing the Title I student to middle-class norms and often a troubled home life.

Stein's (2001) found that most of the school personnel had preconceived notions about the students and their families. A common theme in the research found Title I does not address poverty or family in any meaningful way, therefore it is neither poverty nor a family policy. Yet, most school personnel make such associations revealing a limited sense of effectiveness when dealing with students' assumed deficiencies, and view themselves as providing services that do not address the root cause of students deficiencies and are beyond their control (Chaprnka, 2012). This concurs with other current bodies of knowledge, which call for higher expectations for all students, especially those receiving Title I funding.

According to much of the current literature if educators have high expectations all students regardless of what policy label they have on them will excel with rigor, relevance, and relationships leading to higher academic achievement. In regards to student achievement a majority of studies suggest Title I has not satisfied its fundamental objective of closing the achievement gap between children of poverty and their more economically advantaged peers, despite the amount of extra financial assistance and funding the schools receive (Sirin, 2005).

Gender and Student Achievement

Gender is another area related to both the achievement gap, and a factor which impacts student achievement not only in Title I schools but also in non-Title I schools. When examining the role gender plays in student achievement, it is often important to investigate the social learning aspect (Leggon & Pearson, 2009). Research by Lott and Maluso (1993) proposed gender is a learned behavior based on particular conditions and experiences they are subjected to in their culture.

A study investigating the gender gap in mathematics through the analysis of the influences of differences between schools and classes by Meelissen and Luyten (2008) found gender differences due to self-confidence was a major issue. Although boys were found to have higher levels of self-confidence in mathematics than girls through conditioned stereotypes and conditioning, "girls from higher socioeconomic background have more confidence in their mathematics abilities than girls do from lower SES background, and that SES appears to have little influence for boys" (p.91). Other studies found student differences in schools and school settings played an important role in stereotyping students based on gender and their academic achievement (Louis & Mistele, 2012). However, a comprehensive research study by (Neuschmidt, Barth & Hastedt, 2008) disagrees. Neuschmidt et al investigated the Trends in International Mathematics and Science Studies (TIMMS) over an eight year period from (1995-2003) which examined the gender differences of middle school eighth grade students. Research showed boys performed better than girls in 16 countries did, however no significant changes in gender differences were discovered in overall math achievement (Patnam, 2013). Gender along with students with disabilities is variables this study will control for in the next chapter.

Students with Disabilities and Achievement

No Child Left Behind required that all students with learning disabilities receiving Title I funds must demonstrate proficiency in both mathematics and reading (Fusaro & Shibley, 2008). School district accountability and assessment under the President's Commission on Excellent in Special Education (2002) also requires educational standards and procedures be provided for each special education student in

all schools (Turnbull, Turnbull, Wehmeyer, & Park, 2003). A study by Harry & Klinger found students in higher poverty areas are subject to lower educational opportunities in their neighborhood culture and are exposed to lower academic educational standards, therefore leading to an over-identification of these students in special education programs, usually in Title I schools (2007).

Under NCLB guidelines, schools are required to test all students regardless of the child's ability to take the test (Palk, 2011). Several states including Oklahoma have developed their own modified academic standards for students based on severe learning disabilities to meet achievement standard. The Oklahoma Modified Alternate Assessment Program (OMAAP) Oklahoma Alternate Assessment Program (OAAP) was designed for students with profound learning disabilities as stated on their Individualized Education Plan (IEP). The assessments students use will be discussed more in Chapter 3, however for the purpose of this study, only students taking the regular education standardized test OCCT will be used.

Title I Funding and School Finance

Van der Klaauw (2007) investigated the impact of Title I funding on school finance and student academic performance in New York City, the largest school district in the United States from 1993-2001. He investigated grade level data on student performance, student backgrounds, and school budgets. Unlike most Title I studies assessing the achievement gap, his study investigated whether Title I schools and their students performed better than they would not have without Title I funding. According to Van der Klaauw, this remains a purely suggestive and true causal effect. For example, based on the theory students in high poverty schools would never be expected

to perform as well as those students in non-Title schools with whom most studies make the comparison. The same applies to students in Title I schools that qualify for remedial services, who would not be expected to perform as well as those in the same school who do not qualify for such services (2007). According to Van der Klaauw, there are several compensating factors to consider when reviewing literature on student achievement, which elucidates why there has not been a large positive effect on Title I, and student achievement. One reason is despite Title I funding remaining the largest federal program for elementary and secondary schools; it comprises a small share of total federal spending and expenditures on K-12 education. For example according to Sonnenburg (2004):

> In the fiscal year 2003 on while $11.7 billion was account for by Title I, which was only slightly higher than the $10.8 billion spent through the second largest federal program for K-12 education, the Child Nutrition Program which includes the National School Lunch and School Breakfast Program (US Department of Education, 2006). Moreover, total on-budget federal spending on K-12 education accounted for 9.3% of total elementary and secondary institution expenditures, of which 5.7 % were by the Department of Education (p.735).

Reviews of the literature offer a variety of extenuating reasons for mixed findings on Title I achievement and funding results. For example, according to Gordon (2004), the crowding out effect may thin out Title I's influence regardless of current fiscal accountability regulations designed at preventing crowding. Gordon's research found evidence of some states and cities even at the national level substituting away their own funding to Title I schools (2004). In addition, mixed studies on school

spending, results find a positive relationship between student performance and per-pupil allocations (Krueger, 1998) and then there are those who have conducted several studies and found no relationship between the two (Hanushek, 1998).

There are various theories that offer suggestions for such discrepancies in research findings. Van der Klaauw (2007) suggests Title I funding is not distributed equally across all schools and some buildings may find it a non-trivial portion of their budget. Next, restrictions and fiscal accountability associated with Title I may allow it to only target remediation. Although these funds go directly to the classroom, it may account for a corrective action if schools do not demonstrate significant improvement in their Title I students, consequently even if these funds do not increase total per-pupil expenditures in the school they still may significantly impact school performance. More studies and detailed analysis are still needed between the interrelationships of funding sources and school programs.

Title I Funding Allocation

The distribution of Title I fund from the federal government to state and local schools districts is a complicated process. There are several grant formulas revolving around the number of poor children in a school district, which determines each local education agency's (LEA) portion. These grants provide almost all LEAs an allocation per student of poverty, therefore enabling almost all LEAs to be eligible for some funding. There are also a multitude of other Title I formulas which provide additional funds based on increasing percentages of students from poverty, thus allowing larger and higher-poverty districts increasingly more than smaller lower poverty areas (U.S. Department of Education, 2008).

The total LEA allocation cycles through each state's Department of Education, it then disseminated to LEAs. States are allowed to keep one percent of the total allotted money for program administration, which can provide additional resources to school with the greatest need of improvement. LEAs then apportion to district school sites, then establish a Title I eligibility limit listed for poverty. This must be equal to the average child poverty rate in the school district and below which schools will obtain no Title I funds (Weinstein et al, 2009). Next, the LEA establishes the Title I per pupil amount of funds. This is the total school district allotment, divided by the total of poverty labeled students in local schools above the Title I mark. According to Weinstein et al, it is important to note that in Title I eligible schools all poverty labeled students may receive services, however poverty labeled students in ineligible schools may not receive services (2009).

When examining student achievement and Title I funding Brown (2007) investigated three of the largest school districts in the United States to find out if America's poorest children were receiving their share of federal education funds. Brown (2007) examined school-level Title I fund distribution based the No Child Left Behind (NCLB) Act, which called for more than $12 billion to be attached to academic proficiency for all students not only those from poverty. This study comprise of 5% of the school children in the United States and 7% of those were living in poverty (National Center for Education Statistics, 2002). The U.S. Department of Agriculture free or reduced price lunch eligibility criteria was used as a measure of poverty in this study. The results were, 74% of the students in the Los Angeles Unified School District, 85% in Chicago, and 75% of the students defined as poor in New York City,

and in the 2003-2004 school year roughly 16.6 million or 11 % of Title I funds were apportioned to these districts (Brown, 2007)

According to Brown (2007), several issues led to less equitable funding distribution in large districts. One, Title I funding has not increased to keep up with the increased rising of poverty in areas. Next, according to Title I evaluations, high stakes testing may persuade districts to concentrate more funding to least poor neighborhoods where research has shown students from least poverty schools make larger standardized test score gains, compared to students from areas of great poverty. Taking in these considerations, in addition to less federal regulations of public school funds distribution, more research is necessary to establish if Title I funds are being attained by the neediest students in urban areas and if those schools most affected by poverty are getting enough funding (Chaprnka, 2012). The overall findings of this article found funding for Title I would not be equitable until all schools in a district receive equitable portions of funding. As school districts grapple with ways to meet the standards of more academic demands, there is a need to ensure equitability in schools with large concentrations of poverty to ensure receive adequate Title I assistance (Carey, 2002).

Child poverty is not decreasing and more of America's children dwell in and go to school in areas of poverty (Orlofsky, 2002). Districts need incentives to equitably distribute funds to schools of highest poverty and federal policy has yet to show a compounding commitment to remove childhood poverty (Brown, 2007). Still even with literature studies and statistics lawmakers are pushing schools to meet the higher proficiencies on standardized test, and Title I schools are expected to compete and perform just as well as Non-Title I students (Chaprnka, 2012). Therefore, more research

is needed to meet the needs of equity, and to better serve the needs of America's poor children in our schools.

Title I and Non-Title I School Achievement

Jimenez-Castellanos (2010) examined the relationship of equity and the correlation between educational resources and student achievement in a large urban/suburban school district. The study is appropriate because over the past 30 years educational results from standardized tests have not statistically improved (Kozol, 2006; US Department of Education, 2006). Further findings show since the National Assessment of Education (NAEP) consistently over 40 years since its implementation there continues to be high drop-out rates, the lowest achievement scores, and lowest post-secondary degree completion in Title I students (Lee, 2006). One unique characteristic of his findings offers research based interpretations in the gaps between expenditures and student achievement. For example, when discussing the common theme of the academic achievement gap which Coleman (1966) brought to the forefront, he postulates Espinosa's (1985) theory that explained how researchers avoided looking into information pertaining to inequality and resource disproportions because advocates of Coleman's theory thought future investigation could not offer resolutions regarding educationally underprivileged students.

The Intra-district Multi-dimensional Resource Allocation Framework (IMRA) was used as a framework in the study to investigate the relationship of intra-district resource allocation on student achievement and educational opportunities (Reid, 2012). This study was valuable to the limited existing literature examining the position multiple and specific resources play in the educational attainment between schools,

taking into account and controlling student demographics and total expenditure (Jimenez-Castellanos 2010). The investigation took place in a large urban/suburban elementary (K-6) school district in Southern California studying 36 elementary schools that researched the resource variation between Title I and Non-Title I Schools.

Quantitative sources were gathered from the California Department of Education, School Accountability Report Cards (SARC) for each school, school district internal budget and facilities data reports, 2005-2007 school expenditures profiles, audit reports form 2006, average daily attendance records, archival facilities binders, and quantitative data sets. A multivariate inferential and descriptive analysis was then utilized using SPSS software to reveal trends, patterns, and relationships between demographics groups and school achievement.

A multiple comparative case study design utilized results from the quantitative study in an attempt to understand the role that resources play in schools with similar total expenditures and demographics yet produce different academic results. The four schools selected for this, study consisted of Title I and schools on a Program Improvement (PI) that did not meet all AYP benchmarks. *School A*, was a non-title I, non-PI school with less than average district per-pupil expenditures; School B, was a non-Title I, PI school with less than average district per-pupil expenditures; School C, was a Title I, non-PI school with above district per pupil expenditures; and School D, consisted of Title I, PI school also with above district per pupil expenditures. Next, in-depth structured principal interviews, school observations, and school artifacts were collected from each individual school. A cross-case synthesis was used to allow the

researcher to draw cross-case suppositions about differences in resources and student achievement.

Overall, the findings suggested white students received more resources related to higher school achievement, such as higher average teacher salaries related to their base funds, and new buildings resources. Yet, low-income Latino English Language Learners receive more total funds due to more categorical and administrative funding and have a higher percentage of emergency credentialed teachers and those with less experience (Jimenez-Castellanos, 2010). Most of the "hidden funds" come from parent/associations, business partnership funds and are not accounted by the school district or state, so exact amounts vary. Categorical funds in Title I schools were shown to be reaching all intended targeted areas and tended to have more traditional funds.

