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A Comparative Study of Year-Round and Traditional Calendar Schools in Chicago

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LOYOLA UNIVERSITY CHICAGO

A COMPARATIVE STUDY OF STUDENT ACHIEVEMENT IN YEAR-ROUND
AND TRADITIONAL CALENDAR SCHOOLS IN CHICAGO

A DISSERTATION SUBMITTED TO
THE FACULTY OF THE GRADUATE SCHOOL
IN CANDIDACY FOR THE DEGREE OF
DOCTOR OF PHILOSOPHY

PROGRAM IN EDUCATIONAL PSYCHOLOGY

BY

ANDREA THERESE WINKELMANN

CHICAGO, ILLINOIS

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I dedicate this dissertation to the memory of my dear friend and colleague, Val Murdy.

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CHAPTER ONE

INTRODUCTION

Background

The passage and implementation of the No Child Left Behind Act (NCLB) has brought considerable additional standards of accountability to the schools in our nation. Schools must demonstrate that increasingly more students meet standards on state tests. School districts must also demonstrate that students are making Adequate Yearly Progress (AYP) on academic goals by the end of the 2013-2014 school year. The intent of this legislation is to insure that all children receive an equal education. The penalties for failure to meet these standards can be potentially quite serious. Schools that do not make adequate progress may be required to replace school staff, implement new curriculum, extend the school year, and/or turn over the operation of the school (Cronin 2003). Administrators, educators, and researchers feeling this pressure are seeking avenues of change to meet the demands of these laws and to provide a quality education for all children.

Restructuring the school calendar has been investigated by school districts as a possible way to increase student achievement in order to meet the standards of higher

accountability. In order for districts to make sound and informed decisions about year-round schools and to evaluate the effectiveness of calendar differences; educators and administrators need to review the research on this subject. However, the research on year-round schools (YRS) has been misleading, biased, and inconclusive (McMillen 2001; Alcorn 1992; Glines 1987; Kneese 1994).

While increased student achievement would arguably be of importance when researching YRS; demonstrating and reporting student achievement can be challenging. Many studies on year-round schools have serious methodological limitations (McMillen 2001). Some of the limitations are:

- Failure to take student-level factors into account when estimating achievement efforts.
- Loss of precision in the dependent variable due to collapsing achievement outcomes into categories such as at or below grade level.
- Failure to report any tests of statistical significance or measure of effect size.
- Failure to differentiate between year-round and extended year schools.

(McMillen 2001, p. 69)

The reports on year-round education have been mixed; however, researchers have agreed that more long-term studies need to be conducted in order to determine the effectiveness of year-round education and on student achievement (McMillen, 2001; Kneese; 1994; Elsberry, 1992).

Importance of Topic

There are many studies that suggest that there is no significant difference in the achievement of students in year-round schools. There are also many reports that suggest that students in year-round schools have higher academic achievement than students in traditional calendar schools. Alcorn (1992) reported on a group of students who improved their reading and math scores at a higher rate than a similar group of students on a traditional calendar. The schools in this study were single-track year-round schools that had been in operation for at least ten years. The California Achievement test was given to third and sixth grade students in the areas of language arts, math, and reading. The tests were given to students in year-round and traditional schools at three intervals. When the scores were compared and interpreted, the author concluded that students in the year-round schools “achieved a percent of objectives and had a higher average scaled score change than the students in traditional schools (Alcorn, 1992, p.14). He further reports that year-round students were most successful in math at grade three. There were also students, however, who did not achieve significantly different. However, students in grades five and six did not differ from those attending traditional schools in reading achievement.

Improved student achievement is not the only reason why schools may choose to adopt a year-round schedule. School districts that are experiencing overcrowding may use year-round scheduling. Year-round scheduling can be a cost-effective means to increase the capacity of existing buildings. Morton (1994) reported that school districts that construct new buildings run a risk of overbuilding because increased enrollment is

often only temporary. Schools that operate on a multi-track calendar can use a building made for 750 students to serve as many as 1,000 students. Although year-round scheduling can be a cost effective means to eliminate overcrowding, there are increased costs associated with keeping a school open for more than 180 days. Operating costs such as utilities, repairs, and maintenance would likely increase. Other expenses could include increased salaries for personnel such as secretaries, bus drivers, and custodians that would be working a twelve month schedule.

Morton (1994) reports that “the primary benefit to year-round education is that it facilitates continuous learning” (p 3). Although year-round schools appear to benefit students, Morton cautions that “because year-round education differs so radically from tradition, community opposition is strong at the outset” (p 3). Morton (1994) further reports that teachers who teach in year-round schools are generally positive and accept their new schedule over time. Student satisfaction in year-round schools also appears to be high. Eighty-two percent of the students surveyed at Riverside, California’s year-round schools reported that they were satisfied with year-round schooling.

Stenvall writes about the problems with traditional schools, particularly summer school. “Summer school is an old idea that has gone through a number of educational and philosophical changes over the years.”(Stenvall, 2001, p. 18) In the past summer school has provided students with remediation and enrichment classes. However, in recent times summer school has become mandatory for students who have failed classes during the school year. Summer school has become a way of giving students a second chance after failure has occurred. (Cooper, H. et al, 1996) reports that in many school districts, only

about 50% of students who are eligible for remedial classes during the summer actually attend them. Further, only around 20 percent of students enrolled in summer school actually show up, and completed the program.

Proponents of year-round schools believe that by balancing the school calendar students will benefit by having extended learning throughout the school year which may prevent failure and remediation does not have to wait until the end of the school year. Year-round schools often provide remedial classes during intersessions that can make the difference between success and failure (Stenvall 2001).

Job satisfaction for teachers in year-round schools is another area of interest to researchers who are looking at year-round education. Gismondi and Nasser (2003) surveyed teachers at Timber Lane Elementary School in Fairfax County, Virginia. This school changed from a traditional calendar to a year-round schedule in order to meet the needs of their students by providing exposure to the English language and instruction on a more consistent basis. The schedule was also introduced in hopes that teachers would be more satisfied with their jobs. Schools in this area were dealing with “the revolving door syndrome-new teachers staying for a year or two and then leaving” (Nasser, 2003, p. 40). Flexible work opportunities and frequent breaks, combined with supportive and innovative school administrators, were powerful tools that lead to improved job satisfaction and teacher retention in this district.

Reviews of current research on year-round education indicate that there are various reasons for changing to a year-round schedule. The results of studies on achievement of students in year-round schools are conflicting and more research in this

area is needed. Job satisfaction among teachers at year-round schools appears to be high. Schools that choose a year-round calendar to address overcrowding issues seem to be successful. These districts save money on building costs and report benefits to the students in terms of academics and satisfaction.

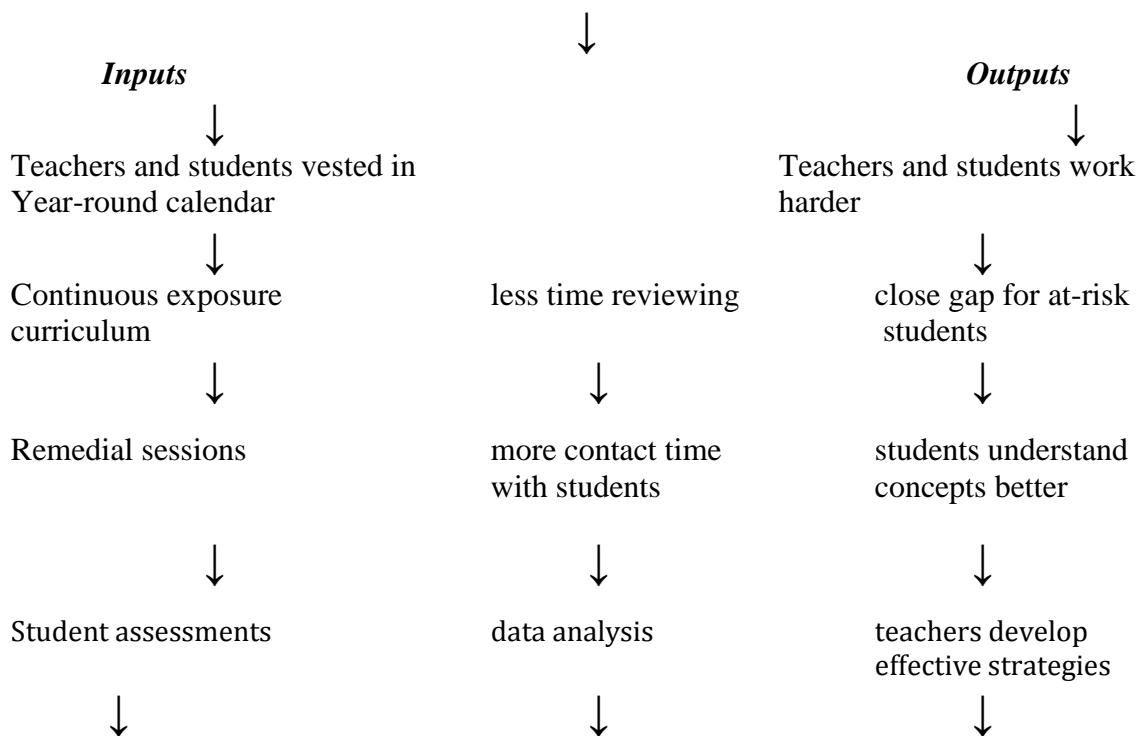
Researching and studying year-round education is complicated for a variety of reasons. The implementation of year-round education can also differ by settings which can make comparisons difficult. There are variations in the delivery of the curriculum among schools even in the same district that may affect achievement outcomes. There does not appear to be an easy answer to the question of whether or not year-round education can improve student achievement. In addition, year-round schools have been established for various reasons which often have little to do with improved student achievement. Elsberry states:

Much of the current research in the area of student achievement in year-round schools was conducted in districts where the change was implemented for space or financial reasons and not for academic reasons. (Elsberry, 1992)

Statement of the Problem

This evaluation will be guided by Weiss's change approach theory. "In order to organize the evaluation to provide a reasonable test; the evaluator needs to understand the theoretical premises on which the program is based" (Weis, 1998, p. 55). The chart below demonstrates a program theory model for Year Round Schools.

