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The Impact of Year-Round Education on Fifth Grade African American Reading Achievement Scores in an Urban Illinois School

Carolyn A. Merrill

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DePaul University

College of Education

**THE IMPACT OF YEAR-ROUND EDUCATION ON FIFTH GRADE
AFRICAN AMERICAN READING ACHIEVEMENT SCORES IN
AN URBAN ILLINOIS SCHOOL**

A Dissertation in Education
with a Concentration in Educational Leadership

by

Carolyn Ann Merrill

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Submitted in Partial Fulfillment
of the Requirements
for the Degree of

Doctor of Education

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Abstract

The purpose of this quantitative, causal-comparative study was to determine the impact of the year-round education school calendar on the standardized test performance of fifth grade African American students, as measured by the Illinois Standards Achievement Test (ISAT) in reading. The ISAT reading scores from two year-round education (YRE) schools (School A and School B) were compared with two traditional calendar education (TCE) schools (School C and School D). The selection of schools was based on numerous factors in order to ensure that the year-round education schools and traditional calendar education schools were similar in socioeconomic status and in the number of African American students attending the schools. Descriptive and inferential analyses were conducted. Descriptive analyses consisted of determining means and standard deviations of study variables. Inferential statistics consisted of a 2 (school type) x 3 (lunch status) between subjects factorial ANOVA to demonstrate main effects of each independent variable, as well as the interaction effect of both variables together on the dependent variable. Results of this study concluded that there was not a significant difference between the year-round and traditional school groups on ISAT reading scores. There were no significant differences between the free lunch, reduced lunch, and paid lunch groups on ISAT reading scores. The interaction effect for school type x lunch status was not significant. Although the current research did not support the previous literature that indicates year-round education might mitigate some of the risks associated with low-socioeconomic status, further research should be conducted on this topic. The present research indicates that within classrooms, educational quality and student outcomes may depend on several factors. Future research on the particular qualities and

attributes of the teacher, the social and physical context in which learning unfolds, and the specific activities and events structuring how children experience their time as learners may continue to shed light on the educational attainment discrepancies between different groups of students.

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Dedication

This dissertation is dedicated to two very important families in my life: The Merrill Family- my mother, Willa Merrill, and my two wonderful children Isis and Matthew. The Robinson Family- Annie Robinson, the late Charles E. Robinson III, Charles E. Robinson IV and Linda McMahon. Throughout this entire process, both families have been a tremendous source of inspiration and encouragement. I thank God for placing the two families in my life.

Chapter One

Introduction

The implementation of No Child Left Behind (NCLB), PL 107-110 and the constraints of high-stakes assessments have served as a significant concern with respect to their impact for minority and income-challenged students and their future successes as adults. One general conclusion highlighted in numerous sources focuses directly on the need to identify mechanisms and interventions aimed at improving the high-stakes test scores of African American students. One proposed solution for increasing the high-stakes testing achievement of African American students involves the use of year-round education (National Association for Year-Round Education, 2001a).

According to the National Association for Year-Round Education (NAYRE), the year-round approach opens the door to reorganizing the school year to provide continuous learning, improving student achievement by remediation during intersessions, and providing opportunities for enrichment, relaxation, and rejuvenation (NAYRE, 2001a). Students in a balanced, single-track, year-round education (YRE) program attend the same classes, and receive the same 180 days of instruction, as students enrolled in a traditional nine-month calendar (September to May). The chief difference between the balanced year-round education calendar and the traditional September to May school calendar centers on the frequency of the breaks or intersessions between the instructional quarter, and how these breaks or intersessions are used to enhance learning. Instead of long summer breaks, the breaks are broken up into smaller periods throughout the school year, with the summer recess involving no more than six consecutive weeks (NAYRE). Year-round education has been purported to eliminate or minimize the significant

learning loss that often occurs during the more extended traditional summer break (C. Ballinger, personal communication, September 2005); however, the problem is that results of the empirical research comparing year-round education and traditional calendar education is mixed. Another problem is that there is no research on the comparison of both approaches in African American students. The purpose of this study is to compare traditional and year-round education (YRE) calendars in an African American fifth grade population.

This study will use achievement data in reading generated by two year-round education schools in the Francis School District to see whether there is a difference in ISAT reading scores in students experiencing year-round education verses those that are not. For contrast purposes, data were also collected from two traditional calendar education (TCE) schools in the same district. The district was asked to provide data from students who shared similar characteristics. All study-focused sites were selected based on their comparability along income and ethnicity lines. For the purpose of this study, year-round education was operationally confined to the balanced, single-track calendar.

Purpose of the Study

The purpose of this quantitative, causal-comparative study was to determine the impact of the year-round education school calendar on the standardized test performance of fifth grade African American students, as measured by the Illinois Standards Achievement Test (ISAT) in reading. The reading scores from two YRE schools (School A and School B) were compared with two TCE schools (School C and School D). The selection of schools was based on numerous factors in order to ensure that the year-round education schools and traditional calendar education schools were similar in

socioeconomic status and in the number of African American students attending the schools.

