THE EFFECTIVENESS OF SUMMER SCHOOL IN HALTING SUMMER LEARNING LOSS AND INCREASING STUDENT ACHIEVEMENT: A MIXED-METHODS STUDY

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AUTHORIZATION TO SUBMIT

DISSERTATION

This dissertation of Cynthia Daly, submitted for the degree of Doctor of Education with a major in Educational Leadership and titled "The Effectiveness of Summer School in Halting Summer Learning Loss and Increasing Student Achievement: A Mixed-Methods Study" has been reviewed in final form. Permission, as indicated by the signatures and dates given below, is now granted to submit final copies.

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ABSTRACT

Low-income children lose academic skills over the summertime months when they are not given learning opportunities. The loss of academic skills over the summertime months supports the widening of the achievement gap. This mixed-methods study examines the effectiveness of summer school in halting summer learning loss and increasing student achievement. Paired-samples *t*-test and independent *t*-test were used to analyze reading and math scores of students in summer school and students not in summer school. Teachers' perceptions were gathered through an open-ended survey and interviews. Themes that emerged showed reading inadequacy is the main reason students are referred to summer school, teachers lack knowledge about what curriculum is used in summer school and what content areas are available to students, and there is a lack of communication between summer school and traditional school.

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

Chapter I

Introduction

Two students enter kindergarten the same year. Madison is from a middle-income household; Andrew is from a low-income household. Because Madison is from a middle-income household, she comes into kindergarten with a six-month academic lead over Andrew (Alexander & Entwisle, 1996; Alexander, Entwisle, & Olson, 2007; Allington, McGill-Frazen, Camilli, Williams, Graff, Zeig, & Nowak 2010; Horizons National, 2012). They both progress at the same rate during their year in kindergarten. Because of Madison's family income status, some type of learning will occur during the summer months and she will make slight academic gains. Andrew's story is different. Because he comes from a low-socioeconomic (SES) household, during the summer, he will lose about two months of learning (Cooper, Nye, Charlton, Lindsay & Greathouse, 1996). When Madison and Andrew enter the first grade, a nine-month learning gap already exists between the two. This gap continues to increase, and by fifth grade, the gap is as much as three years wide (Alexander & Entwisle, 1996: Alexander et al., 2007; Allington et al., 2010; Horizons National, 2012).

Summertime months are a time in which students who are unable to access learning experiences fall behind or further behind their peers academically (Alexander et al, 1996, 2007; Cooper, 2004. Although low-income students show the same academic gains as their peers during the school year, summer represents a time in which students who come from low-income households experience a loss in learning that their more affluent peers do not experience (Alexander & Entwisle, 1996; Alexander et al., 2007; Cooper, 2004; Heyns, 1978).

Each year, the gap continues to widen, and by the end of fifth grade, disadvantaged children are nearly three grade equivalents behind their more affluent peers in reading (Alexander et al., 2007; Allington et al., 2010).

The achievement gap reflects differences between low-SES and high-SES students' home environments, with academic gains during the school year being relatively equal between both groups (Allington et al., 2010; Cooper et al., 2000).

Students coming from households with higher SES experience activities such as vacations, summer camp, use of computers, and even trips to the library. Their learning faucet is on and flowing. The lack of resources for children of lower SES status leads to inequality when performance is compared to that of their more affluent peers (Jensen, 2009). Summer represent a time for students from low SES when the learning faucet is turned off (McCombs, Augustine, Schwartz, Bodilly, McInnis, Lichter, & Brown Cross, 2011).

Statement of the Problem

Students who come from low-socioeconomic households show the effects of summer vacation through their lower achievement scores. Low-income students lose approximately two months of grade-level equivalency during the summer months (Alexander & Entwisle, 1996; Alexander et al., 2007; Cooper et al., 2000; Heyns, 1978). In contrast, middle-income students will make slight academic gains (Alexander & Entwisle, 1996; Alexander et al., 2007; Cooper et al., 2000; Heyns, 1978). Due to out-of-school influences and lack of summer learning opportunities, summer vacation is a primary factor why students from poverty continue to lag academically behind their more affluent peers (McCombs et al., 2011, Terzlan, et al, 2009).

The purpose of this mixed-methods study is to examine the effectiveness of elementary summer school in halting summer learning loss and increasing student achievement. A

convergent, parallel, mixed methods design was used to analyze quantitative and qualitative data. In this study, standardized test scores and summer pretests and posttests in both reading and math skills were used as quantitative data. Qualitative data was collected through open-ended questions and interviews with teachers.

Background to the Study

Accountability for students who struggle with learning is a focus for the Mountain School District (MSD). With their focus on closing the achievement gap, MSD is able to offer extended learning time opportunities to those in need through funding provided by the Elementary and Secondary Education Act (ESEA).

The ESEA, renamed No Child Left Behind Act (NCLB) in 2001, has been due for reauthorization since 2007. Because reauthorization has not happened, President Obama announced in September of 2011 that the Obama administration would grant waivers from NCLB to qualified states (U.S. Department of Education, 2013). In order to qualify for waivers from NCLB, each state agency must complete the waiver application process (U.S. Department of Education, 2013). Waivers grant states flexibility regarding specific requirements of NCLB "in exchange for rigorous and comprehensive state-developed plans designed to improve educational outcomes for all students, close achievement gaps, increase equity, and improve the quality of instruction" (U.S. Department of Education, 2013, ESEA Flexibility, para. 1).

The ESEA provides federal funds to state and local school districts through the Title I grant program. Title I is a federal education program providing additional funding to elementary and secondary schools with high percentages of high-poverty and low-achieving students (Aud, 2007; Haymon, 2009; Wong & Nicotera, 2007). The intent of the Title I program is to provide funds for resources in order to close the achievement gap between students who come from

higher SES households and those who come from lower SES households (Aud, 2007; Haymon, 2009; Cooper et al., 2000).

In order for Title I funds to be used to close this achievement gap, Section 1001 (c) (4) states funds "are to be used to ensure that children have full access to effective high-quality regular school programs and receive supplemental help through extended time activities" (Cooper et al., 2000, p. 5). Because of state and federal mandates, MSD offers summer school sessions at selected Title I elementary schools as a way to provide supplemental academic assistance through extended time activities.

The literature about effectiveness of summer school programming revealed the faucet theory. Entwisle, Alexander, and Olson (1997) coined the term during their research describing the faucet theory as students having access to resources. During the school year, because of those resources, the faucet is turned on; the resources are flowing and learning takes place. However, during the summer, the faucet is turned off for low-socioeconomic students, as they do not have access to learning resources during summer months (Entwisle, et al., 1997). The faucet theory provides the theoretical framework for this research. Most children, regardless of SES, lose two months of grade-level equivalency in math computational skills during summer months (Entwisle et al., 1997). Low-income children also lose more than two months in reading achievement, while middle-income peers make slight gains in reading. This learning gap widens over time, so that by the ninth grade, low-income students are years behind their more affluent peers (Entwisle et al., 1997).

Research Questions

This study will focus on the effectiveness of summer school as a means to reduce or prevent summer learning loss and to increase student achievement. Specifically, the researcher looked at the summer school practices in MSD and sought to answer the questions:

1. In what ways is elementary summer school programming effective in preventing summer learning loss?
2. Does summer school increase student achievement, as measured by district and state standardized tests?
3. What are teachers' perceptions about the effectiveness of summer school?

The focus of this mixed-methods study is to determine if there is academic growth in students who attended summer school as compared to those students who did not attend summer school. This research focused on both math and reading scores of students who are attending Title I schools and have attended summer school. Scores were compared to scores of those students who did not attend summer school at the same Title I schools. Qualitative data was used to explore summer school effectiveness as measured by teachers' perceptions. Teachers participated in surveys and interviews exploring their perceptions of the effectiveness of summer school in the MSD.

Description of Terms

The next section includes definitions of terms that are specific to this study. This is not intended to be a list of all terms used in education, but rather a sampling of terms frequently used in this study that may be unknown to some readers.

Accountability. The notion that people (e.g., students or teachers) or an organization (e.g., a school, school district, or state department of education) should be held responsible for

improving student achievement and should be rewarded or sanctioned for their success or lack of success in doing so (EdSource, 2013).

Achievement gap. A consistent difference in scores on student achievement tests between certain different groups of children. The data documents a strong association between poverty and students' lack of academic success as measured by achievement tests. Although poverty is not unique to any ethnicity, it does exist in disproportionate rates among African Americans and Hispanics and among English learners. (EdSource, 2013).

Achievement test. A test to measure a student's knowledge and skills (EdSource, 2013).

Benchmark. A detailed description of a specific level of student achievement expected of students at particular ages, grades, or developmental levels. Benchmarks are often represented by samples of student work. A set of benchmarks can be used as checkpoints to monitor progress in meeting performance goals within and across grade levels (EdSource, 2013).

Elementary and Secondary Education Act (ESEA). The primary federal law affecting K–12 education. The NCLB Act is the most recent reauthorization of the ESEA (EdSource, 2013). Originally enacted in 1965 as part of the war on poverty, ESEA was created to support the education of the country's poorest children, and that remains its overarching purpose. Congress must reauthorize it every six years (EdSource, 2013).

Free or reduced price meals. A federal program to provide food—typically lunch and breakfast—for students from low-income families. The number of students participating in the National School Lunch Program is increasingly being used as a way to measure the poverty level of a school or district population. The number of children in this program can affect schools' or districts' eligibility for grants or other funding aimed at helping lower income families (EdSource, 2013).

Longitudinal data. Data tracked over time, for example, achievement data for a specific student or group of students. In education, the ability to track students as they progress through the school system is seen as important for evaluating the contribution schools, specific programs, and teachers make to student performance and for accurately tracking the progress of specific subgroups of students (EdSource, 2013).

No Child Left Behind Act (NCLB). The 2002 reauthorization of the ESEA. (EdSource, 2013).

Title I. A federal program that provides funds for educationally disadvantaged students, including the children of migrant workers. Funding is based on the number of low-income children in a school, generally those eligible for the free or reduced price meals program. Title I is intended to supplement, not replace, state and district funds. The funds are distributed to school districts, which make allocations to eligible schools according to criteria in the federal law (EdSource, 2013).

Significance of the Study

For millions of children in America, when schools close for the summer, safe and enriching learning environments are out of reach, replaced by boredom, lost opportunities, and risk (AfterSchool Alliance, 2013; Cooper, 2003; National Summer Learning Association, 2010). Analysis of data from the America After 3PM study measures the extent of this problem, concluding that three quarters of America's school children do not participate in summer learning programs (Afterschool Alliance, 2013; NSLA, 2010). These summer learning opportunities offer safe, structured programs that provide a variety of activities designed to encourage learning and development in the summer months. However, according to American After 3PM, 56% of children (an estimated 24 million) who are not participating in summer

learning programs, would likely enroll in a program, based on parental interest (Afterschool Alliance, 2013). The report goes on to state that 43% of the estimated 14.3 million children who attend summer learning programs qualify for free or reduced price lunches (Afterschool Alliance, 2013). Other findings from the study include:

- Thirty-five percent of African American, 29% of Hispanic, and 27% of low-income children attended summer learning programs in 2008, compared to the national average of 25%.
- More than three in four African American kids (77%) and at least two in three Hispanic (70%) and low-income (67%) kids would likely enroll in a summer learning program, based on parent interest.
- Eight in 10 parents (83%) support public funding for summer learning programs.
- Fully 95% of African American, 91% of Hispanic, and 90% of low-income parents support public funding for summer learning programs (Afterschool Alliance, 2013).

The purpose of this mixed-methods study is to examine the effectiveness of summer school programs in halting summer learning loss and increasing student achievement. MSD holds summer school each summer at selected elementary school sites receiving Title I funding. This study will examine the perception of summer school halting summer learning loss and increasing student achievement. Although this research was conducted in one school district, the student population is varied enough for research to be generalized to most school districts interested in examining the effectiveness of their summer school programs.

The district in which the study was conducted does not have any current research studies about the effectiveness of its elementary summer school programs. This study allows district leaders and school board members to analyze the effectiveness of summer school programs and

make research-based recommendations. Examining the effectiveness of summer school is the central mission of this study. The researcher explored summer school as a means to boost academic skills, in turn, halting summer learning loss. This study may give districts the information needed to reform or refine their summer school practices in order to truly halt summer learning loss and increase student achievement.

Overview of Research Methods

The quantitative portion of this study will examine longitudinal test scores and summer school attendance data. Two elementary schools within the MSD provided the longitudinal data for the academic years 2011–2012 and 2012–2013. Research was focused on students' test scores in both math and reading. The pretest and posttest given during summer school from the summer 2013 were used in conjunction with standardized test scores. Pair-samples tests along with independent *t*-test were conducted on ex post facto students scores.

The qualitative portion of this mixed-methods study focused on gathering teacher perceptions of the effectiveness of summer school in halting summer learning loss and increasing student achievement from an open-ended questions and comments survey and semi-structured interviews. Each interview was transcribed, checked for accuracy, and coded for themes.

Chapter II

The Literature Review

Introduction

For over a century, scholars have recognized that summer vacation is a period when students' rate of academic development declines relative to the school year (Alexander et al., 1996; Allington et al., 2010; Heyns, 1978). All children lose academic skills during the summer months, but family socioeconomic status (SES) is highly correlated to the level of academic growth or decline in the summer months (Alexander et al., 1996, 2000; Cooper, Valentine, Charlton, & Mulhenbruck, 2000). Two thirds of the academic achievement gap found among high school students has been explained through the learning loss that occurs during the summer months of the primary school years" (Alexander et al., 1996, 2000; Cooper, et al., 2000).

Numerous studies have examined general learning loss among all students during the summer months (McCombs et al., 2011; Terzlan et al., 2009). The first thorough investigation of summer learning was conducted in 1978. This landmark study examined 2,978 sixth and seventh graders in the Atlanta City public schools (Heyns, 1978). While low-income children and African American children came close to keeping up with middle-class children in academic growth when school was in session, they lagged far behind during the summer (Alexander et al., 1996, 2000; Cooper et al., 2000; Heyns, 1978).

The Beginning School Study in 1982 continued to examine the findings of Heyns' 1978 study (Alexander et al., 1997). The Beginning School Study compared the school-year and summer achievement gains of 790 youth across 20 of Baltimore's public schools from the beginning of first grade in 1982 through the end of elementary school (Alexander et al., 1997). The study tracked the Beginning School Study students' progress through high school and

college. Their data showed that in year nine, the low-SES group's reading comprehension average lagged 73 points behind the high-SES group's scores on the California Achievement Test (Alexander et al., 1997). An examination of the results concluded approximately a third of the 73-point difference existed when the students entered first grade. After the first grade, the low-SES students fell further behind each year, with the gap leveling at about 70 points in the fifth grade. The remaining two thirds of the 73-point gap accumulated over the course of the elementary and middle school years, with 48.5 points attributed to the cumulative summer learning gap from the five elementary years (Alexander et al., 1997).

A meta-analysis of 39 studies conducted since 1978 found in the absence of school, all students scored lower on standardized math tests at the end of the summer as compared to their performance on the same tests at the beginning of summer (Cooper, et al., 2000). This loss was most pronounced in factual and procedural learning such as mathematical computation, where an average setback of more than two months of grade-level equivalency was observed among both middle-class and lower class students (Cooper, et al., 2000). In reading, however, substantial differences were found between middle-class and lower class students (Cooper et al., 2000). Whereas middle-class students showed a non-significant gain in reading scores, lower class students showed a significant loss that represented a gap of about three months of grade-level equivalent reading skills (Cooper et al., 2000).

Each year, the gap continues to widen, and by the end of fifth grade, disadvantaged children are nearly three grade equivalents behind their more affluent peers in reading (Alexander et al., 2007; Allington et al., 2010). Although low-socioeconomic students fall further behind in reading during the summer months, Heyns (1978) showed the first results of all students losing math skills during the summer months. The achievement gap reflects differences

between low-SES and high-SES students' home environments, with academic gains during the school year being relatively equal between both groups (Allington et al., 2010; Cooper et al., 2000).

The Faucet Theory Theoretical Framework

Summer vacation from school brings to mind a carefree image of lazy days spent away from the rigors and formality of the classroom. During the summer vacation, many children are given the opportunity to broaden their horizons and explore their true passions, all the while mastering new skills (NLSA, 2012). These are all experiences that foster learning and development (Borman, Hewes, Overman & Brown, 2003). These very kinds of nonacademic experiences support learning. This learning shows up in a myriad of ways including test scores during the school year and even a vast range of background knowledge (NLSA, 2012). Children are involved in experiences that help build their background knowledge as they head back to a more traditional learning environment, such as the classroom.

When students coming from households with higher SES experience activities such as vacations, summer camp, use of computers, and even trips to the library, the faucet is on and flowing. However, for many low-income children, summer is actually a time of academic loss (Entwisle et al., 1997; Cooper et al., 2000; NSLA, 2012). The lack of resources for children of lower SES status leads to inequality when performance is compared to that of their more affluent peers (Jensen, 2009). Significant numbers of children, who do not have access to these and other experiences, experience an academic loss during their three months from the classroom (Borman et al., 2003).

During the school year, most children benefit from the phenomenon best described by the faucet theory, where learning resources are "turned on" for all children during the school year

(McCombs et al., 2011). However, in the summertime, the faucet is "turned off" for the low SES children. Children from low-SES households do not have the same opportunities to attend camps, or go on day outings or an extended vacation as their peers from more affluent households (Jensen, 2009). Thus, the experiences of low-income children are not likely to mirror those of middle-income children in private camps, where enrichment in the arts, technology, and sports is commonplace. In addition, the lack of affordable child care may require older children in low-income families to stay at home to care for younger children during the hours in which their parents work (Jensen, 2009). Income status plays an important role in summer experiences or lack thereof (Borman et al., 2003).

Children in neighborhoods with high levels of poverty had greater summer learning loss (Miller, Seifer, Stroud, Sheinkopf, & Dickstein, 2006). Housebound children may end up spending many of their summer hours in front of the television, an activity that is negatively associated with learning in general and reading in particular (Alexander & Entwisle, 1996; Miller et al., 2006; NSLA, 2012).

The data on summer program participation reflect Entwisle and Alexander's (1997) findings. Information about summer program participation shows summer opportunities are not evenly distributed, and low-income children suffer (Miller et al, 2006). Racial differences are also apparent; most studies find that the racial group most likely to attend summer opportunities is Caucasian children, followed by African American children, with Latino children attending at lower rates (Miller et al, 2006). The National Center for Education Statistics (2011) found that 42.5% of children in high-income households attended camp the summer after kindergarten, compared with just 5.4% of children in low-income families and 18.4% of children in middle-income families.

During the school year, free public education provides learning opportunities for families with school-age children, at least part of the day. If low-income children are to gain access to programs that can halt summer learning loss, public funding is needed to “turn on the faucet” of learning experiences (Miller et al, 2006).

School Readiness and the Effects of Poverty

The brain’s most critical stage of development is in early childhood (Jensen, 2009). Early childhood is also the most critical period for the development of the brain’s stress management system (Ryan, Fauth, & Brooks-Gunn, 2006). Exposure to incontrollable, or “toxic,” levels of stress before the brain is fully developed can cause children to become overly sensitive to stressors that they will naturally come across in life (Jensen, 2009; Ryan et al., 2006). This oversensitivity reduces the ability of both children and adults to engage in the world without experiencing excessive levels of stress and fear (Jensen, 2009).

Students’ background knowledge impacts their academic achievement (Fisher & Frey, 2009; Marzano, 2003). A student's prior knowledge about a subject is probably the best predictor of reading comprehension (Fisher & Frey, 2009; Marzano, 2003). Educational experiences, or lack thereof, early in students’ lives have great impact within the context of school readiness and achievement (Marzano, 2003). Psychologists and child development specialists theorize that behavior originates from a combination of genes and environment stating, “Genes begin the process: behavioral geneticists commonly claim that DNA accounts for 30–50 percent of our behaviors, an estimate that leaves 50–70 percent explained by environment” (Jensen, 2009, p. 13). Additional research of risk and resilience in children have shown that family income correlates significantly with children's academic success, especially during the preschool, kindergarten, and primary years (Jensen, 2009). Only 48% of children born to parents in the

bottom fifth of family income levels are school ready, compared with 78% of children in the top fifth of income levels (Sawhill, Winship, & Grannis, 2012).

Low-SES children are often left home to fend for themselves and their younger siblings while their caregivers work long hours; compared with their well-off peers, they spend less time playing outdoors and more time watching television and are less likely to participate in after-school activities (Jensen, 2009). The more students know about the world around them, the more likely they are to make content connections and succeed in the classroom (Fisher & Frey, 2009; Marzano, 2003).

Factors that positively influence student achievement can be divided into three categories: student-level, teacher-level, and school-level (Marzano, 2003). Student-level factors are related to the student's home environment, learned intelligence plus background knowledge, and motivation. Children raised in poverty are much less likely to have crucial needs met than their more affluent peer with research showing that "home atmosphere or environment is highly correlated with student achievement" (Jensen, 2009; Marzano, 2003, p. 128). Teacher-level influences account for only 20% of the difference in student achievement, while student-level characteristics account for 80% (Marzano, 2003). The multifaceted relationships students encounter on a daily basis–peers, adults in the school, and family members–wield a much greater influence on their behavior than researchers previously assumed (Harris & Herrington, 2006; Jensen, 2009). This process starts with students' core relationships with parents or primary caregivers in their lives, which form a personality that is either secure and attached or insecure and unattached. Securely attached children typically behave better in school (Blair et al., 2008). Educators can make a profound impact on student achievement through focusing on factors that

affect student-level characteristics (Marzano, 2003). According to Jensen (2009), to grow up emotionally healthy, children under three need:

- A strong, reliable primary caregiver who provides consistent and unconditional love, guidance, and support.
- Safe, predictable, and stable environments.
- Ten to twenty hours each week of harmonious, reciprocal interactions. This process, known as attunement, is most crucial during the first six–24 months of infants' lives and helps them develop a wider range of healthy emotions including gratitude, forgiveness, and empathy.
- Enrichment through personalized, increasingly complex activities. (p. 15-16)

Because students who come from low-SES households often do not have their emotional needs met (Jensen, 2009), summer school programs are one way to counteract students' home environment and lack of background knowledge (Furman & Bordoff, 2008). Students from low-socioeconomic households in the United States start school at a disadvantage in terms of their early skills, behaviors, and health (Isaacs, 2012). Fewer than half of children from low-SES households are ready for school at age five, compared to 75% of children from moderate- and high-SES households (Isaacs, 2012).