Program Theory of Change Year-Round Calendar



Increased Student Achievement

The purpose of this evaluation study is to investigate the academic achievement of students in the Chicago Public Schools. In 2008 there were 41 year-round schools in Chicago. In 2009, ninety-one more schools were opened as year-round schools, for a total of 142 year-round schools in Chicago. Ron Huberman, CEO of Chicago Public Schools, points out that students at year-round schools in Chicago are making test score gains at a faster rate than those of the district as a whole. This evaluation will be used to find out the extent to which year-round schools are achieving their goal of increased

student achievement. The evaluation will be summative and an outcome evaluation to provide information about the effectiveness of the program on academic achievement.

Research Questions

This study will examine achievement differences for students in year-round schools (YRS) and traditional schools.

1. In schools in existence for one year:
 - a) Is there a difference between ISAT passing percentage averages in reading and math for third grade students in year-round schools and traditional calendar schools?
 - b) Is there a difference between ISAT passing percentage averages in reading and math for third grade low-income students in year-round schools and traditional schools?
2. In schools in existence for two years:
 - a) Is there a difference in passing percentage rates in reading and math for third grade students in year-round and traditional schools?
 - b) Is there a difference in passing percentage rates in reading and math for third grade low-income students in year-round schools and traditional schools?
 - c) Is there a difference in gain in scores from these schools from 2008-2009 for all students and for just low-income students?

Contribution to Knowledge

This study is important because as many school districts look for ways to improve student achievement, changing to a Year-Round school is one option that has been largely implemented in school districts throughout the United States. When districts are considering investing significant amounts of money and resources that it takes to implement changes that may include calendar adjustments, it is important to look at research. This study will investigate the effectiveness of a Year-Round school schedule using achievement data that has been collected from year-round schools and traditional schools in a large urban setting. Using student achievement data to evaluate the progress of students in Year-Round and traditional schools will be a worthwhile endeavor that may ultimately lead to improved student achievement.

While this study may have limitations, it has the potential to present findings that will indicate the effectiveness and value of Year-Round Education. The need continues in education for all students to be successful in all of our nation's schools. Studies that investigate school programs that are successful can be useful as models for others to follow. This study has the potential to be replicated in other setting

CHAPTER TWO

LITERATURE REVIEW

Introduction

The purpose of this chapter is to review the current research findings that are available on year-round education. Improving and restructuring schools has been a major topic of focus for educators, administrators, and researchers in light of recent legislation that is designed to hold educational systems increasingly more accountable for student achievement and outcomes. Year-round school is one structural innovation that has been explored to improve student achievement. The Report of the National Education Commission on Time and Learning titled 'Prisoners of Time' gave educators and the public reasons to rethink traditional school calendars. The report states that,

Our schools and the people involved with them...students, teachers, administrators, parents, and staffs...are prisoners of time, captives of the school clock and calendar. The six-hour, 180 day school year should be relegated to museums, an exhibit from our education past (NECTL, 2006, p.2).

Although this view may seem extreme, the reality is that for over 150 years American education has maintained a school attendance calendar that was designed to meet the needs of an agrarian society. Structuring school calendars around agrarian needs is viewed by many educators, parents, and administrators as outdated and unnecessary. In light of recent laws such as the No Child Left Behind Act, educators and

researchers have looked for different ways to reform and improve education in this country.

History of Year-Round Education

Year-round education is not new to our country as it has been utilized as early as 1904 to meet the needs of students for various reasons (Fischel, 2003). There are several reasons for implementing Year-round schools including; to help immigrants learn English, provide vocational training, and to alleviate overcrowding in schools (Hermanson & Gove, 1971; Glines, 1987).

In the early 19th century most major cities had school calendars that were approximately eleven months long (Hermanson, 1971). In contrast, most rural schools were open for only six months of the year. An explanation for this difference can be found by examining the needs of these communities. The United States found itself as the home for many European immigrants who did not speak English. In major cities many adults worked outside the home in factories, mills, and shops. As the children of these immigrants struggled to become Americanized and learn English, school districts needed to adjust to the needs of these families. Students often needed to attend school for a full year in order to learn English and later join the work force. In rural areas the problems of educating students were much different than in the major cities. Family members worked each day cultivating the land. Children were taught household and farming skills from their parents as there was little need to learn much else. Schooling was usually offered only during the winter months in churches or one-room schools (Hermanson, 1971).

As our nation became more industrialized, the skills needed in the work placed became more sophisticated. Legislatures began to be concerned whether there were

equalized educational opportunities available to all students. Compromises were made between rural and urban legislatures and minimum curriculum standards were imposed and the legal minimum number of 180 school days was established. Many large cities, however, offered from 190 to 195 days in order to meet the needs of English language learners so that these students would be well prepared to enter the work place. Although standards for school calendars were established early in our country's history, "there has been some demand for calendar reform ever since" (Hermanson, 1971, p 8).

While there have been various reasons for changing schools to a year-round calendar, alleviating overcrowding due to increased enrollment in schools has been the dominating factor. Often a multi-track schedule has been used in order to facilitate maximum building utilization when overcrowding was a pending issue. This type of schedule allows one group of students to attend classes while another group is off. Although overcrowding often gets year-round schools started, there are many reasons that they continue operating. The reasons include student achievement, increased attendance, higher satisfaction levels of teachers, students, parents, and administrators, and maximizing building utilization. According to Hunter (1998) year-round education has grown over the past decade by 500 percent.

In recent years, the number of schools that are utilizing year-round education has been increasing. During the 1991-92 school year, there were 23 states that had year-round calendars in which 1,349,835 students were served (Bradford 1991). By the 1993-94 school year, the number of year-round schools increased to include 33 states and 1.5 million students served (Shook, 1995).

Definitions of Year-Round Education

For a better understanding of year-round schools, some elaboration of the concept of year-round education is necessary. One of the problems with doing studies on year-round education is that there is variation among the schedules in year-round schools and varying days of attendance. The National Association for Year-Round Education used the following definition:

Year-Round Education (YRE) reorganizes the school year to provide more continuous learning by dividing the long summer vacation into shorter, more frequent breaks... Students in year-round education programs attend the same classes and receive the same amount of instruction as students on a nine-month calendar (usually 180 days)... The year-round calendar is organized into instructional blocks and vacation periods that are evenly distributed across 12 months. (National Association for Year Round Education [NAYRE], 2006, p. 68)

There are differing ways to schedule the days of attendance in year-round schools. Currently, one of the most popular types of year-round calendar is the 45/15 single track model. In this model, there are four nine week terms, followed by four three week breaks. This pattern is continued throughout the school year ending with a five week break in the summer. In this model, teachers and students follow the same calendar.

Another year-round school calendar option that follows the 45/15 schedule is a multi-track model. In this model students are divided into four groups. While three groups are attending school, a fourth group is on break. The groups are rotated every three weeks. Each group of students has their own 45/15 day schedule. Using this model there can be up to 33 % higher building utilization (NAYRE, 2006). The teachers are normally assigned to a group of students and follow the same schedule as the students to whom they are assigned. It is possible, however, for teachers to be assigned to additional

groups allowing them to work beyond a traditional 180 day schedule, and allowing for additional compensation.

Various other schedules include the 60/20 plan and the 60/15 plan. The 60/20 plan allows students to rotate through the year with 60 days of attendance followed by a 20 day break three times per year. Breaks are typically scheduled around holidays and can be used with a single-track or multi-track format. The 60/15 plan allows for the summer break to be scheduled for three to four weeks during the common summer break (NAYER, 2006).

There is a 90/30 plan that has a format of 90 days of attendance followed by a 30 day vacation. This model allows for the school to have break during the traditional winter and Spring holiday period. It can be used with a single-track or a multi-track plan. Students can select or be assigned to one of four twelve week quarters in fall, winter, spring, and summer. Remedial and/or enrichment classes can be offered to students during a fourth quarter that can be voluntary or assigned to students as needed.

Another plan that is used with a multi-track format is the Five-Track. In this model there are five terms of 45 days each. The students are required to attend four of the five terms attending a total of 180 days annually. There is a three week summer break for all students in this model (NAYRE, 2006).

While there are many ways to implement a year-round school calendar, most students in year-round schools attend school the same number of days as students on a traditional school calendar. Students in year-round schools may have several breaks

spaced out throughout the year instead of one long break in the summer. During these breaks, many year-round schools offer remedial or enrichment classes.

Academic Achievement in Year-Round Schools

The research on differences in academic achievement between year-round and traditional schools has found mixed results (Alcorn, 1994; McMillen, 2001; Kneese, 1996; Nalyor, 1995; Morton, 1989). Measuring academic achievement in year-round schools is a primary concern for educators, administrators, and parents. Many claims have been made that having shorter summer vacations and scheduling school continually throughout the year has had little or no effect on student achievement. However, many other claims have been made that shorter summer breaks lessen the loss of skills by students over the longer summer break. Research studies investigating Year-Round Schools can be classified into two types: comparisons between achievement of students in Year-Round schools and students working on a traditional calendar and studies that explore the issue of summer learning loss.

Kneese (1996) performed a meta-analysis of the impact of year-round education on student academic performance. The results of the review of fifteen studies conducted during the 1990's suggested that, year-round education had small, but, positive effects on student achievement. The meta-analysis technique used in Kneese's study allowed for an objective measure of the accumulation of research findings among independent studies. However, there are also limitations to this type of review; including small sample size, differing designs of studies, and differing demographic characteristics of comparison

groups. Despite the limitations of the individual studies and of the meta-analysis review of achievement in year-round schools, it appears that results are positive.

Alcorn (1992) compared achievement scores in year-round and traditional schools. The purpose of the study was determine if students in year-round schools were attaining test score objectives that were higher compared to students on traditional school calendars. The California Assessment Program (CAPS) and the California Tests of Basic Skills (CTBS) were used to assess the degree of achievement in reading, language, and math for grades three and six. Schools in 17 San Diego districts that had single-track and multi-track schedules were selected for this study. All of the schools used in the study had been in operation for at least ten years.

The results of the study indicated that “in 17 of 27 test score comparisons, year-round schools achieved a higher percent of objectives and had a higher average scaled score change than traditional schools.” (p 14). Based on these data Alcorn recommended that more research on year-round education needed to be conducted and that year-round education should be considered an instructional strategy that may benefit educationally disadvantages students.