Significance of the Study

The “achievement gap” in education refers to the disparity in academic performance between African American and Hispanic students, and their non-Hispanic white peers (Kober, 2001). The achievement gap between African American students who belong to lower socioeconomic strata and those who belong to higher socioeconomic strata is extremely large—even greater when compared with other ethnicities (Kober, 2001). A number of African American students of lower socioeconomic level are not meeting established academic standards based on the Illinois Standards Achievement Test performance levels shown on the 2001 Illinois State Report Card. Students’ Illinois Standards Achievement Test scores are reported relative to four performance levels: Academic Warning, Below Standards, Meets Standards and Exceeds Standards (see Appendix A for definitions of performance levels). Scale score ranges define performance levels on the Illinois Standards Achievement Test (see Appendix B for scale score ranges).

According to the 2001 Illinois State Report Card, two-thirds of African American students taking the Illinois Standards Achievement Test failed to meet federal standards. The major goal of standardized tests, such as the Illinois Standards Achievement Test, is to measure learning relative to the Illinois Learning Standards. One proposed solution for increasing the high-stakes testing achievement of African American students involves the use of year-round education (NAYRE, 2001a); however, there is no empirical research on the efficacy of this proposed solution. The purpose of the current investigation was to add

to the literature on this topic and to determine if year-round education could improve the academic performance of African American students and close the performance gap.

Definition of Terms

For purposes of this study, the following key study-specific definitions are offered to assist the reader in understanding the concepts under discussion:

Modified YRE calendar. The modified YRE calendar, also known as balanced calendar, is usually 45/10 (45 days of instruction and 10 days of intersession), 45/15, 60/20 or 90/30.

Single-track YRE. A single-track YRE provides a modified/balanced calendar for a more continuous period of instruction. Students and staff follow the same instructional and intersession schedule. Single-track YRE shares the same holidays as the students in traditional calendar education.

Year-round education (YRE). Year-round education involves the reorganization of the school year to provide learning that is more continuous by dividing the long summer vacation into shorter, more frequent breaks. Students in a year-round program attend the same classes and receive the same amount of instruction as students on a nine-month calendar. The year-round calendar is organized into instructional blocks and vacation periods that are evenly distributed across 12 months (NAYRE, 2007).

Organization of Study

This study is organized into five chapters. Chapter one introduces the reader to the study. Chapter two provides a review of the contemporary literature. Chapter three

provides a discussion of the study methodology. Chapter four provides the results of the analyses. Chapter five focuses on the discussion, conclusions, summary, and recommendations associated with the study findings. Pseudonyms for all aggregate data, schools and school districts are used in this research to protect subject anonymity.

Chapter Two

Literature Review

In chapter two there will be a discussion on No Child Left Behind and high stakes assessments, standardized test performance, minority students, standardized test performance as it relates to African American students, and the school calendar. Since 1983, with the landmark report *A Nation at Risk*, gaps in student achievement across the United States have been documented across all socioeconomic and demographic groups in the United States (National Commission on Excellence in Education, 1983). Most of the research on the topic and experts in the field has focused specifically on restructuring America's public schools in terms of their organization, curriculum and instruction, as well as the professional development of educators in order to mitigate the achievement gap.

The No Child Left Behind Act (NCLB) resulted in a fundamental shift in the manner in which schools and school districts view "high-stakes" state-mandated testing. State-mandated achievement tests are used to hold districts, schools, teachers and students accountable for meeting specific state and federal standards of academic performance. Ovanda (2006) stated that high-stakes testing has important consequences for students--particularly minority students of economically disadvantaged backgrounds.

NCLB and High-Stakes Assessments

United States legislation and education have emphasized the role of high-stakes testing in reform movements designed to increase a school's accountability along with the improvement of student achievement. Ovanda (2006) defined high-stakes assessments

as the exclusive or near exclusive use of tests scores to make significant educational decisions about students, teachers and schools. While these assessments are designed to gather data about what a student knows or can do, studies have suggested that students suffer negative outcomes in high-stakes testing.

The No Child Left Behind Act (Public Law 107-110) was signed into law on January 8, 2002. This new law served to redefine the federal government's role in K-12 education, specifically to help close the achievement gap between disadvantaged and minority students and their peers. As such, NCLB served as the impetus for change in the culture of America's schools, defining success in terms of student achievement and investment in the achievement of every child:

The federal No Child Left Behind (NCLB) Act of 2001 aims to bring all students up to the proficient level on state tests by the 2013-2014 school year, and to hold states and schools more accountable for results. NCLB requires all districts and schools receiving Title I funds to meet state "adequate yearly progress" (AYP) goals for their total student populations...NCLB requires states to align tests with state academic standards and begin testing students on an annual basis in reading and math in grades 3 through 8.... (U. S. Department of Education, 2002)

The first principle of accountability for results involves the creation of standards in each state (framed within national and federal expectations) for what a child should know and learn in reading and math in grades three through eight. With standards and benchmarks in place, student progress and achievement will be measured by means of state tests designated to assess these standards. The new law empowers parents, citizens, administrators, and policymakers to participate in curricula reform by providing data generated from annual assessments. Finally, the tests provide teachers and principals with a clearer sense of how each child is performing, setting within the context of becoming

better equipped to diagnose and meet the needs of each student (U.S. Department of Education, 2002).