Children with higher levels of school readiness at age five are generally more successful in grade school, are less likely to drop out of high school, and earn more as adults, even after adjusting for differences in family background (Duncan, 2010; Isaacs, 2012). Entering school ready to learn has been shown to increase one's chances of reaching middle-class status by age 40 by about 8% (Sawhill et al., 2012).

Elements of SES, such as poverty status, parental education, and family structure, affect the child's home-learning environment (Furman & Bordoff, 2008). Children from households of poverty are read to less often, own fewer books, and watch more television than their peers who come from middle and high-income households (Furman & Bordoff, 2008; Jensen, 2009). Compared to well-off children, poor children are disproportionately exposed to adverse social and physical environments (National Commission on Teaching and America's Future, 2004). A good start in life and early school success is directly related to high school completion and postsecondary education; these in turn are linked to increased lifelong earnings (Ryan, et al., 2006). Low-income neighborhoods are likely to have lower-quality social, municipal, and local services (Jensen, 2009). The physical environment in poor neighborhoods is significantly different than more affluent neighborhoods. Poorer areas offer greater traffic volume, higher crime rates, and less playground safety (NCTA, 2004). In addition, poor neighborhoods are more hazardous and less likely to contain green space than well-off neighborhoods (NCTA, 2004). Poor children often breathe contaminated air and drink impure water. Their households are more crowded, noisy, and physically deteriorated and they contain a greater number of safety hazards (NCTA, 2004).

The National Center for Children of Poverty (2012) reported several statistics about children living in poverty:

- Children represent 24% of the population, yet they comprise 34% of all people in poverty.
- Among all children under 18, 44% live with low-income households and approximately one in every five (21%) live with poor families.

- Eighty-five percent of children with parents who have less than a high school degree (7.4 million) live in low-income families.
- Sixty-five percent of children with parents who have no more than a high school degree (9.8 million) live in low-income households.
- Thirty percent of children with at least one parent who has some college or more education (14.7 million) live in low-income households.

These statistics become relevant when looking at the current economic climate. The Bureau of Labor Statistics (2014) reports the current jobless rate as 6.7%. Although, this current jobless rate has decreased from its peak at 9.5% in February 2011 (Bureau of Labor Statistics, 2012), the tough economic trends of the last couple of years may be a contributing factor to the widening of the gap between those who live in poverty and those who do not (Tavernise, 2012).

Although there is no single definition of school readiness, there is agreement that readiness is a multifaceted concept that goes beyond academic and cognitive skills to include physical, social, and emotional development, as well as approaches to learning (Karoly, Kilburn, & Cannon, 2005). Many children from disadvantaged backgrounds fail to meet grade-level expectations in core subjects (Karoly et al., 2005). For example, national educational assessments at grades eight and 12 show that about 50% of children from at-risk backgrounds score below the “basic” level of reading and math achievement, indicating that they have less-than-partial mastery of the knowledge and skills needed to perform proficient work at that grade level (Karoly et al., 2005). Other indicators of problems in school achievement for disadvantaged children include higher rates of special education placement, grade repetition, and dropping out of school (Karoly et al., 2005). Due to issues of transportation, healthcare, and family care, high tardy and absentee rates are common problems among poor students (Jensen, 2009).

Unfortunately, absenteeism is the factor most closely correlated with dropout rates (Jensen, 2009). Compared with their more affluent peers, low-SES children form more stress-ridden attachments with parents, teachers, and adult caregivers and have difficulty establishing rewarding friendships with children their own age (Jensen, 2009). Children growing up in poverty are more likely to enter school with significant deficits in social-emotional readiness, with over 40% demonstrating delays in social competencies and communication abilities as they enter school (Bierman et al., 2008). Further more, over 20% of children growing up in poverty exhibit high rates of disruptive behavior problems that undermine school adjustment (Bierman et al., 2008). They are more likely than well-off children to believe that their parents are uninterested in their activities, to receive less positive reinforcement from teachers and less homework help from babysitters, and to experience more turbulent or unhealthy friendships (NCCP, 2008). Kids raised in poverty are more likely to lack a caring, dependable adult in their lives, and often it's teachers to whom children look for that support (Jensen, 2009; Kainz & Vernon-Feagans, 2007)

The 1960s showed a marked increase of the involvement of the federal government for students often neglected under state educational systems. During his presidency, Lyndon Johnson created the ESEA Title I program of 1965 (Aud, 2007; Haymon, 2009). The Title I program was Johnson’s attempt at closing the achievement gap between the poor and minority students by providing supplemental funds for their education (Aud, 2007; Roloff, 2009). The Title I program was seen by many as the way to level the playing field for poor and minority students by equalizing access to curriculum and providing funds for needed supplies and textbooks (Roloff, 2009, Stilwell-Parvensky, 2011). Although Title I funds were intended to help close the achievement gap, the gap still remains wide (Tavernise, 2012).

Achievement Gap: A History

In 1964, the Commissioner of Education received a directive to conduct a national survey on the availability of educational opportunity for students, with a special focus on identifying where services for poor students were lacking (Coleman, Campbell, Hobson, McPartland, Mood, Weinfeld & York, 1966; Marzano, 2003; Roloff, 2009). In 1966 professor James Coleman and others at the Johns Hopkins University were commissioned by U.S. Commissioner of Education Harold Howe to conduct a major study of the overarching question: which strategy was more likely to equalize educational opportunities for poor minority students-compensatory education or racial integration (Coleman et al., 1966). The report "Equality of Educational Opportunity", which become known as the Coleman Report, was commissioned to answer four questions: to what extent are the racial groups segregated from one another in public schools, whether the schools offered equal educational opportunities, how much did the students learn, as measured by their performance on standardized achievement test, and whether or not there was a possible relationship between student achievement and the kinds of schools they attend (Coleman et al., 1966). The Coleman Report findings had a profoundly negative impact on the perception of the educational system (Marzano, 2003). The first finding revealed school resources did not show statistically significant effects on student achievement for Caucasian students (Coleman et al., 1966; Marzano, 2003). In other words, what happened in schools made little difference on student achievement. A second finding of the Coleman Report was background characteristics of students have the most significant effect on student achievement (Coleman et al., 1966; Marzano, 2003; Roloff, 2009). In other words, when it came to improving academic achievement in the inner city, what mattered most was neither special programs nor racial integration but, rather, family background and socio-economic status (Coleman et al., 1966).

The National Commission on Excellence in Education (1983) issued "A Nation at Risk: The Imperative for Educational Reform." "A Nation at Risk" showed educational equality was not a reality in schools (The National Commission on Excellence in Education, 1983). Some schools had rigorous curricula, while in other schools high expectations and rigor were missing. "A Nation at Risk" reported schools were failing to provide quality education that was necessary to help students succeed in a global society (Roloff, 2009). This report ignited a movement focused on standards-based reform, as well as stricter requirements for high school graduation and eventually led to the NCLB Act of 2001(Roloff, 2009).

Under NCLB, high-stakes student assessments were implemented with the goal that by 2014, all students, regardless of SES or ethnicity, would test at 100 percent proficiency in reading and mathematics (Roloff, 2009). The NCLB accountability system required all schools and students to meet a single-mean proficiency level in reading and mathematics. Accordingly, by applying uniform annual measurable objectives in reading and mathematics to all students, the adequate yearly progress requirements were intended to create strong incentives for schools to improve the achievement of underperforming students (Duke, Tucker, Salmonowicz, & Levy, 2007). The intentions of the act were to help close the achievement gap. However, the gap still exists (Stilwell-Parvensky, 2011; Tavernise, 2012).

The achievement gap in education refers to the disparity in academic performance between groups of students (Jackson, 2005). In the case of this study, the achievement gap reference addresses the difference in achievement between students from poverty or low-income households compared to middle-income and upper income households.

Children's experiences early in life are directly related to the widening of the achievement gap (Coles, 2008; Cooter & Perkins, 2007). Poor children are much more likely

than other children to score very low on math and reading skills: three out of ten poor children (30 %) score very low on early reading skills, compared to only 7% of children from moderate or high income families (Isaacs, 2012). Students coming from low-income households do not have the same experiences as students coming from more affluent households (Blysma, 2004; Isaacs, 2012). Poor children in the United States start school at a disadvantage in terms of their early skills, behaviors, and health (Isaacs, 2012). Furthermore, poverty and academic achievement are causally related (Bylsma, 2004; Jackson, 2005). Affluent children have more opportunities, thereby increasing their learning experiences (Bylsma, 2004; Jackson, 2005).

Before age six, affluent children spend 1,300 more hours than low-income children in places other than their homes, their day care centers, or schools (Chin & Phillips, 2003; Tavernise, 2012). Affluent children spend about 400 hours more than poor children in literacy activities, such as being read children's books, reading children's books, going to the library, or even attending museums (Tavernise, 2012).

The difference in language usage between affluent and low-income students further demonstrates why an achievement gap exists. Hart and Risley (2003) found that in a 100-hour week, the average child in a family with college educated parents experienced 215,000 words spoken, the average child in a working class family experienced 125,000 words spoken, and the average child of a welfare family experienced 62,000 words spoken. By the age of four, the average child in a welfare family might have 13 million fewer words of cumulative experience than the average child in a working class family. Disparity not only existed in the numbers of words spoken but also in the types of words spoken. The ratio of affirmations to discouragements per hour amongst affluent families was 6:1, in working-class families the ratio was 2:1, and in

welfare families the ratio was 1:2. Not only do students from poverty come to school lacking language exposure, the words they are exposed to are less affirming (Hart & Risley, 2003).

Since Title I was first enacted, efforts to extend the school day or the school year have been a common use of Title I funds, with districts and schools using their Title I dollars for after-school programs and summer school (Roloff, 2009). Both President Obama and Secretary of Education Arne Duncan have also voiced their support for longer school days and school years as a key strategy to improve the achievement of disadvantaged students (U.S. Department of Education, 2009). The logic behind extended instructional time is that more time in school can provide more opportunities for student learning, particularly for students who lag behind their peers academically, and for disadvantaged students who have less opportunity for academically enriching activities outside of school (Alexander et al., 1996; Cooper et al., 2000).

Longer school days and school years are also a common characteristic among many of the best documented successful school interventions, including district schools that are making great strides to close the achievement gap between low-income students and their high-income peers (Stilwell-Parvensky, 2011). However, merely increasing the quantity of school time may be ineffective, and attention needs to be focused on ensuring that the quality of any additional school time is improved (Beckett, et al., 2009; Duffy, 2001). Increasing the amount of academic learning time, the time in which students are actively engaged in learning, should be the main focus of any extended time efforts that seek to improve student achievement (Stillwell-Parvensky, 2011).

Summer Learning Loss

Summer vacation wasn't widely instituted until the late nineteenth century when one of the measurements of a good school at that time was the number of days it was open (Weiss &

Brown, 2005). Oftentimes, the financial state of the district determined how long the school was open during the year. Until educational reforms in the last century sought to unify schools, many districts operated on a calendar that varied from region to region based on the unique needs of the community (Weiss & Brown, 2005). The nine month calendar that is used in the majority of American schools today was never initially intended to be the standard calendar for schools (Kneese & Ballinger, 2009).

The idea of the traditional summer vacation seems to have become part of the fabric of American culture over the course of the last 200 years. Currently, many Americans view the summer holiday as the backbone of our country's school system (Weiss & Brown, 2005). In addition, the revenues of many seasonal industries have become dependent on the openings and closings of the traditional school. As well, the summer-themed attractions for children seem to give credence to the metaphor given by one writer that the school schedule is one of the "great clocks of our society" (Weiss & Brown, 2005). For the past 100 years, though, researchers have begun to document what has been called the summer slide as the decline in student achievement immediately following the summer break (Borman & Dowling, 2006).

Students experience learning losses when they do not engage in educational activities during the summer (Chin & Phillips, 2003). Students typically score lower on standardized tests at the end of summer vacation than they do on the same tests at the beginning of summer vacation (Allington et al., 2010). On average, students lose approximately 2.6 months of grade-level equivalency in mathematical computation skills over the summer months (Allington et al., 2010). The greatest areas of summer loss for all students, regardless of SES, are in factual or procedural knowledge (Allington et al., 2010;). Low-income children experience greater summer learning losses than their higher income peers. On average, middle-income students experience

slight gains in reading performance over the summer months. Low-income students experience an average summer learning loss in reading achievement of more than two months (Allington et al., 2010; Cooper et al., 2000).

Summer learning loss contributes to the achievement gap in reading performance between lower income and higher income children and youth. Student achievement for both middle-income and lower income students improves at similar rates during the school year. However, low-income students experience cumulative summer learning losses over the elementary school grades (Allington et al., 2010; Cooper et al., 2000; Chin &Phillips, 2003).

Summer learning differences account for the primary cause of the widening achievement gaps between students of lower and higher socioeconomic levels (Allington et al., 2010). Summer learning loss appears to be unique to the United States and is related to the length of the summer break and summer learning opportunities available to different groups (Wiseman & Baker, 2004). By ninth grade, the summer slide accounts for two thirds of the achievement gap in reading between low-income children and students from higher socioeconomic households and makes a difference in whether they drop out of school or graduate (Beckett et al., 2009).

Out-of-school time is a dangerous time for unsupervised children and teens (Chin & Phillips, 2003). They are more likely to use alcohol, drugs, and tobacco, engage in criminal and other high-risk behaviors, receive poor grades, and drop out of school than those who have the opportunity to benefit from constructive activities supervised by responsible adults (Beckett et al., 2009; Hernandez, 2011).

Summer School as a Solution to Summer Learning Loss

In the nineteenth century, school calendars varied depending on where one resided. In areas of the United States that relied heavily on agriculture for the economy, school was often

closed during the summer months to allow students to help families during the harvest. In urban areas of the country however, schools usually operated on an 11 or 12-month calendar (Orellana & Thorne, 1998). The late nineteenth and early twentieth century saw a shift toward new industrial economies across the United States, which led to the need for a standardized calendar for schooling. Thus, the modern calendar, which includes a long summer recess, was created (Cooper, 2001). There were programs and camps to fill that gap, and school districts also sought to use the summer months to remediate and accelerate learning.

Summer schools offering a range of academic- and enrichment-type activities have the potential to provide increased academic benefits. Although many studies have been completed measuring the effectiveness of summer programs, these studies are difficult to compare because they serve differing populations, offer differing services, and even use diverse tools to measure their effectiveness (Beckett et al., 2009; Duffy, 2001). However, summer programs can possibly halt summer learning loss. Instead of losing knowledge and skills during the summer months, kids who attend reading programs actually show gains (Fiore & Roman, 2010).

Participation in summer learning programs should mitigate learning loss and could even produce achievement gains. Indeed, educators and policy makers increasingly promote summer learning as a key strategy to improve the achievement of low-performing students (McCombs et al., 2011).

Effective Summer School

Summer programs have been developed for students with wide-ranging interests and needs (Terzlan, Anderson, & Hamilton, 2009). Examples include outdoor adventure camps, arts and music camps, sports camps, summer school, summer reading programs, high school transition programs, college preparatory programs, apprenticeships, and paid internship programs

(Terzlan et al., 2009). Typically, summer learning programs are about six weeks in duration and are held at schools, places of worship, cultural centers, and youth-focused nonprofit organizations (Terzlan et al., 2009).

Students who show up to summer school do not automatically make gains in closing the achievement gap (McCombs et al., 2011; Terzlan et al., 2009). In order for summer programs to have positive effects on student learning, the programs need to be effective (McCombs et al., 2011; Terzlan et al., 2009). School districts do not necessarily agree on how to define the effectiveness and purpose of summer school. Thus, there is no consensus with what summer programming should offer (Terzlan et al., 2009). Summer programs focusing on remediation of skills show short-term learning benefits (Jacob & Lefgren, 2004; McCombs, Kirby & Mariano, 2009; Matsudaira, 2008; McCombs et al., 2011). A prioritization of mathematics and literacy skills typifies programs (Borman & Dowling, 2006; Heron, 2003; Opalinski, Ellers & Goodman, 2004). Terzlan, Anderson, and Hamilton's (2009) summary of effective summer programs shows several models are successful in supporting students' needs during the summer. Although there was evidence of these programs supporting students' needs, the programs that primarily focused on academics showed the most positive outcomes in increasing reading comprehension and math computational skills (McCombs et al., 2011; Terzlan et al., 2009).

Children who both live in poverty and read below grade level by third grade are three times as likely not to graduate from high school as students who come from a middle-class or affluent household (Hernandez, 2011). Summer school provides students reading below grade level at the end of the school year an opportunity to continue to build reading skills to help them achieve grade-level reading. Actual time spent reading is the determining factor that influences reading growth (Fiore & Roman, 2010).

A common practice among educators is to send books home during summer months for students to read. Hughes-Hassel and Rogde (2007) completed a study showing the importance of incorporating leisure reading into the students' day. Students were interviewed about their reading habits. Interview results show students reported reading magazines or comics as forms of reading (Hughes-Hassel & Rogde, 2007). However, struggling students need more direction with their reading; just giving them reading materials may not be the best solution (Kim & Guryan 2010; Kim & White, 2011; Krashen, 2001). Reading programs offered during summer school need to have a focused curriculum; meeting students' learning needs, and have a targeted outcome in order to be effective (Cummings, 2007). Summer school programs offering a focused effort on reading books of interest that correspond to the students' reading level showed the greatest success in closing the achievement gap (Allington et al., 2010; Cummings, 2007; Kim & White, 2011; Krashen, 2001).

Research about summer reading programs has prompted policy makers to investigate methods for increasing opportunities for children to read independently at home (Kim, 2007. Despite these well-intended ideas, it remains unclear how summer programs can increase independent reading at home for students during the summer months (Kim, 2007; National Reading Panel, 2000). Learning is best achieved when enrichment activities, such as field trips or the learning of a new skill, are presented during summer teaching (Bell & Carrillo, 2007). Summer programs that focus both on accelerating learning and youth development accomplish the primary goal of preventing summer learning loss and narrow the expansion of the achievement gap (Bell & Carrillo, 2007).

For young people living in poverty in large urban settings, the considerations of cost and proximity narrow the realistic options for summer programming. In addition, information about

summer programs is rarely aggregated at the community level, making programs difficult to find (McLaughlin & Pitcock, 2009). Typically, four types of operators offer free or low-cost summer programs targeted toward disadvantaged youth:

- schools (summer school and other school-run models)
- parks and recreation centers
- child care centers (through child care vouchers)
- community-based and faith-based organizations (McLaughlin & Pitcock, 2009).

Across all types of school-operated programs, the trend toward half-day, 4-week programs also influences commitment to quality in the summer. School-operated programs that serve low-income youth generally fall into two primary categories: traditional summer school and school–provider partnerships (McLaughlin & Pitcock, 2009).

Traditional summer school programs, which are largely focused on academic remediation for grade promotion, are a carryover of school-year staff, instructional practices, and training. Today, most traditional summer school programs operate four hours a day for four to six weeks and serve only low-performing or special needs students (McLaughlin & Pitcock, 2009).

In order for summer programming of any type to be effective, several key characteristics must be embedded into the program. Bell and Carrillo (2007) developed nine characteristics of effective summer learning programs and divided them into two sections. The first three characteristics address a program's approach to learning:

- intentional focus on accelerating learning
- firm commitment to youth development
- proactive approach to summer learning (Bell & Carrillo, 2007, p. 46).

The second section addresses infrastructure and ability to maintain quality programming:

- strong, empowering leadership
- advanced, collaborative planning
- extensive opportunities for staff development
- strategic partnerships
- rigorous approach to evaluation
- commitment to program improvement
- clear focus on sustainability
- cost effectiveness (Bell & Carrillo, 2007, p. 46).

While development and structure of a summer program are vital for success (Bell & Carrillo, 2007), they are not the only components necessary for an effective summer school program. Effective components at the classroom level need to complement the development and structure for maximum success (Bell & Carrillo, 2007; McCombs et al., 2011).

A systematic, coherent, integrated, and cognitively challenging curriculum is especially important for students' success in a high-poverty context (Kennedy, 2010). Summer programs that are intended to provide individualized instruction with teachers working in small learning groups are more effective than programs without differentiated instruction and small group learning (Beckett et al., 2009; Boss & Railsback, 2002). Programs reporting positive impacts shared several characteristics.

- Ground learning in a real-world context.
- Integrate hands-on activities.
- Content complements curricular standards.
- Hire experienced, trained teachers to deliver the academic lessons.
- Keep class sizes small (Bell & Carrillo, 2007, p. 46).

For economically disadvantaged students, who often miss out on extracurricular activities such as sports and music during the school year, combining academic instruction with youth development and physical fitness activities may be particularly effective.

In order for summer school to be effective, districts need to be explicit and intentional in their efforts (Beckett et al., 2009 Bell & Carrillo, 2007; Boss & Railsback, 2002). Although the goal of closing the achievement gap on a national level has been difficult to meet, some schools have been successful in producing results that support increased student achievement, despite the demographics of the students attending the school (Department for Children, Schools, and Families, 2009; Gamse, Bloom, Kemple, & Jacob, 2008; Kennedy, 2010)

Recommendations for Effective Summer Programs

In 2013**,** Augustine, McCombs, Schwartz, and Zakaras published the second report in a series funded by The Wallace Foundation. The Wallace Foundation is funding a multiyear project to determine whether district summer learning programs can stem summer learning loss for low-income students (Augustine, McCombs, Schwartz, & Zakaras, 2013). The recommendations made were based on data that included more than 1,800 surveys, 325 interviews, and close to 400 hours of direct observations of classroom and enrichment activities (Augustine et al., 2013). The data came from voluntary programs that offered reading, mathematics, and enrichment activities (such as arts, sports, and science exploration); operated for a full day; provided transportation to students; were free of charge; and shared a goal of maintaining or improving student achievement (Augustine et al., 2013).