A study designed to evaluate the effectiveness of year-round schools that was conducted by Young & Berger (1983) found that there was no significant difference between traditional and year-round schools. The study was conducted using data from the Bethel School District in Tacoma, Washington. This district opened a year-round school that utilized a multi-track schedule for the purpose of educating an ever increasing student population in 1972. The year-round calendar followed the 45 days on and 15

days off schedule. All of the students were divided by grade level into four tracks or groups, A, B, C, and D. Each group contained students with all levels of ability and came from areas within the district boundaries. The starting dates of each group were staggered during the year, allowing for students in each group to attend school for 45 days and then have a 15 day break. One group of students was on break at any point during the calendar year. This schedule allowed four groups of students to use school facilities that were normally utilized by only three groups. The year-round school and the traditional school students attended the same number of school days.

Interviews and achievement tests were used to evaluate the program after it was in operation for six years. Teachers, pupils, and parents were of the opinion that the amount learned by students attending the year-round school was the same as in the traditional schools in the same district. Achievement test data indicated non-significant differences in achievement. The Bethel School District returned the year-round schools to a traditional calendar as a result of the findings of the study.

McMillen's (2001) study was a large scale investigation that involved a sample size of 34,500 students in year-round and traditional schools. He looked at the achievement of students in grades three through eight in the areas of reading and mathematics over a two year period. He reported that there were no significant differences in achievement between these groups. However, he revealed findings that suggested that that low achieving and Caucasian students may benefit from being on a year-round calendar. However, he stated that the differences in the results obtained may

be due to “methodological distinctions in data analysis and various definitions of year-round schools.” (p 72).

Ferguson (1999) also conducted a study to compare the achievement of students in year-round schools and traditional schools. The school was located in a small town in Ontario, Canada. The students were from lower-middle to middle class families. There were no minority students in the study. After administering mathematics achievement tests to 84 fifth and sixth grade students who attended year-round and traditional schools, she reported that the findings were inconclusive. Ferguson found that students in the traditional school, in some cases, actually improved over the summer with no academic interventions. This same group of students continued to achieve higher scores later in the school year. She concluded that although the study was small and her findings were inconclusive, the study did add to the knowledge base about year-round schools. She suggested that larger studies should be conducted that would explore other topics in year-round education.

Many claims have been made that having shorter summer vacations and scheduling school continually throughout the year has had little or no effect on student achievement. However, many other claims have been made that shorter summer breaks lessens the loss of skills by students over a longer summer break.

Wintre (1986) challenged the assumption that students experience generalized losses over summer vacations when he studied first, third, and fifth grade students. He administered an achievement tests to the students in the spring and again in the fall. He found that all of the students studied had “significant improvement of overall academic

skills” (p 310) after a summer break. He further stated that academic losses over the summer did not seem to be valid for middle-class students. He used a framework of contemporary cognitive development theory which is based on Piaget’s theory of cognitive development to examine his findings. According to Piaget, two of the highest levels of development occur at ages 7 and 11. Wintre pointed out that student’s leave grades one and five at these approximate ages and those significant gains were made by this age group over the summer were due to developmental changes. He also noted that the data suggest that “academic changes over the summer appear to be differently affected by both content area and grade level.”(p 312). He maintains that costly educational interventions may not be needed at certain grade levels because cognitive development occurs naturally without academic support.

A meta-analytic review of 39 research studies on the topic of achievement test scores conducted by Cooper (1996) indicated that achievement test scores decline after summer vacations. “The meta-analysis indicated that the summer loss equaled about one month on a grade-level equivalent scale, or one tenth of a standard deviation relative to spring test scores”(p. 227). The summer break affected math scores more than reading and was most detrimental for math computation and spelling (Cooper 1996). His review of these studies also found that middle-class students made gains in reading recognition tests, while students from families in lower-SES scores decreased. Another significant finding was that “the negative effect of summer did increase with the students’ grade levels” (p. 227).

Ron Fairchild, the Executive Director of the Center for Summer Learning at John Hopkins University supports this view by stating, “research demonstrates that all students experience significant learning losses in procedural and factual knowledge during the summer months” (Fairchild, 2002). Those who support year-round schooling are concerned about the possible negative effect that summer vacation has on learning. Proponents of Year-Round education suggest that when children are provided with continuous instruction; they will make larger academic gains.

During the first few weeks of each school year, teachers spend time reviewing what the students learned in the previous year. Teachers may spend up to several months re-teaching and reviewing after summer breaks (Cooper, 2003, Davies, 1999, Cooper 2003). Research suggests that students who attend schools that have a shorter summer break often retain what was learned during the previous year and require less review (Kneese, 2000).

Academic Achievement and Low-Income Students

There is a difference between the academic achievement low-income students and wealthier students and between minority students and their non-minority peers. The gap is commonly referred to as the achievement gap. A study conducted by the Northwest Evaluation Association examined the achievement gap using a sample of students from across the United States. The study examined the achievement gap by measuring student growth and achievement using a continuous, cross-grade measurement scale. Mathematics and reading scores in grades three through eight were examined and the following results were reported:

- An achievement gap exists between students in low-poverty schools and those in high-poverty schools.
- In mathematics, students enrolled in high-poverty schools tend to grow less academically during the school year than students reenrolled in low-poverty schools.
- African-American students grow less academically during the school year than students in other groups. This difference is more noticeable in mathematics than in reading.
- Low-performing students in all groups continue to grow during the summer months, but African-American students, Hispanic students, and students enrolled in high-poverty schools tend to grow less.
- High-performing students enrolled in high-poverty schools lose more achievement during the summer than similar students who are enrolled in low-poverty schools. (NWEA 2006 p. 1)

The negative effects of summer vacations on learning appear to be even more significant for students with special education needs and students from families of low-SES. (Davies, 1999, Cooper, 2003, Fairchild, 2002, Alexander, Entwisle, Olson, 2007). Children learn at home as well as at school, especially in the primary grades. Parents teach and reinforce letter recognition, number skills, reading skills to their young children at home. Parents who did well in school themselves generally have the tools to help their children and model behaviors that lead to success in school. On the other hand, many low-socioeconomic status parents suffer from low literacy levels and will likely be unable to provide their children with enriching experiences that can lead to success in school (Alexander, Entwisle, Olson, 2007).

As students get older, the achievement gap widens. Fairchild (2002) reports that when low-income students enter fifth grade they are up to two years behind their peers of higher socio-economic status in reading comprehension and reading recognition skills. Mathematics computation was even more susceptible to learning loss over the summer

than reading. Students are most likely to forget skills maintained through repetition such as math facts and computation, while concepts are generally maintained at a higher level. In all the studies reviewed there was a steady decline in achievement from third grade on. Students from low socio-economic groups showed even larger declines in achievement scores in reading and language skills than their peers. (Cooper, 1996)

Summer Learning Loss Studies

Research suggests that there are gaps in academic achievement for students after summer vacation. It is well documented that academic achievement levels drop after summer vacation and that the gap gets wider as students get older. Barbara Heyns' publication in 1978 *Summer Learning and the Effects of Schooling* explored the issue of summer learning loss and achievement gaps. Using school-year and summer achievement scores of middle school children in Atlanta, Georgia, she concluded that there were achievement differences across social lines, race, ethnicity, and family income. The achievement levels of poor and disadvantaged students were found to lag behind those of children from wealthier families in the early grades. Over time these children fell even farther behind (Heyns, 1978). She further states "most children of privilege are privileged in all spheres of life: wealthy families usually live in good neighborhoods and send their children to good schools"(pg.12). Conversely, children from low-income families live in poor neighborhoods and attend schools that lack resources.

Plotting school-year and summer achievement gains for blacks, whites and children from low-income families separately revealed that wealthy children generally

had higher scores than disadvantaged children. The achievement gaps between these groups were uneven by season. During the school-year achievement scores were relatively even between the groups. During the summer, however, when learning is dependent on home; the gaps were much larger.

The fact that there are wide gaps in academic achievement across socio-economic lines is troubling. “Despite years of study and an abundance of good intentions, these patterned achievement differences persist, but who is responsible, and how are schools implicated?”(Alexander, Entwisle, Olson, 2007). In order to find possible answers to these questions, Alexander, Entwisle, and Olson conducted a study in which they compared achievement gains over the summer and over the school year separately.

The Baltimore-based Beginning School Study was conducted in an urban setting where the 77 percent of the students enrolled in the schools were African American and two-thirds of the students qualified as low income. This setting was typical of many cities across the United States where educational challenges abound. The researchers, wanting to expand on Heyns’ studies, tracked students from first grade to the end of elementary school. Fall and spring scores were compared separately for black, white, and low-income children twice annually over a two years period. The scores were used to compute achievement gains over the school year using fall to spring scores, while spring to fall scores were used to compute summer gains. Summer school classes were not mandatory for students during the years of the study and summer classes were sparsely attended. The authors concluded that “much of the achievement gap originates over the summer period, when children are not in school” (p. 12). Educational opportunities for

students are not equal across socio-economic lines. The large differences in summer learning appear to especially impede the academic achievement of children from low-income families. Low-income status children progress in parallel with their peers during the school year, but may not be performing at the same level at the end of the school year or at the end of elementary school. This deficit can be attributed to two sources: poor students start school already behind their same age peers, and during the summer, they lose ground when they are away from the school setting. (Alexander, Entwisle, & Olson 2007)

Evans (2007) conducted a study comparing the academic achievement of students in year-round and traditional calendar schools in Indiana. The study investigated the achievement of third grade students in language arts and math in both types of schools and further examined the achievement of low-income, minority, and special education students. Standardized test passing percentage rates on the Indiana Statewide Testing for Educational Progress-Plus (ISTEP+) were used to compare the achievement of students in twenty year-round schools and 1109 traditional calendar schools that had been operating between the years of 2002 and 2005. Evans concluded “that there was a significant difference between passing percentage averages of traditional calendar and year-round calendar schools for third grade elementary students of low-socio-economic status.” (Evans, 2007, p. 97)

Proponents of summer school and year-round school support the notion that parts of the summer should be redirected toward academic pursuits, especially for disadvantaged students. Most of the achievement gaps that have been indicated in

research occur in the early years of elementary school. “After school programming, summer programming, and modified calendars are obvious options” that could address this educational dilemma.