Minority Students in the U.S. Education System

There is a consensus among educational researchers, practitioners, policy makers, policy analysts, and others connected to U.S. education that strategies must be implemented to ensure that African American children from economically disadvantaged homes are entitled to high levels of academic success in all our schools (Skria, Scheurich, & Johnson, 2001). Many economically disadvantaged families are left behind every day because of low expectations for their academic achievement and lack of adequate measures to determine academic achievement (Kohn, 2000). A strong accountability system will make it impossible to ignore achievement gaps where they exist.

When policy makers are faced with the dilemma of low-performing students, the pragmatic solution often seems to center on either retention or social promotion. Research demonstrates that the worst thing for struggling students is to hold them back a year. This strategy has been shown to be counterproductive and makes students more likely to “drop-out” either figuratively or literally (Noble, 2000). Both retention and social promotion policies result in excessively high drop-out rates, especially for economically disadvantaged and minority students. These policies result in inadequate knowledge and skills of students who are affected by such policies.

Increases in the academic levels of economically disadvantaged and minority students’ needs to focus on what really matters: high standards, a challenging curriculum, and good teachers (Haycock, 2001). Haycock believes that when looking at the low achievement of African American students, it is time to shift the blame from the student

environment and home life to the school environment. Other researchers have focused on how school administrators have improved academic achievement by creating high expectations set forth by parents, staff, and students. These schools have used test data to improve instruction by helping teachers improve their efficacy (Farbman & Kaplan, 2004). Thompson (2007) conducted a study at a low-performing high school in Los Angeles County, after the principal asked her to find out why so many African American students were doing poorly on standardized tests. Many students perceived their teachers to have low expectations and a lack of preparation. Research literature suggests that teachers' expectations of students have a significant influence on their actual achievement (Obidah, Christie, & McDonough, 2006). Students remember the negative aspects of their experiences with teachers.

Standardized Test Performance

Currently, schools and school districts are being judged based on their standardized tests score outcomes. Teachers often use the test results at the beginning of the year to determine the abilities of a new class of students. Teachers and principals also look at district performance data to see which schools have the highest scores in reading and subsequently encourage other schools to replicate the successful teaching practices from those schools (U.S. Department of Education, 2002), often without consideration of the unique clientele or setting. A good evaluation system provides invaluable information that can inform instruction and curriculum, can help diagnose achievement problems, and can inform decision making in the classroom, the school, the district, and the home (U.S. Department of Education, 2002).

In a strong accountability system, the curriculum is driven by academic standards and annual tests are tied to the standards (i.e., “teach to the test”). Tests measure what a student should know and provide a good indication of whether or not the student has learned the material covered in the curriculum. Effective teachers use a variety of tests and methods to assess students in various ways during the school year. Teachers might use standardized tests, contextual tests, or setting specific tests. As they do these various tests, they not only monitor student achievement but also help to ensure that their students will excel on any state-mandated tests. Annual testing establishes state-prescribed benchmarks of student knowledge. Tests keyed to rigorous state academic standards provide a measure of society-designated or desired student knowledge and skills. Former U.S. Secretary of Education Rod Paige (2002) said, “Anyone who opposes annual testing of children is an apologist for a broken system of education that dismisses certain children and classes of children as unteachable.” Paige further stated, “When we do not know whether or not a child is learning, how will we ever provide the child with a quality education?” (p.10). By enacting NCLB, the Bush administration challenged educators to set high standards and hold students, schools, and districts accountable for results.

Kohn’s (2000) opposing view on standardized testing contends that standardized tests are inaccurate or inadequate measures of student competence. Often, they underestimate talented students who simply are not good test-takers or overestimate students who memorize but do not really understand. Kohn suggests that schools in which educational resources are not up to standards have essentially gravitated to being giant test-prep centers. As a result, higher test scores emerge at the expense of

meaningful learning, and the academic gap between rich and economically disadvantaged widens.

Contemporary cognitive and developmental psychologists suggest that knowledge is not limited (incremental view as opposed to entity view), and that people (including children) learn by connecting what they already know with what they are trying to learn. If students cannot actively generate meaning out of what they are doing, they do not retain knowledge long-term. Most standardized tests do not incorporate the modern theories; instead, they remain based on recall of isolated facts and narrow skills (National Center for Fair and Open Testing, 2006).

While states often look at a single test to measure student achievement and knowledge of state standards, some are beginning to look at the fairness of the test and whether it reflects student learning. Ovando (2006) noted that there is no test that is fair when administered on its own. In order to assess students in a fair and equitable way, other factors must be taken into account. Consequently, one can conclude that no single measure can accurately reflect student learning or ensure that students have mastered all the standards set for success. Farbman and Kaplan (2004) argued that because students differ greatly in ability, as well as in mastery of learning skills, prior knowledge, and home environment, uniform standards cannot be uniformly challenging (rigorous) for all students.