Planning. Launching a summer program is akin to starting a new school year, but with less time for planning and execution (Augustine et al., 2013). A good planning process may be the most important characteristic of a strong program: It reduces logistical problems and

increases instructional time for students (Augustine et al., 2013). A good planning process includes starting early, committing to having a summer program by January, and including both district and site-level staff in the planning process (Augustine et al., 2013, pp. xiii-xiv).

Curriculum and instruction. Summer programs are short and often provide little time for teachers to plan their lessons. To maximize the effectiveness of instruction, teachers must have high-quality curricular materials, matched to student needs and small class sizes (Augustine et al., 2013). Maximizing effective curriculum and instruction includes anchoring the program in a commercially available and evidence-based curriculum, standardizing the curriculum across district sites, and including strategies for differentiation in curriculum materials to accommodate at least two ability levels (Augustine et al., 2013, pp. xiii-xiv).

Teacher selection and training. Teaching quality has the largest school-based impact on student outcomes of any factor (Augustine et al., 2013, Marzano, 2003). Hiring effective teachers and giving them the support they need are critical steps to maximizing student achievement. Recommendations for teacher selection and training includes recruiting and hiring the right teachers, giving teachers sufficient training and ongoing support, familiarizing teachers with the summer curriculum and how to teach it (Augustine et al., 2013, pp. xiii-xiv). Additionally, effective programs help teachers tailor the curriculum for students with different aptitudes, provide ongoing support to implement the curriculum, include all instructional support staff in academic training sessions, and give teachers time to set up their classrooms in advance (Augustine et al., 2013, xiii-xiv).

Enrichment Activities. Including fun and engaging enrichment activities such as the arts, sports, and science exploration to differentiate their programs from traditional summer school helped programs to attract students and promote attendance (Augustine et al., 2013).

Recommendations for enrichment activities include keeping class sizes small, selecting providers with well-qualified staff who have experience in behavior management, and conducting careful planning if enrichment is supposed to be integrated with academics (Augustine et al., 2013, p. xiii-xiv).

Attendance. In order for students to benefit from summer programs, they must attend regularly. Attendance recommendations include setting enrollment deadlines, establishing a clear attendance policy and providing field trips and other incentives for students who attend (Augustine et al., 2013, pp. xiii-xiv). Keep in mind it is not necessary to disguise academics to boost attendance (Augustine et al., 2013, p. xiii-xiv).

Time on task. Besides providing high-quality instruction and achieving good attendance, a program needs to be structured to provide a sufficient amount of time on academics to improve performance.

- Operate the program for five to six weeks.
- Schedule three to four hours a day for academics and focus on academic content during those hours (Augustine et al., 2013, p.xiii-xiv).

Conclusion

Summer vacation presents a potential time of huge academic setbacks for many low-income children (Alexander et al., 2003; Allington et al., 2010; Burgin & Hughes, 2008; Kim & White, 2011; McCombs et al., 2012). While other children from middle-income and more affluent households participate in enriching activities, many children from low-income families continue to fall further behind academically (Alexander et al., 2003; Allington et al., 2010; Burgin & Hughes, 2008; Kim & White, 2011). Effective summer learning programs support students' needs during the summer; however, summer learning programs need to be rigorous

environments (Bell & Carrillo, 2007; Burgin & Hughes, 2008; Terzlan et al., 2009). In order for effective summer programming to occur, planning needs to be explicit and intentional (Bell & Carrillo, 2007). Effectiveness also relies on examining student population needs, community resources, and also how effectiveness will be measured (Bell & Carrillo, 2007; Burgin & Hughes, 2008).

Successful programs are not prescriptive but rather individualized in order to meet the needs of students attending (Bell & Carrillo, 2008). Successful summer programs include factors such as; smaller class size, differentiated instruction, small learning groups, and high-quality instruction in order to ensure successful summer learning programs (Bell & Carrillo, 2007; Boss & Railsback, 2002; McLaughlin & Pitcock, 2009). Districts need to evaluate the validity and reliability of collected scores before any programming decisions are made. Challenges exist in collecting reliable data, as difficulties lie in measuring growth (Burgin & Hughes, 2008). Creating effective summer school programs is not an easy task. However challenging, effective summer programs may be a way to close the achievement gap and well worth the time and energy used to create an effective program.

Chapter III

Design and Methodology

Research Design

Based on a myriad of research discussed in the literature section, the researcher chose to use a mixed-methods design for this study. A mixed-methods design is a procedure for collecting, analyzing, and mixing both quantitative and qualitative data to understand a research problem more completely (Creswell, 2012; Creswell & Plano Clark, 2011). The rationale for mixing quantitative and qualitative methods is that neither is sufficient alone to showcase the trends and details of the phenomenon being studied. In this case, the effectiveness of summer school in halting summer learning loss and increasing student achievement is the phenomenon being researched. When used in combination, quantitative and qualitative methods complement each other and allow for a more complete analysis (Tashakkori & Teddlie, 2010).

A mixed-methods design was used to analyze the quantitative and qualitative data collected (Creswell & Plano Clark, 2011). Mixed-method research is defined as research in which quantitative and qualitative techniques are mixed in a single study (Creswell, 2012 Creswell & Plano Clark, 2011). Using a mixed-methods design challenges the researcher to mix the methods in a way that shows complementary strengths (Tashakkori & Teddlie, 2010. Mixed-methods research plays an important role in educational research, and by using mixed methods within the confines of a single study, a researcher can simultaneously broaden and strengthen the study (Creswell, 2012).

In this study, longitudinal standardized test scores and summer school attendance data, along with summer pretests and posttests in both reading and math skills, were used as quantitative data to test the theory of halting summer learning loss and increasing student

achievement. Qualitative data was collected through surveys allowing for open-ended questions and comments given to teacher volunteers. Semi-structured interviews were conducted with six teacher volunteers in order to gain in-depth insight into their perspectives about summer school effectiveness. This analysis merged qualitative and quantitative research in an effort to clear up any confusion associated with analyzing the effectiveness of summer school in halting summer learning loss and increasing student achievement (Bickel, Smith, & Eagle, 2002).

The two schools in this study provided data from summer school session for the years 2012 and 2013. The research was focused on students' standardized test scores in reading prior to summer school and the pretests and posttests given during summer school. A dependent *t*-test was run, for both sites, using pretest and posttest summer school data, in order to analyze the effectiveness of summer school in halting summer learning loss. Reading and math data were examined for each site.

The qualitative portion of this mixed-methods study focused on gathering information from an online survey comprised of open-ended questions and comments and semi-structured interviews. Both teachers of the summer school session and school-year teachers of students who attended summer school were interviewed to determine their perceptions of summer school. All interviews were transcribed, checked for accuracy, and coded (Marshall & Rossman, 2011). Through the extensive examination of data, several themes emerged.

Participants

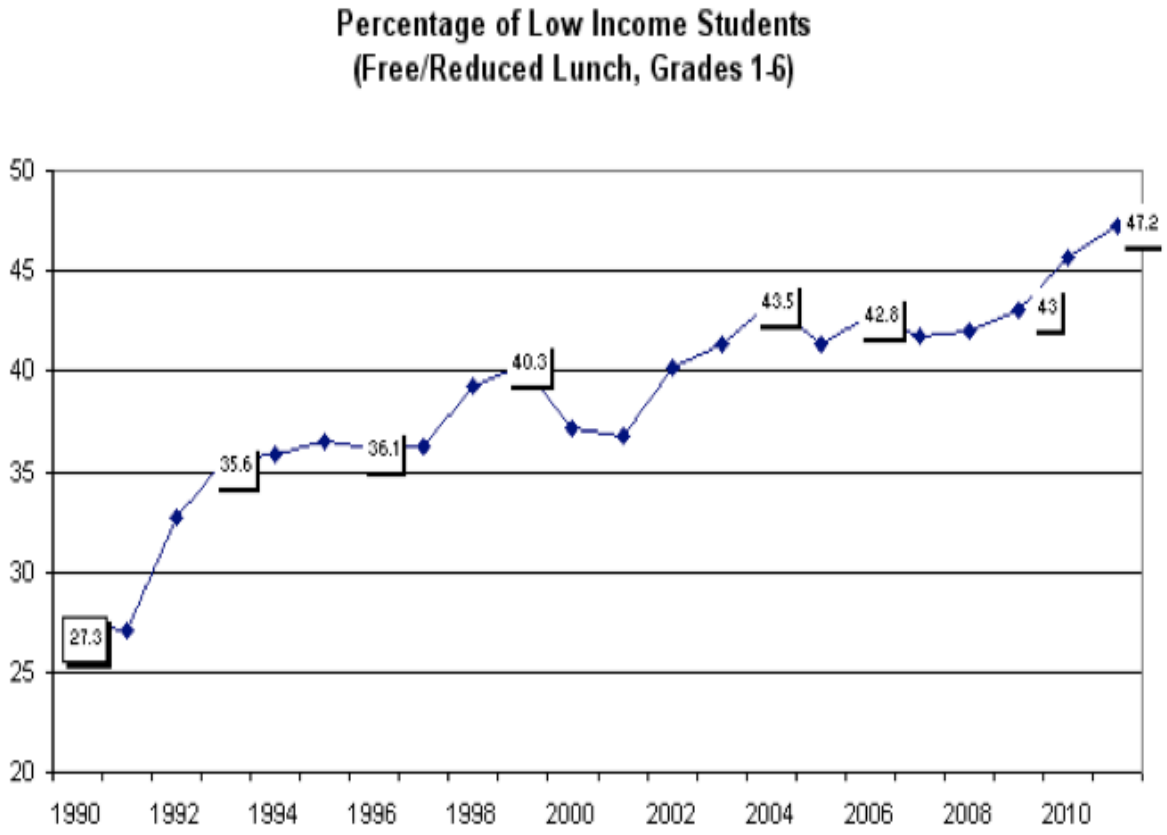
Mountain School District (MSD) is a large, urban district set in a rural state. MSD is the second largest district in the state, serving a population of just over 25,000 students. The city in which MSD is located is a refugee resettlement city. This translates to MSD hosting more than 92 languages spoken in its schools. Approximately 3,500 students in MSD have a non-English-

speaking background, with about 2,000 of those students being Limited English Proficient (LEP). The MSD has 42.7% of students who are eligible for free or reduced price lunch. Approximately 2,600 students receive special education services. Of its 45 schools, MSD has 32 elementary schools, eight junior high schools, and five high schools.

MSD has seen substantial changes in its demographics in the past two decades. Figure 1 shows changes in the population of low-income students in MSD. The percentage of low-income students has increased since 1990 by about one third. The number of elementary schools with more than 50% free and reduced price lunches has increased during the same period from two to 16.

Figure 1

Increase in Percentage of Low-income Students in MSD



The percentage of Caucasian students as compared to total district enrollment has declined gradually over the past 15 years. At the same time, the fastest growing ethnic group in MSD is Hispanic–Latino. The percentage of African American and Asian students has grown recently, primarily due to the increase in the refugee population in MSD. The LEP subpopulation is by far the greatest growing demographic in the district. Students from all parts of the world, speaking many different languages, call MSD their home school district. In the early 1990s, the population of LEP students in MSD was less than 100; it is now more than 2000.

For this study, two summer school sites in MSD were used to gather data. Elementary Summer School A had a summer 2013 summer enrollment of 166 students. The students came to Elementary School A from a total of five feeder elementary schools within MSD. The five feeder schools all received Title I funds.

Elementary Summer School B had a summer 2013 enrollment of 257 students. Those students came to Elementary School B from six different feeder schools within MSD. Four out the six feeder schools received Title I funding. Elementary Summer School B was also host to Extended School Year (ESY). ESY is summer support for students who receive special education services during the school year. Of the 257 students attending Elementary Summer School B, 44 of those students attended the ESY program. Those 44 ESY students were not included in the data for this study.

Certified K-6 grade teachers in MSD received an email with the summer school survey link. The survey went out to 557 certified K-6 teachers. The response rate was 36%, with 200 certified K-6 teachers participating in the survey. Each teacher that participated in the survey was asked if they would be willing to volunteer for a more in-depth interview. Of those who indicated they would be willing to be interviewed, six were randomly chosen by the researcher for the interviews.

Data Collection

The quantitative portion of the study included analyzing longitudinal test data of summer school attendees as compared to those students at the same site who did not attend summer school. Both state and district standardized tests and summer school pretests and posttests in both reading and math skills were analyzed.

State and district standardized tests were gathered from each of the two elementary schools used for this study. Test data were kept anonymous, and students were coded in order to maintain anonymity. Scores were separated into categories of Title I and non-Title I. Those who attended summer school were then sorted from those who did not attend summer school. From there, the researcher utilized SPSS statistical software to run statistical tests. Because ex post facto student data were used, assent did not have to be granted for students. Consent from MSD, as well as from the principals at each of the elementary sites, was granted to the researcher (see Appendices K, L, M, and N).

At the beginning of summer school, a pretest was given in both reading and math to determine students' current abilities. At the end of summer school, a posttest was given to determine if academic growth had occurred. The researcher was given permission from the Administrator of Special Programs to use the pre-data and post-data from each of the summer school sites (see Appendix N).

The qualitative portion of data was gathered from summer school teachers and classroom teachers through anonymous surveys and confidential interviews. The survey questions were piloted with 10 teachers who were not currently teaching at the sites selected for this study. The purpose of piloting the survey was to ensure that the questions were clear and understandable. Individuals who received the survey pilot were acquaintances of the principal investigator and teachers in MSD.

Qualtrics, a web-based survey tool for creating and conducting online surveys, was used to send teachers a survey link through district E-mail. All 557 kindergarten through sixth grade teachers in the MSD were sent an E-mail containing the survey link (See Appendices B). Each teacher that participated in the survey was asked if they would be willing to volunteer for a more

in-depth interview. If they were interested, they were asked to provide their name, phone number, and e-mail address for further communication and contact from the researcher. Of those who indicated they would be willing to be interviewed, six were chosen for the interviews (see Appendix B).

Those who volunteered to take the survey read and agreed to the consent form (see Appendix A). The first question on the survey asked the participants if they agreed with the consent form. Participants were asked to either choose "yes" if they agreed with the consent form or "no" if they did not agree with the consent form. Those who chose "yes" were directed to the survey, while those who chose "no" were thanked for their consideration and closed out of the survey. The survey consisted of answering open-ended questions and comments (see Appendix C and D). The introduction to the survey explained the study and asked participants to answer open-ended questions exploring their perceptions of summer school. One of the open-ended questions asked if they would volunteer to be interviewed one time. Participants were selected for the interview based on giving their consent to be interviewed and providing contact information. The pool of potential interview volunteers was narrowed into two categories: those who had taught summer school and those who had not taught summer school.

The summer school teachers who indicated interest in being interviewed were narrowed to a pool of those who had taught summer school in MSD within the last three years and those who had not. Volunteers were then randomly selected from the pool that had taught summer school in MSD within the last three years and contacted by phone to confirm interest. A telephone call script (see Appendix E) was followed for each telephone call. Participants who volunteered to be interviewed were informed that the interview and their answers would be confidential.

Classroom teachers who indicated interest in being interviewed were narrowed to those teachers had been teaching for a minimum of three years. From this pool the researcher randomly selected interview participants. A telephone call to each selected participant was made using the telephone call script (Appendix E) in order to confirm interview interest. Participants who volunteered to be interviewed were informed that the interview and their answers would be confidential.

Each of the six participants in the qualitative study was interviewed in the month of December 2013. The interviews took place either face-to-face, at a public location, such as a coffee shop, or over the telephone. An iPad was used to record the interviews as they occurred. The questions asked during the interviews were piloted using five teachers who were not participating in the survey. The purpose of piloting the questions was to ensure each question was stated clearly and that none of the questions was misleading. Individuals who received the interview questions for piloting purposes were acquaintances of the principal investigator. The interviews lasted between 37 minutes to 65 minutes. The audio recordings were sent to a transcriptionist. Transcripts were reviewed and checked for accuracy.

Analytical Methods

Quantitative research is conclusive in its purpose as it tries to quantify the problem and understand how prevalent the problem is by looking for projectable results for a larger population (Creswell & Plano Clark, 2011). Common methods for collecting quantitative data include surveys (online, phone, and paper) and audits (Creswell & Plano Clark, 2011). Quantitative data analysis consists of analyzing the data based on the type of questions or hypotheses used and using the appropriate statistical test to address the questions (Creswell & Plano Clark, 2011).

Reliability and validity are characteristics commonly associated with quantitative data (Creswell & Plano Clark, 2011). Quantitative validity is addressed in two ways: the quality of the scores from the instruments used and the quality of the conclusions that can be drawn from the results (Creswell & Plano Clark, 2011). Quantitative reliability is achieved when the scores received from participants are consistent and stable over time (Creswell & Plano Clark, 2011).

The quantitative portion of the study included analyzing longitudinal test data of summer school attendees as compared to those students at the same site who did not attend summer school. Both state and district standardized tests and summer school pretests and posttests in both reading and math skills were analyzed. Attendance data from consecutive summers were collected and analyzed for a statistical difference in sessions**.**

In order to determine the effectiveness of summer school math, a paired-samples *t*-test was run using SPSS. The paired-samples *t*-test is used to determine whether the mean difference between paired observations is significantly different from zero. In this case, the paired observations were the pretests and posttests given during summer school.

In order to run a paired-samples *t*-test, there are four criteria that need to be met:

- One dependent variable that is measured at the continuous (i.e., ratio or interval) level
- One independent variable that consists of two categorical, related groups or matched pairs (i.e., a dichotomous variable).
- There should be no significant outliers in the differences between the two related groups
- The distribution of the differences of the dependent variable between the two related groups should be approximately normally distributed (Tanner, 2011).

In order for a paired-samples *t*-test, criteria for data must be met in order to provide a valid result

(Tanner, 2011). The null hypothesis for a paired-samples *t*-test is the population mean difference between the paired values is equal to zero:

$$H_0: \mu_{diff} = 0$$

And the alternative hypothesis is the population mean difference between the paired values is not equal to zero:

$$H_1: \mu_{diff} \neq 0$$

For a paired-samples *t*-test, the assumption of normality and no outliers is tested on the differences between the paired-values, not the values of the paired groups themselves.

The assumption of normality is necessary for statistical significance testing using a paired-samples *t*-test (Tanner, 2011). However, the paired-samples *t*-test is considered robust to violations of normality (Tanner, 2011). This means that violations of this assumption can be somewhat tolerated and the test will still provide valid results. Therefore, this test can be reported as only requiring approximately normal data. In order to for a valid result from a paired-samples *t*-test, all criteria for data must be confirmed prior to running the test.

The Shapiro-Wilk test is a test for normality. A Shapiro-Wilk test has to be run for each group of the independent variable. The last criteria to be considered before running a paired-samples *t*-test are to determine if outliers existed within the data points (Tanner, 2011). The boxplot provided information about outliers in data sets. Any data points that are more than 1.5 box-lengths from the edge of their box are classified as outliers (Tanner, 2011).

The researcher was interested in comparing state and district test scores of those who attended summer school and those who did not attend summer school. The independent-samples *t*-test determines whether a difference exists between two group means in the population (Tanner, 2011). The researcher examined whether the difference between two sample means was

just a consequence of sampling variation or whether a real difference exists in the population. The independent-samples *t*-test tests whether it is likely that the population means of the groups are different, not just the sample means (Tanner, 2011). More specifically, the independent *t*-test allowed the researcher to determine whether the difference between these two groups was statistically significant.

The null hypothesis for an independent-samples t-test is the population means of the two groups are equal:

$$H_o: \mu_1 = \mu_2$$

And the alternative hypothesis is that the population means of the two groups are not equal:

$$H_1: \mu_1 \neq \mu_2$$

An independent-samples *t*-test calculated a significance level (*p*-value), which is the probability of the sample group means being at least as different as found in the study, given that the null hypothesis is true (Tanner, 2011). If the probability is acceptably small (usually $p < .05$), the researcher can conclude that it is unlikely that the two group means are equal in the population and can accept the alternative hypothesis and reject the null hypothesis (Tanner, 2011). Alternatively, the researcher will reject the alternative hypothesis and fail to reject the null hypothesis if the probability is larger (usually $p > .05$) (Tanner, 2011).

If a significant difference is found, the researcher must determine the size of the difference between group means (Tanner, 2011). The effect size has to be calculated using the Cohen's *d* test (Tanner, 2011). The Cohen's *d* is used to determine the importance of the independent variable by explaining the difference between the group means as a ratio of the standard error of the mean difference (Tanner, 2011). To calculate this effect size the researcher

needs to divide the mean difference between the groups by the combined standard deviation, and then find the square root (Tanner, 2011).

Qualitative research is exploratory and is used to define the problem or develop an approach to the problem (Creswell & Plano Clark, 2011). Qualitative research digs deeper into issues of interest and explores nuances related to the problem at hand. Common data collection methods used in qualitative research includes: focus groups, in-depth interviews, observation, and ethnographic participation–observation (Creswell & Plano Clark, 2011). Qualitative data analysis involves coding the data, dividing the text into small units (phrases, sentences, or paragraphs), assigning a label to each unit, and then grouping the codes into themes (Creswell & Plano Clark, 2011).

Characteristics of effective qualitative studies are: confirmability, dependability, credibility, and transferability (Marshall & Rossman, 2011). Confirmability shows verification or validity of a study (Marshall & Rossman, 2011). Confirmability is reached through the use of at least two methods to verify findings, such as member checking and establishing an audit trail. The use of at least two methods strengthens the researcher's findings. A study can use at least two methods to control for researcher effects, such as triangulation of data and the use of unobtrusive measures. Again, the researcher verifies through multiple sources to strengthen findings (Marshall & Rossman, 2011). In this study, the researcher demonstrated comfirmability through member checking and the uses of the survey, along with more in-depth interviews. After each interview, the participant was contacted and interview responses were confirmed.

Dependability is documenting the research process in a clear and aligned manner in order for others to replicate the process (Marshall & Rossman, 2011). Dependability includes research questions that are completely clear and congruent with features of the study design. In addition,

dependability shows data are collected across the full range of appropriate settings, times, and respondents. Hypotheses and methodical concepts are clearly specified (Marshall & Rossman, 2011). In this study, dependability was established through the validity and reliability process of the survey questions. Piloting the survey was another feature the researcher used to establish dependability with this study.