Summary

Research on year-round education has produced conflicting and often confusing data on its effectiveness. It is difficult to assess the impact of year-round education when there are so many variables to be considered when non-traditional calendars are implemented in schools. Measuring how calendar change alone effects student achievement is especially challenging. Studies on year-round schools are conducted in various ways and for a variety of different reasons, which makes it difficult to compare findings.

Many year-round school calendars were implemented to improve building utilization and alleviate overcrowding. The chief reason for implementing year-round education is to avoid building new schools. Expenses for building new schools include more than just materials and labor. New schools require engineering fees, furnishing, and utilities (Inger, 1994, Naylor,1995,). Operating on a multi-track is another means by which schools increase building utilization to avoid the cost of building new schools. A school building that was built for 750 students can serve as many as 1,000 by grouping the students into three or four groups and staggering attendance of the groups. As many increases in enrollment are temporary, a year-round multi-track calendar can be good strategy for school districts to use to avoid costly building expenses (Bradford, 1993).

While studies have indicated that year-round scheduling can be cost effective and increase building utilization, other benefits have also been indicated such as high satisfaction levels among teachers. Teacher job satisfaction in year-round schools has been measured in many studies and has been found to be high among teachers who changed from a traditional calendar to a year-round calendar. Teachers reported that they spent less time reviewing after breaks and felt regenerated after breaks. Parents of student in year-round schools have also reported being highly satisfied. Parents reported that their children can maintain high interest level until the end of the each term and return fresh from breaks ready to learn. Working parents of students in year-round education found that the services year-round schools provide such as daycare and classes during breaks had a positive effect on their family life. (Gismondi &Nasser, 2003, St. Gerard, 2007, and Carrol, 1997, Merino, 1983)

Year-round schools appear to be an avenue for change that would benefit the educational community. Much research has been done that supports the benefits of year-round education. The implementation of year-round schools has allowed school districts to avoid costly new construction when over-crowding has been an issue. School districts have been able to retain teachers in schools because of high satisfaction levels of staff. Parents of students in year-round schools have benefited from programs designed to meet the needs of working parents and provided support for their children by provided remedial and enrichment classes during intersessions.

Although it appears that many school districts implemented year-round school calendars to alleviate overcrowding and to improve building utilization, year-round

schools seem to also be effective in increasing student achievement. Consequently, researchers should focus their attention on the effects of year-round schools on student achievement. Research has shown that low-income students are particularly at risk for school failure and appear to benefit from year-round instruction. Even though some research suggests that the difference in student achievement between students in year-round schools and traditional schools is not significantly different, it appears that for some students year-round education is highly beneficial and should be evaluated in future studies.

Study Limitations

Research on year-round and traditional schools is abundant, but often offers varied and conflicting results. However, some interesting conclusions can be made. Making comparisons between year-round schools and schools with a traditional calendar is difficult because of the multitude of variables. Such variables include, number of days of attendance, finding similar groups to study, and how long schools have operated on a year-round calendar.

Studies conducted to measure the effects of year-round education have focused on a variety of issues such as increased building utilization, satisfaction levels, and student achievement. Measuring these outcomes individually is difficult as school districts often change more than one variable at a time. For example, changing from a traditional calendar to a year-round calendar may also include grade level configurations, class size, and allocation of funds.

Schools that implement year-round calendars often do so in order to make better use of facilities and avoid building new schools. There has been little emphasis placed on the student achievement and the potential to implement instructional strategies related to calendar differences. Intersession classes offered at year-round schools are not often assessed for effectiveness or student achievement.

Measuring student achievement in year-round and traditional schools is often assessed using a single standardized test. Other types of assessment, such as criterion referenced tests, may show different results. Assessing student achievement overtime can also present difficulties when making comparisons between groups of students. Mobility rates in many schools can be very high, making comparisons inconsistent.

Any changes made to a school calendar must be considered with other changes that were made at the same time. It is impossible to expect that each change can be isolated and studied as all factors that have been altered will have some impact on student outcomes.

CHAPTER THREE

METHODOLOGY

Overview

This study is designed to determine if there is a difference in student achievement between year-round schools and traditional calendar schools as demonstrated on the Illinois Standards Achievement Test (ISAT). This study identified 39 year-round schools and 39 traditional calendar schools that differed by calendar, but had similar total student enrollment totals, similar numbers of low-income status students, and were located in the same school zone. These groups of schools were in operation during the 2008-2009 school year. This study also identified 17 year-round schools and 17 traditional schools that were in operation during the 2007-2008 and the 2008-2009 school years. The purpose of the study is to determine if the academic achievement of students in year-round schools is different than the achievement of students schooled on a traditional school calendar. This study will investigate differences between elementary students' ISAT scores. Specifically, passing percentage averages in reading and math for third grade students will be compared between 39 year-round schools and 39 traditional calendar schools for the 2008-2009 school year. Passing percentage averages in reading and math for third grade students will also be compared for the 17 year-round and traditional calendar schools for the 2007-2008 and the 2008-2009 school years.

Subgroups of low-income student achievement will also be examined in both types of schools. Additionally, the passing percentage averages in reading and math for low-income students will be compared for 17 year-round schools and 17 traditional calendar schools that were in operation during the 2007-2008 and 2008-2009 school years.

Research Questions

This study will examine achievement differences for students in year-round schools (YRS) and traditional schools.

1. In schools in existence for one year:
 - a) Is there a difference between ISAT passing percentage averages in reading and math for third grade students in year-round schools and traditional calendar schools?
 - b) Is there a difference between ISAT passing percentage averages in reading and math for third grade low-income students in year-round schools and traditional schools?
2. In schools in existence for two years:
 - a) Is there a difference in passing percentage rates in reading and math for third grade students in year-round and traditional schools?
 - b) Is there a difference in passing percentage rates in reading and math for third grade low-income students in year-round schools and traditional schools?
 - c) Is there a difference in gain in scores from these schools from 2008-2009 for all students and for just low-income students?

Method

The traditional calendar schools were compared to the year-round schools using a matched subject design. The traditional schools were matched to the year-round schools based on similar characteristics in order to make an in-depth review of the data within distinct categories and to match schools that have characteristics that fall within distinct parameters (King & Minium, 2003).

This study utilized standardized test scores in reading and math from the ISAT test for third grade students at year-round elementary schools and traditional calendar schools in the Chicago Public school (CPS) system. The year-round schools and the traditional schools operated on 170 instructional day calendars with the year-round school having days off spread throughout the calendar year.

During the 2007-2008 school year there were eighteen Chicago Public schools operating on year-round calendar. The eighteen year-round schools matched to eighteen traditional calendar schools by geographic locations. Chicago Public schools are divided into four zones that are referred to as, North, Near-north/West/Central, South, and Far South. The year-round and traditional schools were matched for location by identifying traditional schools that were nearest the year-round schools within each zone. A total of eighteen matches were identified using this criteria.

The next step in the matching process involved matching the year-round schools to traditional schools based on student enrollment totals, and low-income rates based on the data reported on the 2009 Illinois State Report Card. Seventeen year-round schools were matched to seventeen traditional schools based on similar student enrollment totals

and low-income rates. No match was identified for one year-round school that was located in the North school zone. There was no traditional school within the North zone that had student enrollment totals or low-income rates that were similar to this one year-round school.

At the beginning of the 2008-2009 school year, Chicago Public Schools changed another twenty-two schools to Track E year-round school calendars. These twenty-two schools were matched with twenty-two traditional schools using the same matching hierarchy that was used to match the year-round and traditional schools that were in operation during the 2007-2008 school year. A total of thirty-nine year-round schools were matched to thirty-nine traditional calendar schools by geographic locations, student enrollment totals and low-income rates using data from the 2009 Illinois State Report Card.

Paired t-tests were used to compare the thirty-nine year-round schools and the thirty-nine traditional calendar schools based on student enrollment totals and the low-income rates from the 2009 Illinois State Report Card. (See Table One)

Table One. Total Enrollment Comparisons - 2009.

Year Round Schools Mean (SD)	Traditional Schools Mean (SD)	Paired t-test	P
550.77 (249.261)	538.90 (221.201)	.141	.843

The total enrollment comparison based on the 2009 Illinois State Report card data for total enrollment rates resulted in mean scores of 550.77 for year-round schools and 538.90 for traditional schools. The paired t-test revealed that there was no significant

difference in the means scores for total enrollment making the total enrollments in both types of schools closely aligned.

The low-income rates were also obtained from the 2009 Illinois State Report Card for each of the thirty-nine year-round schools and the thirty-nine traditional calendar schools (See Table Two).

Table Two. Year-Round and Traditional School Low-Income Rate Comparisons 2009

Year Round Schools Mean (SD)	Traditional Schools Mean (SD)	Paired t-test	P
89.56 (11.713)	90.21) (7.435)	.527	.763

The low-income rate mean for the year-round schools was 89.56 while the rate of low-income mean for the traditional schools was 90.21. The t-test revealed that there was no significant difference between the low-income rates of the year-round and traditional schools.

Procedure

This study utilized standardized test scores in reading and math from the ISAT test for third grade students at year-round elementary schools and traditional calendar schools in the Chicago Public school (CPS) system. The year-round schools and the traditional schools operated on 170 instructional day calendars with the year-round school having days off spread throughout the calendar year. All of the schools are in attendance for thirty-nine weeks and are not in session for thirteen weeks during a typical school year. The traditional calendar schools have ten weeks off during at the end of the school year, while the year-round calendar schools have six weeks off at the end of the

school year. The traditional calendar schools have two weeks off in the winter, while the year-round schools have three weeks off during the winter

The traditional calendar schools have a one week break during the spring, while the year-round schools have a two week break during the spring. The longest period of time the year-round schools are not in session is six weeks during the summer. The longest period of time that the traditional calendar schools are not in session is ten weeks during the summer. All of schools examined in this study are elementary schools that serve third grade students. Most of the schools serve pre-school through eighth grade students.

The data that was utilized for this evaluation were retrieved from the Illinois State Board of Education website which is accessible for public viewing as required by state and federal law. The 2009 Illinois State Report Card was utilized to retrieve data relative to demographic information, enrollment totals, low-income rates, and passing percentage means.

The year-round schools were matched to highly comparable traditional schools through a hierarchical matching process. This process began by matching year-round schools to traditional calendar schools within school zones that had similar student enrollment totals and low-income rates. Seventeen year-round schools were matched to seventeen traditional calendar schools that were in operation during the 2007-2008 school year.