The tests do not provide information that can help a teacher understand what to do next in working with a student because they do not indicate how the student learns or thinks. Teacher observation, documentation of student work, and performance-based assessment, all of which involve the direct evaluation of student effort on real learning

tasks, provide useful material for teachers, parents, the community, and the government (Kohn, 2000).

Standardized Test Performance and Minority Students

Accountability systems can play a key role in closing the achievement gap that historically has existed between the academic performance of White middle-class children and minority children from economically disadvantaged homes (Skria et al., 2001). When testing systems are in place, economically disadvantaged and minority students have been noted to excel. A recent study reports that there are more than 4,500 high poverty and high minority schools nationwide that scored in the top one-third on the state tests (U.S. Department of Education, 2002). However, the overwhelming majority of students who drop out of school do so because they are frustrated that they cannot read or write. Testing helps with early identification of students who are having trouble learning so they may get the services they need to succeed. Testing in any form causes anxiety, but effective teachers understand and help students prepare for it (U.S. Department of Education, 2002).

While the national graduation rate appears to have begun its decline in 1984, there is growing evidence that the current emphasis on high-stakes testing as required by NCLB has exacerbated this pre-existing dropout crisis. This noted effect is particularly harmful for students from minority groups and economically disadvantaged status (Walden & Kritsonis, 2008). Although many politicians argue that standardized testing will guarantee that economically disadvantaged and minority students receive a quality education (Kober, 2001) teachers and other professionals on the frontline of student education report otherwise. Proponents fear that the standardized tests may be less a

measurement of student intellect; and more simply a measure of culture and language (Kober).

High-stakes standardized testing adversely affects economically disadvantaged and minority students more than their White classmates. The standardized tests may be biased as they are written towards norms of White and middle-class America and are graded by the same people the test is designed for (Walden & Kritsonis, 2008). They further suggested that inadequate schools, education services, and the amount of allocated time in school could be influential factors in student performance.

Strategies to Facilitate Learning and Close the Race Gap

The Coleman Report (cited in Obidah et al., 2006) presented information on the education process and evaluations of programs that address educational needs. The report stated that schools are inadequate for minority students and schools lack rigorous courses. Unimaginative curricula, overcrowded classrooms, inadequate school facilities often plagued children who attend school in these settings, and too few teachers who have confidence in them and often teachers generally do not expect them to learn (Kober, 2001). Some researchers maintained that in order for students to be successful, the learning environment must be restructured (Noble, 2000). Several factors must be considered in any such restructuring. Research indicates that reduction of class size has a meaningful impact on standardized tests. Furthermore, economically disadvantaged and some ethnic minority students perform better in smaller classes. Some studies reveal that looping-- having the teacher stay with the same group for one more year-- has been effective in improving student achievement. Multi-age and multi-grade classrooms have been linked to student learning through interaction and cooperative learning among the

different-aged students. After-school programs, mentoring programs, and transitional programs have also been shown to be effective (Noble, 2000).

Noble (2000) also reported that year-round schooling have also been shown to be effective in increasing student achievement. Although the effects of year-round education in African American populations have not yet been assessed, Viadero (2000) suggested that disproportionate learning loss experienced by economically disadvantaged minority children over the summer might serve as another area ripe for improvement. Economically disadvantaged children fall behind during the summer by as much as two months in reading achievement, while middle-income students tend to make slight gains in that subject over the same period (Viadero).

School Calendar

Glass (1984) argued for increasing allocated time and arranging the 180 days in the school year to promote greater academic achievement by proposing year-round schools. There are many variations of year-round education calendars that provide several options for students learning (see Appendix C for year-round education calendars).

Year-round education and retention of learning. Studies have shown that the balanced/modified calendar makes a difference in the overall learning of all students. A research synthesis conducted by Cooper, Nye, Charlton, Lindsay, and Greathouse (1996) examined the effects of summer vacation on standardized test scores. The learning loss study found that summer learning loss equaled at least one month of instruction as measured by grade level equivalents on standardized scores. On average, students test scores were at least one month lower when they returned to school in fall than scores were when they left in spring. All students (including the best) lose in math and spelling

skills, and many, though not all experience some loss in reading skill proficiency over the traditional summer vacation. Based on the research about the summer learning loss, it is difficult for an educator to defend a calendar that allows so much loss, for any reason other than as a choice for those parents who prioritize lifestyle (ten weeks of vacation) over learning (C. Ballinger, personal communication, August 2002).

In a seven-year longitudinal study conducted by The New York Board of Regents looking at student retention of information over the summer break, students were tested at the end of the school year and at the beginning of the new school year three months later. The study showed that economically disadvantaged students fell behind on test indicators over the summer break, while others continued to gain. It was concluded that this discrepancy was due to the lack of a stimulating home environment for the economically disadvantaged students (Morgan, 2003).