Furthermore, in the area of personnel resources, non-Title I schools were shown to have more consistent leadership and teaching staff. For example, a non-Title school in the study had 13 teaching positions open and received 140 applicants, yet non-Title I schools had seven openings and 140 applicants apply. According to an interview from the principal, this allows them to be able to hire only the best and brightest. This same principal was told by the human resource superintendent that teachers in the district reported that they want to work in that non-Title I school, they like the building, the students, and the feel of the school. A trend of the non-Title I school was newer and updated buildings and facilities, better designed to serve the communities, and instill community pride. As this validated, statistically Title I schools have more staff turnover rates and higher employee burn out rates, as well as, the least amount of updated facilities.

Comparatively, studies suggest bicultural and low-income students have different expectations placed upon them, solely dependent on their socioeconomic and race status. According to Ladson-Billings and Tate, low unconscious expectations have become the norm especially when compared to their white peers (2006). This shortcoming perspective requires a serious analysis or critique, which could assist in opportunities for the sidelined minority. Studies suggest educators and those working in the Title I environment should not lower their expectation but in fact raise them (Darder, 1991). The acceptance of low expectations and corresponding interventions, including more funding, is not an acceptable solution to eradicate the achievement gap. Yet, as literature and this study demonstrated it is still very much a part of our educational system today.

Categorical funds in regards to Title I and ELL funds were shown to compensate for student deficiencies, much like selecting curriculums low in rigor and for remedial education, when in reality these funds should be used to supplement educational opportunities. The findings of this study found a negatively correlation between categorical funds and student achievement. In contrast, Jimenez-Castellanos (2010) argues categorical funds should be used to produce high quality instruction and challenging curriculums in addition to higher expectations, so students will rise to meet those challenges.

The author was explicit in warning not to generalize from this one district to other settings. The findings met the criteria the researcher set out to make and made a unique contribution to the field of study regarding intra-district resource allocations. The results found a school districts resource package could make a difference in the

student achievement by either stimulating or impeding quality instruction or school culture. This study added to the limited research in the field of Title I compared to Non-Title I schools.

This literature review presented the history of Title I to current issues still going on today. There is a plethora of different themes that can be drawn out of the literature regarding federal funding and student achievement. As the literature shows, the allocation of Title I funds from the federal government to state and local districts follows a complicated process. School wide Title I programs have a great latitude by which they can use and determine how to organize their district and individual school site operations. There are also multiple funding sources available to such Title I schools, which allows for both schools and districts the fiscal liberty to best meets the needs of their students. School wide Title I programs do not have to identify individual students as qualified for services, nor do they have to independently chase federal dollars. Rather school wide Title I programs can use all allocated monies to increase the amount of quality learning time and provide a high quality education, according to each schools comprehensive plan designed to meet each state's rigorous academic standards. Specifically, Title I funds can be used for providing after school, summer, or intersession programs, training parents, teachers, and school staff, buying materials and equipment, support parental involvements, and hire additional teachers, assistants, and specialists (U.S. Department of Education, 2009). In addition, school districts that receive more than $500,000 from Title I must allocate 1% of the money to support parent involvement activities, which includes parent meetings, transportation, and

childcare for parents to participate in activities, parenting classes and programs, and parent resource centers.

Currently, as schools across the country today are spending more to raise student achievement, it is becoming necessary to closely scrutinize the billions of financial subsidizing designed for underprivileged students and to evaluate if it is enough to assist them in achieving proficiencies on standardized tests. According to the United States Department of Education (2011), Title I is the single largest federal investment in our countries public schools, investing approximately 12.7 billion in 2006. Currently, there is a limited existing body of research examining the allocation of Title I funds and how budgetary allocations affect the achievement Title I schools. The benefits of this research will be intended to augment the existing knowledge and assist school districts close the achievement gap regarding Title I expenditures for economically disadvantaged students.

In conclusion, Chapter one was comprised of an introduction to the study, statement of the problem, purpose of the study, research questions, study methods and design, definition of terms, limitations of the study, and basic assumptions. Chapter Two contained a review of related literature and research regarding Title I and funding and student achievement. Chapter Three will describe the methodology and procedures used in this study.

CHAPTER 3

DESIGN

Introduction

Schools throughout the nation are continually seeking effective resources for education with ever shrinking financial allocations, yet the accountability for student achievement continues to constantly increase (Guthrie & Peng, 2010). School districts are continually undergoing escalating tension from both their community and the state and federal government to improve student achievement in their school systems. Therefore, as the nation continues to deal with increases in economic hardships, as well as decreases in financial resources the trend is shifting from not how much is being spent for education, but instead to how money is being spent to close student achievement gaps (Hanushek & Lindseth, 2009).

This study examined the relationship between Title I monies and student achievement in a southwestern school district to determine if there was a significant difference between Title I schools who receive additional funding and non-Title I schools. This chapter investigated the methods used to explore the relationship between Title I and non-Title I schools student achievement. Chapter Three described the steps of the investigation; including instrumentation, sample used, and the methods used to collected data and the data analysis procedures.

Purpose of the Study

The purpose of this study was to investigate whether the allocation of Title I monies are related the academic achievement of students attending Title I schools in a Southwest Oklahoma school district. This quantitative investigation will analyze the

overall OCCT, standardized test scores of Title I and non-Title I sixth through eighth grade achievement scores in the areas of reading and math in a single school district located next to military base with a diverse student population over a four-year study period (2009-2012). For the purpose of this summative study, reading and math OCCT scores were analyzed to ascertain if Title I middle schools outperform schools with similar demographics who do not receive Title I funding.

Research Questions

A total of four research questions were investigated in this quantitative study. The following questions were researched to establish the relationship between Title I monies and student achievement ascertained by each school site's OCCT test scores from school-wide Title I elementary and middle schools in the district, specifically to determine if there is a significant difference between Title I and non-Title I schools in this particular urban school district. The following questions correlate to sixth through eighth grade students in the content areas of reading and mathematics:

1. What are the trends in the relationship are between Title I expenditures and 6^{th} – 8^{th} grade reading achievement, controlling for overall expenditures, gender, special education, and socioeconomic status?
2. What are the trends in the relationship are between Title I expenditures and 6^{th} - 8^{th} grade mathematics achievement, controlling for overall expenditures, gender, special education, and socioeconomic status?
3. Are there differences in reading achievement between students in Title I schools and Non-Title I schools, controlling for overall expenditures, gender, special education, and socioeconomic status?

4. Are there differences in mathematics achievement between students in Title I schools and Non-Title I schools, controlling for overall expenditures, gender, special education, and socioeconomic status?

Description of Data

The data used in this research design will be historical data extracted from the school districts standardized testing archives for the academic years 2008-2009, 2009-2010, 2010-2011, and 2011-2012. The state of Oklahoma uses the Oklahoma School Testing Program (OSTP) consisting of three types of assessments for Grades 3-8, required by federal accountability standards stemming from the No Child Left Behind Act of 2001 (Oklahoma State Department of Education, 2011a). These include Oklahoma Core Curriculum Tests (OCCT), which all students in Oklahoma must take unless they are on an Individualized Educational Plan (IEP).

If a special needs students qualifies and meets specific requirements according to their IEP then they are required to take the Oklahoma Modified Alternate Assessment Program (OMAAP) or Oklahoma Alternate Assessment Program (OAAP) which is only utilized by those identified with severe cognitive abilities. These tests comprise of the following areas: Reading and Mathematics in grades 3-8, along with Science, Social Studies, and Writing in Grade 5 and 8. While the OMAAP modified tests only include Reading and Math, and Science in Grade 5 and 8 (Oklahoma State Department of Education, 2011b). According to the NCLB regulation, students in Oklahoma must meet adequate yearly progress through the mentioned assessments. For the purpose of this study, we will only be utilizing the OCCT tests.

In 2009, the OCCT was altered by the Oklahoma State Department of Education to increase the difficulty of both reading and math tests; however, the scaled scores remain the same (Martin, 2010). The rationale behind such an alteration was to:

1. Increase rigor by raising standards for Grades 3-8 student achievement on the OCCT as a means to be more competitive at the national and international levels,
2. Vertically align proficiency expectations for students on the OCCT test Grades 3-8,
3. Align student expectations on the OCCT more closely with student expectations for the National Assessment of Educational Progress (NAEP) (Defehr, 2009, p. 12).

This alteration did not affect the study design as scaled scores for the past four years all were correlated and fell in the same ranges, as the previous tests. The OSTP (2011) declares the key components of the OCCTs are the Priority Academic Student Skills (PASS), which had its final revision in 2002 with minor revisions incorporated throughout the years in various content areas. PASS, along with performance level descriptors, and the Oklahoma Performance Index (OPI) ensure the validity and reliability of the testing, along with the reports that are produced (OSTP, 2009.)

According to the Oklahoma State Department of Education, the validity of the OCCT is dependent upon the amount of collected evidence and theory supporting specific interpretations of test scores. Reliability is founded on the degree by which test scores are received by a group of individuals are consistent over repeated applications (2011). The degree to which scores are free from measurement error is denoted through

the reliability coefficient. Coefficient estimations may be derived from modification in tests as in alternate form reliability, test-retest reliability where the test is administered in the same form after a time interval to the same group, or through internal consistency using the statistical interrelationship of responses on separate parts of the test (Oklahoma State Department of Education, 2011).

Validity and Reliability according to the OSDE OCCT Test Interpretation Manual also acknowledges Item Response Theory (IRT) as

> A modern approach to test scoring that is based on the idea that a correct answer to a test item is a function of both the item and ability of the student. One advantage of using IRT is it can provide information about guesses, the difficulty of the items, and how well the item discriminates among students with different abilities. Since test forms vary in difficulty from one administration to another, raw scores cannot be compared directly (p.2, 2010).

The purpose of the OCCT is to gather information about student performance and ensure students are meeting high standards, as well as evaluating achievement of mastery of PASS standards (OSTP 2009).There are four levels of performance students may obtain including, advanced, satisfactory, limited knowledge, and unsatisfactory. These performance levels are mandates from NCLB developed by panels of Oklahoma educators and approved by the Oklahoma State Board of Education. These levels of performance are scored from the Oklahoma Performance Index (OPI) consisting of a scale from 400 -900. The OPI scores use a scale because test items change each year, allowing the test to vary its difficulty from the years prior. According to the Oklahoma State Testing Program, this technique allows for more accuracy in its reporting than

assigning a percent correct due to the additional factor of the difficulty of questions and factoring the possibility of guessing correctly (OSTP, 2008).

The Oklahoma Performance Index (OPI) scores use the common scale as a method to ensure they have the same meaning from year to year by accounting for differences in their difficulty. For example that was used in the manual included a student may need to answer 37 correctly to obtain an OPI score of 750 while the following year 35 questions may meet the same level due to a slight increase in test difficulty. OPI scores therefore cannot be utilized to compare scores across subjects or grades, but are effective for comparing student scores for the same grade and content area (OSTP, 2008). The Optimized Performance Index Charts below I illustrates the raw scores converted into cut scores for the optimized performance index in Table 1 and 2.

Table 1

Optimized Performance Index (OPI) for Reading

Grade Level By Year	Advanced	Satisfactory	Limited Knowledge	Unsatisfactory
2008-2009				
6	828-990	700-827	647-699	400-646
7	802-990	700-801	668-699	400-667
8	833-990	700-832	655-699	400-654
2009-2010				
6	828-990	700-827	647-699	400-646
7	802-990	700-801	668-699	400-667
8	833-990	700-832	655-699	400-654
2010-2011				
6	828-990	700-827	647-699	400-646
7	802-990	700-801	668-699	400-667
8	833-990	700-832	655-699	400-654
2011-2012				
6	828-990	700-827	647-699	400-646
7	802-990	700-801	668-699	400-667
8	833-990	700-832	655-699	400-654

Table 2

Optimized Performance Index (OPI) for Math

Grade Level By Year	Advanced	Satisfactory	Limited Knowledge	Unsatisfactory
2008-2009				
6	754-990	700-753	660-699	400-659
7	776-990	700-765	667-699	400-666
8	771-990	700-770	662-699	400-661
2009-2010				
6	754-990	700-753	660-699	400-659
7	776-990	700-765	667-699	400-666
8	771-990	700-770	662-699	400-661
2010-2011				
6	795-990	700-794	664-699	440-663
7	800-990	700-799	674-699	440-673
8	774-990	700-773	642-699	440-641
2011-2012				
6	795-990	700-794	664-699	400-663
7	800-990	700-264	674-699	400-673
8	774-990	700-270	642-249	400--641

Setting

The sample of students in the study population were residents of a diverse population located next to a military installation base with a total population of over 96,000 according to 2010 Demographic Profile US Census Bureau. The ethnic characteristics of the city comprised of 46% Caucasian, 32% African American, 12% Hispanic American, 7% Native American, and 3% Asian (2009). The school district in this study consists of 35 school sites containing 17062 students and 1126 staff members (Alcaweb, 2013).