Credibility in qualitative research calls for the use of multiple sources of evidence used to produce converging conclusions. Studies should use at least two methods to support findings, such as a search for disconfirming evidence and the generation of rival explanations (Creswell & Plano Clark, 2011). In this study, credibility was proven through the use of both an open-ended survey and then the in-depth interviews. The researcher then looked for themes through the use of open and axial coding. Transferability is clearly defining characteristics of the sample and setting, so that potential exists for other researchers to replicate the sample and setting (Creswell & Plano Clark, 2011). In this study, transferability was achieved through the use of summer school sites that constituted a wide range in student demographics and would be able to be replicated in most school districts. The use of Qualtrics to send the open-ended survey to all kindergarten through sixth grade teachers allowed for ease of use by any researcher wishing to replicate the sample of teachers. Again, Qualtrics allowed for ease of embedding consent for the survey, as well as generating possible interview candidates.

The qualitative data was gathered from summer school teachers and classroom teachers through anonymous surveys and confidential interviews. Six participants were randomly selected for the interviews. Participants who volunteered to be interviewed were informed that the interview and their answers would be confidential. The interviews allowed the researcher to explore teachers' perceptions of summer school effectiveness and how it relates to an increase in

student achievement. After the interviews were conducted, transcripts were coded and the analysis of themes took place.

Limitations

The delimitations of this study started with the questions the researcher sought to answer. Because extensive research studies about summer school programs in this district did not exist, the researcher decided to start with the fundamental question of the effectiveness of summer programs. Future research questions may develop from this study, as there are many other facets of summer school effectiveness, summer learning loss, and student achievement.

The limitations of this study included the researcher's own biases about the effectiveness of summer school programs in MSD. The researcher expected enrollment in summer school played a minimal role in boosting students' achievement results because of the lack of focused curriculum and specific identification of students' learning needs. Ethics about reporting findings that may be unfavorable to the district were kept at the forefront of the researcher's mind when final results were processed.

An additional limitation of the study was the type of data available to the researcher. Because MSD does not mandate math data be collected and distributed to either students or their school prior to a summer school session, the math data gathered and reported at each site differed significantly. The researcher was not able to pool the data in order to create a large sample size, to further validate findings. Each site gathered different math pretest and posttests.

Another limitation present in this study was the use of only one school district. Future studies may consider the use of several school districts to further validate findings

Chapter IV

Results

Introduction

Prior research reveals that students who come from low-socioeconomic households show the effects of summer vacation through their lower achievement scores. Low-income students lose approximately two months of grade-level equivalency during the summer months (Alexander et al., 1996, 2007; Cooper et al., 2000; Heyns, 1978) while middle-income students will make slight academic gains (Alexander et al., 1996, 2007; Cooper et al., 2000; Heyns, 1978). Due to out-of-school influences and lack of summer learning opportunities, summer vacation is a primary factor in why students from poverty continue to lag academically behind their more affluent peers (Alexander et al., 1996, 2007; Cooper et al., 2000).

Summertime months are a time in which many students who are unable to access learning experiences fall behind or further behind their peers academically (Alexander et al., 1996, 2007; Cooper et al., 2000). Although low-income students show the same academic gains as their peers during the school year, summertime represents a time in which students who come from low-income households experience a loss in learning that their more affluent peers do not (Alexander et al., 1996, 2007; Cooper et al., 2000; Heyns, 1978). Students who are unable to access learning experiences during summer months predominately come from lower socioeconomic households (Alexander et al., 1996).

During the school year, most children benefit from learning resources. Access to learning resources provides scaffolding to learning or, stated in another way, learning is “turned on” for all children. This is known as the faucet theory (Entwisle & Alexander, 1997). However, in the summertime, the faucet is turned off for the low-socioeconomic children. Children from low-

socioeconomic households do not have the same opportunities to attend camps, or go on day outings or an extended vacation as their peers from more affluent households. Thus, the experiences of low-income children are not likely to mirror those of middle-income children in private camps, where enrichment in the arts, technology, and sports is commonplace.

This study focused on the effectiveness of summer school as a means to reduce or prevent summer learning loss and to increase student achievement for low-income students in the Mountain School District. The researcher sought to specifically answer the questions:

1. In what ways is elementary summer school programming effective in preventing summer learning loss?
2. Does summer school increase student achievement, as measured by district and state standardized tests?
3. What are teachers' perceptions about the effectiveness of summer school?

The focus of this mixed-methods study was to determine if there was a statistical difference in academic growth between students who attended summer school as compared to those students who did not attend summer school. The overarching question asked by the researcher examines the effectiveness of summer school in preventing summer learning loss and increasing student achievement. Test scores from summer school in both reading and math were used to determine if a significant difference existed between the pretests and posttests used in summer school. Another way the researcher examined the effectiveness of the summer school was through examining the perceptions of teachers.

The emphasis of this study centered on both math and reading scores of students who attended Title I schools during the school year and attended summer school. These students' scores were then compared to those students at the same Title I schools who did not attend

summer school. The quantitative portion of the study included analyzing longitudinal test data of summer school attendees as compared to those students at the same site who did not attend summer school. Both state and district standardized tests and summer school pretests and posttests in both reading and math skills were analyzed. Qualitative data was used to explore summer school effectiveness as measured by teachers' perceptions.

Research Question #1

Effective summer programs support students' needs during the summer; however, summer learning programs need to be rigorous environments (Bell & Carrillo, 2007; Burgin & Hughes, 2008; Terzlan et al., 2009). In order for effective summer programming to occur, planning needs to be explicit and intentional (Bell & Carrillo, 2007). Effectiveness also relies on examining student population needs, community resources, and also how effectiveness will be measured (Bell & Carrillo, 2007; Burgin & Hughes, 2008). With that in mind, the first research question of the study asks:

In what ways is elementary summer school programming effective in preventing summer learning loss?

In this study, effectiveness was measured through looking at student achievement growth measured by district-standardized tests, and pretests and posttests administered during summer school. In addition to test scores, effectiveness was measured through teachers' perceptions.

The first set of results was obtained from Summer School A. The math data reported came from pretests and posttests conducted during the summer 2013 term. The program used at Summer School A was Moving with Math®. Moving with Math® is a program that reviews the essential math objectives for grades K–8 (Math Teacher's Press, 2014). In the case of Summer School A, this program was used with attendees who were in grades kindergarten through third

grade. While using Moving with Math®, students use manipulatives in every lesson to develop conceptual understanding and improve achievement (Math Teacher's Press, 2014).

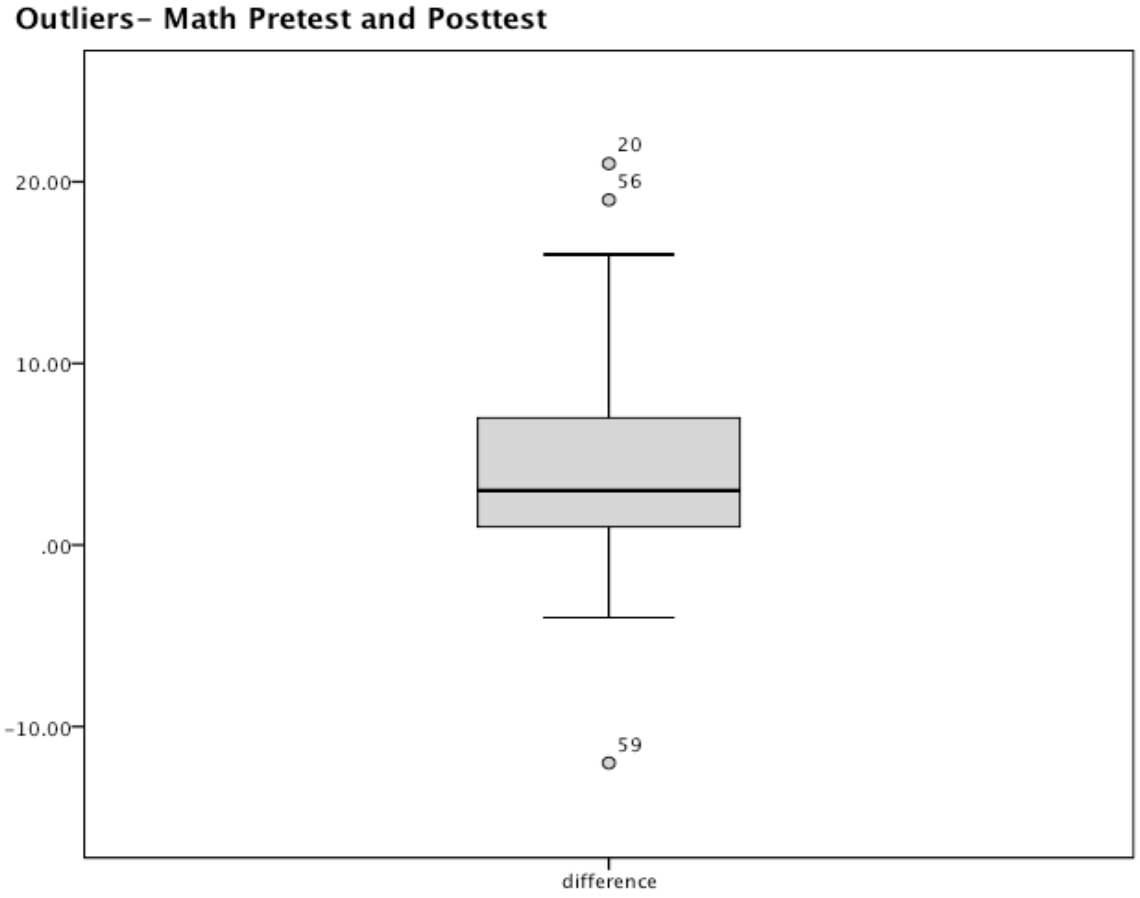
In order to determine the effectiveness of summer school math, a paired-samples *t*-test was run using SPSS. The paired-samples *t*-test is used to determine whether the mean difference between paired observations is significantly different from zero (Tanner, 2011). In this case, the paired observations were the pretests and posttests given during summer school.

A paired-samples *t*-test was used to determine whether there was a statistically significant mean difference between scores on the pretests and scores on the posttests (Tanner, 2011). Data are presented as mean ± standard deviation, unless otherwise stated. Included in the data are the pretests and posttests from kindergarteners, first graders, second graders, and third graders attending Summer School A in 2013.

Figure 2 illustrates the data set with outliers shown. There were three outliers present in the summer school math data.

Figure 2

Math Data With Outliers



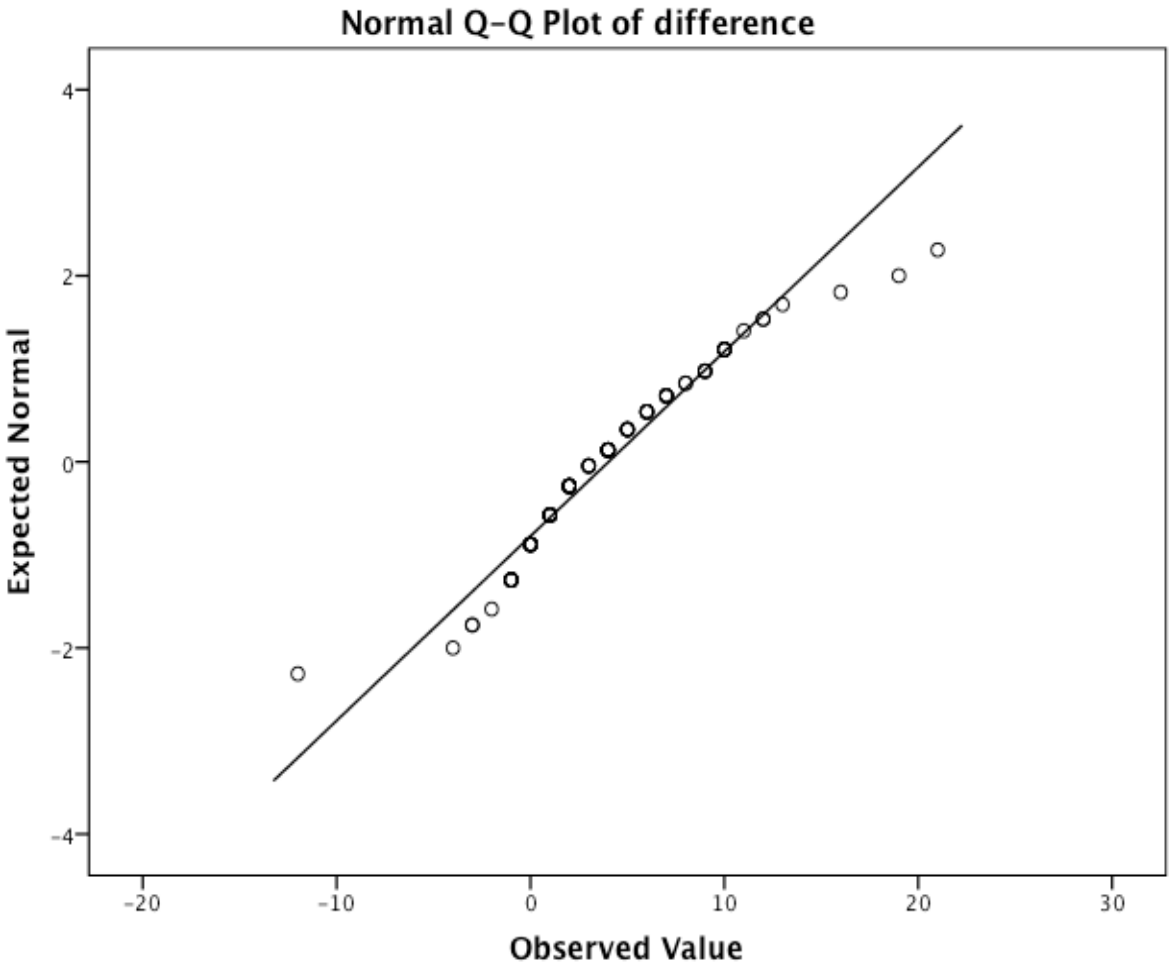
A determination was made to keep the outliers in the data, as they were not assessed as being extreme (see Figure 2). An outlier is generally considered to be a data point that is far outside the norm for a variable or population (Osborne & Overbay, 2004). There is as much controversy over what constitutes an outlier as whether to remove them or not (Osborne & Overbay, 2004). Outliers should be investigated carefully (NIST/SEMATECH, 2013). Often they contain valuable information about the process under investigation or the data gathering and recording process (NIST/SEMATECH, 2013). Before considering the possible elimination of these points

from the data, one should try to understand why they appeared and whether it is likely similar values will continue to appear (NIST/SEMATECH, 2013).

In the math summer school data set, the sample was (n= 88) therefore a Normal Q-Q Plot was used to determine normality (NIST/SEMATECH, 2013). The quantile-quantile (q-q) plot is a graphical technique for determining if two data sets come from populations with a common distribution (NIST/SEMATECH, 2013). A 45-degree reference line is also plotted. If the two sets come from a population with the same distribution, the points should fall approximately along this reference line (NIST/SEMATECH, 2013). Figure 3 confirmations that normality was not violated. The differences between the pretests and posttests were normally distributed, as assessed by visual inspection of the Normal Q-Q Plot (see Figure 3).

Figure 3

Normality Math Pretest and Posttest Difference



With criteria of normality and outliers addressed, the paired samples test was confirmed as a viable test for the data set containing summer school scores from math pretest and posttests (see Table 1) (Tanner, 2011).

Table 1

Paired –Samples Math Difference

	Paired Dif	*t*	*df*	Sig. (2-tailed)
	Mean			
Pair 1 Math post – Math Pre	4.02	7.44	86	.000*

The mean difference between the pretest and posttest is 4.03 points with a standard deviation of 5.04 points between the pretest and posttest scores. The confidence interval of 95% shows the true mean lies between 2.95 points and 5.09 points. The posttest showed a statistically significant increase compared to the pretest, t (86) = 7.443, $p < .05$. This significant statistical difference between the means ($p < .05$) indicates the null hypothesis should be rejected and the alternative hypothesis accepted. Accepting the null hypotheses states the mean differences between the pretests and posttests was not equal to zero. The effect size was calculated at .79. This effect size falls in the medium range of Cohen's chart (See Table 2).

Table 2

Effect Size Ratings

Effect Size	Strength
.2	Small
.5	Medium
.8	Large

The quantative data from summer school math used by the researcher came from one summer school site. MSD did not mandate math data be collected or shared for elementary summer school for the 2013 session. The qualitative data, gathered from teachers' perceptions of summer school, reflect the lack of math as a focus in summer school. Table 3 shows the number of responses from traditional school year teachers in their answering of the question: Explain why you refer students for math during summer school. What's your understanding of the math skills (for your grade level) students' work on in summer school?

Table 3

Teacher Responses and Themes for Math and Summer School

Explain why you refer students for math during summer school. What's your understanding of math skills (for your grade level) students' work on in summer school?		
	Number of Responses	Themes
Traditional Year Teachers	108	• Didn't know math was an option for summer school • Don't refer for math only reading

Even though math was offered during summer school, 93 teachers, or 86% of those who responded, stated they did not know math was an option or that they referred students to summer school only for reading.

Interviews with teachers provided more information about what teachers were thinking about math and summer school in MSD. Ann, who currently works at a TitleI1 school and has

10+ years of teaching experience, shared her concerns when asked about math and summer school.

> I refer students who have difficultly learning, retaining, and recalling both math facts and broader concepts. I must admit, I was hesitant to refer students for math last summer because I did not know what approach would be used. We were a CCSS pilot school and our 2nd graders did only common core math with MTI (Mathematical Thinking for Instruction) strategies. I did not know, nor could anyone tell me, if the teacher that would be teaching these students in summer school had an understanding of 2nd grade appropriate MTI strategies or an understanding of 2nd grade CCSS math concepts. I still have this concern.

Even though math referrals may be a concern of teachers for summer school, reading is the main reason teachers refer students for elementary summer school in MSD. Students who are in grades four through six are referred most often to summer school based on low state standardized scores (see Table 5). Intermediate grade students, fourth through sixth grade, attending summer school for reading participate in Read Right® intervention program. Read Right® is an intervention program for Tier 2 and Tier 3 struggling readers in grades 2-12 (Read Right Systems, 2014). The goal of the program is to produce effortless reading that is fully comprehended each and every time students read (Read Right Systems, 2014). Read Right® is appropriate for regular education students, special education students, and English language learners (Read Right Systems, 2014). Read Right® methodology consists of four separate components: the excellent reading component, the coached reading component, the independent reading component, and the critical thinking component (Read Right Systems, 2014). In the Read Right® classroom, students follow along as they hear text read fluently and then practice

reading and rereading text until they can comfortably read the text with a natural pace and intonation (Read Right Systems, 2014). Read Right® does not teach vocabulary or phonics explicitly. Instead, the meaning and pronunciation of words are taught only within the context of understanding the text (Read Right Systems, 2014). Some explicit comprehension is practiced, but this practice is done within weekly student-driven lessons in which the adults act as guides while the students articulate their understandings of the text. (Read Right Systems, 2014)

Data was collected from 56 fourth through sixth graders who attended both Summer school A and Summer school B in the summer of 2013. Summer Read Right tutors reported their data in two groups: those who received 15 hours or more of Read Right® intervention, and those who received less than 15 hours of Read Right® instruction. For the purposes of this study, the data used came from the students who received 15 or more hours of Read Right® tutoring.

Reading progress is measured by using a maze reading assessment. A maze reading assessment is a multiple-choice cloze task that students complete while reading silently (Hilton-Prillhart, 2011). The first sentence of a 150-400-word passage is left intact (Hilton-Prillhart, 2011). Thereafter, every 7th word is replaced with three words inside parenthesis (Hilton-Prillhart, 2011). One of the words is the exact one from the original passage. Words read correctly are calculated and errors made are subtracted from the total words read (Hilton-Prillhart, 2011).

A paired-samples *t*-test (n = 56) was used to determine whether there was a statistically significant mean difference between scores on the pretests and scores on the posttests. Data are mean ± standard deviation, unless otherwise stated. Figure 4 illustrates the data set with one outlier shown. A determination was made to keep the outlier in the data, as it was not assessed as being extreme (see Figure 4). An outlier is generally considered to be a data point that is far

outside the norm for a variable or population (Osborne & Overbay, 2004). There is as much controversy over what constitutes an outlier as whether to remove them or not (Osborne & Overbay, 2004). Outliers should be investigated carefully (NIST/SEMATECH, 2013). Often they contain valuable information about the process under investigation or the data gathering and recording process (NIST/SEMATECH, 2013). Before considering the possible elimination of these points from the data, one should try to understand why they appeared and whether it is likely similar values will continue to appear (NIST/SEMATECH, 2013).