At start of the 2008-2009 school year an additional twenty-two schools began using a-round school calendar. These twenty-two year-round schools were compared to twenty-two traditional calendar schools in using the same procedure that was utilized to

match the year-round and traditional schools for the 2007-2008 school year. Twenty-two year-round schools were matched to twenty-two traditional schools for the 2008-2009 school year. A total of thirty-nine year-round schools were matched to thirty-nine traditional calendar schools for a combined total of seventy-eight schools utilized for a comparison of passing percentage data for the end of the 2009 school year. A total of thirty-four schools were compared using passing percentage data for the end of the 2008 and the 2009 school years.

History of Chicago Public Schools

Chicago Public schools is a large school district that has 666 public elementary and high schools. Chicago Public Schools is commonly referred to as CPS and is the third largest school district in the United States with more than 407,000 students enrolled in its schools. CPS employs over 43,000 people and is the second largest employer in Chicago.

CPS has a long history of educating diverse student populations and has had its share of financial troubles and poor academic performance on standardized tests. The U.S. Secretary of Education, William Bennet, declared Chicago's public schools to be the worst in the country in 1987. In response to this declaration, Chicago Mayor Harold Washington, along with community groups and business leaders, drafted proposals that were geared toward improving Chicago Public education in 1988. This group was able to get The Chicago School Reform Act passed by the state legislature in 1988 which resulted in renewed interest in the city's schools. After the reform act was enacted test scores in many schools improved while others stayed the same or declined.

In 1995, under the leadership of Chicago Mayor Richard M. Daley, another Chicago school reform bill was passed by the State Legislature. Under this bill, the superintendent was replaced by a Chief Executive Officer (CEO). One result of this reconstruction was the creation of the School Finance Authority. This group was given the power to utilize resources to “augment performance at poorly performing schools and to locate centers of excellence throughout the system”. Although problems remained, the public had improved confidence in the system (Rury 2007).

Chicago Public schools have experienced many changes over its long history including changes in demographics, organization and school reforms. Education in the Chicago area is highly diverse and fragmented. Suburban public and private schools appear to have substantial financial advantages as the student population is largely white and affluent while three quarters of Chicago Public schools come from low-income and poor families. Comparing the achievement levels among these students is difficult to determine due to the striking differences due to the fact that the schools are highly unequal in terms of student population and funding.

There are several types of school in Chicago. Neighborhood schools generally serve students who live within a designated attendance boundary. While most students attend neighborhood schools, additional options are available. Charter and Magnet schools operate independently from the school board and of each other. Students are admitted by application; however, there are no entrance exams. A random lottery system is used if there are more applicants than spaces available. Classical Schools provide a challenging liberal arts curriculum for students with high academic potential Admission

testing is required for grades K-4. Students in grades 5-8 must qualify to take an admissions exam. Special Education Schools are provided for students with disabilities who reside in specific geographic locations. The city is divided into four zones that include; North, Near North/West/Central, South, and Far South. There are attendance boundaries that restricts student enrollment outside of any given residential area.

An increasing number of Chicago Public elementary schools have adapted a year-round school calendar. In 2007 there were 18 year-round schools. That number has increased to 132 for the 2009-2010 school year. Approximately 80,000 students are attending year-round schools at this time. The mission of year-round schools in Chicago is to improve student achievement and to increase learning opportunities. The goal of year-round schools is to: eliminate summer learning loss, relieve overcrowding, enhance teacher's time management and planning, increase student and staff attendance, increase opportunities for remediation, and eliminate burnout for teachers. Year-round schools also provide students with a safe environment throughout the summer months (Eason-Watkins 2009).

Students in Chicago Public Schools

CPS educates approximately 407,000 students in grades preschool through high school. CPS has a diverse student population with the following racial breakdown represented in its schools for the 2008-2009 school year; 46.2% African-American, 41.2% Latino, 8.9% White, 3.5% Asian/Pacific Islander, 2.9% Multi-Racial, 0.2% Native American. Students in Chicago Public schools are largely from low-income families at 84.3% in 2009 while 13.3% are limited English proficient. Attendance rate are generally

high in the elementary schools at 94.4%. Attendance at high schools is somewhat lower at 78.9%. Student/teacher ratios are 20.0 pupils per teacher in the elementary schools and 24.6% pupils per teacher in the high schools. These statistics can be compared to the statistics of Illinois schools. (See Table Three).

Table Three. CPS Ethnic and Low-Income Percentages - 2009.

Ethnic and Low-Income Rates - 2009	Chicago Public Schools	State of Illinois
White	8.9	54.0
African American	46.2	19.2
Hispanic	41.2	19.9
Low-Income	84.3	41.1

The majority of the year-round schools utilized in the study are located in the far-south zone of the Chicago Public Schools area. The average low-income percentage for the year-round schools is 91 percent and the average low-income rate for the traditional comparison schools is 90 percent. The average low-income rate for all CPS schools is 84 percent while the state average is 41 percent. The schools that have been changed to a year-round school calendar have low-income rates that are as high as 99%. The student enrollment rates of the schools used in this study range from approximately 200 to 1,500 students, with the majority of schools having 400 to 500 students.

Instrumentation

The No Child Left Behind Act and Illinois law require that the State measure whether or not schools are making Adequate Yearly Progress (AYP). States use tests such as the Illinois Standards Achievement Test (ISAT) as one means to measure student academic achievement in schools as a whole and for subgroups. AYP is based on the percentage of students that meet and/or exceed standards on state tests. ISAT measures

the achievement of individual students relative to the Illinois Learning Standards. The State Board of Education, curriculum experts, and Illinois teachers developed these standards. Students began being tested in 1999 in the subjects of reading and mathematics in grades 3, 5, and 8, and in science in grades 4 and 7. In order to meet the No Child Left Behind law, testing in reading and math was expanded to include all grades 3 through 8. In 2009 writing will be tested in grades 3, 5, 6, 8.

The performance levels on ISAT are derived by assessment experts and teachers using statistical analysis and age-appropriate standards to set cut points on the scale scores of students in the state for each test and grade level. The scores are used to define the score range for each of the performance levels of exceeds, meets, below standards, and academic warning. For the purpose of determining Adequate Yearly Progress of schools and school districts only the results of the reading and mathematics tests are included in the calculation of the AYP scores.

The Illinois State Assessment Test is a criterion referenced test that aligns with the goals of the Illinois State Board of education. All standardized tests contain some amount of error in measurement due to factors can affect any students' performance on tests. Internal reliability is a measure of the internal consistency of the items on a test. Estimates of internal consistency should be thought of as a measure of the extent to which items on the test are internally consistent to each other. Validity measures tell whether a test is measuring what it purports to measure. Professor John Wick from Northwestern University was commissioned by the Illinois State Board of Education to conduct an independent evaluation of the technical soundness of the ISAT. A Kuder-

Richardson was utilized to test the reliability of the ISAT test. The report indicated that the reliabilities of the test range from .92 to .95 for the areas of reading and math for grades three through eight.

The ISAT test is given in the spring of each school year to elementary students in Illinois. Third, fourth, and fifth grade students are tested in reading and math. Student scores on the ISAT are reported as the percentage of student scores in four performance levels. The levels were created with the help of Illinois educators who teach at the grade levels tested and in the subject areas that are tested.

Level 1 – Academic Warning – Student work demonstrates limited knowledge and skills in the subject. Because of major gaps in learning, students apply knowledge and skills ineffectively.

Level 2 – Below standards – Student work demonstrates basic knowledge and skills in the subject. However, because of gaps in learning, students apply knowledge and skills in a limited way.

Level 3 – Meets standards – Student work demonstrates proficient knowledge and skills in the subject. Students effectively apply knowledge and skills to solve problems.

Level 4 – Exceeds Standards – Student work demonstrates advanced knowledge and skills in the subject. Students creatively apply knowledge and skills to solve problems and evaluate the results.

ISAT scores can be accessed through the Illinois State Board of Education. The state report cards provide key statistics about each school in Illinois. State Report cards can be accessed on the ISBE website where test scores, attendance rates, racial

background, income status, school district finances and other detailed information is available to the public. Report cards are available for the years of 1999 through 2008. Other reports such as State wide trend data over past 15 years, definition of terms, AYP analyses, and Illinois School profiles can be accessed.

Analysis

In the first analysis, paired t-tests were used to compare the passing percentage means of third grade students in reading and math. The mean passing percentage rates were compared between thirty-nine year-round schools that were in operation during the 2008-2009 school year and thirty-nine traditional schools that were identified in the matching process. Paired t-tests were also used to compare the passing percentages means for low-income students in each both types of schools. Thirty-nine year-round schools and thirty-nine traditional calendar schools were utilized as comparison schools for the 2008-2009 school year.

In the second analysis, paired t-tests were used to compare the passing percentage means of third grade students in reading and math. The mean passing percentage rates were compared between seventeen year-round schools and seventeen traditional calendar schools for the school years of 2007-2008 and 2008-2009. Paired t-tests were also used to compare the passing percentage means of low-income students in both types of schools.

In the third analysis, a repeated analysis was conducted for the seventeen year round and traditional calendar schools that were in existence during the 2007-2008 and the 2008-2009 school years. The passing percentage means were compared for all third

grade students for read and math as well as for low-income students in year-round and traditional calendar schools.

CHAPTER FOUR

RESULTS

Overview

The purpose of this study was to compare the achievement of students who attend year-round schools to the achievement of students who attend traditional calendar schools in Chicago, Illinois. The Illinois Standardized Achievement Test (ISAT) was used to conduct this comparison. A comparison between the achievement of low-income students in year-round and traditional calendar schools was also conducted in this study.

The data used for this study were obtained from 2009 Illinois State Report cards for each of the schools that were analyzed. State and Federal law requires all public school districts to release report cards to the public. The Illinois State Report Cards used in this study were accessed through The Illinois State Board of Education website. The public has access to data related to all public schools in Illinois using this website. All of the Illinois School Report Cards contain the same information for each school in Illinois. Ethnic background rates as well as other information such as low-income rates, limited English proficient rates, mobility, rates, attendance rates, and total enrollment can be found on each Illinois State Report Cards.

The Illinois State Report Cards also include information about instructional settings such as class size, time devoted to teaching core subjects, and the average teaching experience of educators in the district. The Illinois State Report Cards also

includes data in these areas for each school district and the state. The 2009 Illinois State Report Card was used to obtain data for this study.