Stenvall (2001) found that moving from a traditional to a modified calendar acknowledges that most students do not maintain formal learning over a two- to three-month break from school. The modified calendar offers a safety net and extended learning time during the school year both of which can help prevent failure. Rather than waiting to the end of the year, Stenvall found that year-round education provided constructive educational opportunities for students and their community on a continuous basis and lessened the need for review (Alcorn, 1992; C. Ballinger, personal communication, August 2002). According to White (1992), more curricula could be covered because less time was spent in review.

Speck (2002) stresses that reengineering the school timetable may also result in modified student attitudes. Year-round education helps to produce students who are able

to engage in critical analysis, write clearly and effectively, solve group and individual problems, analyze and assess new information, and develop convincing arguments. Some maintain that the overall benefits associated with year-round education seem worth the additional efforts required to implement a successful program (Sheane, Donaldson, & Bierlein, 1994). Worthen and Zsiray (1994), two researchers commissioned by the state of North Carolina to conduct a non-partisan review of 20 years of educational studies on year-round education, found that student achievement in year-round schools is equal to or greater than achievement in traditional schools. The students were more focused and had positive attitudes towards school, students attended school regularly and did not drop-out of school as frequently, teachers had more positive attitudes, and parents were satisfied with the year-round program and felt the program was well implemented.

Summer learning loss and at-risk students. Morse (1992) found that disadvantaged students forgot as much as three months of learning each summer. He noted that at this rate they could be a full year behind after three summers and proposed that this would not be true if they were attending a year-round education program. Alexander, Entwisle, and Olson (2007) concluded, since it is economically disadvantaged youth specifically whose out-of-school learning lags behind, this summer shortfall contributes to the perpetuation of summer learning loss. Cooper, Charlton, Valentine, and Melson (2003) determined that economically disadvantaged students showed higher achievement on a year-round education schedule. Shields and Oberg (2000b) found that the long traditional summer vacation is particularly detrimental for students at-risk and the year-round concepts are especially helpful to students at-risk. However, their study

showed no statistically significant difference between the traditional calendar and YRE calendar on academic scores.

Alexander, Entwisle, and Olson (2005) found that students lose the grade-level equivalent of 2.6 months over the summer break. The losses are particularly acute for the economically disadvantaged students whose families cannot afford summer camps, books, and museum trips to offset the summer slide. In their study of 790 Baltimore Public School children from the first grade through age 22, the researchers found that programs to reduce the achievement gap between lower and higher income students should begin in elementary school or even earlier. To be most effective, programs should provide year-round attention to economically disadvantaged students to offset the out-of-school conditions that hold them back. Alexander et al. (2005) reported that economically disadvantaged children depend more on school-like experiences to acquire the academic skills needed in order to succeed, whereas higher-income children have the means to participate in activities that allow for continuous learning.

In 2003, the U. S. Department of Education recognized the need to eliminate summertime slump, in which children often lose reading and other skills during the long summer break. Eleven school districts nationwide were involved in the No Child Left Behind Summer Reading Achievers Program, which is designed to encourage reading over summer.

In 1993, the National Education Commission on Time and Learning (NECTL) urged school districts to develop school calendars that acknowledged differences in student learning and major changes taking place in American society. The report reflected a growing number of concerns involving the school calendar, especially for

students at risk of academic failure. One concern is that children learn best when instruction is continuous. The long summer vacation breaks the rhythm of instruction, leads to forgetting and requires a significant amount of review in the fall. In response, three approaches to preventing summer loss are offered most often: extending the school year, providing summer school and modifying the calendar.

Cooper, Charlton, Valentine, and Muhlenbruck (2000) used both meta-analytic and narrative procedures to integrate the results of 93 evaluations of summer school. Results showed that summer programs typically focus on remedial, accelerated, or enrichment programs. This had a positive effect for middle-class students but not economically disadvantaged students. Cooper et al. (2003) noted that modified calendars showed very little increase in achievement and varying results. There was evidence that modified calendars do improve achievement for economically disadvantaged students and that programs implemented more recently may show improved results.

According to North Central Regional Educational Laboratory (2007) all students, especially those at-risk need to be engaged in interesting and challenging learning that goes beyond basic proficiencies. The curriculum should focus on helping the student to make connections between what the students are learning and the world beyond the classroom. High expectations are being recognized as key to the success of all students, especially those at-risk.

Benefits of year-round education. One of the ways that districts are enhancing the learning process is by choosing a balanced calendar. Year-round education opens the door to reorganizing the school year to provide continuous learning, improve student achievement by remediation during intersessions, and provide opportunities for

enrichment, relaxation and rejuvenation (NAYRE, 2007). Year-round education can eliminate the significant learning loss that occurs during summer vacations and devote more time to teaching, not re-teaching (Ballinger, Kirschenbaum, & Poinbeauf, 1987).