The public school's district student population consists of 42.9 percent Caucasian, 28.8% African American, 14.15 Hispanic, 6.7% American Indian, 2.2% Asian American. According to the Oklahoma School Testing Program, results and the district had 19.3 % of its students tested on a reading IEP compared to the Oklahoma state average of 16.8, and 19.2 of the district students tested on an IEP for math with state average of 16.7%. The poverty average for the district was 63.5 with the state average 65.2 (Oklahoma State Department School Report Card, 2012). The overall State Department of Education 2011 -2012, A – F Report Card for the District is shown in Table 3.

Table 3

School Grade Distribution By School Type				
School Grade	**Elementary**	**Middle School**	**High School**	**Total Count**
A	2	1	0	3
B	13	3	3	19
C	9	0	0	9

The school district itself covers 186 square miles and has assessed valuation per student of $24,489 compared to the state average of $38,875, which is 37.01 less than the state average valuation per student. The district is comprised of three high schools, an alternative school for grades 9 through 12, four middle schools, 24 elementary schools, and two prekindergarten centers. Additionally, the district operates classes for prekindergarten in seven private daycare facilities and has four prekindergarten classes located on the adjacent military base. The district in 2012 served 10,909 students that

qualified for the free and reduced lunches each day. The district serves 3,171 special needs students, a large number which come from military dependents. The mobility rate for the students is an average of 20% annually, depending on the current state of the military (District Profile, 2011).

Population and Sample

The population utilized in this study consisted of all four middle schools in the district. The schools serve sixth, seventh, and eighth grade students. The four schools serve approximately 1,380 students in the district per year and all are taught by teachers considered"Highly Qualified" by federal requirements. Full academic year (FAY) students from all middle schools are included in this study. All schools in the district share the same the grading requirements, days of attendance, and most have after-school or before-school programs available to serve their students. The categories of gender, economically disadvantaged, and special education services will be utilized from categories defined by NCLB and AYP subgroups. For the purpose of identification, the middles schools included in this study will be known as Title I School A, Title I School B, Middle School C, and Middle School D.

Title I School A had an enrollment of 757 as of 2011. The average daily attendance rate of these students is 94.1%. The percentage of teachers with Bachelor's degrees was 67.2%, Masters 30.9%, and 0.0% with Post-Masters or Doctorate degrees. The school is considered a Title I School with a School-Wide Program. The number of full time classroom teachers is 73.70 with a student/teacher ratio of 10.27. The average years of teaching experience is 15.5. The percent of students in Special Education with

individualized education plans (IEPs) is 18.9%. The enrollment characteristics are below in Table 4.Table 4

Enrollment Characteristics (2010-2011 school year) Title I School A

Enrollment by Grade:

	6	7	8	Ungraded
Students	248	255	247	7

Enrollment by Race/Ethnicity:

	Amer Ind/ Alaskan	Asian/ Pacific Islander *	Black	Hispanic	White	Two or More Races
Students	62	13	222	112	324	24

* combined Asian and Native Hawaiian / Pacific Islander categories

Enrollment by Gender:

	Male	Female
Students	392	365

Free lunch eligible: 431 **Reduced-price lunch eligible:** 102

U.S. Department of Education. Institute of Educational Sciences, National Center for Education Statistic 2012.

Title I School B had a total enrollment of 810 as of 2011. The average daily attendance rate of this school is 95.4%. The percentage of teachers with Bachelor's degrees is 69.5%, 30.4% with Masters, and 0.0% with Post- Masters or Doctorates. The number of classroom teachers is 61.40 with a student/teacher ratio of 13.19. The average years of teaching experience is 12.3. The percent of students in Special Education with IEPs is 19.6. The enrollment characteristics are below in Table 5

Table 5

Enrollment Characteristics (2010-2011 school year) Title I School B

Enrollment by Grade:

	6	7	8
Students	274	300	236

Enrollment by Race/Ethnicity:

	Amer Ind/ Alaskan	Asian/ Pacific Islander *	Black	Hispanic	White	Two or More Races
Students	58	25	270	94	352	11

* combined Asian and Native Hawaiian / Pacific Islander categories

Enrollment by Gender:

	Male	Female
Students	390	420

Free lunch eligible: 452 **Reduced-price lunch eligible:** 99

Note: Details may not add to totals.

U.S. Department of Education. Institute of Educational Sciences, National Center for Education Statistics 2012

Middle School C had an enrollment of 783 students as of 2011. The average daily attendance rate of these students is 95.7%. The percentage of teachers with Bachelor's degrees is 63.0%, Masters 34.7%, and Post-Masters or Doctorate is 2.1%. The average years of teaching experience for the staff is 15.6. The percent of students on IEPS is 19.9%. The number of classroom teachers was 57.70 and the student/teacher ratio was 13.57. The enrollment characteristics are below in Table 6.

Table 6

Enrollment Characteristics (2010-2011 School Year) Middle School C

Enrollment by Grade:

	6	7	8
Students	261	263	259

Enrollment by Race/Ethnicity:

	Amer Ind/ Alaskan	Asian/ Pacific Islander *	Black	Hispanic	White	Two or More Races
Students	48	24	227	60	413	11

* combined Asian and Native Hawaiian / Pacific Islander categories

Enrollment by Gender:

	Male	Female
Students	389	394

Free lunch eligible: 274 **Reduced-price lunch eligible:** 68

U.S. Department of Education. Institute of Educational Sciences, National Center for Education Statistics 2012

Middle School D had an enrollment of 1,030 students. The average daily attendance rate of these students is 95.3%. The percentage of teachers with Bachelors degrees is 68.6%, Masters 29.4%, and 1.9% with Post-Masters or Doctorate degrees. The number of full time classroom teachers was 70.20, with a student/teacher ratio of 14.67. The average year of teaching experience is 13.8%. The percent of students on IEPs is 13.8%. The enrollment characteristics are shown below in Table 7.

Table 7

Enrollment Characteristics (2010-2011 School Year) Middle School D

Enrollment by Grade:

	6	7	8
Students	352	335	343

Enrollment by Race/Ethnicity:

	Amer Ind/ Alaskan	Asian/ Pacific Islander *	Black	Hispanic	White	Two or More Races
Students	76	37	381	115	401	20

* combined Asian and Native Hawaiian / Pacific Islander categories

Enrollment by Gender:

	Male	Female
Students	525	505

Free lunch eligible: 433 **Reduced-price lunch eligible:** 140

U.S. Department of Education. Institute of Educational Sciences, National Center for Education Statistics 2012

Instruments

A quantitative design was applicable to this type of post ex facto research. The Oklahoma Core Curriculum Tests (OCCT) data was collected from the online district data repository known as Comprehend Pro and from the district Student Assessment Specialist, which included the years 2009, 2010, 2011, and 2012. The data from 2013 were not included in this study, because 2013 was the first year, students began online testing, compared to the previous four years, which students used paper and pencil. Expressed written consent from the school district was obtained to use the school districts archival data and the Institutional Review Board (IRB) also granted permission to conduct research for the qualitative study. Data was recorded and stored in a limited access password protected database for the duration of the study and student data was kept strictly confidential and used only for the sole purpose of this study. A stratified

random sample response number will be used to identify student names to ensure the anonymity of the subjects. The Statistical Package for the Social Sciences (SPSS) statistical software (version 19.0) and Microsoft Excel spreadsheets were used to analyze all the quantitative data in this study.

Methodology

The purpose of this study was to determine if there is a relationship between Title I funding and OCCT standardized test scores of Title I and non-Title I middle schools in a southwest Oklahoma school district. An ex post facto design was used in this study. The quantitative research addressed the following questions. First, what are the trends in the relationship between Title I expenditures in 6^{th}-8^{th} grade reading and math achievement while controlling for overall expenditures, gender, special education, and socioeconomic status? Next, are there differences in reading and math achievement between students in Title I schools and Non-Title I schools controlling for overall expenditures, gender, special education, and socioeconomic status.

First, a hierarchical regression analysis was used in this study because of its statistical value in investigating the relationship between variables. A hierarchical regression analysis enters variables in a series of blocks or groups, enabling the researcher to establish if each new group of variables adds anything to the prediction produced by the pervious blocks of variables. Regression analysis is a tool, which uses the relationship between quantitative variables in order for other variable(s) to predict the dependent variable (Sykes, 1993). Next, a One-way Analysis of Covariance (ANCOVA) was used to analyze questions 3 and 4 regarding the differences between reading and math achievements in students in Title I schools and non-Title-I schools

controlling for overall expenditures, gender, special education, and socioeconomic status. An ANCOVA is a statistical procedure that allows the researcher to look at the effect of one or more factors on a dependent variable, while controlling or removing the effects of other variables (Brace, Kemp, & Snelgar, 2000).

A stratified purposeful sample was used to account for any pre-existing differences, and ensure representation of each year and grade level was used to get a sample of approximately 300 students from the district. This will assist in ensuring the distribution of Title I and non-Title I number approximately equivalent.

Summary

Title I funding receives thousands of dollars each year, therefore this analysis seeks to determine trends and differences in relationships between Title I expenditures in 6^{th}-8^{th} grade students in the areas of both mathematics and reading while controlling for overall expenditures in gender and socioeconomic status. This chapter included a description of methods and procedures for conducting the ex post facto evaluation, as well the setting, population, and sample. The following chapter will be reporting the results of these findings, including the results of the analyses in response to the four research questions in this study and its implications.

CHAPTER 4

RESULTS OF THE STUDY

The purpose of this study was to explore Title I funding and its relationship to the academic achievement of students attending Title I schools in a Southwest school district. This quantitative investigation analyzed overall standardized test scores of Title I and non-Title I sixth through eighth grade achievement scores in the areas of reading and math in a single school district located next to military base with a diverse student population over a four-year study period (2009-2013). For the purpose of this summative study, reading and math scores were analyzed to ascertain if Title I middle schools outperform schools with similar demographics who do not receive Title I funding. Data were mined from the past four years from the school district databases and quantitative research questions guided the researcher through the comparison and Title I and non-Title I schools (Creswell, 2003). This chapter reports the results of the data analysis from the study. The results are presented and described in each of the four research questions that guided this study:

1. What are the trends in the relationship between Title I expenditures and 6^{th} – 8^{th} grade students in reading achievement, controlling for overall expenditures, gender, special education, and socioeconomic status?
2. What are the trends in the relationship between Title I expenditures and 6^{th} – 8^{th} grade mathematics achievement, controlling for overall expenditures, gender, special education, and socioeconomic status?

3. Are there differences in reading achievement between students in Title I schools and Non-Title I schools, controlling for overall expenditures, special education, gender and socioeconomic status?
4. Are there differences in mathematics achievement between students in Title I schools and Non-Title I schools, controlling for overall expenditures, gender, special education, and socioeconomic status?

Description of the Data

The data set for this study were mined from the school district's central office and included archival local district data from all four middle schools from the years 2009-2012, including both financial and district standardized testing records. Any student information that could be linked or identified to any specific student was removed to ensure compliance to IRB and district privacy policies. School district financial records were also obtained the Federal Programs department in the district and the district Finance department.

The data samples used in this study allowed for the in-depth examination of student achievement and per-pupil instructional expenditures that allowed for a general impression of the educational setting of each middle school in the study. According to current finance studies, a school district is an appropriate component for finance studies on schools because according to Ladd (2008) "the district is standard in the U.S. school finance literature because of the large role that districts have typically played in raising revenue and implementing educational policy"(p.403).

The standardized district test scores from each school contained OCCT scale scores in reading and mathematics, which were produced by the state of Oklahoma

Department of Education for achievement and accountability. Test scores from the four-year span of 2009-2012 were purposely used because the school district's Federal Programs only retains data from the past five years. The previous fifth year's data contained OCCT scores from the districts first online testing program, which was different from the previous four years' paper and pencil tests.

Results

Once progression approval was gained from the University of Oklahoma Institutional Review Board and the school district, data files were then mined from the students enrolled in the middle schools as well as financial information from both Title I Federal Programs and the district Finance Office, which operate as separate entities from each other. Descriptive and inferential statistics were then utilized to address the research questions (Kumar, 2001).

A stratified random sampling technique was then applied to student OCCT score samples from each of the four middle schools the data that was then inserted into SPSS (19.0) for statistical analyses. The sample drawn from the stratified random sample of all four middle schools, consisted of two Title I and two non-Title I schools (n=384) which consisted of sixth, seventh, and eighth grade students. Two different types of analysis were utilized in the study to find answers to the research questions.