During the 2007-2008 school year there were eighteen schools operating on a year-round calendar in Chicago. In 2008, an additional twenty-two schools were opened as year-round schools for a total of 40 year-round schools in Chicago. Therefore a total of 40 schools were analyzed in order to establish a comparison sample group for this study.

In order to establish that the schools used in the study were statistically comparable, a matched subject process was used to match the schools based on low-income rates, total enrollment, and location within each of the four Chicago Public School's zones. The year-round schools were first matched to traditional schools within each zone by proximity to each other. This matching processing resulted in 40 year-round schools and 40 traditional being paired based on geographical locations.

Next, the schools were matched based on the total enrollment rates of type of school that had been matched geographically. A total of 80 schools were matched based on total enrollment rates. The next step in the matching process was to match the year-round and traditional schools based on low-income rates. This match resulted in 78 matches. No match was found for one of the year-round schools based on low-income rates because this year-round schools had a low-income rate of forty-five percent which was much lower than any traditional schools in its zone.

Paired t-tests were then utilized to compare the year-round and traditional schools for total enrollment rates and low-income rates. The t-tests revealed that there was no

significant difference in the mean scores between year-round and traditional schools for total enrollment or low-income rates.

Research Questions

1. In schools in existence for one year:
 - a) Is there a difference between ISAT passing percentage averages in reading and math for third grade students in year-round schools and traditional calendar schools?
 - b) Is there a difference between ISAT passing percentage averages in reading and math for third grade low-income students in year-round schools and traditional schools?
2. In schools in existence for two years:
 - a) Is there a difference in passing percentage rates in reading and math for third grade students in year-round and traditional schools?
 - b) Is there a difference in passing percentage rates in reading and math for third grade low-income students in year-round schools and traditional schools?
 - c) Is there a difference in gain in scores from these schools from 2008-2009 for all students and for just low-income students?

Analysis for All Schools

The first comparison that was made for this study utilized the passing percentage rates for third grade students on the ISAT test that was administered in March of 2009 to all public school children in Illinois. Specifically, the end of the school year passing

percentage means for third grade Chicago public Schools students in thirty-nine year-round and thirty-nine traditional schools that were in existence during the 2008-2009.

(See Table Four).

Table Four. Passing Percentage Mean Comparisons for All Schools school year the areas of reading and math were compared

Year-Round and Traditional Schools Comparison - 2009	YRS Mean (SD)	Traditional Mean (SD)	Paired t-test	p
Reading – All students	51.66 (12.78)	51.91 (19.70)	-0.54	0.96
Math – All students	63.08 (13.18)	65.95 (17.90)	-0.54	0.59
Reading – Low-income students	50.96 (12.88)	49.71 (18.71)	0.28	0.78
Math – Low-income students	62.45 (13.20)	65.41 (17.34)	-0.65	0.29

A mean passing percentage rate of 51.66 was achieved by the third grade students in reading that attended year-round schools during at the end of the-2009 school year. A mean passing percentage rate of 51.91 was achieved by the students attending traditional calendar schools at the end of the 2009 school year. While the traditional school's mean score was slightly higher that the mean score of the year-round school it was not significantly higher as indicated by a p value of 0.96.

The passing percentage mean score for math in year-round schools was 63.08 while the passing percentage mean for traditional schools was higher with a mean score of 65.95. Although the traditional school math passing percentage mean was higher than the year-round school, it was not significantly higher as indicated by a p value of .59.

This comparison indicated that there appears to be no significant difference in achievement in reading or math between year-round and traditional schools, although

there were differences in mean passing percentages, with traditional schools achieving higher passing percentage rates in reading and math on the 2009 ISAT.

The next comparison in the study was made between the passing percentage rates of year-round and traditional students of the low-income status for reading and math. The mean passing percentage rate for reading of low-income students in year-round schools was 50.96. The mean passing percentage rate for reading of low income students in traditional schools was 49.71. In these comparisons the year-round school mean score was higher; however it was not significantly higher as indicated by a p value of .78.

Comparing the math passing percentage rates for low-income students revealed no significant difference. The mean score for year-round students in math was 62.45, while the passing percentage rates for students in traditional schools had a higher mean score of 65.41. The difference in means was not significant as revealed by a p value of .29. The comparison that was made between the year-round and traditional school passing percentage rates for reading and math that were reported on the Illinois State Report Card for the 2008-2009 school year indicated that there was no significant difference in achievement for the sample group.

The analysis of data from the comparison of low-income student achievement in reading and math as indicated by passing percentage rates on the 2009 ISAT indicated that there was no significant difference in achievement in reading or math between year-round and traditional schools, although there were differences in mean passing percentages, with year-round school low-income students achieving higher passing percentage rates reading and traditional low-income students achieving high passing percentage rates in math; these differences were not statistically significant.

Analysis for Schools in Existence for Two Years

An analysis was conducted to compare the mean passing percentages of third grade students in reading and math for students attending the seventeen year-round and the seventeen traditional schools at the end of-2008 school year. The scores utilized for this comparison were retrieved from the 2009 Illinois State Report Card as data for the 2008 and 2009 school years are reported on the 2009 report card. This comparison revealed no significant difference in passing percentage rates for reading or math for between students in year-round and traditional schools. Further, there were no significant differences in passing percentage rates for reading or math for low-income students in year-round and traditional schools (See Table Five).

Table Five. Passing Percentage Mean Comparisons for Schools in Existence for Two Years – First Year - 2008.

Year-Round and Traditional Comparison 2008	YRS Mean (SD)	Traditional Mean (SD)	Paired t-test	P
Reading All Students	47.18 (14.86)	47.01 (16.94)	.039	.97
Math All Students	51.89 (17.04)	55.93 (15.83)	-1.402	.18
Reading Low-Income Students	44.51 (12.00)	53.45 (14.75)	-1.843	.08
Math Low-Income Students	60.22 (17.89)	63.53 (12.45)	-.687	.50

The mean passing percentage rate for year-round schools in reading for 2008 was 47.18, while the mean passing percentage rate for reading in the traditional schools was

47.01. While the mean score for reading at the year-round schools was higher; it was not significantly higher as indicated by a p value of .97.

For math the passing percentage rates for year-round and traditional schools was also not significantly different. The mean passing percentage rate for year-round schools was 51.89 while the passing percentage for the traditional schools was higher with a mean score of 55.93. This difference was not significant as indicated by a p value of .18.

Comparing the passing percentage rates for low-income students in reading and math between the year-round and traditional school revealed no significant difference in mean scores. The mean score in reading for low-income students was 44.51. The mean score in reading for low-income students was higher for the traditional schools with a mean score of 53.45. The difference in mean scores was not significant as revealed by a p value of .08. The mean scores in math for the year-round and traditional schools for low-income students demonstrated that there was not a significant difference between them. The mean score in math for low-income students was 60.22 while the mean score for the traditional schools was higher at 63.55; the mean difference was not significantly higher as indicated by a p value of .50.

Another analysis was conducted to compare the mean passing percentages of third grade students in reading and math for students attending the seventeen year-round and the seventeen traditional schools at the end of the 2009 school year. A comparison was also made for students of low-income status for achievement in reading and math (See Table Six).

Table Six. Passing Percentage Mean Comparisons for Schools in Existence for Two Years. Second Year - 2009.

Year-Round and Traditional School Comparison 2009	YRS Mean (SD)	Traditional Mean (SD)	Paired t-test	p
Reading – All students	55.11 (18.41)	51.88 (15.79)	.514	.614
Math – All students	60.75 (9.63)	63.41 (12.61)	-1.378	.187
Reading – Low-income	42.98 (16.80)	51.31 (13.87)	-1.952	.069
Math – Low-income	63.81 (20.20)	63.53 (12.45)	.055	.957

This comparison indicated that there was no significant difference in achievement for third grade students in reading or math between year-round and traditional schools. The mean reading score for all third grade students for the years of 2007-2008 in year-round schools was 55.11 which is slightly higher than the mean score of 51.88 for students in traditional calendar schools. The difference in the passing percentage rate means between year-round and traditional calendar schools was not significantly different as indicated by a p value of .614.

In math, the mean passing percentage rate for third grade students in year-round schools was 60.75 which is slightly lower than the passing percentage rate mean score of 63.41 for third grade students in traditional schools. While the mean passing percentage rate was higher for students in traditional calendar schools; it was not significantly higher as indicated by a p value of .187.

Comparing the passing percentage rate means in reading and math for third grade students of low-income status revealed results similar to those of the other comparisons made in this study. The reading passing percentage mean for low-income status students in year-round schools was 42.98 while the passing percentage mean was 51.31 for third grade low-income status students in traditional schools. There was a higher passing percentage rate for low-income status third grade students who attended traditional calendar schools; however, the difference was not significant as indicated by a p value of .069.

When comparing the means of passing percentage for low-income status students for math in year-round and traditional schools a difference in mean scores was indicated. The mean passing percentage rate for third grade low-income status students in math was 63.81 and the mean passing percentage rate for third grade low-income status students in math at traditional calendar schools was 63.53. A p value of .957 indicated that the differences in means were not significant.

Repeated Measures Analysis for Schools in Existence for Two Years

A repeated measures analysis was conducted comparing the reading and mathematics achievement for school years 2007-2008 and 2008-2009 for the seventeen year-round and their matched comparison. For reading, there was a significant increase in the reading scores for both sets of schools ($F = 9.46$, $p = 0.004$), but there were no main effects for type of school, and no interaction effect. Thus, both types of schools had a similar increase in their reading achievement from 2007-8 to 2008-9. The same picture emerged for mathematics achievement; both sets of schools increased their mathematics

achievement from 2007-8 to 2008-9 ($F=8.38$, $p = 0.007$) with no main effect for school type and no interaction effect (See Tables Seven and Eight).

Table Seven. Reading Mean Totals– All Students

School Type	2008	2009	Totals
Year-Round Schools	47.18	55.12	51.15
Traditional Schools	47.01	55.89	49.45
Totals	47.09	53.50	50.30

Table Eight. Math Mean Totals– All Students

School Type	2008	2009	Totals
Year-Round Schools	51.89	60.76	56.32
Traditional Schools	55.93	63.41	59.67
Totals	53.91	62.08	57.99

A slightly different picture emerges in the analysis of the achievement of the low-income students only. For reading, there are no main effects for year (achievement does not increase significantly for either group), but there is a main effect for school type. Low-income students in year-round schools score significantly lower than in traditional schools ($F=4.18$, $p = 0.049$). No main effects for year or school type and no interaction effects are found for the mathematics achievement of low-income students (See Tables Nine and Ten).