Figure 4

Outliers for Read Right® Data

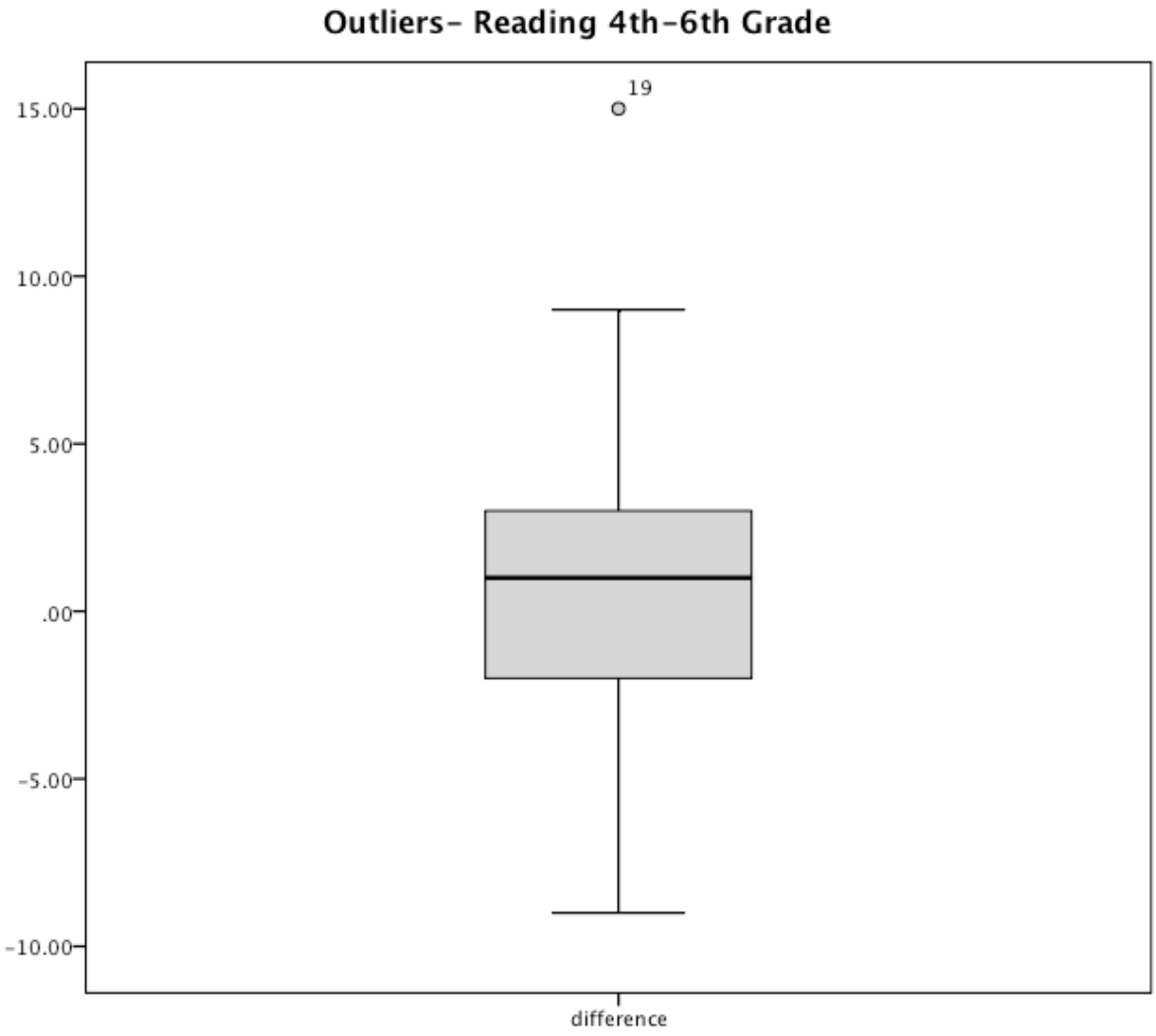
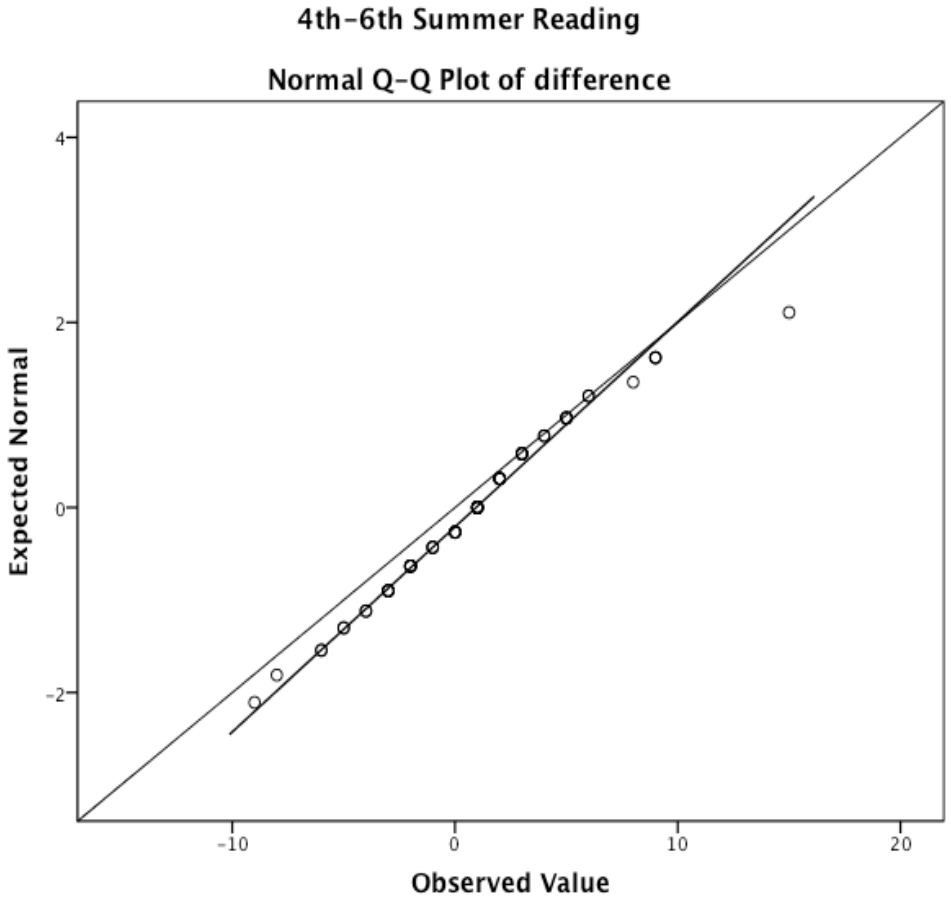


Figure 5 confirms the assumption of normality was not violated. In the fourth through sixth grade Read Right school data set, (n = 56) therefore, a Normal Q-Q Plot was used to determine normality (NIST/SEMATECH, 2013). The quantile-quantile (q-q) plot is a graphical technique for determining if two data sets come from populations with a common distribution (NIST/SEMATECH, 2013). A 45-degree reference line is also plotted. If the two sets come from a population with the same distribution, the points should fall approximately along this reference line (NIST/SEMATECH, 2013). The differences between the pretests and posttests were normally distributed, as assessed by visual inspection of the Normal Q-Q Plot (see Figure 5).

Figure 5

Normality For Read Right® Data



With criteria of normality and outliers addressed, the paired samples test was confirmed as a realistic test (Tanner, 2011)(see Table 4).

Table 4

Paired-Samples Reading 4th-6th Graders

	Paired Difference	*t*	*df*	Sig. (2-tailed)
Pair 1	Mean			
4-6 Reading Posttest - 4-6 Reading Pretest	.947	1.569	55	.122

The mean difference between the pretest and posttest is .945 words read, with a standard deviation of 4.51 points between the pretest and posttest scores. The confidence interval of 95% shows the true mean lies between -.262 points and 2.16 points. The null hypothesis states that the mean difference between the two related groups in the population is zero. The posttest showed a statistically significant increase compared to the pretest, t (55) = .122, $p < .05$.This significant statistical difference between the means ($p < .05$) indicates the null hypothesis should be rejected and the alternative hypothesis accepted. Accepting the null hypotheses states the mean differences between the pretests and the posttests was not equal to zero. The effect size was calculated at .20. This effect size falls in the small range of Cohen's chart (See Table 2).

The quantitative data summer school pretest and posttest was only available for students who attended grades four through six. The qualitative data shows these students were referred to summer school based on their below grade level performance on state standardized tests (See Table 5)

Table 5

Question about Summer School Referral Process

Describe the process you complete when referring a student to summer school. Please include information about how you decide a student should be referred to summer school (or your understanding of how students are referred.....)		
	Number of Responses	Themes
Traditional Year Teachers	116	• Standardized test data is used for summer school referral • Reading is the main reason for referral
Summer School Teachers	33	

Table 5 shows summer school referral is based mostly on students who need help with reading. Teachers responded with an overwhelming response of 134, or 90%, that reading struggles were the main reason student's were referred to summer school. Test data and progress monitoring came up repeatedly in conversations about student referral. Low or below grade level scores on state standardized tests was the primary reason students were referred to summer school.

Betty, who currently teaches at a Title I school, has been teaching for four years, and has taught summer school explains her understanding of reading and summer school:

> My understanding of summer school is that it was designed particularly for reading instruction. Students who scored a 1 on the IRI were supposed to receive

> a certain number of hours of reading instruction outside of the school day. Part of this was fulfilled during before or after-school tutoring. The funding for the tutoring was cut, but summer school remains. I refer students for reading for summer school to help them maintain or increase their reading skills. In particular, I refer students who might experience the "summer slide" and lose skills over the summer. My understanding is that they work on phonics, comprehension, and oral reading fluency.

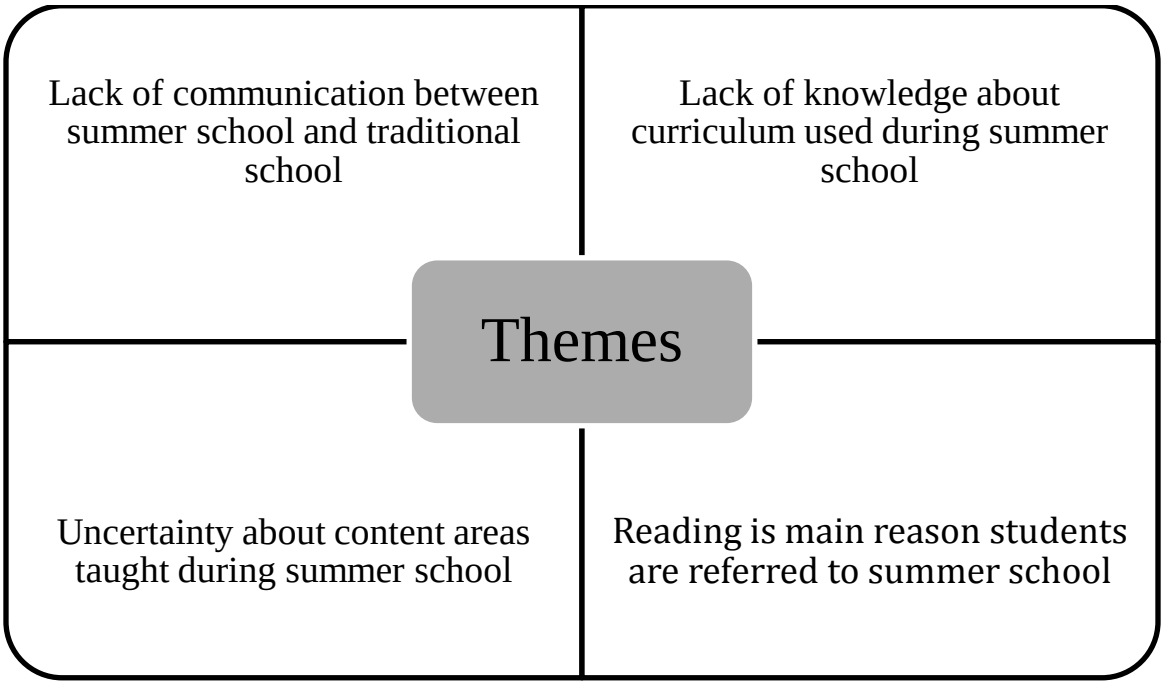
Wendi, a teacher currently working in a Title 1 school, with no summer school experience, but six years of teaching experience shares her thoughts about reading and summer school:

> I refer kids for reading that have shown a response to an intervention that has been used during the regular school hours. I refer a child that is one or more grade levels below their peers by the end of the 3rd quarter. Again, I am not entirely sure of what reading program is used and how it supports what I have done already in the classroom.

Quotes from interviews with teachers reflect their confusion over what is being taught during summer school and curriculum being used. Most teachers refer students to summer school because of reading concerns, but they are not sure how student learning is supported during summer school (See Figure 6).

Figure 6

Top Themes from Interviews on Effectiveness of Summer School



Research Question #2

Creating effective summer school programming is difficult because there are many factors to consider when deciding how to structure a program (Bell & Carrillo, 2007). One decision to consider when designing a summer school program is how effectiveness will be measured (Bell & Carrillo, 2007). A myriad of ways exist for districts to define and measure effectiveness. The intent of the summer program, be it a community based program or an academic reteach or pre-teach model, has to be clearly defined in order for a measure of effectiveness to be considered (Bell & Carillo, 2007). The Mountain School District runs a summer program focused on remediation for those students who are below grade level on state

and district standardized tests. When considering the program model for the MSD, research question two asks:

> Does summer school increase student achievement, as measured by district and state standardized tests?

Another way to determine if summer school is effective in halting summer learning loss is to examine reading scores. In order to determine if summer school in MSD was effective in halting summer learning loss and increasing student achievement, a comparison of scores for those who had attended summer in the summer of 2013 to those who had not attended summer school in the summer of 2013 was analyzed. Ex post facto state standardized reading data for grades one through three was gathered. Scores from spring 2013 were compared to scores in fall 2013. Numbers of words read per minute (WPM) was the determining measure of scores and results were reported as group (n = 190). The use of boxplots is a straightforward method to determine if outliers are present in the data (StatTrek, 2014). Figure 7 shows the boxplot for the data containing first through third grade WPM for spring 2013 and Figure 8 shows the boxplot for fall 2013 WPM.

Figure 7

Outliers WPM Spring 2013 Summer School Compared to No Summer School

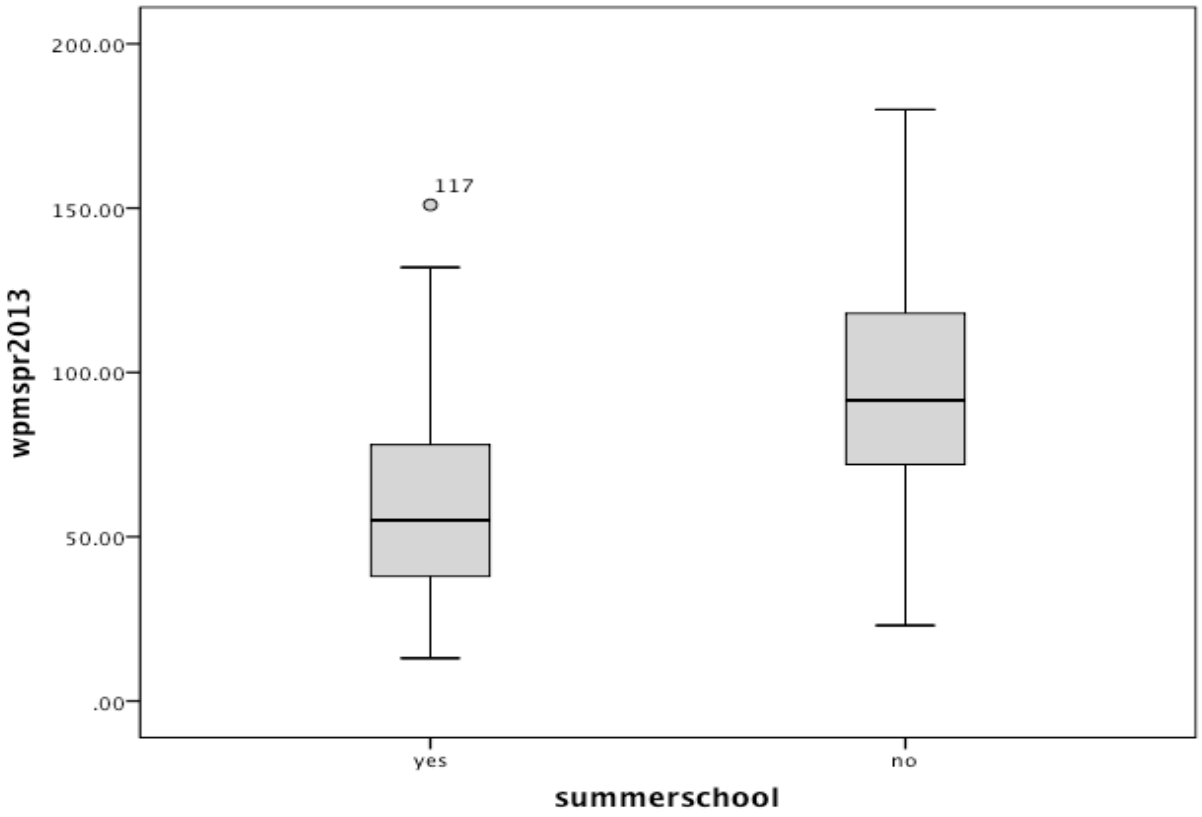
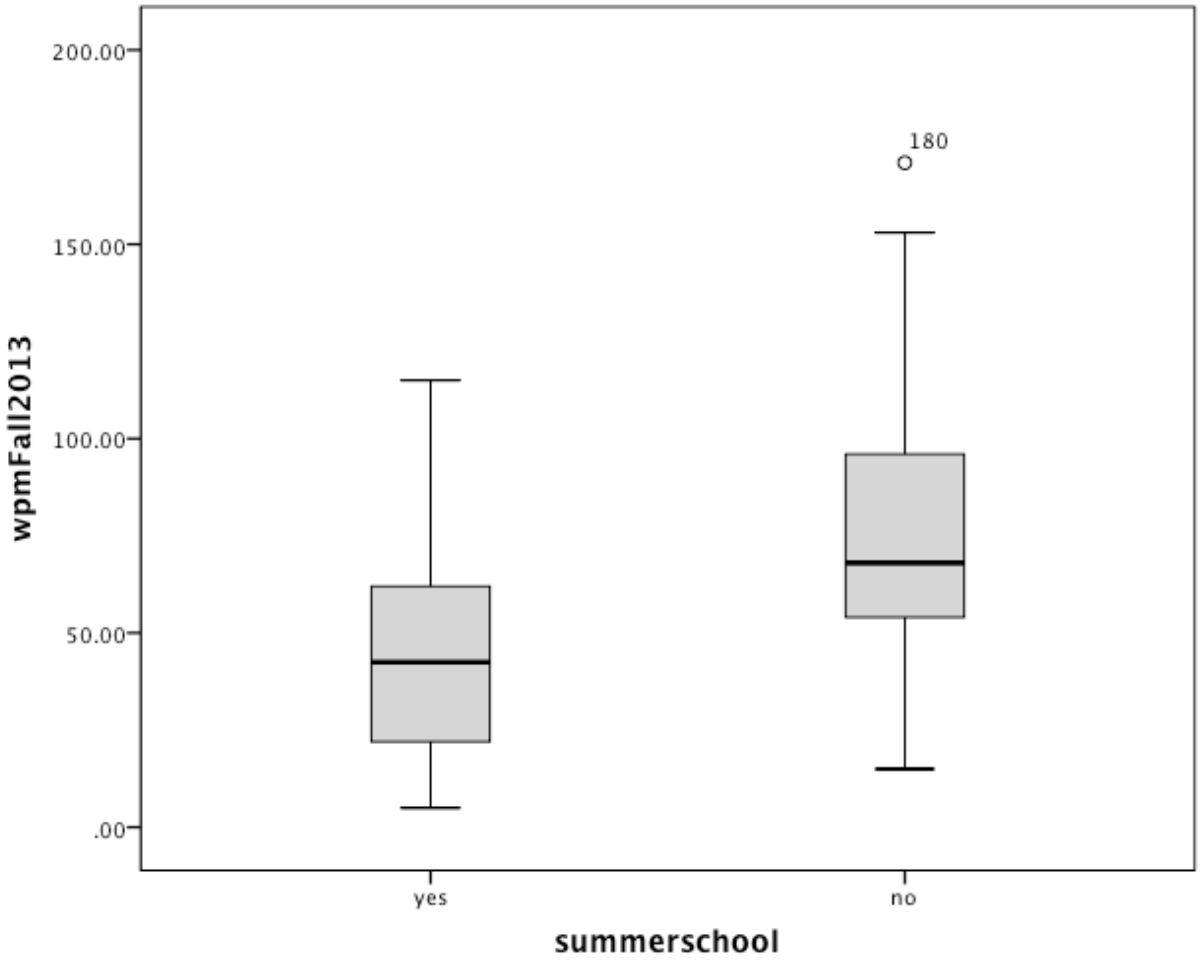


Figure 8

Outliers WPM Fall 2013 Summer School Compared to No Summer School



Both sets of data contain one outlier, as shown by the boxplot point of 117 in Figure 7 and 180 in Figure 8. A determination was made to keep the outliers in both data sets, as they were not assessed as being extreme (see Figures 7 and 8). In addition, these outliers were representative of what happens when students take tests. An outlier is generally considered to be a data point that is far outside the norm for a variable or population (Osborne & Overbay, 2004). There is as much controversy over what constitutes an outlier as whether to remove them or not (Osborne & Overbay, 2004). Outliers should be investigated carefully (NIST/SEMATECH,

2013). Often they contain valuable information about the process under investigation or the data gathering and recording process (NIST/SEMATECH, 2013). Before considering the possible elimination of these points from the data, one should try to understand why they appeared and whether it is likely similar values will continue to appear (NIST/SEMATECH, 2013).

After looking for outliers, a Normal Q-Q Plot was used to determine normality. Ex post facto spring 2013 WPM and fall 2013 WPM of those who attended summer school (n = 90) were compared to students who did not attend summer school. The assessed WPM for those who attended summer school is shown on Figure 9 (spring 2013) and Figure 10 (fall 2013).