First, a Hierarchical Multiple Regression Analysis was utilized which entered variables in a series of groups, enabling the researcher to see if each new group of variables added anything to the prediction produced by the previous groups of variables (Raudenbush & Bryk, 1986). This technique may be used in contrast to multiple regression, allows independent variables to be entered in different steps, and exposes

how well each independent variable predicts the dependent variable, while controlling for the other independent variables in the regression calculation (Abrams, 1999).

The way a hierarchical regression works is the independent variables are entered into the equation in the order specified by the researcher based on theoretical grounds (Leech, Barrett and Morgan, 2008). Variables or sets of variables are entered in steps with each independent variable being assessed in terms of what it adds to the prediction of the dependent variable, after the previous variables have been controlled for (Pallant, 2010). In this study overall expenditures, gender, special education, and socioeconomic status were used as the first step of variables referred to as control variables. The second step, per pupil district expenditures was added to the equation to see if any of the other variables made an additional contribution to the math or reading achievement OCCT scaled score of the student.

Next, a One-Way Analysis of Covariance (ANCOVA) analysis was utilized to examine questions 3 and 4, which asked whether are there differences in reading and math achievement between students in Title I schools and non-Title I schools, controlling for overall expenditures, gender, and socioeconomic status. Analysis of Covariance is a statistical procedure that allows the researcher to look at the effect of one or more factors on a dependent variable, while controlling for or removing the effect of other variables (Field, 2013). Certain assumptions however, were verified before running the ANCOVA analysis. These assumptions such as No significant outliers, Homogeneity of Regression, and Levene's Test of Equality of Error Variances was checked in each question. (Brace, Kemp, & Snelgar, 2000).

Descriptive Statistics

Math and Reading Achievement Scores in Title I and Non-Title I Schools

Before analyzing outputs from each of the research questions, frequencies and descriptive statistics are presented. The mean and standard deviation for the students' math and reading scores are presented in table 8 for students in Title I Schools.

Table 8

Descriptive Statistics for Male and Female students in Reading and Math in Title I Schools

	Mean	Standard Deviation	Minimum	Maximum
Male				
Reading	734.27	74.26	497	889
Math	742.54	71.07	400	879
Female				
Reading	734.88	71.074	546	990
Math	728.96	73.15	470	934

These results demonstrate the average score for Reading and Math achievement for both male and female subjects was over 700. The largest amount of deviation was found in the Reading score of male subjects. Descriptive analyses also indicate that male students received higher math achievement scores, while female students had the higher reading scores.

Table 9

	Mean	Standard Deviation	Minimum	Maximum
Male				
Reading	739.37	71.35	556	865
Math	744.54	80.61	400	869
Female				
Reading	727.49	76.11	546	944
Math	721.33	81.01	470	863

Descriptive Statistics for Male and Female students in Reading and Math for Non-Title Schools

These results demonstrate the average score for reading and math achievement for both male and female subjects in non-Title I schools was over 700. The largest amount of deviation was found in math scores of female subjects. Descriptive analysis indicate that male students had better math and reading achievement scores in comparison to female students. Therefore the comparison of descriptive statistics for both males and females in the Title I and non-Title I schools in this district statistically indicate in both areas of reading and math, that males tended to score better than females, and females tended to score higher in reading.

Expenditures in Title I Schools

Expenditure for Per-pupil, Instructional Expenditures, and Total expense in Title I schools are summarized in Table 10. The results show that the highest expenditure was recorded in the 2010; however, per-pupil expense was low, and was the highest in 2011 and 2013.

Table 10

Expenditure Per year for Title I Schools

Year	Variable	Mean	Std. Deviation
2009	Title I Dollar	545.00	.000
	Instruct_Exp	4245.69	4.080
	Total Exp	4790.69	4.080
2010	Title I Dollar	450.00	.000
	Instruct_Exp	5452.40	173.171
	Total Exp	5902.40	173.171
2011	Title I Dollar	550.00	.000
	Instruct_Exp	5121.22	592.479
	Total Exp	5671.22	592.479
2012	Title I Dollar	550.00	.000
	Instruct_Exp	5195.92	976.091
	Total Exp	5745.92	976.091

Note. Title I Dollar: Is the district Title I per pupil instructional dollar amount.

Expenditure in non-Title I Schools

Non-title schools are not entitled to the additional Expenditure for Per-pupil allotted to from the Federal Programs. The Instructional Expenditures and Total expenses in non-Title I schools are summarized in Table 11. The results show that highest expenditure was recorded in the 2010.

Table 11

Expenditure Per year for Non-Title Schools

Year	Variable	Mean	Std. Deviation
2009	Instruct_Exp	4431.13	16.444
	Total_Exp	4431.13	16.444
2010	Instruct_Exp	4550.71	226.143
	Total_Exp	4550.71	226.143
2011	Instruct_Exp	4295.51	193.192
	Total_Exp	4295.51	193.192
2012	Instruct_Exp	4151.31	390.423
	Total_Exp	4151.31	390.423

Note: The district does not break down per school site expenditures, so the
The Central Office had to run a separate report that only includes instructional
per pupil data, such a textbooks and other instructional items, but does not include other
factors such as custodial and other funds to operate school sites.

Frequencies

Frequencies of the occurrence of certain variables are determined, from which the percentage and cumulative percentage are calculated. Frequencies of demographic and certain other variables are presented in Table 12. Overall statistics of the four variables (Gender, Title = Title I and non-Title I Schools, Grade, & Year) are presented in Table 12.

Table 12

Variables Statistics

		Gender	Title	Grade	Year
N	Valid	384	384	384	384
	Missing	0	0	0	0
Mean		1.50	1.50	7.00	2010.50
Minimum		1	1	6	2009
Maximum		2	2	8	2012

Title I and Non-Title I School Descriptive Statistics for the Study

The four schools were divided based on Title I and non-Title I. These results demonstrate the sample included equal representation of Title and non-Title I schools. The results are summarized in Table 13.

Table 13

Division of Schools according to Title I and Non-Title I

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	2 Title	192	50.0	50.0	100.0
	2 Non-Title	192	50.0	50.0	100.0
	Total	384	100.0	100.0	

The data is graphically shown in the following chart in Figure 2.

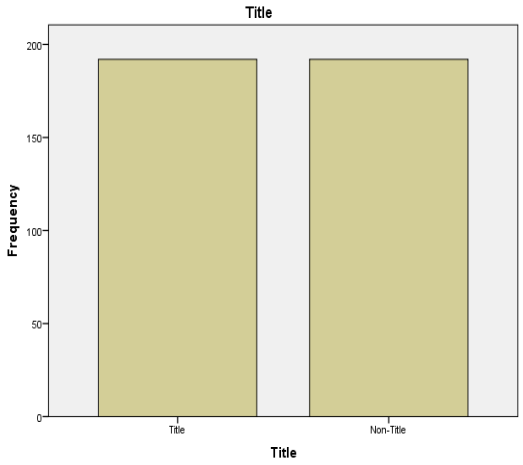

Figure 1. Title and Non-Title Schools selected for the study.

Student Grade Level Sample Selection

The subjects selected from the stratified random sample included students from 6th, 7th, and 8th grades from the districts four middle schools. An approximate equal number of respondents were selected from each grade. The data are summarized in Table 14.

Table 14

Grade Level Sample Selection

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	6	128	33.3	33.3	33.3
	7	128	33.3	33.3	33.3
	8	128	33.3	33.3	33.3
	Total	384	100.0	100.0	100.00

The data is graphically shown in the following chart.

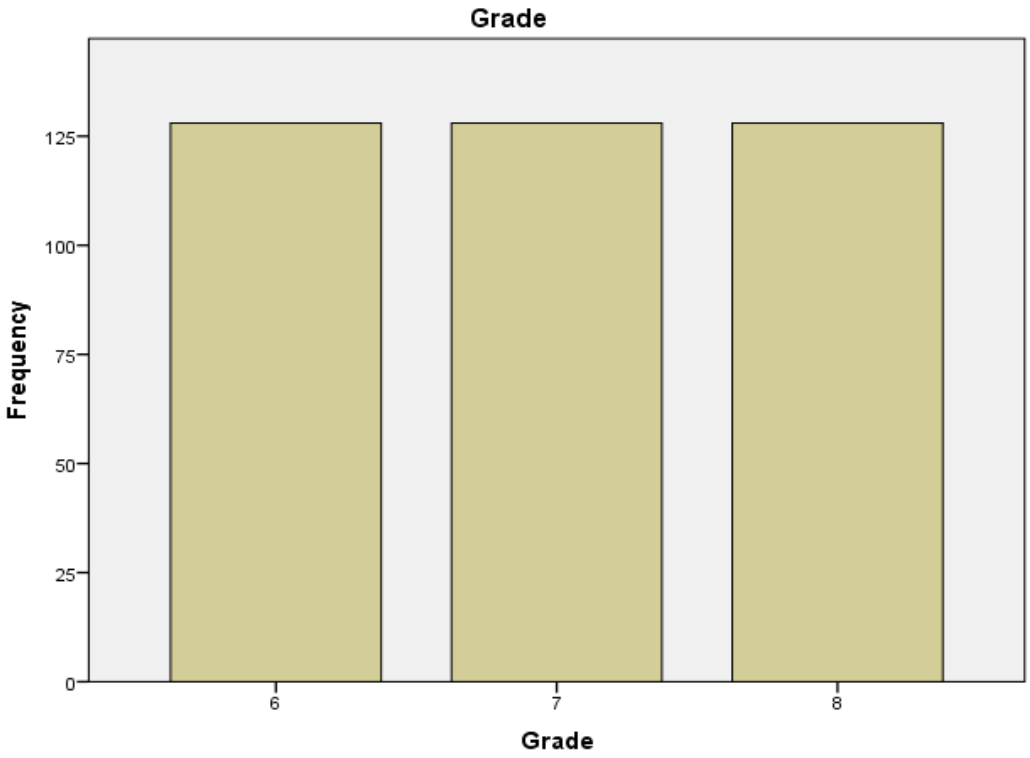

Figure 2. Grade level distribution of subjects

Data Year Distribution of Subjects

The data spanned over a 4-year period (2009, 2010, 2011, & 2012.) The distribution of subjects in each year is shown in table 15.

Table 15

Data Years Distribution

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	2009	96	25.0	25.0	25.0
	2010	96	25.0	25.0	50.0
	2011	96	25.0	25.0	75.0
	2012	96	25.0	25.0	100.0
	Total	384	100.0	100.0	

The data are graphically shown in Figure 3.