There are many misconceptions concerning year-round education, the greatest being that students are attending school all year, as the name implies. Perhaps a better name for the concept would be “continuous learning” (Warrick-Harris, 1995). Year-round education is actually an approach that gives schools a variety of options to arrange the 180-day school calendar to better support student learning (C. Ballinger, personal communication, August 2002). The difference between the traditional September to May school calendar and year-round education lies with the frequency of the breaks or intersessions between the instructional quarters and how those breaks or intersessions are used to enhance learning. The traditional calendar features a long summer vacation of 12 weeks, and uses this period at the end of the school year for remediation programs. The year-round calendar reduces the long summer breaks by distributing school days throughout the year. The year-round calendar places remediation programs at the end of each quarter to allow teachers the opportunity to teach concepts that were taught during the quarter. In other words, students do not have to wait for summer school for remediation programs and/or enrichment programs (C. Ballinger, personal communication, November 2005).

The role of intersessions in year-round education. Intersessions are the periods of time rescheduled from the usual summer vacation within the school year. They are used as both vacation and instructional time for enrichment and remediation with both

single-track and multi-track calendars (C. Ballinger, personal communication, November 2005).

Year-round education tries to address the academic needs of students by breaking up the school calendar to allow for tutorial opportunities at the end of each quarter instead of at the end of the school year. The intersessions provide more detailed instruction through enrichment and remediation opportunities immediately following the end of the instructional quarter (Kneese, 2000). When students better understand the concepts taught in the classroom, because they have immediate remediation, they tend to become more successful, feel good about themselves and want to come to school (Ballinger, 1995).

Intersessions provide an opportunity for immediate remediation of a concept for students who have had difficulty during the preceding school quarter. Enrichment activities allow students to form special interest groups, participate in library experiences, computer club activities, YMCA-sponsored activities, and field trip excursions (Stenvall, 2001). Intersessions reduce frustration and failure and validate student success. Year-round education intersessions increase students' exposure to the curriculum by allowing the teacher to target instruction according to students needs more directly (Ballinger, 1995). Intersessions offer teachers opportunities to teach other grade levels or subjects, catch up on personal appointments, and participate in staff development or professional growth activities. In simplest terms, year-round education provides, especially through intersession activities, more time for personalized instruction and flexibility to make up or catch up with work (Gandara & Fish, 1994; Glines & Mussatti, 2002).

While changing the calendar year can provide many benefits, instruction during intersessions is important. The additional days and weeks can spell the difference between success and failure for many students. A modified calendar, with a rich variety of intersession activities providing opportunities for advancement and enrichment, provides an effective key that can unlock learning for every student in every season (Stenvall, 2001). Whereas some researchers find that year-round education may be beneficial for economically disadvantaged students, others researchers do not find support for this effect.

Liabilities or limitations of the year-round education. There are those who oppose year-round education. For example, Merino (1983) found no differences in achievement between students in year-round and traditional schools. Other critics have focused on the fact that there is no administrative down time in the summer and teachers do not have an opportunity to take courses or seek summer employment.

Summer Matters, a ten-year research program that investigated the effects of year-round education on test scores, revealed that the test scores of six Alabama school districts that converted their entire district to a year-round calendar four or more years ago. The results of this investigation demonstrated no test scoring advantage for third-graders compared to traditional calendar school districts with like populations of free and reduced lunch students. The results of this investigation also indicated that the scores appeared to refute claims by year-round promoters that school calendar change has academic benefits for at-risk children (Bussard, 2009).

Opponents of year-round education maintained that just changing the school calendar does not improve the quality of education or save money, as none of the

calendar changes have proven to significantly improve education. Year-round calendars are only a band-aid for overcrowding problems and school calendar changes are often met with controversy. They also found that most school districts find that the best solution to long-term overcrowding is to build new schools. When looking at year-round education as a means of saving the district money, districts found there is no substantial savings between building a new building for overcrowding and the use of the multi-track year-round calendar. Other problems associated with year-round education include, teachers questioning how to earn the second income of a summer job, complete recertification courses and the move to different classrooms during intersessions have also been identified.

McMillen (2001) examined achievement differences between students in year-round and traditional calendar schools using data from more than 345,000 students. He found that the achievement of students in the year-round program was no higher than that of students in a traditional program. Additionally, a rural North Carolina school district demonstrated that their year-round program showed no advantage in either attendance or achievement. At the end of the study the district concluded that the use of year-round should be based on the fit in the community (Pittman & Herzog, 1998). In conclusion, those who oppose year-round education feel the school calendar has not proven to significantly improve education, and serves as a disruption to family life and does not consider the needs of the educators.

Bray & Roellke (1988) stated that year-round education and other alternative schedules could not produce improved student outcome; it must be considered as just one

part of a broader, systemic reform strategy. Roby (1995) found no significant differences found in math and reading achievement.

Summary

A review of the literature gives insight as to the achievement gap of economically disadvantaged African American students. The NCLB, and the mandated high-stakes assessments, may not be an accurate measurement for minority students. There are many factors that need to be taken into consideration when testing minority students (Kober, 2001).