Figure 9

Normality Summer School Wpm Fall 2013

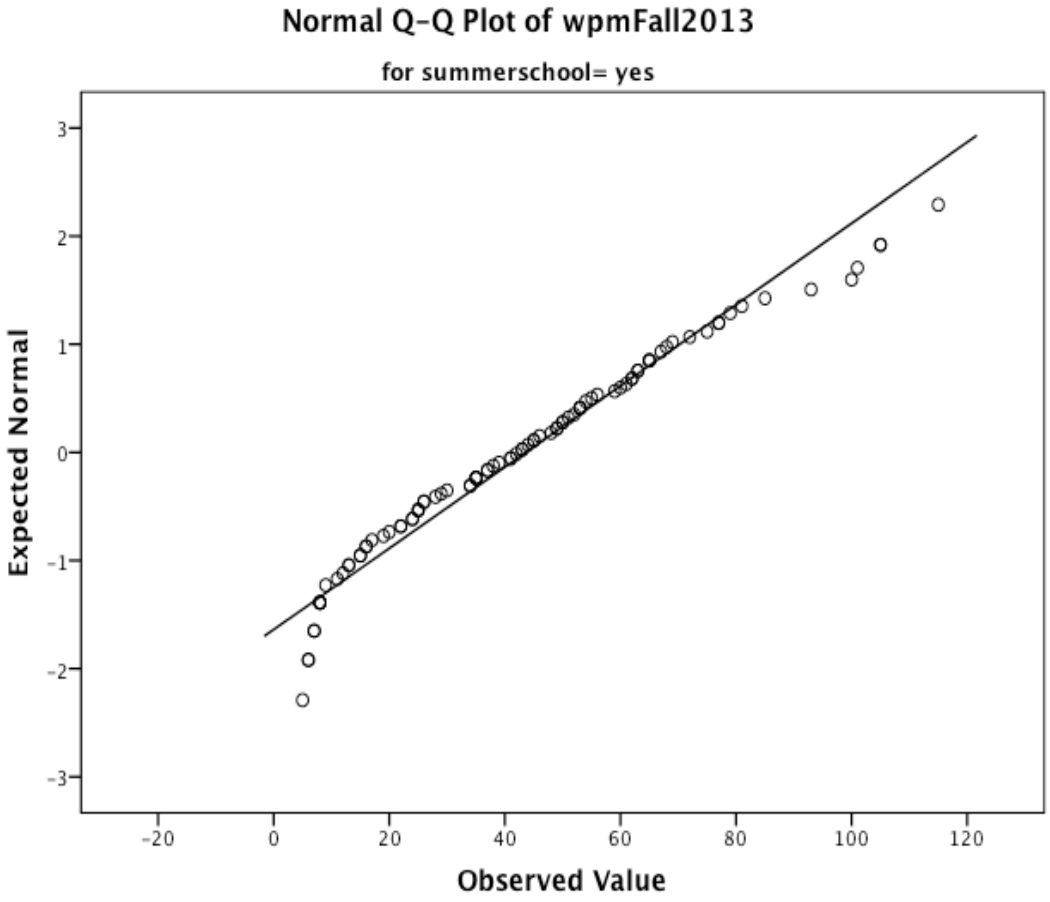
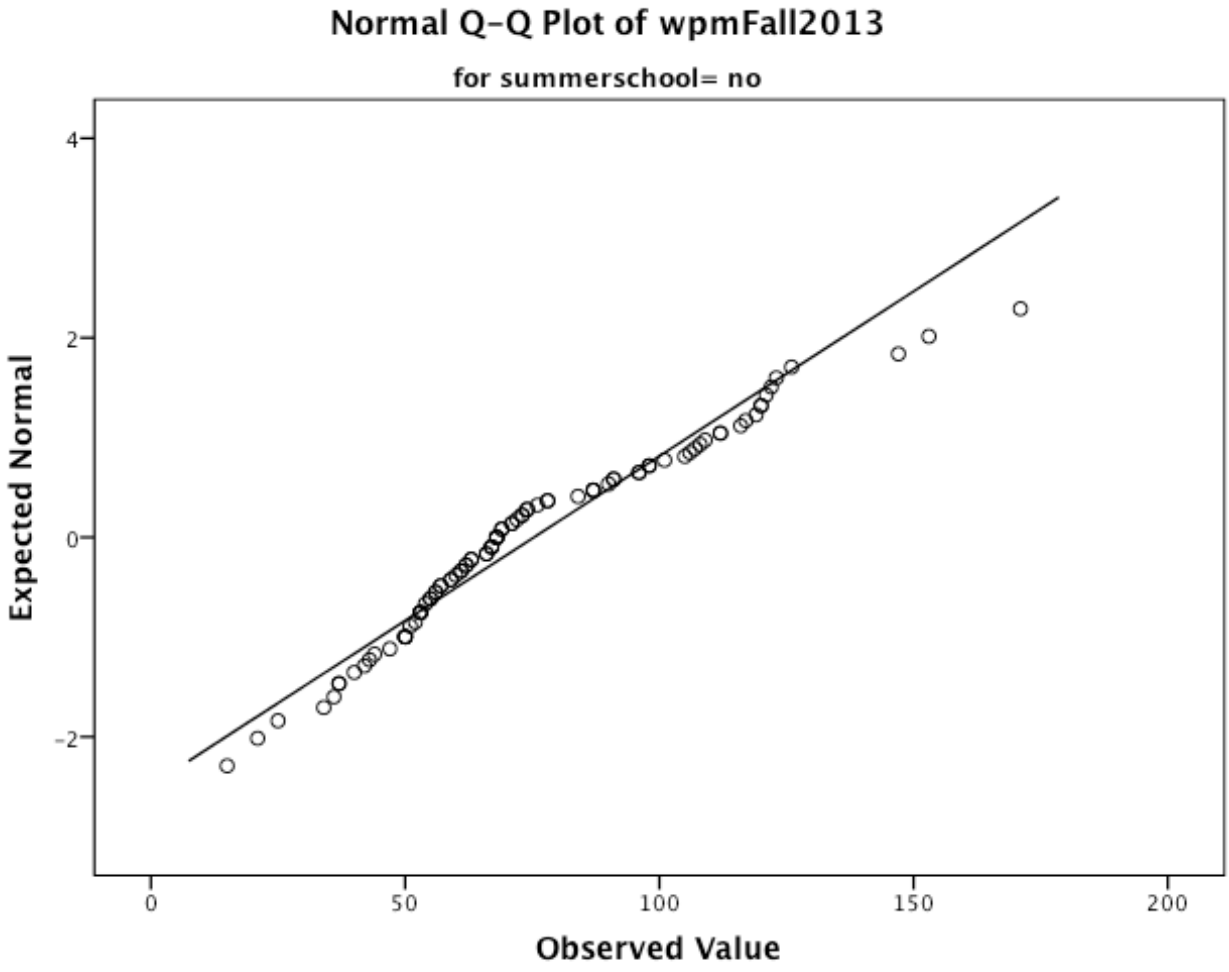


Figure 10

Normality No Summer School Fall 2013



The assessed WPM for those who did not attend summer school is shown on Figure 11 (spring 2013) and Figure 12 (fall 2013).

Figure 11

Normality Summer School Spring 2013

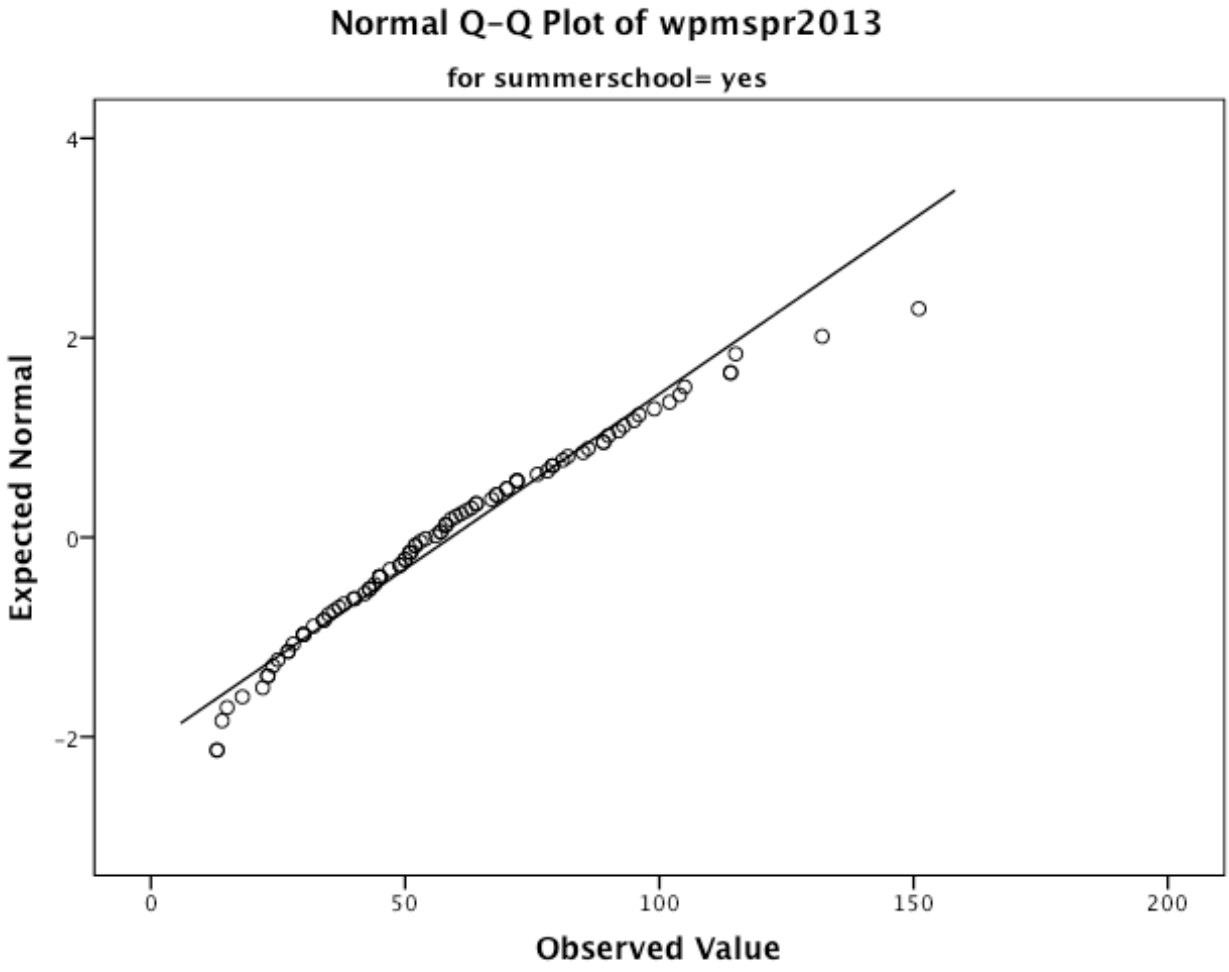
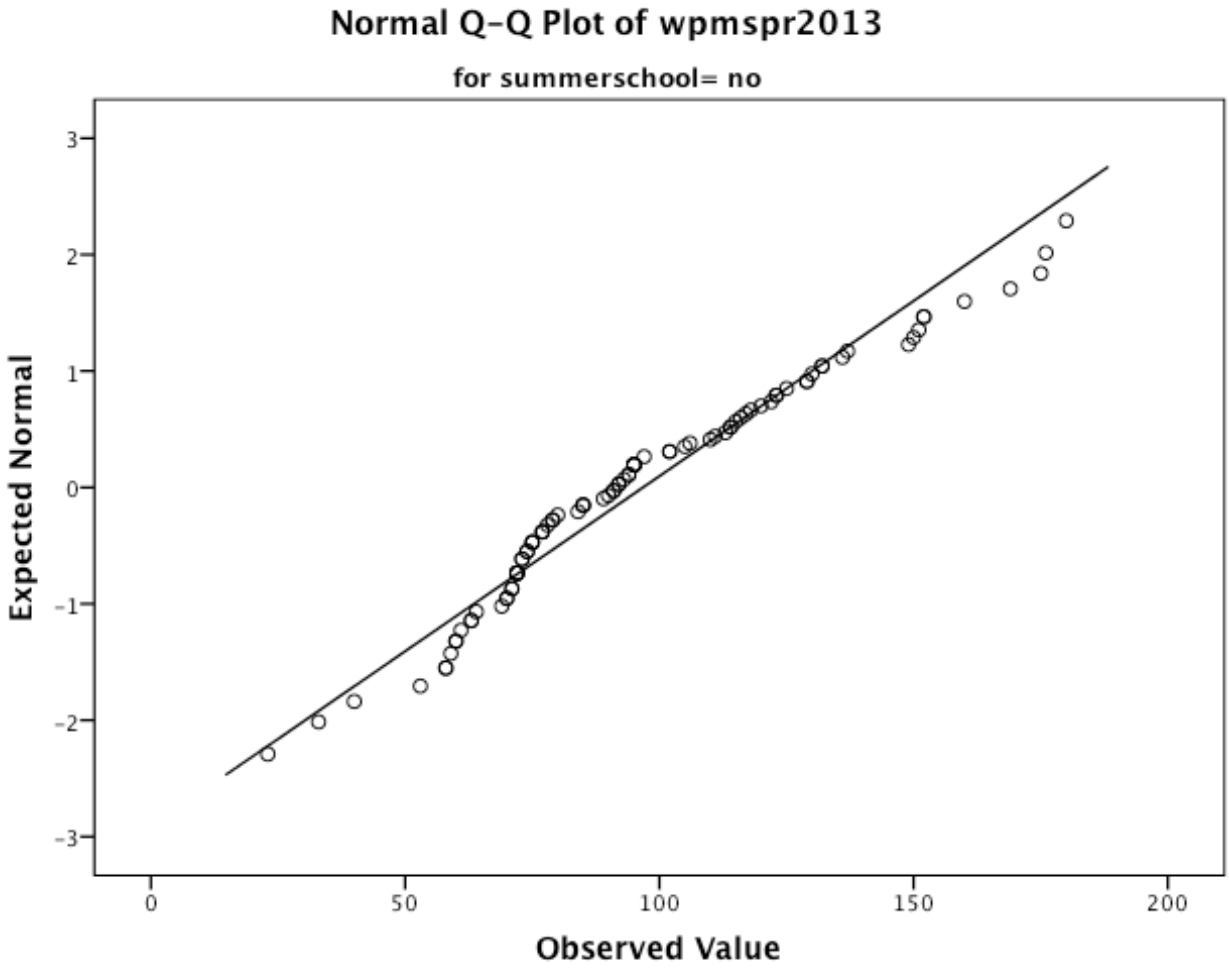


Figure 12

Normality No Summer School Spring 2013



The groups were normally distributed, as assessed by visual inspection of the Normal Q-Q Plots (see Figures 9, 10, 11, and 12). Both data from Spring 2013 and Fall 2013 showed there was homogeneity of variances for those attending summer school and not attending summer school, as assessed by Levene's test for equality for variances (p = .120, p =.288) (see Table 6). Levene's test is testing for differences among group's variances (Bryk & Raudenbush, 1988). A *t*-test is testing for differences among two group's means (Bryk & Raudenbush, 1988). Variance is a measure of dispersion, the difference scores of one group, varies around the mean (Bryk &

Raudenbush, 1988). Levene's test is testing the assumption the two groups have similar variances, regardless of independent variables (Bryk & Raudenbush, 1988). Adhering to the assumption of homogeneity of variances reduces the likelihood of Type I errors (Bryk & Raudenbush, 1988).

Table 6

Reading WPM 4th-6th Graders

Summer School Attendance 2013				
	Yes	No	*t*	*df*
WPM Spring 2013	59.01 (28.50)	96.76 (33.21)	-8.183*	178
WPM Fall 2013	43.62 (26.62)	75.32 (30.29)	-7.457*	178

Note. * = p < .05. Standard Deviations appear in parentheses below means.

Table 7 shows the group statistics, in reading, for those who attended summer school and those who did not attend summer school.

Table 7

Group Statistics Reading Scores

	Summer School	N	M	SD
Wpm spring 2013	Yes	90	59.01	28.50
	No	90	96.77	33.22
WPM Fall 2013	Yes	90	43.62	26.62
	No	90	75.32	30.29

Data are mean ± standard deviation, unless otherwise stated. Data was comprised of 90 students who attended summer school in 2013, and 90 students who did not attend summer school. Students not attending summer school read more in spring 2013 (96.77 ± 33.22) than those who attended summer school (59.01 ± 28.51) (see Table 7). In the spring prior to summer school, students who did not attend summer school had a mean WPM of 37.79 higher than those who attended summer school. After Summer 2013, Fall 2013 WPM show those who did not attend summer school read more WPM (75.32 ± 30.29) than those who had just finished summer school (43.62 ±26.62). The mean WPM difference between those who attend summer school and those who did not attend summer school was 31.70 WPM in Fall 2013. The confidence interval score of 95% shows the true mean for Spring 2013 lies between 28.65 and 46.86 WPM and for Fall 2013. The true mean lies between 23.31 and 40.08 WPM for Spring 2013 (see Table 6). There was a statistically significant difference between the means ($p < .05$) of WPM read in Spring 2013 by those who attended summer school and those who did not attend summer school

t (178) = 8.183, p < .05. A statistically significant difference between the means (p < .05) of those who attended summer school and those who did not attend summer school in Fall 2013 was also found *t* (178) = 7.457, p < .05. Therefore, in both Spring 2013 and Fall 2013, the null hypothesis was rejected and the alternative hypothesis was accepted. Accepting the null hypotheses states the mean differences between those who attended summer school and those who did not attend summer school for, both Spring 2013 and Fall 2013, was not equal to zero. For Spring 2013 data, the effect size was calculated at 1.21. The effect size falls in the large range of Cohen's chart (see Table 2). Data in Fall 2013 had an effect size of 1.11. As with the Spring 2013 effect size, this is in large range of Cohen's chart (see Table 2).

In addition to using reading test scores, teachers' perceptions were explored in order to further understand the their thoughts about effectiveness of summer school in relation to reading. Stacie is a teacher in MSD, with 10+ years experience. She currently teaches in a Title I school and has no prior summer school teaching experience. When asked about her thoughts about summer school and reading, she responded;

> Students scoring a 1 or a 2 on the Spring IRI are referred for summer school reading. Again, I'm not exactly sure what is happening during summer school reading on a day to day, but the focus would be on fluency. The communication to parents indicates that students will receive help with moving forward with grade level skills that they are lacking or behind with. I'm not clear on the specific programs offered.

Research Question #3

Qualitative research is exploratory and is used to define the problem or develop an approach to the problem (Creswell & Plano Clark, 2011). Qualitative research digs deeper into

issues of interest and explores nuances related to the problem at hand. When examining the effectiveness of summer school, the researcher felt the perception of the teachers was a critical piece to be included in the effectiveness analysis. The approach of using open-ended surveys paired with in-depth interviews was a way to triangulate data (Creswell & Plano Clark, 2011).

The qualitative portion of data was gathered from summer school teachers and classroom teachers through anonymous surveys and confidential interviews. Six participants were randomly selected for the interview. Participants who volunteered to be interviewed were informed that the interview and their answers would be confidential. The interviews allowed the researcher to gather detailed information about teachers' perceptions of summer school effectiveness and how it relates to an increase in student achievement. After the interviews were conducted, transcripts were coded and the analysis of themes took place. Research question number three asks:

What are teachers' perceptions about the effectiveness of summer school?

The open-ended surveys were sent to 557 teachers in MSD. Tables 8 show the demographics of participants by gender, years of experience, school type and previous summer school teaching experience.

Table 8

Survey Participant Demographics

Male	14
Female	144
Teaching Experience	
1st year	7
2-3 years	13
4-5 years	12
6-9 years	17
10 + years	111
Currently Teaching in Title 1 school	
Yes	92
No	70
Previous Summer Teaching Experience	
Yes	61
No	100

Participants volunteered contact information if they were interested in participating in more in-depth interviews. Out of the volunteers, the pool was reduced to those who had teaching experience of three or more years. For summer school teachers, the pool was reduced to those who had taught summer school within the last three years. Three traditional school year teachers

and three summer school teachers were randomly chosen to participate in interviews. Table 9 shows the demographics of those teachers who participated in the interviews.

Table 9

Interview Participant Demographics

Name	Ann	Betty	Jane	Wendi	Caroline	Stacie
Gender	F	F	F	F	F	F
Summer School Experience	No	Yes	Yes	No	Yes	No
Title I School	Yes	Yes	Yes	Yes	Yes	Yes
Years of Teaching Experience	10+	4	10+	6	3	10+

Coding and categorization of the open-ended questions revealed several themes as teachers gave their perceptions about summer school (see Table 10). Interview questions revolved around those themes that emerged from the survey questions. This allowed for the researcher to delve deeper into teachers' perceptions.

Table 10

Themes From Teacher Perception Survey

Themes From Teacher Perception Surveys carried into Interviews
• State standardized tests and progress monitoring data used for summer school referral • Reading main focus for referral to summer school • Lack of communication between summer school teacher and classroom teacher • Uncertainty of skill focus during summer school • Lack of focused curriculum • Potential to help students with academic needs

Table 11 and Table 12 show teachers' responses to questions about communication between traditional year teachers and summer school teachers. In each of the

Table 11

Information About Students

Describe any and all academic information you provide summer school teachers/administrators about students from your class. (or provide to traditional teachers ...)		
	Number of Responses	Themes
Traditional Year Teachers	113	• None/nothing • IRI/CBM Scores
Summer School Teachers	32	

Classroom teacher's responses about the teaching focus of reading and math during summer school exposed they refer students without knowing what will be taught. The survey responses showed that 87 teachers, or 82% of those who responded, were unsure of what students were being taught during summer school. Summer school teachers also stated they had no focused curriculum and had to find their own resources, spending their own money to get materials. Although teachers used AIMsWeb for progress monitoring, they had no specific guidelines for what they should be teaching students during the summer months. Still, many teachers responded they felt summer school was a place or a potential place for halting summer slide and increasing student achievement.

Table 12

Communication Between Traditional Year Teachers and Summer School Teachers

Describe communication and/or information you receive, at the beginning of the school year, regarding students who attended summer school and their academic progress during their time in summer school. (or ...you receive from school year teachers about students..)		
	Number of Responses	Themes
Traditional Year Teachers	111	• Nothing/ No communication
Summer School Teachers	32	

Another theme to emerge from teachers' responses was the lack of communication between traditional school and summer school. Traditional classroom teacher's responses (n = 43) suggested that they did not receive any data about students' progress during summer school and that they did not provide any information to the summer school teachers. Many teachers

responses (n = 27) illustrated they assumed that summer school teachers had access to test score data, but that did not really know what summer school teachers used. Although 43 responses from classroom teachers indicated they did not receive any data from summer school, 26 responses did reveal they had received some sort of information from summer school. Teachers explained the information they did receive from summer school helped to provide information for developing learning groups at the beginning of the year. In addition, the information provided by summer school provided teachers with student learning information that paired well with beginning of the year assessments. Wendi summed up her thoughts about the lack of communication between summer school and traditional school as follows, “There is a definite disconnect between summer school and the child's site school. I do not trust the effectiveness of a program that has so little communication.”

Jane, who has taught summer school, currently teachers at a Title I school and has 10+ years of teaching experience, expressed frustration with the lack of communication when she stated:

> I receive no information back from the summer school administrator about how successful the summer session was. I also receive no information concerning the new students I am getting and whether they attended summer school or not. No swap of info back to our site.