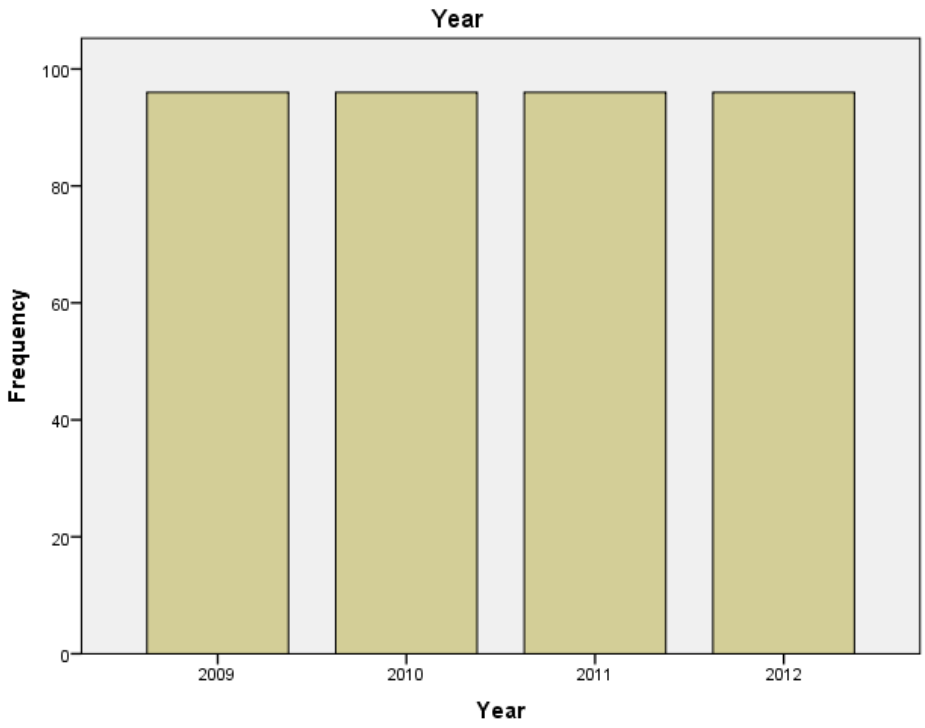

Figure 3. 2009-2012 Year distribution of subjects

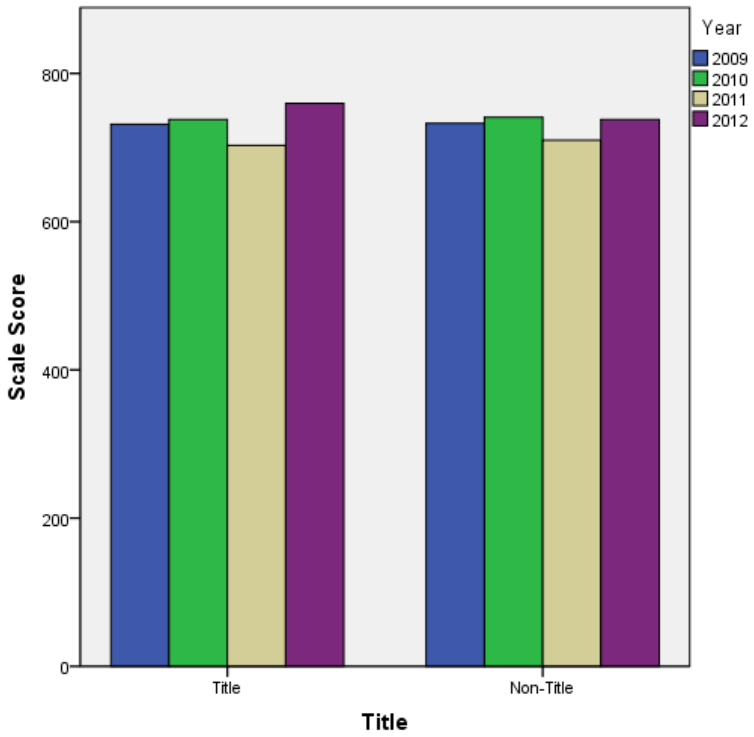

Figure 4. Title and Non-title scale score

Figure 4 indicates the scale scores on the OCCT for both Title I and non-Title I scores. Student achievement scores ranged from 700 to 800, and have been consistent over the 4-year period in this southwest school district. The highest test score was recorded in 2012 for Title I schools, while the highest score recorded for non-Title I schools was recorded in 2010.

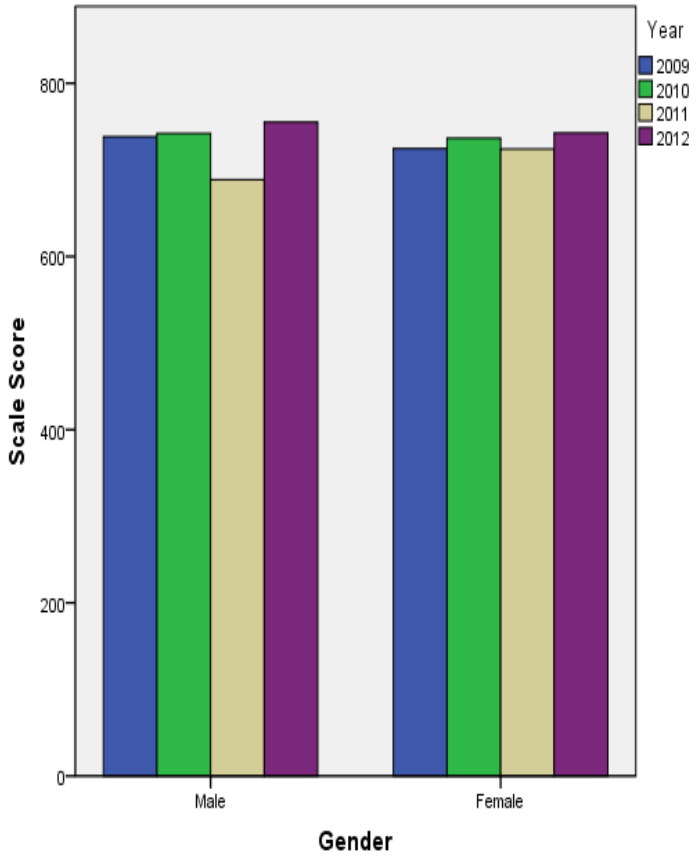

Figure 5. Gender distribution scale score

Figures 5 indicates both the male and female subjects had similar scale scores over the 4 years in this particular district. In both cases the highest score was found in 2012 for both Title I and non-Title I schools.

Research Question One (RQ1) Results

What are the trends in the relationship are between Title I expenditures and 6th – 8th grade reading achievement, controlling for overall expenditures, gender, special education, and socioeconomic status? In order to evaluate the relationship between Title 1 expenditures and 6th -8th grade reading achievement scores while controlling for overall expenditures, gender, special education, and socioeconomic status, a partial correlation analysis technique was utilized (Mertler, & Vannatta, 2002). The results

show a non-significant relationship between Title I Dollars per pupil and reading achievement measured through scale score of the student (r = -.014, p = .852).

Table 16

Correlation between Title 1 expenditure and Reading Achievement Score.

	T1_DPerPupil	ScaleScore
Correlation	1	-.059
Significance (2-tailed)	.	.421

Note. Control Variables: Overall Expenditure: F_Exp, Gender, Special Education: IEP, & Socioeconomic Status: FreeLunch

Sixth Grade Trends in Reading Achievement

Table 17

Hierarchical Regression Analysis Grade 6 Reading Achievement

Variable	**B**	**T**	**Sig**	**R**	**R^2**	**ΔR^2**
Model 1			.627	.298	.089	.089
F_Exp	.025	1.525	.139			
Gender	4.609	.194	.848			
IEP	.645	.030	.976			
FreeLunch	-1.122	-.040	.968			
Model 2			.592	.355	.126	.037
F_Exp	.021	1.252	.222			
Gender	3.574	.151	.882			
IEP	5.184	.236	.815			
FreeLunch	4.491	.159	.875			
Title1Dollar	-.293	-1.056	.301			

Note. N = 31, Source. Field Data

The trends of 6th Grade reading achievement are included in Table 17. A hierarchical regression was used to evaluate the influence on expenditure on reading achievement. The hierarchical regression revealed at stage one, control variables (Overall Expenditure: Total Exp, Socioeconomic Status: Free Lunch, Gender and

Special Education: IEP) did not contribute significantly to the regression model, F (4, 27) =.658, p = .627) and accounted for 8.9% of the variation in reading achievement scaled scores for 6th Grade students. The introduction of the Title 1 dollar per pupil expenditure variable explained an additional 3.7% of variation in reading achievement for 6th Grade students and this change in R^2 was also insignificant, F (1, 26) = 1.11, p = .301. Together the independent variables accounted for 12.6% of the variance in Reading achievement for 6th Grade students.

Seventh Grade Trends in Reading Achievement

Table 18

Hierarchical Regression Analysis Grade 7 Reading Achievement

Variable	**B**	**T**	**Sig**	**R**	**R^2**	**ΔR^2**
Model 1			.133	.472	.223	.223
F_Exp	.020	1.781	.086			
Gender	-10.698	-.677	.504			
IEP	-17.658	-.735	.469			
FreeLunch	-41.018	-1.958	.061			
Model 2			.208	.480	.230	.007
F_Exp	.022	1.825	.079			
Gender	-11.702	-.725	.475			
IEP	-14.212	-.561	.580			
FreeLunch	-41.434	-1.948	.062			
Title1Dollar	.099	.500	.622			

Note. N = 31, Source. Field Data

The trends of 7th grade reading achievement are included in Table 18. The hierarchical multiple regression revealed that at stage one, control variables (Overall Expenditure: Total Exp, Social Status: Free Lunch, Gender and Special Education: IEP) did not contribute significantly to the regression model, F (4, 27) = 1.934, p = .133) and accounted for 22.3% of the variation in reading achievement for 7th Grade students. Introducing the Title 1 dollar per pupil expenditure variable explained .7% variation in

in Reading achievement for 7th Grade students. Thus, per pupil expenditure in Title 1 schools had no significant influence on reading achievement of the 7th grade students. The results are further summarized in the following table.

Eighth Grade Trends in Reading Achievement

Table 19

Hierarchical Regression Analysis Grade 8 Reading Achievement

Variable	B	T	Sig	R	R^2	ΔR^2
Model 1			.256	.416	.173	.173
F_Exp	.009	.353	.726			
Gender	36.840	1.128	.269			
IEP	-144.040	-2.022	.053			
FreeLunch	-25.166	-.711	.483			
Model 2			.328	.436	.190	.017
F_Exp	.012	.489	.629			
Gender	33.305	1.000	.326			
IEP	-140.994	-1.959	.061			
FreeLunch	-31.751	-.863	.396			
Title1Dollar	.303	.730	.472			

Note. N = 31, Source. Field Data

The hierarchical multiple regression revealed that at stage one, control variables (Overall Expenditure: Total Exp, Social Status: Free Lunch, Gender and Special Education: IEP) did not contribute significantly to the regression model, F (4, 27) = 1.415, p = .256) and accounted for 17.3% of the variation in reading achievement for 8th Grade students. Introducing the Title 1 dollar per pupil expenditure variable explained an additional 2.4% of variation in Reading achievement for 8th Grade students and this change in R^2 was also insignificant, F (1, 26) =.533, p = .472. Together the independent variables accounted for 19.0% of the variance in reading achievement for 8th Grade students. The results are further summarized in the following table.

Research Question Two (RQ2) Results

What are the trends in the relationship are between Title I expenditures and 6th – 8th grade Math achievement, controlling for overall expenditures, gender, special education, and socioeconomic status? In order to evaluate the relationship between Title 1 expenditures and 6th – 8th grade math achievement score controlling for overall expenditures, gender, special education, and socioeconomic status, a partial correlation analysis technique was utilized. The results show an insignificant relationship between Title I Dollars per pupil and math achievement measured through scale score of the student ($r = .018$, $p = .804$). See Table 20.

Table 20

Correlation between Title 1 expenditure and Math Achievement Score.

	T1_DPerPupil	ScaleScore
Correlation	1	.018
Significance (2-tailed)	.	.804

Note. Control Variables: Overall Expenditure: F_Exp, Gender, Special Education: IEP, & Socioeconomic Status: FreeLunch

Sixth Grade Trends in Math Achievement

The hierarchical multiple regression revealed that at stage one, control variables (Overall Expenditure: Total Exp, Social Status: Free Lunch, Gender and Special Education: IEP) did not contribute significantly to the regression model, $F (4, 27) = .457$, $p = .766$) and accounted for 6.3% of the variation in Reading achievement for 6th Grade students. The introduction of the Title 1 dollars per pupil expenditure variable explained an additional 8.1% of variation in math achievement for 6th Grade students and this change in R^2 was also insignificant, $F (1, 26) = 2.451$, $p = .130$. Together the

independent variables accounted for 14.4% of the variance in math achievement for 6th Grade students. The results are further summarized in Table 21.

Table 21

Hierarchical Regression Analysis Grade 6 Math Achievement

Variable	B	T	Sig	R	R^2	ΔR^2
Model 1			.766	.252	.063	.063
F_Exp	-.008	-.715	.481			
Gender	-4.252	-.246	.808			
IEP	-34.815	-.704	.487			
FreeLunch	-15.243	-.875	.389			
Model 2			.511	.380	.144	.81
F_Exp	-.003	-.217	.830			
Gender	.106	.006	.995			
IEP	-34.900	-.725	.475			
FreeLunch	-14.715	-.867	.394			
Title1Dollar	.317	1.566	.130			

Note. N = 31, Source. Field Data

Seventh Grade Trends in Math Achievement

The hierarchical multiple regression revealed that at stage one, control variables (Overall Expenditure: Total Exp, Social Status: Free Lunch, Gender and Special Education: IEP) contributed significantly to the regression model, F (4, 27) = 3.711, p = .016) and accounted for 35.5% of the variation in math achievement for 7th Grade students. Introducing the Title 1 dollar per pupil expenditure variable explained no significant variation in math achievement score for 7th Grade students and this change in R^2 was insignificant, F (1, 26) = 3.887, p = .059. Although this could be termed as significant, since it is very slightly over .05 significance value. Together the independent variables accounted for 43.9% of the variance in math achievement for 7th Grade students. The results are further summarized in Table 22.