According to the National Commission on Excellence in Education (1983), America has been struggling for the last 50 years to meet the challenge of successfully educating all students. The 1983 publication of *A Nation at Risk* created a new sense of urgency and refocused the nation's attention on the continuing pattern of inadequate performance by significant proportion of children, children that have come to be defined as at-risk. In order to get on the right path towards educating all students, it is important to begin by reframing the manner in which the problem is viewed. Students are placed "at-risk" when they experience a significant mismatch between their circumstances and needs, and the capacity or willingness of the school to accept, accommodate, and respond to them in a manner that supports and enables their maximum social, emotional, and intellectual growth and development (Druian & Butler, 1987).

Yet, despite the tireless efforts of thousands of educators, policymakers, parents and concerned others, formulation of numerous strategies for change and improvement, countless research and policy studies, new knowledge about teaching and learning, and myriad examples of remarkable success, the overall pattern of achievement for far too

many students remains largely unchanged, particularly in economically disadvantaged or urban communities or communities of color (National Commission on Excellence in Education, 1983).

The National Association for Year-Round Education reported that the traditional, nine-month calendar has become outdated. The need for change has introduced the concept of year-round education. Year round education is designed to modify the typical school calendar in an attempt to increase student learning. The students are in school the same number of days as the traditional school calendar; however, the difference lies in the distribution of the school days throughout the school year, and the breaks between school sessions are reduced.

Students at-risk of academic failure may benefit from year-round education because of the opportunity for immediate remediation. Year-round education offers remediation and enrichment during intersessions, which provides more detailed instruction. The whole concept of year-round education centers on the reorganization of the school year to provide continuous instruction. The intersessions provide tutorial opportunities at the end of each quarter instead of at the end of the school year. Students do not have to wait until the summer months to take part in remedial programs. Forgetting learned material is a problem for at-risk students whose home environment does not reinforce or encourage learning activities. Year-round education offers extended learning time during the school year, which prevents failure and provides continuous learning and structure. Worthen and Zisray (1994) reviewed 20 years of educational studies on year-round education and found positive aspects of year-round education for teachers, students, and parents.

Those who oppose year-round education found no differences in achievement between year-round schools and traditional schools. Merino (1983) and Summer Matters (2001) found that year-round education disrupts family life, provides little or no academic benefit, and saves schools little or no money. However, regardless of these facts, many substantial disagreements surround the implementation of a year-round calendar. Traditional school calendars are still the norm in most parts of the country and change is not met without resistance.

The consensus of the studies reviewed appears to be mixed in looking at the benefits of year-round education. The purpose of this study is to identify whether year-round education can improve achievement of African American children in the fifth grade. The research on closing the achievement gap among African American students with regards to year-round education is relatively unexplored. Methods used to close the achievement gap combined with year-round education might be beneficial to African American students in helping to improve academic achievement.

Chapter Three

Method

In the current investigation, a quantitative research methodology and a causal-comparative research design were utilized to explore the impact of the year-round education school calendar on the standardized reading test performance of fifth grade African American students as measured by the Illinois Standards Achievement Test (ISAT). The ISAT reading scores of 42 African American students from two urban year-round education schools were compared with 58 African American students from two urban traditional calendar education schools. The purpose of the study was to determine whether there is a difference in ISAT reading test scores for African American students as a function of school type.

A two-way analysis of variance (ANOVA) was used to evaluate the impact of the independent variable on the dependent variable in this 2 (school type) X 3 (lunch status) between subjects factorial design. The factorial ANOVA statistical approach allows the researcher to see if the means of the population is similar or different by looking at the variances, and to determine if there are significant interactions between two or more independent variables. Several hypotheses were evaluated in the investigation.

Research Questions and Hypotheses

The following research questions and null and corresponding directional hypotheses were addressed:

Research Question One. Is there a significant main effect of the independent variable, school type, on the dependent variable, ISAT reading test scores?

H_{0a}: Fifth grade African American students enrolled in year-round education schools will display ISAT performances in reading that do not markedly differ from those of students enrolled in traditional calendar schools.

H_{1a}: Fifth grade African American students enrolled in year-round education schools will display ISAT performances in reading that are significantly higher than those of students enrolled in traditional calendar schools.

Research Question Two. Is there a significant main effect of the independent variable, lunch status, on the dependent variable, ISAT reading test scores?

H_{0b}: Fifth grade African American students receiving free/reduced lunch will display ISAT performances in reading that do not markedly differ from those students who do not receive free/reduced lunch.

H_{1b}: Fifth grade African American students receiving free/reduced lunch will display ISAT performances in reading that are significantly lower than those students who are not receiving free/reduced lunch.

Research Question Three. Is there a significant interaction between the independent variables, school type and lunch status, on the dependent variable, ISAT reading test scores?

H_{0c}: Fifth grade African American students enrolled in year-round education experiences who receive free/reduced lunch will display ISAT performances that do not markedly differ from those of students enrolled in traditional calendar experiences.

H_{1c}: Fifth grade African American students enrolled in year-round education experiences who receive free/reduced lunch will score

significantly higher on the ISAT than their peers enrolled in traditional calendar experiences.