Table Nine. Reading Totals - Low-Income Students

School Type	2008	2009	Totals
Year-Round Schools	44.51	42.98	43.74
Traditional Schools	53.46	51.31	52.38
Totals	48.98	47.14	48.06

Table Ten. Math Totals - Low-Income Students

School Type	2008	2009	Totals
Year-Round Schools	60.22	63.81	62.01
Traditional Schools	63.53	63.53	63.53
Totals	61.87	63.67	62.77

While there appears to be no significant difference in reading or math achievement between year-round and traditional calendar schools that were compared in this study, there are considerable differences in reading math achievement between all Chicago Public Schools and other public schools in the state of Illinois. For example, in 2009 the State of Illinois passing percentage mean was 72.2 for reading and 85.2 for math. These mean scores are considerably higher than the Chicago Public School District's passing percentage means of 56.4 for reading and 72.3 for math. Other differences between Chicago Public Schools and other public schools are demonstrated in low-income rates and racial backgrounds. The average rate of low-income students in Illinois public schools is 42.0 percent compared to 83.3 percent for Chicago Public Schools. The racial and ethnic backgrounds for Chicago Public Schools are considerably different from other Illinois public schools. 46.2% of the students in CPS are black while 19 percent of student in other Illinois public schools are black. A study conducted by the Northwest Evaluation Association (NWEA) reported that an achievement gap exists between students in low-poverty schools and those in high-poverty schools and that African-American students grow less academically during the school year than students in other groups. Furthermore, African-American Hispanic enrolled in high-poverty schools tend to grow less over the summer months.

The year-round and traditional schools analyzed in this study have considerably higher low-income rates and higher populations of African American students than Chicago Public Schools. For example, Chicago Public schools low-income rate is 83.4 while the schools analyzed in this study reported low-income rates in range of 90 to 100 percent. When comparing the reading and math achievement of low-income students in the state of Illinois and Chicago Public schools there is little difference in the achievement among these groups. The mean passing percentage rates for low-income students in CPS were reported to be 43.1 percent for reading and 49.2 for math. The mean passing percentage rates for low-income students in the state of Illinois were reported to be 45.9 percent for reading and 51.6 for math.

The achievement scores for African American students in Chicago Public Schools and African American students in the State of Illinois are also very similar. The mean passing percentage rate for Chicago Public School African American students was reported to be 41.9 percent for reading and 46.7 percent for math. In comparison, the mean passing percentage rate for African American students in other schools in the state of Illinois was reported to be 45.1 percent for reading and 49.6 percent for math. The data analyzed in this study reflects the same pattern of achievement gaps between students in low-poverty schools and high poverty schools that was reported in the Northwest Evaluation Association study on achievement gaps.

In conclusion, it is not unexpected that the students in Chicago Public schools would perform academically below students in other public schools in Illinois. Students enrolled in year-round schools and traditional schools in Chicago are at risk for poor academic achievement due to many factors including poverty and ethnic background.

Changing to a year-round school calendar may have advantages for students that have not been demonstrated in this study; however, it would appear that other factors need to be considered and addressed in order for all Chicago Public School students to increase the passing percentage rates on academic tests such as ISAT.

CHAPTER FIVE

SUMMARY, LIMITATIONS AND, IMPLICATIONS

Summary

The purpose of the study was to compare student achievement in year-round schools with student achievement of students in traditional calendar schools. As more than two million students are attending year-round schools in this nation, it is important that these schools be investigated. Research has suggested that there are benefits and advantages, as well as disadvantages to year-round education (McMillen, 2001; Alcorn, 1992; Glines 1987; Kneese 1994; Evans, 2007; Cooper, 1996). Schools that have been using year-round calendars have reported positive effects on student achievement, attendance, job satisfaction, alleviating overcrowding, and cost savings.

Restructuring school calendars has been used in many districts as a means of increasing student achievement. Schools are required by law to meet ever increasing higher standards of accountability. Schools face severe penalties for failure to meet these standards such as replacing staff, implementing new curriculum, extending the school year or the take over of school operations (Cronin, 2003). The review of the literature on year round education has been mixed. While many studies suggest that there are advantages to year-round education, there are many that suggest that the benefits are not significant.

The types of studies investigating year-round education can be grouped into two categories: those that compare student achievement in year-round and traditional calendar schools and those that explore the issue of summer learning loss. Research studies that compare student achievement have, in general, reported that student achievement in year-round schools is at least equal to, or better than student achievement in traditional calendar schools. Year round education appears to benefit at-risk students, such as those from low-income families to a larger degree (Kneese, 1996).

This study utilized data from the Illinois State Report card to compare the reading and mathematics achievement of year-round and traditional Chicago Public Schools (CPS). There were seventeen year-round schools that were in operation during the 2007-2008 school year that were matched to seventeen schools that were operating on traditional calendars during the 2007-2008 school year. At the beginning of the 2008-2009 school year, another twenty-two schools began using year-round calendars. Thus, seventeen year-round schools in the sample had been in existence for two years at the time of the study, while twenty-two year round schools had been in operation for only one year. Each year-round school was matched with a traditional school using geographic locations, enrollment and percentage of low-income students.

Passing percentage rates generated by the Illinois Standardized Achievement Test ISAT were used to measure student achievement in year-round and traditional schools for the school years of 2007-2008 and 2008-2009. There were no statistically significant differences among the year-round schools and the traditional schools in reading or mathematics achievement. In addition, there were no differences among the achievement of low-income students in year-round and traditional schools

In the first analysis thirty-nine year-round schools were compared to thirty-nine traditional schools. The passing percentage means for reading and math of third grade students were compared to determine if there were differences in achievement between year-round and traditional calendar schools. The comparison of mean passing percentages for third grade students attending year-round schools and traditional schools indicated that there was significant difference in reading or math achievement between year-round and traditional schools. In the analysis comparing the reading and math passing percentage means for the schools that were in operation for two years, there were again no significant differences.

Limitations

A limitation of this study would be the use of secondary data. It is possible that the scores that were reported to the state could be inaccurate. This study is also limited to the comparison of third grade students in Chicago Public year-round and traditional schools, and may not be comparable to other schools in other states. In order to generalize this study to other populations, a more thorough examination would be necessary. A larger sample size, different types of testing instruments, and other types of school calendars would be possibilities to expand on information gathering on effects of year-round education.

Another limitation of this study is that demonstrating a relationship between two variables, such as year-round schools and traditional schools does not necessarily prove that one variable caused the other variable to change. When making comparison between year-round and traditional calendar schools there are many variables that must be

considered such as; curriculum, intersession programs, student populations, home environment, teaching styles, experience levels of teachers, and the length of time schools has been in operation.

This study does not address the effects the home environment can have on school achievement. There are research studies that suggest that home environment plays an important role in learning (Heyns,1978; Entwisle and Alexander 1992; Crane, 1996; von Hippel, 2007). Many of these studies have indicated that there is a strong relationship between home environment and cognitive skills. Jonathan Crane (1996) examined the effects of home environment, low-income and maternal test scores on mathematics achievement young children. He concluded that that none of these factors can be discounted as having a negative effect on the mathematics skills of children. While this study did not specifically address the effects that home environment and low-income status may play in academic achievement, the results do indicated that number of low-income students achieving passing percentage rates in reading and math were less than the number of passing percentage rates for other groups of students.

There are other factors that must be considered when interpreting the results of this study. These factors include the small sample size, the length of time the schools have been year-round, and that the schools serve the neediest of CPS students. It also must be noted that this study does not include any information about the programs and curriculum within the schools that could influence student achievement. Also, relying on only ISAT scores at the school level to measure student achievement does not allow for measuring changes for individual students. The year-round schools examined in this

study did little more than change the calendar. Any of these factors may have influenced the results of this study. Specifically, this analysis did not find a significant difference in achievement in the year-round and traditional schools.

One of the important factors to consider when analyzing the data in this study is that the sample size was relatively small. In the 2008-2009 school year, there were only 40 schools that were operating on a year-round calendar in CPS. At the present time, there are currently 132 schools operating on year-round schedules. ISAT data is not yet available to assess the academic achievement in the Chicago schools that have only recently been operating as year-round schools. This study is a starting point for future research related to year-round student achievement and builds upon previous research in the field. Further studies comparing year-round and traditional schools over time would further add the knowledge base on year-round education.

The sample population of students examined in the study must be considered when interpreting the results. Research has indicated that changing to a year-round calendar has considerable benefits for disadvantaged students; however, it must be noted that the children in these schools are among the most economically disadvantaged among all the schools in Chicago (See Table Eleven).

Table Eleven

Ethnic and Low-Income Percentages for Chicago Public Schools Used in Study – 2009.

Ethnic and Low-Income Rates 2009	All Chicago Public Schools	Year-Round Schools In Study	Traditional Schools In Study
White	8.9	2.6	3.2
African American	46.2	82.8	77
Hispanic	41.2	13.9	17
Low-Income	84.3	91	90.34

Research has indicated that changing to a year-round calendar has considerable benefits for disadvantaged students; however, it must be noted that the children in these schools are among the most economically disadvantaged among all the schools in Chicago. The percentage of low-income students attending the schools that were compared in this study is approximately 90 percent. The percentage of low-income students for the entire city of Chicago is 84 percent, while the percentage of low-income students in the state of Illinois is 51 percent. The most predominant ethnic background represented in the schools analyzed in this study is African American. A study conducted by the Northwest Evaluation Association indicated that African American students grow less academically during the school year than students in other ethnic groups. The study also indicated that in mathematics, students enrolled in high poverty schools tend to grow less academically during the school year. The achievement scores of the population used in this study appear to confirm the findings of the NWEA study. The percentage of low-income and African American students represented in the schools used in this analysis is considerably higher than student populations represented in other schools in the state of

Illinois. It appears that changing the school calendar without adding more support was not enough to improve academic achievement of the students enrolled in year-round schools and the traditional schools analyzed in this study.