Table 22

Hierarchical Regression Analysis Grade 7 Math Achievement

Variable	B	T	Sig	R	R^2	ΔR^2
Model 1			.016	.596	.355	.355
F_Exp	.012	.789	.437			
Gender	-7.897	-.351	.729			
IEP	-104.835	-3.515	.002			
FreeLunch	-2.017	-.080	.937			
Model 2			.007	.652	.439	.084
F_Exp	.002	.129	.898			
Gender	-17.756	-.808	.427			
IEP	-98.864	-3.468	.002			
FreeLunch	8.820	.358	.723			
Title1Dollar	-.539	-1.971	.059			

Note. N = 31, Source. Field Data

Eighth Grade Trends in Math Achievement

The hierarchical multiple regression revealed that at stage one, control variables (Overall Expenditure: Total Exp, Social Status: Free Lunch, Gender and Special Education: IEP) did not contribute significantly to the regression model, F (4, 27) = .547, p = .702) and accounted for 7.5% of the variation in math achievement for 8th Grade students. Introducing the Title 1 dollars per pupil expenditure variable explained no significant variation in math achievement score for 8th Grade students and this change in R^2 was also insignificant, F (1, 26) = .332, p = .569. Together the independent variables accounted for 8.7% of the variance in math achievement for 8th Grade students. The results are further summarized in Table 23.

Table 23

Hierarchical Regression Analysis Grade 8 Math Achievement

Variable	B	t	Sig	R	R^2	ΔR^2
Model 1			.702	.274	.075	.075
F_Exp	-.003	-.171	.866			
Gender	-.148	-.006	.995			
IEP	49.916	1.173	.251			
FreeLunch	-29.929	-1.051	.302			
Model 2			.778	.294	.087	.012
F_Exp	.002	.073	.942			
Gender	.404	.015	.988			
IEP	41.337	.907	.373			
FreeLunch	-31.365	-1.084	.288			
Title1Dollar	.190	.576	.569			

Note. N = 31, Source. Field Data

A separate regression analysis was carried out to answer research questions 1 and 2 investigating the trends in the relationship between Title I expenditures and middle school students reading and math achievement, controlling for overall expenditures, gender, and socioeconomic status. The results in reading achievement found Title I schools expenditures has no influence on the achievement of 6th, 7th, and 8th grade student's scaled score on the OCCT tests. Similarly, the math achievement score with additional Title I school expenditures also has no significant influences on those scores, except for Grade 7, were Title I school schools did show a significant influence (p =.007) on students math scores.

Research Question Three (R3) Results

Are there differences in reading achievement between students in Title I schools and Non-Title I schools, controlling for overall expenditures, gender, special education, and socioeconomic status? A homogeneity of regression was utilized which examined, the interaction between the effect of the covariates and independent and variable were

found to be insignificant for all eight interactions. Therefore, the homogeneity of regression assumption was not violated. Levene's Test of Equality of Error Variances was also used to check the assumption of equality of variance. Homogeneity of variance was tested, and the results indicated that the assumption is not violated since the value is not significant (p = .486). Thus, equal variance was assumed.

The ANCOVA analysis used the independent variable; Title of school classification included two levels: Title I and Non-Title I. The dependent variable was the students' reading achievement scores and the covariate was overall expenditures, gender, special education, and socioeconomic status. The result indicate that no significant differences (p = .336) were found in reading achievement score between Title 1 and non-title schools.

Table 24 shows the adjusted means, showing the effect of the covariates (overall expenditures, gender, special education, and socioeconomic status) has been statistically removed for title and non-title schools reading achievement score. The results from the marginal means table and plot clearly depict the there is little difference in the reading achievement score of title and non-title schools.

Table 24

Estimated Marginal Means of Reading Achievement Score

			95% Confidence Interval	
Title	Mean	Std. Error	Lower Bound	Upper Bound
Title	727.339[a]	9.415	708.766	745.912
Non-Title	742.432[a]	9.415	723.859	761.005

Dependent Variable: Scale Score from OCCT reading test

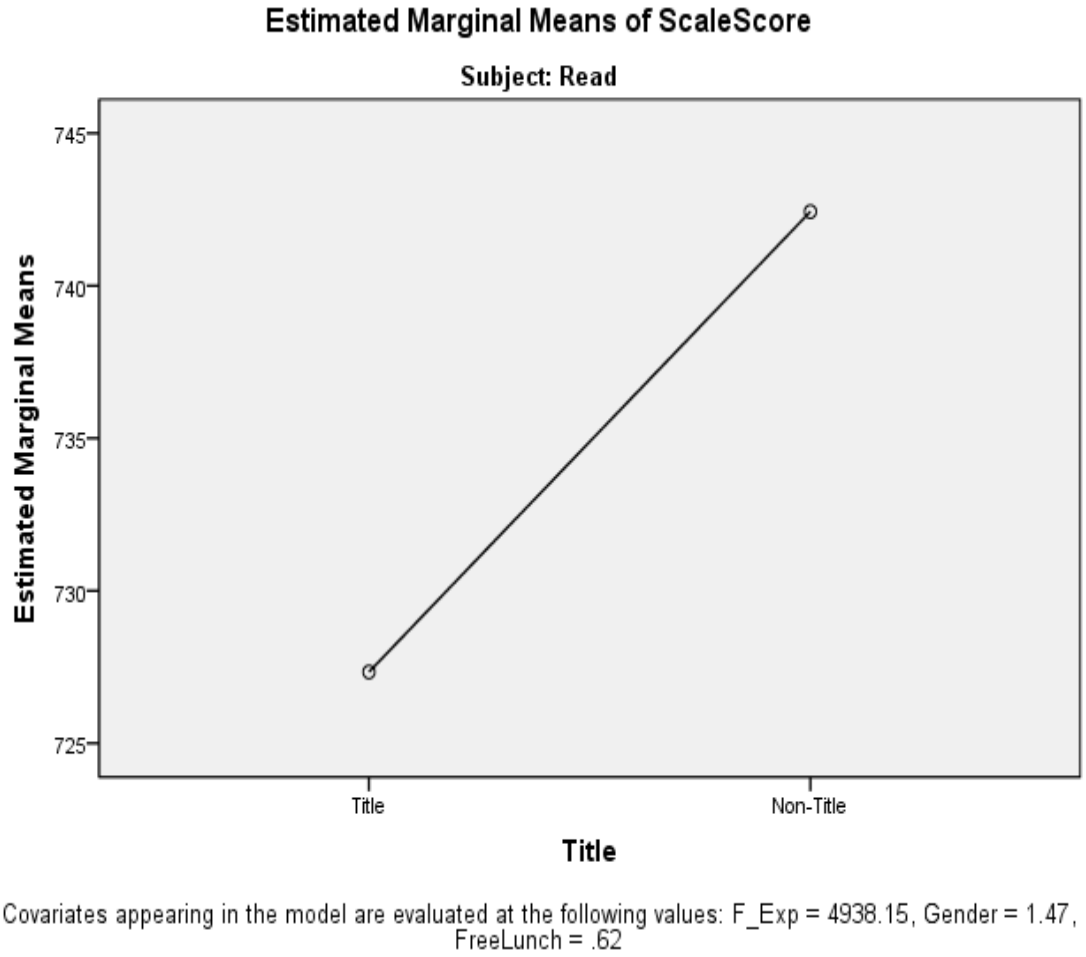

Figure 6: Estimated Marginal Means of Reading Achievement Score

In Figure 6 the Estimated Marginal Means of Reading Achievement Score was built from marginal means values shows that non-title schools have higher mean value for reading achievement score in comparison to title schools, however the difference is very little even when the effects of covariates have been removed.

Research Question Four (RQ4) Results

Are there differences in mathematics achievement between students in Title I schools and Non-Title I schools, controlling for overall expenditures, gender, special

education, and socioeconomic status? The homogeneity of regression was checked as a precursor to the ANCOVA, and the interaction effect of the covariates and independent variable were found to be insignificant for all eight interactions. Therefore, the homogeneity of regression assumption is not violated in this study. Levene's Test of Equality of Error Variances was also incorporated to check the assumption of equality of variance. Homogeneity of the variance was tested, the results indicate that the assumption is not violated since the value is not significant ($p = .156$). Thus, equal variance is assumed from this district's study.

An ANCOVA analysis used the independent variable, School Title classification that included 2 levels: Title and Non-Title. The dependent variable was the students' OCCT math achievement scores and the covariate overall expenditures, gender, special education, and socioeconomic status. Using the one-way ANCOVA, results discovered that no significant differences ($p = .727$) were found in math achievement scores between Title 1 and non-title schools.

Table 25 below shows the adjusted means, which is the effect of the covariates: overall expenditures, gender, special education, and socioeconomic status that have been statistically removed for Title I and non-Title I schools math achievement scores on the OCCT. The results from the marginal means table and plot depict the there is little difference in the math achievement scores of Title I and non-Title I schools.

Table 25

Estimated Marginal Means of Math Achievement Score

			95% Confidence Interval	
			Lower	Upper
Title	Mean	Std. Error	Bound	Bound
Title	738.358[a]	9.430	719.754	756.961
Non-Title	732.861[a]	9.430	714.257	751.464

Dependent Variable: Scale Score on Math OCCT test

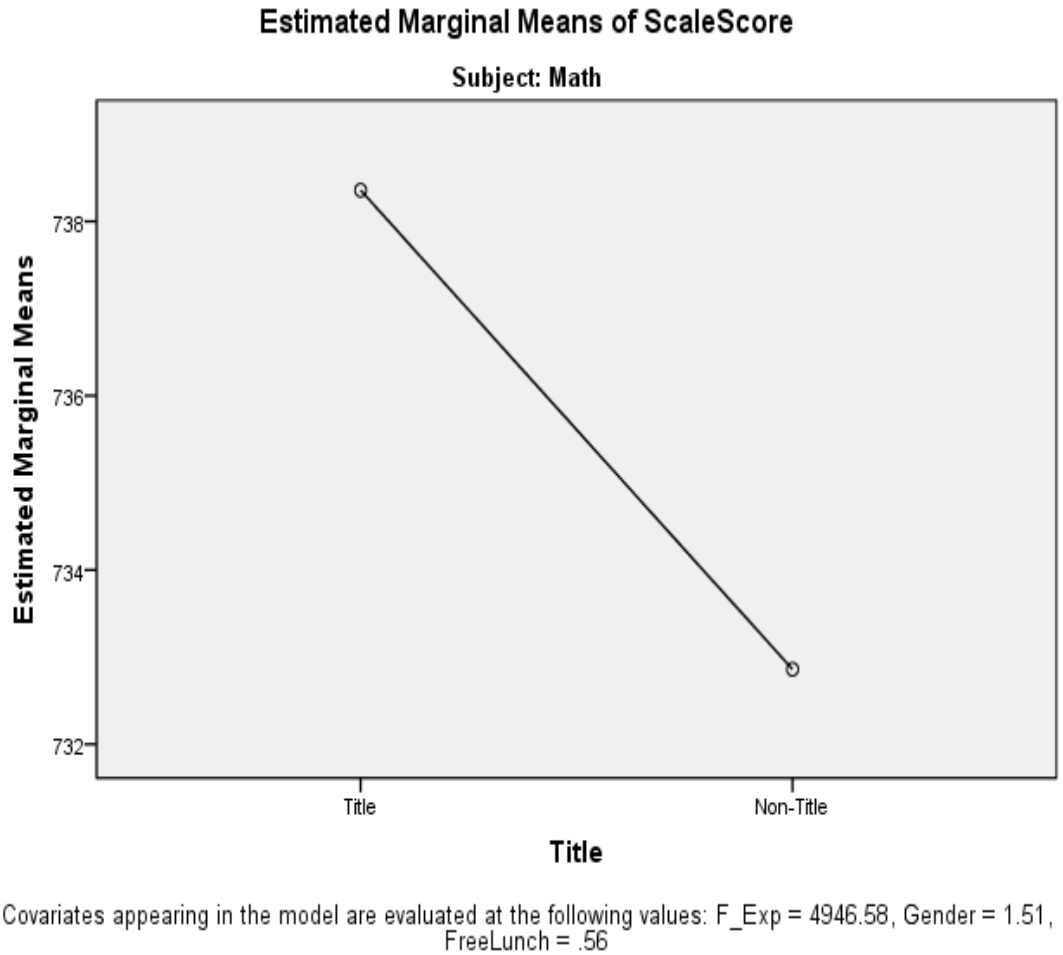

Figure 7. Estimated Marginal Means of Math Achievement Score

The above plot in Figure 7 was built from marginal means values shows that Title I schools have higher mean value for math achievement scores in comparison to non-Title I schools, however the difference is very small even when the effects of the covariates have been removed.