Teacher’s perceptions of summer school indicate they want a place to send students to halt summer learning loss and to increase gains in achievement. They refer students to receive help in reading, but they lack an understanding of what skills are actually taught during the summer

months. Teachers were asked their overall thoughts about summer school in MSD. Table 13 shows responses to survey questions.

Table 13

Overall Thoughts About Effectiveness of Summer School

Describe your overall thoughts about summer school and how it relates to halting summer learning loss and increasing student achievement.		
	Number of Responses	Themes
Traditional Year Teachers	108	• Has potential to help students • Haven't seen data supporting learning/growth • Not sure what they teach • Needs curriculum
Summer School Teachers	32	

Wendi shared her thoughts about the overall effectiveness of summer school:

> I am not sure. I do not think that it increases achievement, however, it may help halt the summer loss that can occur. You can never really know though as you cannot have the same student go, and not go, and then compare their results. For our Title I kiddos, it does provide a safe, consistent, and reliable place for them to spend time. I understand the need to provide our students with additional reading and math support, but I wonder if we would get more "bang for the buck" if we focus also, or instead, on language and vocabulary development, as well as constructing the deeper written and oral responses that are required with CCSS.

During Ann's interview, she expressed a great desire for students to go to summer school, but did not feel she had any data to support learning taking place during summer school. Ann stated,

> I believe summer school is important because it gives struggling students an extra boost and keeps the academic gap from widening further during the summer. It provides some much needed small group intervention to students who need it. I like the idea, but have no data to support the effectiveness.

Caroline taught summer school as well as traditional school. Caroline vented that her students were in need of someplace to go during the summer instead of sitting at home with nothing to do all day. However, Caroline did not feel as though the current structure of summer school in MSD fully supported students' needs. Caroline shared, "I think a summer program is a good thing for students, however, when I taught math in summer school I had too many students to teach the concepts and it felt like I was providing them with busy work instead of teaching." Stacie's views fall in line with the over all themes that emerged from the qualitative data:

> ...three months without the school routine can be detrimental for many kids. I see a measurable drop in skills in the fall from the spring scores/performance. Students that are readers and maintain their level of reading over the summer are at a real advantage. Our first month or two of school is spent on reteaching/reviewing the previous years skills. We need a benchmark for monitoring growth, and we are usually shocked at how little many students can recall previous skills learned. As for attending summer school, any student that is interested in attending to maintain or increase their ability/skills should be given the option. Students that are failing or below grade-level should be expected to

> attend. My greatest concern with summer school at the elementary level is that there is no set curriculum or lessons that the teachers are expected to follow.

Betty responded the question about overall thoughts of summer school by stating:

> I have seen studies about the amount of information that students lose during the summer, so I like the idea of having summer school. I would still prefer to see a year round school model implemented to help alleviate some of the information that is lost in those summer months, but this is what we have, so I'll take it! That said, I haven't necessarily seen any data that shows how effective our current summer school set up is going, and I haven't seen any studies to show the differences between year round school and the typical summers off schedule.

Jane's response to the question about overall thoughts about summer effectiveness was:

> I believe summer school slows the ever-present "summer slump" that students go through after building up stamina and fluency all school year. From the data I have though, it does not increase students reading scores. I think summer school should be fun, especially for elementary students.

Looking at the effectiveness of summer school through the eyes of teachers, qualitative data helped to complement the quantitative data (Creswell & Plano Clark, 2011). Table 10 shows the top themes that emerged from the open-ended surveys. Theses top themes then became the corner stone for the questions the researcher developed when interviewing teachers about their perceptions of the effectiveness of summer school. Figure 7 illustrates the top themes to emerge from the interviews conducted with teachers about their perceptions of the effectiveness of summer school.

Chapter V

Discussion

Introduction

Summertime months are a time in which students who are unable to access learning experiences fall behind or further behind their peers academically (Alexander et al., 2007; Cooper, 2000). Although low-income students show the same academic gains as their peers during the school year, summertime represents a time in which students who come from low-income households experience a loss in learning that their more affluent peers do not experience (Alexander & Entwisle, 1996; Alexander et al., 2007; Cooper, 2000; Heyns, 1978).

Poor children are much more likely than other children to score very low on math and reading skills: three out of ten poor children (30 %) score very low on early reading skills, compared to only 7% of children from moderate or high income families (Isaacs, 2012).

Each year, the gap continues to widen, and by the end of fifth grade, disadvantaged children are nearly three grade equivalents behind their more affluent peers in reading (Alexander et al., 2007; Allington et al., 2010). The achievement gap reflects differences between low-SES and high-SES students' home environments, with academic gains during the school year being relatively equal between both groups (Allington et al., 2010; Cooper et al., 2000).

Students coming from households with higher SES experience activities such as vacations, summer camp, use of computers, and even trips to the library, the learning faucet is on and information is flowing. The lack of resources for children of lower SES status leads to inequality when performance is compared to that of their more affluent peers (Jensen, 2009). Summertime represent a time for students from low SES when the learning faucet is turned off

(McCombs et al., 2011).

The lack of opportunities in the summer time months, for low SES children, translates in the widening of the achievement gap. Cooper et al. (2000) showed during the school year, low SES students make the same learning gains as their more affluent peers. They state the summer months, and the lack of learning resources, contribute to a loss in learning, and further contribute to the achievement gap.

Summertime can represent a solution to mitigating summer learning loss. Summer school offers an opportunity for school districts to support students' learning during the summer months. However, attendance in summer school does not mean automatic learning gains. Summer school programs must be explicit and intentional in their planning. In a series of reports published by The Wallace Foundation, Augustine, McCombs, Schwartz, and Zakaras (2013) share recommendations they comprised from extensive research. Their work outlines several key components for establishing effective summer school programs in the areas of:

- Planning
- Curriculum and Instruction
- Teacher Selection and Training
- Enrichment Activities
- Attendance
- Time on Task (Augustine et al., 2013)

Summary of Results

The purpose of this mixed-methods study was to examine the effectiveness of elementary summer school in halting summer learning loss and increasing student achievement while answering the following questions:

1. In what ways is elementary summer school programming effective in preventing summer learning loss?

2. Does summer school increase student achievement, as measured by district and state standardized tests?

3. What are teachers' perceptions about the effectiveness of summer school?

The quantitative research was conducted using random samples of student test scores. Ex-post facto test scores used in this study including state standardized tests, as well as pretests and posttests for reading skills and math skills tests taught during summer school. Longitudinal student test data was gathered from those students who attended summer school in the summer of 2013 and compared to students from the same schools, who did not attend summer school. Statistical tests used to analyze data included: *t*-test, both independent and paired-samples.

The qualitative portion of data came from gathering summer school teachers and classroom teachers' perceptions of summer school through anonymous surveys and confidential interviews. Qualtrics was used to send an E-mail containing the link to the survey (see Appendices A) to 557 teachers, kindergarten through sixth grade, asking if they would like to participate in a providing their perceptions about summer school for a mixed-methods study. Those who volunteered gave consent and were asked to respond to the open-ended/comment survey (see Appendices A). Responses from those who participated in the survey were coded for themes .One of the questions on the open-ended/comment survey asked for volunteers for more in-depth interviews. Those interested voluntarily provided their name, phone number and email address for further communications. Six volunteers were selected for interviews (see Table 9). Interviews

were transcribed and then coded for themes shows the themes that emerged from the interviews (See Table 10).

Conclusions

Summer School Effectiveness

Math. Starting with question one, how is summer school effective in halting summer learning loss and increasing student achievement, a paired-sample *t*-test was conducted in order to compare the mean scores from the pretest and posttest summer school math scores, using ex post facto student scores. The paired-samples *t*-test is used to determine whether the mean difference between paired observations is significantly different from zero (Tanner, 2011). The null hypotheses for paired-sample *t*-test states the population mean difference between the paired values in equal to zero (Tanner, 2011). What this means is in order to accept the null hypotheses, there should not be a difference in mean scores between the posttests and the pretests.

Even though the sample size was relatively small (n = 88) the researcher felt it was critical to use math data in this study. Several research studies show children lose math skills over summertime months (Heyns, 1978, Isaacs, 2012; McCombs et al., 2011; Terzlan et al., 2009). In the summer of 2013, MSD did not mandate summer school sites collect math data, so the data available to the researcher was limited. Heyns (1978) showed the first results of all students losing math skills during the summer months. Isaacs (2012) supports Heyns (1978) findings and shows that on test scores in general, children from low SES households are much more likely than other children to score very low on math (Isaccs, 2012). Further more, the programs that primarily focused on academics showed the most positive outcomes in increasing math computational skills (McCombs et al., 2011; Terzlan et al., 2009). Based on the

quantitative data from Summer School A, the math scores reveal students made gains of 4.03 points from the pretests to the posttests (See Table 1). The researcher can conclude that students did not lose math skills over their time in summer school. The effect size shows the difference of the means to be .79, which is in the medium range, but closer to 1. The researcher can conclude those students who used Moving into Math® were mostly likely, on average, able to increase their scores by about one standard deviation (Tanner, 2011). This means the 4.03 point gain from the pretest to the posttest shows students made gains. These gains include outliers in each data set. The outliers were kept in the data because the researcher felt they were a reflection of test scores, not because of any type of data error (Tanner, 2011). However, because MSD does not have a standardized math test for spring and fall, the results from the summer school data cannot be compared to district tests to see if growth in the summer translates into overall increase in student achievement during the school year.

Teachers' perceptions of math and summer school counter the gains shown by the quantitative data. However, teachers' perceptions of math and summer school complement the lack of data the researcher was able to collect, thus only using one summer school site for math data (See Table 1). Figure 6 shows the themes that emerged from in-depth teacher interviews. Even though math was an offering during summer school, 93 teachers, or 86% of those who responded, stated they did not know math was an option or that they referred students to attend summer school only for reading help. This is supported by the teacher interviews in which confusion over content areas taught during summer school emerged as a central theme (See Figure 6). Most teachers reported they referred students to summer school because of reading concerns (See Figure 6). This is counter to research about math skills lost during the summer months (Cooper et al., 2000). This confusion is further supported through themes from

interviews. Lack of communication between summer schools and traditional schools emerged as a theme. This lack of communication confirms the confusion teachers expressed over content areas taught during summer school and the curriculum used to teach during the summer months (See Figure 6).

Teachers reported during interviews they did not know students could receive math support during summer school or had difficulty in teaching math content. Summer school teachers felt as thought they were not teaching skills, but rather baby-sitting students because of the large class sizes. During the interviews, teachers were asked about their thoughts about summer school as an effective method to halt summer learning loss in math. When asked about how summer school can support students' learning, Betty replied:

> I think a summer program is a good thing for students, however when I taught math in summer school I had too many students to teach the concepts and it felt like I was providing them with busy work instead of teaching.

This contradicts one of the recommendations made by Augustine et al. (2013) about effective summer school components. Their research shows that in order for summer school to be effective, small class sizes are vital (Augustine et al. 2013). When pressed further about her thoughts about math and summer school Betty continued,

> Currently there is no formal math assessment for primary grades like the IRI. More problem solving and deeper understanding of concepts as related to CCSS is needed. Summer school could, and really should be place for kids to receive this extra support.

Research shows all students are more inclined to score lower on standardized math tests at the end of the summer as compared to their performance on the same tests at the beginning of

summer (Cooper et al., 2000). This loss is most pronounced in factual and procedural learning such as mathematical computation, where an average setback of more than two months of grade-level equivalency was observed among both middle-class and lower class students (Cooper et al., 2000).

Based on this research information, summer school has the potential to boost student academic achievement. Again, summer school has to be explicitly structured and intentional in its purpose in order to be effective (Bell & Carillo, 2007). Designing math content classes during summer school, that are rigorous, centered on a research- based curriculum, and offered in a small class size may be a way for MSD to close the achievement gap (Augustine, 2013). With the ever-increasing enrollment of students from low-income families (See Figure 1), closing the achievement gap remains an area of focus for MSD leaders. Summer school can be a means to closing this gap (McCombs et al., 2012).

When looking at both the quantitative and qualitative research together with regard to the effectiveness of summer school in halting summer learning loss and increasing student achievement in the content area of math, the researcher concludes that summer school may be an effective resource for halting summer learning loss, however MSD needs to be explicit and intentional in the goal of providing math support during the summertime months (Bell & Carilllo, 2007). More research needs to be done in this area in order for a definitive conclusion to be made about the effectiveness of summer school in halting summer learning loss in the area of math. The quantitative results show students did make growth (4.03 points) from the pretest to the posttest test. However, standardized math assessments, to be administered at the beginning and end of the year, in MSD do not exist. Because of this, the researcher cannot conclude that summer school is effective in increasing student achievement in the area of math. Teachers'

perceptions support the researcher's finding in that summer school is not effective halting summer learning loss or increasing student achievement. This was shown through themes that emerged during interviews (See Figure 6).

Reading. All children lose academic skills during the summer months, but family socioeconomic status (SES) is highly correlated to the level of academic growth or decline in the summer months (Alexander et al., 1996, 2000; Cooper, et al., 2000). Two thirds of the academic achievement gap in reading found among high school students has been explained through the learning loss that occurs during the summer months of the primary school years (Alexander et al., 1996, 2000; Cooper et al., 2000). Halting the summer slide is critical to the success of low SES students. Instead of losing knowledge and skills during the summer months, kids who attend reading programs actually show gains (Fiore & Roman, 2010). With this in mind, the researcher made conclusions about the effectiveness of summer school in MSD in relation to its approach to reading during the summer months.

A paired-samples *t*-test was used when examining the pretest and posttests for fourth through sixth grade reading scores. The paired-samples *t*-test is used to determine whether the mean difference between paired observations is significantly different from zero (Tanner, 2011). The mean difference between the pretest and posttest was .945 words read. Because of this difference, the null hypotheses of the paired-samples *t*-test was rejected and the alternate hypotheses was accepted (Tanner, 2011). This means there was a difference in the mean scores between the pretest and posttest given to students during the summer months. The effect size was calculated at .20. This effect size falls in the small range of Cohen's chart (See Table 2). Based on the small range of the effect size, the researcher concludes that Read Right® had a small magnitude of effect on the difference in reading scores (Tanner, 2011). This contradicts

the research that shows kids who attend reading programs actually show gains (Fiore & Roman, 2010). Even though the students may not have made gains in achievement, they did not show a loss in comprehension. This goes directly to the research question asked by the researcher: In what ways is elementary summer school programming effective in preventing summer learning loss and increasing student achievement?

MSD uses Read Right®, a researched based intervention program, for summer reading remediation for intermediate grades. Using a researched based intervention program follows Augustine et al. (2013) recommendations about using a commercially available and tested curriculum (Augustine et al., 2013). However, they also make the recommendation that students should be assessed with curriculum-based pretests and split into at least two different ability groups within the classroom, with instruction differentiated by group (Augustine et al., 2013). They also acknowledge that dividing students into independent programs is not always possible (Augustine et al., 2013). However, teachers should have the curricular resources to target instruction to at least two different ability groups (Augustine et al., 2013). Read Right® is the only reading support available to intermediate students attending summer school in MSD. Using another program to support students who do not meet qualifications for Read Right® would provided the differentiated instruction Augustine et al. (2013) recommend.

Read Right® indicates students need to have a strong phonics base in order to participate in their program. According to teachers, both traditional school year and summer school, who participated in the survey and interviews, there was no indication that they conducted diagnostic reading testing for students attending summer school. Teacher perceptions show students are referred because of low standardized scores. If Read Right® is the only program available, how are all students reading needs during summer being met?

While research on effective summer school programs supports the use of a structured research-based reading program like Read Right® (Augustine et al., 2013), teachers perceptions about how they see the effectiveness of summer school with regards to reading in the MSD does not support summer school as an effective means in halting summer learning loss and increasing student achievement. Again, the central themes that emerged from teacher interviews (See Figure 6) show that although reading is the main reason students are referred to summer school, teachers feel they do not have an understanding of the curriculum used during the summer months or what skills are being taught. Ann states this lack of knowledge about what is being taught during summer school frankly. "I refer students who score below grade level. I have no idea what skills are taught for reading at summer school."

As with the math data, the measure of comprehension in the summer months cannot be compared to other district measures of comprehension growth, as not all schools in MSD currently use maze reading scores to gather comprehension information in the fall and spring. This data cannot be compared to state standardized tests, as there are no such assessments for the beginning of the school year. When looking at the research question of summer school as means to halt summer learning loss, Read Right® may be a method to halt summer learning loss, but the data collected cannot answer the question of whether or not summer school increases overall student achievement in reading.

Continuing to answer the question of the effectiveness of summer school in halting summer learning loss and increasing student achievement, state standardized reading scores of first through third graders were examined using a *t*-test. The independent-samples *t*-test determines whether a difference exists between two group means in the population (Tanner, 2011). In spring prior to 2013 summer school students who did not attend summer school for

2013 read an average of 37.79 more words per minute than those who attended summer school 2013. On state standardized reading test in the fall of 2013, following summer school, students who did not attend summer school read an average of 31.70 words per minute more than those who did attend summer school. This reading data shows that those who attended summer school made a 6.09 WPM gain during the summer months over their peers who did not attend summer school. This finding supports the studies showing that those who attend summer school do not show a loss in academics over the summer (Alexander, et al, 2000; Cooper et al., 2000). This finding also supports research that is the theoretical framework of this study. During the school year, most children benefit from what is known as the faucet theory, where learning resources are "turned on" for all children during the school year (McCombs et al., 2011). However, in the summertime, the faucet is "turned off" for the low SES children. The lack of resources for children of lower SES status leads to inequality when performance is compared to that of their more affluent peers (Jensen, 2009). Significant numbers of children, who do not have access to these and other learning opportunities, experience an academic loss during their three months from the classroom (Borman et al., 2007).

The qualitative data shows' reading is the primary reason students are referred to summer school. The availability of reading data for this study was much easier to obtain than the math data. This further supports the emphasis of reading in MSD. Teacher interviews show the primary reason they refer students to summer school is because of reading concerns (See Figure 6). Jane explained why she refers students to summer school: "I refer really struggling readers. These students need to keep working on reading and probably won't during the summer if they are not enrolled in summer school. Title One populations are like that for the most part."

Stacie explained why she refers students to summer school: “I generally refer students who have low comprehension of what they've read, or who are significantly below their peers in fluency and decoding. I expect students to work on fluency, decoding and basic comprehension.”

The reading data collected by the researcher supports the theoretical framework of this study. If the learning resources are “turned on” during the summer months, students will not suffer summer learning loss (Alexander et al., 2000). Although teachers refer students to summer school in MSD primarily for reading, teachers are confused about what skills are being taught or what curriculum is being used (See Figure 6). Summer school can be an effective resource to help support student learning over the summer time months, thus mitigating summer learning loss (Terzlan et al, 2009). In the MSD, enrollment statistics support a continued increase in low-incomes students entering the district (See Figure 1). Creating effective summer programs that support student needs, using a research-based curriculum while maintaining small class sizes can help the MSD close the achievement gap (McCombs et al., 2012).

Teachers’ Perceptions. While the quantitative reading and math data starts to answer the question of summer school effectiveness in halting summer school loss, teachers’ perceptions of effectiveness of summer school do not mirror those results.

Many teachers see summer school as holding promise for students, but they are concerned with the lack of communication, and lack of knowledge about summer school curriculum. Table 12 indicates 140 teachers responded to the question asking their thoughts about the effectiveness of summer school. Of the 140 responses (See Table 12), 130 responses indicated teachers had concerns about lack of communication,

and a lack of knowledge they about curriculum used during summer school. In addition, teachers reported confusion over content areas in which referred students would be participating and were not aware students could receive math support during summer school (See Figure 6). In response to a question about math and summer school, 93 teachers, or 86% of those who responded, stated they did not know math was an option or that they referred students only for reading for students who attended summer school (See Figure 6).

Betty reports her thoughts about the effectiveness of summer school:

> I have heard from several parents this year that they really don't feel summer school has helped their child. Many parents said their children have done it several summers. I'm guessing the kids would be lower if they hadn't attended; however, I don't know that we can say it's helping them a ton.

When asked if she would continue to refer students to summer school, Betty replied: "I have mixed feelings about summer school. My thoughts are that it needs to be for all students, not just low performing students. All students could use the support and would be there to assist the low performing students."

Betty's statement that summer school could be a learning resource for all students, especially with regard to math is supported by research (Cooper et al., 2000). Summer learning loss was most pronounced in factual and procedural learning such as mathematical computation, where an average setback of more than two months of grade-level equivalency was observed among both middle-class and lower class students (Cooper et al., 2000).

During the interview with Wendi, she also showed mixed feelings about the effectiveness of summer school. She stated: "I believe that it can be beneficial if structured to meet the needs

of the students. However, I haven't really seen benefits." This supports teachers' perceptions that summer has potential, but they lack information pertaining to its effectiveness (See Figure 6).

Although this study remained on the smaller size in relation to other studies mentioned in the literature review i.e.: Alexander et al, (2000), Augustine et al, (2013), and Cooper et al. (2000), the results for this study paralleled their results: summer school is a place to halt summer learning loss for students who come from low SES households (Alexander et al, 200; Augustine et al, 2013; Cooper et al., 2000). Quantitative math and reading data from pretests and posttests given from the summer, as well as from reading standardized tests, show summer school in MSD may halt summer learning loss. However, the researcher was not able to definitively conclude summer school in MSD was effective in increasing student achievement, as shown by standardized reading assessments and teachers' perceptions.

Recommendations for Further Research

This research study focused on the effectiveness of summer school in halting summer learning loss and increasing student achievement. Overall, the results show summer school in MSD halts summer learning loss, but could not answer the questions of summer school increasing student achievement. Teacher perceptions show mixed feelings about the effectiveness of summer school. This study represented a small portion of what can be studied with regard to the effectiveness of summer school in halting summer learning loss and increasing student achievement, and the possibilities of what research can be conducted are limitless. However, the researcher has highlighted some ideas for further studies.

The foundation of this study was built on the lack of school readiness for those who come from low SES households. The researcher is interested in looking at summer school as way to increase school readiness amongst those who lack school ready skills coming into kindergarten.

With the demands and rigor set by The Common Core State Standards, school readiness is vital for success for those entering kindergarten. Looking at summer school as a way to pre-teach skills needed to be successful in kindergarten in an area of interest for additional summer school research.