Another consideration to be taken into account when interpreting the results of this study is the number of days Chicago Public school students attend school. The schools identified in this study as year-round schools attend school for the same number of days as students in attending traditional calendar schools. The students in both types of schools attended 170 days. Other schools in the state of Illinois have as many as 180 days. Adding attendance days to the CPS calendar could also have positive effects and should be considered as an option for improving student achievement.

According to The National Association for Year-Round Education “a year-round calendar is organized into instructional blocks and vacation periods that are evenly distributed across twelve months.”(National Association for Year Round Education [NAYRE], 2006, pg. 68). The schedule utilized by the year-round schools investigated in this study is not a balanced year-round schedule

The most popular type of year-round is the 45/15 single track model. In this model, there are four nine week terms, followed by four, three week breaks. This pattern continues throughout the school year ending with a five week break in the summer. The year-round calendar that is utilized by CPS is not a balanced schedule. The terms vary between nine and thirteen weeks. The breaks between terms are also varied. Two of the breaks are two weeks long while another is three weeks long. The summer break for year-round students is six weeks long which is a week longer than other year-round

school calendar schedules. The breaks from school for the traditional calendar students are no longer than two weeks during the school year and the summer break is ten weeks long. This study did not investigate why CPS utilized a year-round schedule that is not typically used in other settings or why the terms are unbalanced. It is possible that a more balanced calendar would be more effective in improving academic achievement.

Chicago Public Schools does offer summer school for six weeks at year-round and traditional schools at the end of each school year. This study did not investigate what types of programs are offered in the summer, whether or not summer school attendance is mandatory, nor did it examine the attendance rates during for summer school. Studies indicate that even when districts require students to attend summer school, only about 50 percent of the students actually attend, while only about 20 percent complete the programs (Stenvall, 2001).

The schools examined in this study have only been operating as year-round schools for one or two school years. Other studies on year-round schools utilized samples of schools that had been in operation for longer periods of time that were successful in improving student achievement. For example, Alcorn (1992) compared the achievement scores of students in 17 year-round schools that had been in operation for at least ten years. The results of the study indicated that in test score comparisons between year-round and traditional schools, year-round schools achieved higher average scaled scores than traditional schools. McMillen (2001) investigate a sample size of 34,500 students in year-round and traditional schools over a two-year period. He looked at the achievement of students in grades three through eight in the areas of reading and math.

He reported that there were no significant differences in achievement between these groups. It remains unclear what effect year-round education has truly had on academic achievement. Year-round schools in Chicago have been in existence for such a short period of that investigating year-round education will need to be measured over time to determine what effects have been elicited from year-round education.

Intersessions are a major component of year-round schools. One reason for implementing a year-round calendar is to avoid summer learning loss by spreading the breaks across the school year. During the breaks between terms, many year-round schools offer remedial and enrichment classes. When investigating year-round student achievement in year-round schools, whether or not schools are providing remediation during breaks should be taken into account. During intersessions students can be provided with the time they may need to catch up on their school work or enjoy enrichment activities. Using a balanced calendar can provide services to special needs students throughout the year instead of providing remedial classes at the end of the school year after failure has already occurred Stenvall (2001).

The Chicago Public Schools examined in this study provide little or no support offered during intersessions. A small intervention, such as changing the school calendar is unlikely to show large gains in achievement. Chicago Public School students in year-round schools are among the most low-income in the city and state, and many need more support such as program and curriculum changes. The year-round schools in Chicago have the option to hold remedial classes during intersessions. It is the schools' principals' decisions to whether or not to provide activities during intersessions. It is also

the responsibility of the schools' principals to obtain funding for intersession classes and activities, as well as, find staff willing to teach during intersessions. Dr. Jackson, principal of one of the year-round schools identified in this study, indicated that the teachers at his school provided remedial materials for students to work on over breaks as an alternative to providing remedial classes during intersessions.

This study did not investigate how environmental factors such as how the family life can influence academic achievement. Paul von Hippel (2008) examined the role the family plays in closing the achievement gap of students. According to the study, parental involvement has been shown to have a positive impact on children's reading acquisition even if the family is economically disadvantaged. Parents may struggle with their own literacy skills and therefore need services and programs to guide them before they can have a positive impact on their children's educational needs. Schools cannot bear the full burden of improving the academic achievement of its students. Changes in the schools such as operating on a year-round calendar, adding remedial classes during intersessions, changes in curriculum, and teaching materials and methods may be effective tools for improving academic achievement. However, addressing the needs of economically and educationally disadvantaged families could also make a considerable difference in improving student achievement.

This study does not provide any detailed information about the specific programs that are used in any of the schools utilized in the study. It is impossible to determine what influence teaching methods, curriculum, and programs could have had on the results of this study. The repeated measures analyzing in this study revealed that the reading and

math passing percentage rates of the schools that were in existence for two years reading increased significantly from 2007-8 to 2008-08. Further research and investigation relating to the reading and math programs that are utilized in CPS would be needed to investigate the effectiveness of the programs in both types of schools. Calendar change alone did not appear to have an overall positive effect for the groups of students attending year-round schools. However, increased achievement was realized for the students in this sample group in year-round and traditional calendar schools, therefore further investigation into the other factors that may be effecting student achievement should be considered.

Another limitation of this study is that it relies on ISAT scores at the school level to measure school achievement. Using this type of data to measure student achievement differences does allow for analyzing how individual students' achievement changes over time. Utilizing data collected from individualized standardized tests such as the Measure of Academic Progress (MAP) that measures reading, math, and language skills could be useful in investigating how individual or groups of students respond to interventions that are implemented in schools, including calendar change.

One benefit of year-round education is the potential to alleviate summer learning loss. This study did not investigate if calendar changed alleviated summer learning loss, which was one of the goals of CPS for changing to a year-round calendar. Using standardized tests such as MAP which can be administered several times a year can be beneficial in studying the effects of summer breaks on achievement. Studies have indicated that summer break can have a negative effect on student achievement. The

negative effects of summer break appear to be even more significant for low-income students (Wintre, 1986,; Cooper, 1996,; Fairchild, 2002,; Kneese, 2000). Using standardized tests such as MAP to assess student achievement at the end of the school year and again after a break is one way to measure differences in academic achievement of students in year-round and traditional calendar schools.. Future research on year-round education in Chicago Public Schools could focus on the effects of summer breaks as it applies to individual students' achievement and as well as focusing on school level achievement.

Implications

Higher standards of accountability such as The No Child Left Behind act have left educators with the task of looking for ways to help them meets these standards. As school districts look for ways to improve student achievement, many looked at the positive effects of year-round schools that have been demonstrated in research Chicago Public schools has taken on the task of restructuring the school calendar in order to meet the needs of students in under performing school throughout the district with a measureable amount of success. According to the CPS CEO, Ron Huberman (2009), ISAT composite data for 2008-2009 school year indicates that students at year-round schools improved by 3.1 percent compared to a two percent gain for the district as a whole. In the same report, Huberman indicated that the gaps in achievement within the district as a whole has been narrowed, from 10.0 points in 2008 to 9 percentage points in 2009. This study, however, found no statistically significant differences among the year-round and traditional calendar schools.

Changing Chicago Public Schools to a year-round calendar is unlikely going to make large gains in academic achievement. Chicago Public School students in year-round schools are among the most low-income in the city and state, and many need more support such as program and curriculum changes. The need for further research in the area of year-round schools and the effects that calendar change has had on student achievement has been suggested by many researchers. Studies on year-round schools need to take into consideration several factors when analyzing data, such as demographics, sample size, length of school year, and whether or not year-round schooling is mandatory or by choice (Kneese, 1996; McMillen, 2001). This study addresses the issues of school type, demographics, and low-income status, and contributes to previous research findings related to student achievement in year-round schools.

The review of the literature on year-round education demonstrates that calendar change has the potential to positively effect academic achievement for students in elementary schools. This study comparing achievement scores of third grade students in year-round and traditional calendar schools in Chicago Public Schools did not find significant achievement differences. However, continued research is needed. Many positive effects of year-round education have been cited in research including increased student attendance and achievement, and higher teacher, parent, and student satisfaction level. School districts have also realized considerable cost savings by increasing building utilization on year-round multi-track schedules. Year-round schools have also been effective in decreasing summer learning loss by providing Intersession programs that

focus on remedial skills and quality child care for students and exposing children to educational activities throughout the year.

Chicago Public Schools has begun to utilize year-round school calendars in a large number of schools throughout the city. The schools have voluntarily committed to utilize a year-round calendar and have wide spread support from administrators, parents, and students, and the community as a whole. This large sample of year-round schools would be a great setting to conduct research in the area of year-round education. It would be beneficial to examine the effects that year-round education has had and is having on CPS students through a closer study of the schools' environment, curriculum, and intersession programming. This information could help CPS to understand the operation and potential effects of year-round schooling, and its potential to increase student achievement for the most disadvantaged students..

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VITA

Andrea Winkelmann was born and raised in Mundelein, Illinois. She holds a Bachelor of Science degree in elementary and special education from Southern Illinois University and a Master of Arts degree in special education from Northeastern Illinois University. She currently resides in Mundelein with her husband and two children.

Ms. Winkelmann began her teaching career in District 62 at Forest Elementary School in Des Plaines, Illinois. She has taught first through eighth grade special education student in District 62 for since 1985. She has served on various curriculum writing committees and is currently a member of the Response to Intervention Committee that is overseeing the implementation of the RIT procedures for District 62. She is a member of the Council of Exceptional Children and has been a presenter at several CEC conventions.

Ms. Winkelmann has been an instructor at Trinity International University in Deerfield, Illinois, teaching Math and Reading Methods courses to adult learners in the teacher education program. She has been a guest lecturer at the undergraduate and graduate level at Loyola University on the topic of year-round education and learning disabilities, specifically, Attention Deficit Disorder.

During the summer of 2009, Ms. Winkelmann participated in a Graduate School Fellowship where she mentored an undergraduate education student at Loyola University while completing her dissertation research. Her research was presented at the 3rd annual Interdisciplinary Research Symposium for Graduate and Alumni at Loyola University Chicago in April 2010.

DISSERTATION APPROVAL SHEET

The Dissertation submitted by Andrea Therese Winkelmann has been read and approved by the following committee:

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The Dissertation is therefore accepted in partial fulfillment of the requirements for the degree of Doctor of Education.

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