Summary of Results

Table 26

Summary of Research Questions

Questions	Description	Control Variables	Results
Question 1	Relationship between Title I expenditures and $6^{th} – 8^{th}$ grade reading achievement	Overall expenditures, gender, special education, and socioeconomic status	No influence of Expenditures on Reading Achievement
Question 2	Relationship between Title I expenditures and $6^{th} – 8^{th}$ grade math achievement	Overall expenditures, gender, special education, and socioeconomic status	No influence of Expenditures on Math Achievement
Question 3	Differences in reading achievement between students in Title I schools and Non-Title I schools	Overall expenditures, gender, special education, and socioeconomic status	No difference in Title I and Non-Title I Schools
Question 4	Differences in Math achievement between students in Title I schools and Non-Title I schools	Overall expenditures, gender, special education, and socioeconomic status	No difference in Title I and Non-Title I Schools

The results from the analysis showed according to this particular school district that there exists no effect of Title I expenditures on $6^{th} – 8^{th}$ grade reading achievement and math achievement when controlled for overall expenditures, gender, special education, and socioeconomic status. In each of the above regression analyses, we could see that the value of R^2 is reasonable. However, the significance was over the value of

.05 so we may term them as insignificant. It is important to note that a low R^2 does not indicate an insignificant one. R^2 is simply the line of best fit. It tells how much of variance is explained by the independent variable. R^2 is not an indicator for significance. It is relevant when considered along with other metrics, but on its own, it holds little inference value. An ANCOVA analysis to check difference in reading and math achievement scores on the OCCT also found no significant difference in Title I and non-Title I schools.

Summary

This chapter presented the statistical results of a quantitative research study conducted in four middle schools in a school district with a diverse population located next to a military base. A hierarchical regression analysis, analyses of covariance, and descriptive statistics, and a partial correlation were used to find trends and relationship between variables of expenditures and student achievement. Tables and figures were also included in this chapter related to the research questions. Based on the results and findings of using descriptive statistics, there was no statistical significance between trends in the relationships between Title I expenditures and math and reading achievement or Title I and non-Title I schools. These results took into account gender, special education, and socioeconomic status. However, math achievement scores for 7^{th} grade students did show a significant influence on math scores based on Title I expenditures only in that once grade level. Conversely, overall the grades found no significant relationship or difference. The following chapter will address additional research information found in this study and recommendation for further studies.

Chapter 5

SUMMARY, IMPLICATIONS AND RECOMMENDATIONS

The current emphasis and ongoing debate regarding school expenditures and student achievement is at the forefront of today's most prominent educational issues. The concerns of student standardized testing and accountability regarding both Title I and non-Title I schools continues to lead controversial concerns on national, state, and local levels (McCorvey-Watson, C, 2012; McMurrer, 2007). McMurrer's research found, schools are investing more time and money in tested areas, at the expense of other subjects in the curriculum (2007; Grubb, 2009; Sirin, 2005). As educational budgets come under more strain and accountability, this concern will continue plague all educational stakeholders. Studies on public school finance structures have yet to successfully confront the concept of equity and efficiency (Moore, 2012; Odden, 2003; Rebell & Wolff, 2008; Walter & Sweetland, 2003). Although there have been studies to address this issue, conflicting research and the limited body of literature regarding the relationship between student achievement and educational resources continues to be disputed (Stiefel et al, 2005; Odden & Piccus, 2004). Many researchers credit this discrepancy on the variety of different levels of analysis and variables considered within each study (Archibald, 2006; Biddle & Berliner, 2002). Consequently, the literature remains disproportionate and insufficient to conclude any definitive deductions regarding Title I expenditures and student achievement and Title I and non-Title I schools student achievement.

This chapter presents the findings of the analysis which investigated whether the allocation of Title I monies are related the academic achievement of students attending

Title I schools in a single school district, with a diverse population located next to a military base. The chapter includes a brief introduction, summary of the study, problem, research questions, methodology, and discussion and summary of the results from Chapter 4 in relation to the current literature. Implications for practice and study limitations will also be addressed. Ultimately, this chapter concludes with recommendations for future research studies.

Summary of the Study

This study investigated whether the allocation of Title I monies affected the academic achievement of students attending Title I schools in Southwest Oklahoma. This quantitative investigation analyzed the overall OCCT, standardized test scores of Title I and non-Title I sixth through eighth grade achievement scores in the areas of reading and math in school district over a four-year study period (2009-2012). Reading and math OCCT scores were analyzed to ascertain if Title I schools outperform schools with similar demographics who do not receive Title I funding. As a method to compare student achievement within the extraneous groups of gender, special education, and economically disadvantaged students individual student test scores were compared between Title I and a non-Title I schools. The results of this study will assist school administration, and both Title I and non-Title one stakeholders, to evaluate their educational expenditures in their buildings and improve student academic achievement.

Per pupil expenditure in this study was derived from the district's Federal Programs office and the district Finance department, which worked as separate entities. The Federal Programs department provided a data spreadsheet which broke down the per pupil instructional expenditures the two Title I schools were allotted. The district

finance department did not keep per pupil instructional expenditures per middle school site but were able to provide information which contained the expenditures for the two non-Title I schools. Gender classification, special education services, and socioeconomic status was obtained from the district Accountability department which used information gathered from OCCT standardized test results for the years 2009 - 2012.

Descriptive statistics were employed to summarize data from all four middle schools, per pupil instructional expenditures, socioeconomic status, special education, and gender. A stratified random sample was applied to the data and then inserted into the SPSS for statistical analysis. A hierarchical regression analysis and ANCOVA were utilized to answer the four research questions from the study.

Problem

The passing of NCLB mandated the consideration of Title I expenditures with the objective to reveal which allocations were most beneficial to student achievement. Currently, as the country faces more financial struggles, researching trends in expenditures and student achievement is imperative to provide insight into how particular subgroups including gender and socioeconomically disadvantaged students academically perform in various school settings. According to the United States Department of Education, "the scientific evidence on the effectiveness on education programs is weak, inconsistent, or nonexistent. Evidence is needed on the effectiveness of specific interventions to inform Title I program improvement" (United States Department of Education, 2007a, p.2). Therefore, school administrators have a

complex undertaking of determining which trends in expenditures influence student achievement, especially in reading and math.

According to research, disadvantaged Title I students have never been successful at meeting the basic skills of reading and math on standardized tests (Barton, 2004; Bialo & Sivin, 1992; Gilbert, 2000; Grubb, 2009). Haunushek (1996) with his research on educational inputs and outputs regarding student achievement on more than 187 studies argued increased spending on instructional expenditures is not related to student achievement. In fact, expenditures in education have been raised at a rate of over 3% per year and student achievement statistics have shown minimal gains at best (Hanushek, 2003).

To the contrary, Greenweld et al (1996) contends increased expenditures in schools, especially Title I schools with high poverty rates, did show increases in achievement especially when funds were spent on global resource variables such as increased per-pupil expenditures and supplementary educational services such as reading and math. Still the impact of educational funding and expenditures despite all the research over the past several decades is still without a definitive conclusion (Kohl, 2013).

Research Questions

Past research has been inconsistent in linking per pupil expenditures and student achievement in both Title I and non-Title I schools. My interest in Title I funding and middle school academic achievement led to the investigation of whether the allocation of Title I monies affect academic achievement of students attending Title I schools compared to non-Title I schools. I selected four research questions to frame my study:

1. What are the trends in the relationship between Title I expenditures and 6th -8th grade students in reading achievement, controlling for overall expenditures, gender, special education services, and socioeconomic status?
2. What are the trends in the relationship between Title I expenditures and 6th-8th grade mathematics achievement, controlling for overall expenditures, gender, special education, and socioeconomic status?
3. Are there differences in reading achievement between students in Title I schools and Non-Title I schools, controlling for overall expenditures, gender, special education, and socioeconomic status?
4. Are there differences in mathematics achievement between students in Title I schools and Non-Title I schools, controlling for overall expenditures, gender, special education, and socioeconomic status?

Methodology

Once progression approval was gained from the University of Oklahoma Institutional Review Board and the school district, data files were then mined from the students enrolled in the middle schools from 2009-2012. Financial information from both Title I Federal Programs and the district Finance Office, which operate as separate entities from each other, were also mined from those same years. Descriptive and inferential statistics were then utilized to address the research questions (Kumar, 2001).

This researcher first performed a stratified random sampling technique which was then applied to student OCCT score samples from each of the four middle schools consisting of two Title I and two non-Title I schools. Two different types of analysis were utilized in the study to find answers to the research questions framing this study.

First, a Hierarchical Multiple Regression Analysis was utilized to answer questions 1 and 2, which investigated the trends in the relationship between Title I expenditures and middle school reading achievement, controlling for overall expenditures, gender, special education, and socioeconomic status. The hierarchical multiple regression analysis entered variables in a series of groups, enabling the researcher to see if each new group of variables added anything to the prediction produced by the previous groups of variables (Raudenbush & Bryk, 1986). Variables or sets of variables were entered in steps with each independent variable being assessed in terms of what it adds to the prediction of the dependent variable, after the previous variables had been controlled for (Pallant, 2010). In this study overall expenditures, gender, special education, and socioeconomic status were used as the first step of variables referred to as control variables. In the second step, per pupil district expenditures were added to the equation to see if any of the other variables made an additional contribution to math or reading achievement OCCT scaled score of the student.

Next, a One-Way Analysis of Covariance (ANCOVA) analysis was utilized to examine questions 3 and 4, which asked whether are there differences in reading and math achievement between students in Title I schools and non-Title I schools, controlling for overall expenditures, gender, and socioeconomic status. The one-way analysis of covariance is a statistical procedure, which allowed the researcher to look at the effect of one or more factors on a dependent variable, while controlling for or removing the effect of other variables (Field, 2013). Certain assumptions however, were verified before running the ANCOVA analysis. For example, no significant outliers,

Homogeneity of Regression, and Levene's Test of Equality of Error Variances were checked in each question. (Brace, Kemp, & Snelgar, 2000). Levene's Test of Equality was used to test the homogeneity of variances, which required that an equal variance was assumed for both Title I and non-Title I schools, while homogeneity of regression slopes, was verified to ensure there were no interactions between the covariate and the independent variable. Outliers were checked to ensure that single data points within the data did not follow an usual pattern, or have a negative effect on the one-way ANCOVA (Brace, Kemp, & Snelgar, 2000).

Summary of Results

Both schools in the district were considered school-wide Title I schools which allowed for more flexibility and the ability for programs to use more flexible funding to reach more students (Gilbert, 2000; Hopper, 2008). School wide Title I designation allowed all students despite high or low socioeconomic status to receive additional Title I services and benefits (LeTendre, 1997; Robey, 2011). The researcher mentions this because this may have been a factor in the results, which will be addressed in the conclusion.

Research Question 1 asked what are the trends in the relationship between Title I expenditures and $6^{th} – 8^{th}$ grade reading achievement were evaluated while controlling for overall expenditures, gender, special education, and socioeconomic status. The result of partial correlation indicated no significant association between the expenditures and reading achievement. A further separate hierarchical regression analysis was conducted for each grade with expenditure as independent variable, reading achievement as dependent variable and overall expenditures, gender, special

education, and socioeconomic status as control variable. The results from the analysis showed that there exists no effect of Title I expenditures on $6^{th} – 8^{th}$ graders on reading achievement when controlled for overall expenditures, gender, special education, and socioeconomic status. Therefore, this can be stated that Title I funding assisted in the equalization of overall school performance on the OCCT in reading scores for Title I schools in the district. The statistical data from the middle schools found no statistical difference through the scaled score of the students ($r = -0.14$, $p = .852$).

Question 2 asked what were the trends in the relationship between Title I expenditures and $6^{th} – 8^{th}$ grade math achievement while controlling for overall expenditures, gender, special education, and socioeconomic status. The result of the partial correlation indicated no significant association between the expenditures and math achievement. A further separate hierarchical regression analysis was conducted for each grade with expenditure as independent variable, math achievement as dependent variable and overall expenditures, gender, special education, and socioeconomic status as control variable. The results from the analysis showed that there existed no effect of Title I expenditures on 6^{th} and 8^{th} graders on math achievement, however a slight significant influence was found for the effect of Title I expenditures on 7^{th} grade math achievement scores when controlled for overall expenditures, gender, special education, and socioeconomic status. Therefore again, this can be stated that Title I funding assisted in the equalization of overall school performance on the OCCT in reading scores for Title I schools in the district. Meaning similar to the findings of Question I with reading scores that the students in the present study who received Title I funding performed as well as those students who did not

attend a Title I school, thanks to the equalization effect the additional Title I funds had on student achievement.