An additional area of interest for the researcher is looking at the effectiveness of summer school for Limited English Proficient (LEP) students specifically. MSD has a large LEP population, with many LEP students attending summer school. The researcher is very interested in focusing specifically on using summer school as a way to accelerate LEP students' language proficiency and academic content knowledge. Some questions to be answered include: Is Reach into Phonics® an appropriate intervention to accelerate reading in LEP students during the summer months? Do LEP show an increase in learning when attending summer school geared toward English Proficient students? As the researcher was developing this study, she contacted Dr. Karl Alexander, by E-mail, to gain his insights on her study (see Appendix O). In his response to the researcher, Dr. Alexander stated, "...that there is practically no research on summer learning for special populations. Accommodating the needs of refugee children is terribly important and I know of no research specific to their experience." This comment piqued the researcher's interest in delving into researching experiences LEP students in summer school.

One last area of interest for the researcher in looking forward to additional research is the idea of using summer school as place for acceleration instead of remediation. Research indicates summer is most effective when tied to the school year curriculum as either a way to reteach or to pre-teach (Bell & Carillo, 2007). The researcher is interested in using summer school as a way to pre-teach skills, instead of remediation of skills. This interest especially relates to the area of math.

Implications for Professional Practice

Although the data gathered supports the theory that summer school halts summer learning loss, there are several implications from this study that would benefit current professional practice.

MSD is in the process of overhauling its math course sequence, to increase rigor and support college readiness for all students. Summer school can be a place to help support math skills for students. Research demonstrates that all students, regardless of SES, lose math skills over the summer months (Cooper et al., 2000). Creating a more meaningful math experience during elementary summer school sessions is a way to help support the district's strategic plan, while halting summer learning loss. The quantitative math data in this study shows that students made gains from the pretests to the posttests during the summer months. This could be a starting point for MSD as they seek to reform their math sequence and align math curriculum with CCSS.

The creation of a more meaningful math experience should include implementation of a set curriculum that supports the school year curriculum (Augustine et al., 2013:Terazlan, et al, 2009). This should also be done in reading. Surveys and interviews indicated teachers did not know what skills were being taught or what skills needed to be taught. Diagnostic testing, in both math and reading, is critical in order to ensure students are receiving support in areas of need. For instance, students participating in Read Right® should have a foundation in phonics. What do upper grade students do for reading support if they lack a phonics foundation? Summer school should support those who attend, not just have prescribed programs that do not support areas of needs for students (Augustine et al, 2013).

A set curriculum will help to guide a focus of teaching for summer school (Augustine et al., 2013). A summer scope and sequence should be developed in order to give teachers a clear

guide as to what is to be taught during the summer months. Responses from teachers participating in the survey for this study and in interviews show they lack knowledge about what is being taught during summer school. This lack of focus in curriculum was noted several times by teachers as a concern (See Table 12).

A focused curriculum without quality teachers is not beneficial in revamped a summer school program. The hiring and retention of quality teachers has to be part of any district's plan in implementing quality summer school programming. Effective teachers have the largest impact on student learning (Marzano, 2003). Summer school programs have to examine their hiring processes. Often times, summer school is a training ground for new teachers, who lack classroom experience. By following this practice, school districts place students who need to the most intervention in the hands of the least experienced and knowledgeable teachers.

Regardless of the experience and knowledge base of the teachers hired to teach during summer school, professional development has to be a part of summer school practice (Augustine et al., 2013). Teacher training is another area district's need to examine when looking to implement effective summer school programs. In this study, teachers reported their summer school training consisted of one meeting the day before summer school started. No professional development was offered during this two-hour meeting. Differentiation of small groups is a key strategy in effective summer school programming (Augustine et al. 2013). However, effective implementation of differentiation requires training. Supporting teachers in how to implement the curriculum and meet the needs of students could also help in the retention of quality teachers.

Conclusion

Summertime months are a time in which students who are unable to access learning experiences fall behind or further behind their peers academically (Alexander et al., 2007;

Cooper, 2000). Although low-income students show the same academic gains as their peers during the school year, summer represents a time in which students who come from low-income households experience a loss in learning that their more affluent peers do not experience (Alexander et al., 2007; Cooper, 2004; Heyns, 1978). Students who are unable to access learning experiences during summer months predominately come from lower SES households (Alexander et al., 2007).

This study focused on the effectiveness of summer school as a method to halt summer learning loss, and to increase student achievement in the Mountain School District. Overall, the results from both quantitative and qualitative data show that summer school in MSD is effective in halting summer learning loss. However, the results cannot be corroborated when answering the question of summer school as a way to increase student achievement.

Math and reading pretests and posttests show summer school in MSD plays a role in halting summer learning loss. A comparison of district and state standardized reading scores between those who attended summer school and those who did not attend show gains in learning for those who attended summer school. Survey and interview results show many teachers see summer school as holding promise for students and primarily refer students based on reading needs (See Figure 6). Conversely, they are concerned with the lack of communication between summer school and traditional school, lack of focused curriculum and even the lack of understanding of content taught in the summer time months (See Figure 6)

Summer school offers an opportunity for school districts to support students' learning during the summer months (Terzlan, 2009). However, attendance in summer school does not mean automatic learning gains (Bell & Carilo, 2007). Summer school programs must be explicit and intentional in their planning (Bell & Carillo, 2007). In a series of reports published by The

Wallace Foundation, Augustine, McCombs, Schwartz and Zakaras (2013) share recommendations they comprised from extensive research. Their work outlines several key components for establishing effective summer school programs in the areas of:

- Planning
- Curriculum and Instruction
- Teacher Selection and Training
- Enrichment Activities
- Attendance
- Time on Task (Augustine et al., 2013)

Successful programs are not prescriptive but rather individualized in order to meet the needs of students attending (Bell & Carrillo, 2007). Creating effective summer school programs is not easy task. Districts willing to take on the challenge of creating effective summer school may well close the achievement gap for their students.

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Appendix A

INFORMED CONSENT FORM

A. PURPOSE AND BACKGROUND

My name is Cindy Daly and I am currently a doctoral student at Northwest Nazarene University. I am conducting a research study related to effective summer school programs and student achievement. The purpose of this study is to determine if summer school is effective in halting summer learning loss and increasing student achievement. I appreciate your involvement in helping educators make summer school an environment that helps to increase student achievement.

You are being asked to participate in this study because you are a healthy volunteer, over the age of 18 and you fit the criteria for the study.

B. PROCEDURES

If you agree to be in the study, the following will occur:

1. You will be asked to sign an Informed Consent Form, volunteering to participate in the study.
2. You will be asked to complete a survey about your perceptions of summer school.
3. You will be interviewed twice. The first interview will take place either in August 2013 or September 2013. The second interview will take place in October 2013 or November 2013. The interviews will be audio recorded and are expected to take approximately 45 minutes.
4. After the interviews have been disseminated, you will be asked to read the synopsis to ensure the information you gave is correct.

These procedures will be competed at a location mutually decided upon by the participant and principal investigator.

C. RISKS/DISCOMFORTS

1. Some of the discussion questions may make you uncomfortable or upset, but you are free to decline to answer any questions you do not wish to answer or to stop participation at any time.

2. Confidentiality: Participation in research may involve a loss of privacy; however, your records will be handled as confidentially as possible. No individual identities will be used in any reports or publications that may result from this study. All data from notes, audio tapes, and disks will be kept in a locked file cabinet and the key to the cabinet will be kept in a separate location. In compliance with the Federalwide Assurance Code, data from this study will be kept for three years, after which all data from the study will be destroyed (45 CFR 46.117).

D. BENEFITS

There will be no direct benefit to you from participating in this study. However, the information you provide may help educators to better understand how to provide effective summer school programs.

E. PAYMENTS

There are no payments for participating in this study.

F. QUESTIONS

If you have questions or concerns about participation in this study, you should first talk with the investigator. Cindy Daly can be contacted via email at cdaly@nnu.edu, via telephone at 208-908-2446.

Ms. Daly's supervising professor, Dr. Heidi Curtis, can also be reached via email at hlcurtis@nnu.edu, via telephone at 208.467.8011.

Should you feel distressed due to participation in this, you should contact your own health care provider.

G. CONSENT
You will be given a copy of this consent form to keep.

PARTICIPATION IN RESEARCH IS VOLUNTARY. You are free to decline to be in this study, or to withdraw from it at any point. Your decision as to whether or not to participate in this study will have no influence on your present or future status as a student at Northwest Nazarene University.

I give my consent to participate in this study:

_____ _____
Signature of Study Participant **Date**

I give my consent for the interview and discussion to be audio taped in this study:

_____ _____
Signature of Study Participant **Date**

I give my consent for direct quotes to be used in this study:

_____ _____
Signature of Study Participant **Date**

_____ _____
Signature of Person Obtaining Consent **Date**

THE NORTHWEST NAZARENE UNIVERSITY HUMAN RESEARCH REVIEW COMMITTE HAS REVIEWED THIS PROJECT FOR THE PROTECTION OF HUMAN PARTICIPANTS IN RESEARCH.

Appendix B

Email correspondence for survey

Dear Educator:

My name is Cindy Daly and I am currently a doctoral student at Northwest Nazarene University in Nampa, Idaho. I am working on my dissertation and was hoping you would participate in this study.

The purpose of this study is to examine the effectiveness of summer school in halting summer learning loss and increasing student achievement. As you know, there are a variety of summer school models that focus on increasing student achievement. The goal of this study is to determine if a correlation exists between attendance in summer school and increased achievement.

I am asking for your input on this subject because you are a teacher and have your own insight into this area. The survey should take approximately 15 minutes. I look forward to reviewing your responses.

All data received will be anonymous and by filling out the survey you are giving me consent to use your responses in my study.

Please feel free to contact me with any questions or concerns you have.

Cindy Daly
cdaly@nnu.edu

Appendix C

Qualitative Open-Ended Questions/ Comments
Teacher Perception Survey for <u>Classroom Teachers</u>

Male___ Female_____

Number of years of teaching experience_____

Grade-level you teach during the school year_____

Are you currently working at a Title One School during the school year?_____

Have you ever taught summer school?_____If yes, number of summers in which you have taught_____

Grade-Level you taught during summer school_____

Content area taught during summer (add any and all areas in which you have experience teaching summer school)_____

1. What knowledge do you have about how students qualify to attend summer school?

2. Describe your experience in referring students to summer school.

3. Explain your understanding of what math skills (for your grade level) students' work on in summer school.

4. Explain your understanding of what reading skills (for your grade level) students work on in summer school.

5. For students at the beginning of the year, describe what records or information you receive about their experience in summer school.

6. Describe how you use the information from summer school to drive instructional needs during the traditional school year for those students

7. Explain your overall thoughts about summer school and how it relates to halting summer learning loss and increasing student achievement.

I am seeking individuals to participate in one short interview regarding their thoughts about the effectiveness of summer school in halting summer learning loss and increases student achievement.
If you are interested please provide me with your name and email address.

_____ _____

Name Phone Number

_____

Email

Thank you for taking time out of your busy schedule to take this survey. Please contact me via email at cdaly@nnu.edu if you have questions regarding this survey instrument.

Appendix D

Qualitative Open-Ended Questions/ Comments
Teacher Perception Survey for Summer School Teachers

Male___ Female_____

Number of years of teaching experience_____

Grade-level you teach during the school year_____

Are you currently working at a Title One School during the school year?_____

Number of summers in which you have taught summer school_____

Grade-Level(s) you taught during summer school_____

Content area(s) taught during summer (add any and all areas in which you have experience teaching summer school)_____

1. Describe your experience (s) teaching summer school.

2. What knowledge do you have about how students are referred to summer school?

3. Explain how you determine what to teach students during summer school.

4. Describe information you receive from students' classroom teachers about their academic progress.

5. Please explain how you measure students' learning progress, and/or filling of any skill gaps in order to increase their achievement.

6. Explain what and how you communicate with classroom teachers at the beginning of the school year about students attending summer school and their progress during their time with you.

7. Explain your overall thoughts about summer school and how it relates to halting summer learning loss and increasing student achievement.

I am seeking individuals to participate in one short interview regarding their thoughts about the effectiveness of summer school in halting summer learning loss and increases student achievement. If you are interested please provide me with your name and email address.

_____ _____

Name Phone Number

_____

Email

Thank you for taking time out of your busy schedule to take this survey. Please contact me via email at cdaly@nnu.edu if you have questions regarding this survey instrument.

Appendix E

Telephone Call Script

Hello, my name is Cindy Daly and I am a doctoral student at Northwest Nazarene University. Do you remember recently filling out a short survey online about the effectiveness of summer school in halting summer learning loss and increasing student achievement? On that survey, you indicated that you would be willing to participate in an interview. Is this a good time to chat about setting up the interview?

If yes, proceed.

If no, is there a time that would be better for me to call again? Thank you for your time. I will call back at our appointed time.

Thank you for agreeing to be a part of this study. Before I can conduct our interview I will need you to sign the Informed Consent Form.

I will email you an Informed Consent Form for your signature. After you have signed the form you can scan the form and email it me at cdaly@nnu.edu, or you can mail it to me at 2720 Norman Dr., Boise, ID 83704.

After I have received the Informed Consent Form, I will call you back to set up a time for our interview.

Do you have any questions for me?

Thank you so much for your willingness to be a part of this study. I will talk to you soon. Thanks again.

Appendix F

Qualitative Interview Questions 1st Interview

1. Tell me a little about yourself?
2. Tell me about your teaching experience?
3. What are your experiences with elementary summer school?
4. Discuss the process for giving summer school teachers academic information about your students?
5. Discuss the process for receiving information about your students who have attending summer school from summer school teachers?
6. What do you think of summer school as a way to increase learning time for students struggling in reading and math?
7. What are the benefits for students who attend summer school?
8. What are the drawbacks for students who attend summer school?
9. How do you think students should be "qualified" for summer school?
10. Talk about summer school and how it helps to increase student achievement?
11. Tell me about how you prepare your summer school teaching materials for the summer session?
    Please talk about the curriculum you use, scope and sequences, diagnostics tests used, information
    from classroom teacher, etc.
12. Talk about the training you received about teaching summer school (curriculum, process, etc.).
13. What are your overall thoughts about summer school in the MSD.
14. Is there anything else you feel is important to share?

Appendix G

Qualitative Interview Questions
2nd Interview

1. Tell me how your year is going so far?
2. Describe how you see those students who went to summer school performing in your class?
3. Please explain how you decide which students go into which groups?
4. Talk about the role you think summer school played for those students who attended?
5. Explain your thoughts about the role summer school played in boosting skills for students.
6. Describe your thoughts about what summer school should offer for students who attend?
6. Will you continue to refer students to attend summer school? Why or why not?
7. Is there anything else you feel I should know about your thoughts about summer school?

Appendix H

Debrief Statement for Qualitative Interviews

Thank you for participating in this study. The goal of this study is to examine if summer school is effective in halting summer learning loss and increasing student achievement. Hopefully, this study can be of benefit to school districts as they make decisions regarding summer school programming.

After I have had the chance to analyze the data, I will email you the results and ask for feedback. The purpose of this communication is to ensure that I have captured our discussions accurately and portrayed your thoughts properly.

If you have any questions or concerns, Cindy Daly can contacted by phone at (208) 908-2446; email at cdaly@nnu.edu; or by writing at 2720 Norman Dr., Boise, ID 83704.

Thank you for your participation.

Cindy Daly
HRRC Application

Appendix I

Verbatim Instructions for Interviews

Hi _____

Thank you for participating in this study, I truly appreciate it.

Semi-Structured, Audio-Recorded Interviews
Two semi-structured, audio-recorded interview will be conducted with each participant. These interviews will b completed at a public location mutually decided by the participant and investigator. Each interview will take approximately 45 minutes.

This process is completely voluntary and you can select to leave the study at any time. If you feel uncomfortable with any questions you can select not to answer that question.

Do you have any questions for me?

Thank you for participating.

Appendix J

Member Checking Email

Date

Dear_____,

Thank you for participating in this study of the past couple of months. I wanted to let you know of some of the themes that emerged from the survey and interviews of the participants. Please let me know if these accurately depict our conversation. If you have any suggestions or modifications, please let me know.

(themes)

Thank you again for participating in this study and I look forward to hearing from you soon.

Sincerely,

Cindy Daly
Doctoral Student
Northwest Nazarene University
cdaly@nnu.edu
Telephone: (208) 908-2446
HRRC Approval # TBA

Appendix K
Letter of Approval
Mountain School District

[redacted]

[redacted]

May 30, 2013

Ms. Cindy Daly
Federal Programs Consultant
[redacted]

Dear Ms. Daly:

I am pleased to inform you the [redacted] Committee has approved your research proposal, contingent on your securing permission from the participating site principals. The committee wishes you success with this project. When complete, please send a copy of your findings to my office.

Sincerely,

[redacted]
Chair, Research Committee
Educational Services Supervisor

[redacted]

Appendix L

Letter of Approval

Principal- Elementary Summer School A

April 21, 2013

[redacted]

Principal-[redacted]

[redacted]

[redacted]

Dear [redacted]

I am writing this letter to request permission to conduct a mixed-methods research project at [redacted]. I want determine if summer school stops summer learning loss and plays a role in student achievement. I will be looking at longitudinal summer school data: including reading and math scores for summer school students. Another factor I will be researching is what role does summer school play in student achievement as students enter a new school year.

The purpose of this study is to determine if there is a correlation between summer school and student achievement. If there is a correlation, I will be analyzing the strength of the relationship. I will also be gathering and analyzing perceptions of summer school form both teachers and parents.

There are no known risks and/or discomforts associated with this study. The expected benefits are to show summer school stops summer slide and plays a role in an increase in student achievement. If this study is later submitted for publication, a by-line would indicate the participation of [redacted]

If you are in agreement please indicate your permission by signing this consent form. You are signing it with full knowledge of the nature and purpose of the procedures. A copy of the complete research proposal will be provided.

[redacted]

Signature

4-25-13

Date

Cindy Daly, [redacted]

Appendix M

Letter of Approval

Principal-Elementary Summer School B

April 21, 2013

[redacted]

Principal-[redacted]

[redacted]

[redacted]

Dear [redacted]

I am writing this letter to request permission to conduct a mixed-methods research project at [redacted] I want determine if summer school stops summer learning loss and plays a role in student achievement. I will be looking at longitudinal summer school data; including reading and math scores for summer school students. Another factor I will be researching is what role does summer school play in student achievement as students enter a new school year.

The purpose of this study is to determine if there is a correlation between summer school and student achievement. If there is a correlation, I will be analyzing the strength of the relationship. I will also be gathering and analyzing perceptions of summer school form both teachers and parents.

There are no known risks and/or discomforts associated with this study. The expected benefits are to show summer school stops summer slide and plays a role in an increase in student achievement. If this study is later submitted for publication, a by-line would indicate the participation [redacted]

If you are in agreement please indicate your permission by signing this consent form. You are signing it with full knowledge of the nature and purpose of the procedures. A copy of the complete research proposal will be provided.

[redacted] 4-25-13

Signature Date

Cindy Daly, [redacted]

Appendix N

Approval Letter
Administrator of Special Programs-MSD

April 21, 2013

[redacted]

Administrator of Special Programs

[redacted]

[redacted]

[redacted]

I am writing this letter to request permission to conduct a mixed-methods research project at both [redacted] schools. I want to determine if summer school stops summer learning loss and plays apart in student achievement. I will be looking at longitudinal summer school data, as well as reading and math scores for summer school students. Another factor I will be researching is what role summer school plays in student achievement as students enters a new school year.

The purpose of this study is to determine if there is a correlation between summer school and student achievement. If there is a correlation, I will be analyzing the strength of the relationship. I will also be gathering and analyzing perceptions of summer school form both teachers and parents.

There are no known risks and/or discomforts associated with this study. The expected benefits are to show summer school stops summer slide and plays a role in an increase in student achievement. If this study is later submitted for publication, a by-line would indicate the participation of each site.

If you are in agreement please indicate your permission by signing this consent form. You are signing it with full knowledge of the nature and purpose of the procedures. A copy of the complete research proposal will be provided.

[redacted]

Signature

April 24, 2013

Date

Cindy Daly, [redacted]

Appendix O

Email Correspondence with Dr. Karl Alexander

RE: summer school dissertation
From: Karl Alexander <karl@jhu.edu>
To: CINDY DALY <[redacted]>
Date: Monday – July 15, 2013 9:27 AM
Subject: RE: summer school dissertation
Attachments: Mime.822

Hello Cindy, and good to hear from you. Yours is good topic, as there is practically no research on summer learning for special populations. Accommodating the needs of refugee children is terribly important and I know of no research specific to their experience. That's about all I can say without knowing more about exactly what it is you intend, but I do wonder what you mean by "blending." If that means "combine, that is tricky business. If it is "look at in parallel, that could be quite informative as I believe we rely too on test scores along as the way to gauge program effectiveness.

Karl

Karl Alexander

Chair and John Dewey Professor of Sociology

Department of Sociology

Johns Hopkins University

Baltimore, MD 21218

Phone: 410-516-7001/6178

Fax: 410-516-6590

Email: karl@jhu.edu

From: CINDY DALY [redacted]
Sent: Saturday, July 13, 2013 1:39 PM
To: Karl Alexander
Subject: summer school dissertation

Dr. Alexander,

My name is Cindy Daly. I am a doctoral student, focusing my research the effectiveness of summer school. I live and work in [redacted]. Believe it or not, [redacted] is a refugee resettlement city. Our school district hosts approximately 100 languages and more than half of our elementary schools receive Title 1 funding. Even though [redacted] serves a fairly diverse population [redacted], are predominately Caucasian. My educational passion is working with students whom others say can't/won't learn.
My research takes poverty into account when discussing summer school (most students who attend elementary summer school in [redacted] come from Title 1 schools). I am conducting a mixed-methods study in which teacher perceptions of summer school effectiveness and student test sore data will be blended to determine the effectiveness of summer school.

I wanted to say that I've enjoyed reading and learning from your BSS study and others you, Dr. Entwisle and Dr. Olson have published.

I would be honored if you had a moment to share any advice, comments or thoughts for me.

Most sincerely,
Cindy Daly

Cindy Daly
Federal Programs Consultant
[redacted]