Therefore, there was no statistically significant difference in OCCT reading and math scores between individual student scores at both School A and School B based upon overall expenditures, gender, special education services, and socioeconomic status. The results did not support the finds of (Hanushek 1996, 2003; Oddon, 2007) because the additional funding allowed the Title I schools to compete and be equitable to the more affluent Non-Title I schools in the district based on their academic achievement. The students from Title I schools came from poverty backgrounds, with limited vocabularies, single parent homes, who do not place a high value on academic success, compared to the Title I schools in the district comprised of middle to upper class two parent families, who place high value on academics, and future college goals.

In each of the regression analysis, the value of R^2 is reasonable. However, the significance was over the value of .05 so we may term them as insignificant. It is important to note that a low R^2 does not indicate an insignificant one. R^2 is simply the line of best fit. It tells how much variance is explained by the independent variable. R^2 is not an indicator for significance. It is relevant when considered along with other metrics, but on its own, it holds little inference value. In our case, since we can see that there is variation in the dependent variable due to independent variable thus we should consider the independent and control variables.

The results of these two questions with a result of no significant trends at first may appear to agree with the literature of Hanushek & Lindseth, who found investigating the relationship of educational inputs on school and district achievements

have been equitably inconclusive as to their impact on student achievement (2007). Yet this researcher has to disagree because without the additional funding of Title I, there would be no way such students would be able to compete non-Title I students. This study also correlates with findings that Title I students still have not improved statistically concerning student achievement in the last 30 years (Kozol, 2006). The findings correlate with Child and Shakescraft findings, which insist there is a lack of positive relationship between student achievement and expenditures, and it is precisely undistinguishable where trends in spending make a difference (1986). Although the findings corroborate with Chakraborty and Poggio's research stating increases in school expenditures and student achievement were obtained despite increases in per-pupil expenditures student achievement score remains stagnant (2008). Yes, as the variety of studies show more research is need in this area, because what studies may not take into account is legislative mandates, inflation, larger class sizes, and new federal guidelines that are required of schools and school districts. In addition to a variety of variables that go into different school districts cultures and structures. Therefore, while studies may show funding increased, there are a number of other factors to be considered, before stating additional funding into schools does not help or increase student achievement.

Research question 3 evaluated differences in reading achievement between students in Title I schools and Non-Title I schools, controlling for overall expenditures, gender and socioeconomic status. A one-way ANCOVA technique was utilized to evaluate the differences. The results revealed no significant differences in Title I and Non-title I schools. Similarly for research question 4, differences were evaluated in math achievement between students in Title I schools and Non-Title I schools,

controlling for overall expenditures, gender and socioeconomic status. The results of ANCOVA analysis revealed no significant difference in math achievement score in title and non-title schools. Again, this means that Title I funding helped to serve its purpose to equalize Title I students OCCT performance on tests compare to non-Title I students in both math and reading. If these Title I students had not received additional funding, they would not have been able to compete with the non-Title I schools in the district.

As scores in this school district were comparable between the two types of schools, Title I and non-Title I one, suggests the additional federal money provided to the Title I middle schools in the district is contributing to the overall success of Title I students compared to non-Title students in this district. As this the literature review notes, students from Title I schools usually come from come from poor and minority youth, therefore if there were no significant difference between the two schools, suggests Title I schools are using their money to assist in contracting the achievement gap (USDOE, 2011; Heier, 2011, Greenwald, Hedges, & Laine, 1996). This also goes to support the extensive reasons for mixed findings in Title I achievement and funding results, which, according to Gordon (2004), the crowding out effect may thin out Title I's influence regardless of current fiscal accountability regulations designed at such practices. In addition to mixed studies on school spending, many results find a positive relationship between student performance and per-pupil allocations which was in contrast to this study (Dayton, 1995; Greenweld et al 1996; Krueger, 1998). Then there are those who have conducted several studies and found no relationship between the two similar to this study (Flanigan et al 1997, Hanushek, 1998; Kozol, 1991; Wenglinsky, 1997).

There are various theories that offer suggestions for such discrepancies in research findings. Van der Klaauw (2007) suggests Title I funding is not distributed equally across all schools and some buildings may find it a non-trivial portion of their budget. Next, restrictions and fiscal accountability associated with Title I may allow it to only target remediation, and although these funds go directly to the classroom, it may account for a corrective action. If schools do not demonstrate significant improvement in their Title I students, consequently even if these funds do not increase total per-pupil expenditures in the school they still may significantly impact school performance. More studies and detailed analysis are still needed between the interrelationships of funding sources and school programs. Again, there is no way to tell how much more behind Title I students would be without additional funding.

Conclusion

This study corroborates much of the research regarding the relationship between Title I expenditures, reading achievement, and math achievement. Other researchers have found increased student expenditures have no consistent or significant impact on student achievement (Okpala et all, 2001, Sacks, 1999, and Wenglinsky, 1997). The current study indicated that per pupil expenditure, socioeconomic status, gender, and special education allowed the two Title I schools to compete on an equal basis on their OCCT tests in the content areas of reading and math. As mentioned by Grissmer et al. (2000) empirical non-experimental research does not definitively respond to whether additional educational resources and expenditures affect student achievement. Abbott et al (2002) maintains there are many variables to account for in regards to student academic performance and this study only controlled for overall expenditures, gender,

special education, and socioeconomic status in a single school district. The conclusion of question 1 and 2 support the findings of (Dayton, 1995) which finds it is not the amount of money expended, but it is the educational opportunity that was offered. It appears from this study that the goal of the Title I program is to equalize opportunities for disadvantaged students and those from poverty, is working which is what the findings of this study correlates with (Borman, 2002).

It appears the results of this study do not coincide with the findings of Grub (2009), who found that instructional funds often have little to no effect on student achievement. The real question left to ask then is what instructional budgets are the best investments to improve student achievement on standardized tests (Rice, 2002).

Contribution to the Literature

This study provided information on the effectiveness of Title I programs on student achievement to educational district leaders and teachers associated with Title I schools to assess their spending. At this division level, there was no alignment in spending allocation, even when variables of total expenditure, gender, special education, and socioeconomic status were taken into consideration. The fact that schools do not have spending similarities with increased pressure to consistently improve student achievement confirms what researchers have been saying about Title I as a equalizing agent for student achievement. Yet, even after the success of Title I balancing the academic playing field for students from Title I schools to compete with Non-Title I schools, then the question is how much level or what level of funding is required to improve student achievement is still unknown (Hanushek, 1996; Hedges & Greenwald, 1996). Furthermore, the findings of this study will provide a catalyst for

further studies in Title I funding and student academic achievement, and add to the body of knowledge that will assist professional educators, legislative representatives, school systems and other concerned stakeholders to make more conversant assessments concerning educational performance on state accountability exams in relationship to school programs and curriculums. According to Shoaf, Shoaf, & Leck (2006), there is not a large body of knowledge, which specifically looks at developing new programs to aptly assist students living in poverty. Therefore the conclusions of the analysis could be employed to modify expenditures, to research ways of creating increased gains for those in Title I schools in the district.

Implications for Practice

School sites and districts began facing increase standardized testing pressures on student achievement and improving yearly tests scores with the passing of NCLB (2001) legislation and policies. Since that time there has been an increased obligation for higher scholastic expectations and accountability to close the achievement gap for at risk students (Balfanz et al., 2007). Through this study, the researcher attempted to contribute to the body of knowledge regarding middle school student achievement in Title I and non-Title I schools and their relationship to funding by controlling for overall expenditures, gender, special education, and socioeconomic.

This current study sought to establish if there were differences in middle school Oklahoma Core Curriculum Test (OCCT) math and reading achievement scores. The findings of this study have use for policymakers, educators, and researchers as they endeavor to meet the challenges of standardized testing, balancing decreased budgets, and new educational reform measures in Oklahoma.

Study Limitations

Although the research met its objective in answering the four research questions, there were limitations to this study. This study was based on middle schools in one district located in the Southwest part of the United States, which served a diverse transient local community located next to a major military installation. The archival data was collected from criterion-referenced multiple choice tests the middle school grade levels in only the subjects of reading and mathematics for last four years due to the consistency changes in the OCCT test administered through traditional paper and pencil evaluations until 2013 with the new online testing procedures. This study was only limited to middle school students in grades 6 – 8 comprised of only math and reading scores, making overall sampling purposeful and grouped for this particular community, hence the study was deficient in the validity of a controlled randomly sampled larger population from an entire state or part of the country (Lomax, 2005).

As some literature studies pointed out the efficiency and consistency between the district Title I schools could be another factor that could have had an impact on the findings. Title I schools utilize a variety of school site-specific programs distinctive to the buildings needs to meet Title I regulations which was not investigated in this quantitative study.

Recommendations for Further Research

The purpose of the study was to investigate the relationship between Title I funding and standardized test scores of Title I and non-title I middle schools in southwest Oklahoma. The results of this study, keeping in mind with the purpose of the study, the following recommendations are made. This study used only site based level

instructional contributions as an indicator for per pupil instructional expenditures; the actual amount of funding for the entire district was not entered into the analysis. Other studies that take into consideration all funding sources, such as federal, state, and local, would permit a more accurate interpretation of per pupil expenditures associated to student achievement.

This study focused on middle schools and its relationship to student achievement on the OCCT, it is significant here to note that learning does not just begin at the middle school level. In order to acquire a more accurate depiction of the impact of standardized tests in Title I and non-Title I schools a study could be ascertained beginning at the elementary level.

This study was limited to a single school district in southwest Oklahoma. A statewide study with various assessment data could yield more profound results and allow future researchers a better assessment of the impact of Title I funding over time. Title I is a federally funded program, therefore more research should be conducted at a regional, state, or national level. There are also numerous factors that influence student achievement besides Title I funding. Additional funding for programs and learning resources cannot be expected to make up for students growing up in poverty. Additional studies using more variables, such as the incorporation of school size, and race and ethnicity and the new online OCCT testing format could reveal more insight and information to assist student academic achievement and school district expenditures.

A mixed method research approach adding in a qualitative aspect of site interviews with building administrator and Title I teachers could provide more insight

into expenditure issues, student achievement, and the school culture of each building site.

This study provided a greater insight into the complicated trends and relationships between Title I expenditures and student achievement on the math and reading portions of the Oklahoma Core Curriculum tests in math and reading while controlling for overall expenditures, gender, and socioeconomic status. Results from the study on the single school district found no significant relationships in the trends. The information provided by the quantitative data analyses also revealed there were no significant differences between math and reading achievement between Title I and non-Title I schools in the district, controlling for the same variables.

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APPENDIX A

Institutional Review Board for the Protection of Human Subjects

Approval of Initial Submission – Exempt from IRB Review – AP01

Date: October 11, 2013 **IRB#:** 3588

Principal Investigator: Jan S. Thomas Ms **Approval Date:** 10/11/2013

Exempt Category: 2

Study Title: The Relationship Between Title I Funding and Standardized Test Scores of Title I and Non-Title I Schools in Southwest Oklahoma

On behalf of the Institutional Review Board (IRB), I have reviewed the above-referenced research study and determined that it meets the criteria for exemption from IRB review. To view the documents approved for this submission, open this study from the *My Studies* option, go to *Submission History*, go to *Completed Submissions* tab and then click the *Details* icon.

As principal investigator of this research study, you are responsible to:

- Conduct the research study in a manner consistent with the requirements of the IRB and federal regulations 45 CFR 46.
- Request approval from the IRB prior to implementing any/all modifications as changes could affect the exempt status determination.
- Maintain accurate and complete study records for evaluation by the HRPP Quality Improvement Program and, if applicable, inspection by regulatory agencies and/or the study sponsor.
- Notify the IRB at the completion of the project.

If you have questions about this notification or using iRIS, contact the IRB @ 405-325-8110 or irb@ou.edu.

Cordially,

Fred Beard, Ph.D.
Vice Chair, Institutional Review Board

APPENDIX B

ANTHONY HOOPER
STUDENT ASSESSMENT SPECIALIST

P.O. Box 1009 • 753 Fort Sill Boulevard • Lawton, Oklahoma 73502-1009
Phone: (580) 357-6900 • Fax: (580) 585-6437 • E-mail: thooper@lawtonps.org

September 18, 2013

Jan Thomas
Tomlinson Middle School
Lawton Public Schools
Lawton, Oklahoma

Dear Ms. Thomas,

You will be granted access to test records for Lawton Public Schools middle school students for the past six years. As we have discussed, the Family Education Rights and Privacy Act guidelines must be followed:

1) No individual students will be named in the dissertation.
2) The Lawton Public School district name will not appear in the dissertation.

If I can be of further assistance, please let me know.

Respectfully,

Tony Hooper

Tony Hooper, Student Assessment Specialist
Lawton Public Schools
Lawton, Oklahoma