Variables

There were two independent variables in this study. School calendar had two levels (year-round education and traditional calendar education) and lunch status had three levels (free lunch, reduced lunch, paid lunch). For both of these “selected” independent variables, level placement was determined by the student’s school they attended (school type) or their family’s income level (lunch status), and there was no random assignment.

ISAT reading score. The dependent variable for this study was school performance as measured by the Illinois Standards Achievement Test (ISAT). The fifth grade ISAT scale score for each student in reading was collected for all the participants. The ISAT reading score was selected to describe school performance because this subject tends to be the focus of school reform due to the reporting requirements of NCLB. Some researchers also maintained that without reading comprehension, students are ill-equipped to prepare for content consumption in other subject areas.

Archival ISAT score data was collected for each participating student from the school district. While the study participants were exposed to the full curriculum, the research focused solely on 2001 ISAT reading scores. Data for the 100 African American student participants were from school years 1998 to 2001. The 2001 ISAT scores of the fifth grade students attending the year-round education schools were compared with the 2001 ISAT scores of the fifth grade students attending the traditional calendar education schools.

School type. Data from students from four schools in the Francis School District were received, two balanced, single-track year-round education schools and two traditional calendar education schools. The balanced, single-track year-round education calendar utilized the same 180-day school year as the traditional calendar education; however, the difference between the balanced, single-track year-round education calendar and the traditional (September to May) school calendar lies with the frequency of the breaks or intersessions between the instructional quarters and how those breaks or intersessions are used to enhance learning. Summer recess for students on the year-round education calendar is no more than six weeks. Students attending traditional calendar education schools have a 12-week summer recess (NAYRE, 2003b).

School lunch. The National School Lunch Program (NSLP) provides guidelines for participating schools and institutions that provide free and reduced-price meals to eligible children. Children from families with incomes at or below 130 percent of the poverty level are eligible for free meals. Those between 130 percent and 185 percent of the poverty level are eligible for reduced-price meals. Children from families with incomes over 185 percent of the poverty level pay full price. The independent variable of school lunch was included in the investigation to explore whether there were differences in family income on ISAT reading scores, and if the school lunch variables interacted with the school type variable in some way.

Research Site

The Francis School District is an urban school district in the Midwest that covers more than 33.75 square miles. The school district consists of twelve elementary schools, two junior high schools, one high school, one alternative high school, and two preschool

programs. Two of the elementary schools have had year-round education calendars for several years.

The two balanced, single-track year-round education schools were compared with two traditional calendar education schools. The schools chosen for comparison were selected based on the similarity of percentage of African American students and socioeconomic levels. Year-round education (YRE) School A has a total enrollment of 372 students, 32.0% African American, and 46% of the students receive free/reduced price lunch. The comparison school traditional calendar education (TCE) School C has a total enrollment of 437 students, 41.6% African American, and 58.4% of the students receive free/reduced price lunch. YRE School B has a total enrollment of 323 students, 89.2% African American, and 91% of the students receive free/reduced price lunch. The comparison school TCE School D has a total enrollment of 345 students, 83.8% African American, and 100% of the students received free/reduced price lunch. Table 1 shows the enrollment information used in the study.

The average years of teaching experience for the teachers ranges from nine years to 19 years. The teachers in the schools with the lowest percentage of African American students and the lowest percentage of low-income students are the schools with the highest number of teachers with master's degrees. TCE School C has the highest level of median years of teaching experience and the highest number of teachers with master's degree or above. The average years of teaching experience at TCE School C is 19 years with 18 of the 27 teachers having a master's degree or above. The average years of teaching experience at YRE School A is 16 years with 13 of the 21 teachers having a master's degree or above. The average years of teaching experience at TCE School D is

10 years with 11 of the 26 teachers having a master's degree or above. The average years of teaching experience at YRE School B is 9 years with 9 of the 23 teachers having a master's degree or above. All four schools used 60 instructional minutes of reading as shown in Table 1.

Table 1.

Demographic Information (Top) and Instructional Information (Bottom) for Schools in the Study

	YRE		TCE	
	School A	School B	School C	School D
Demographic				
Grade	K-6	Pre K-6	Pre K-6	Pre K-6
Enrollment	372	323	437	345
African-American Students	32	89.2	41.6	83.8
Low-income	40.6	91	58.4	100
Instructional				
Minutes in Reading	60	60	60	60
Average teaching experience	16	9	19	10
Teachers with Bachelor's	8	14	11	15
Teachers with Master's or above	13	9	18	11

Note. The number of African American and low-income students are percentages. Average teaching experience is represented by years. YRE= year-round education. TCE= traditional calendar education.

Participants

There were approximately 828 African American students in the four elementary schools. One hundred students in grade five in 2001 were selected based on the following criteria: (a) students were in the same year-round education schools or traditional calendar education schools from grade three to grade five, and (b) students were

identified as African American in their school record. There was no exclusion criteria regarding lunch status, 86 (86%) of the participants received free lunch/reduced lunch.

The study was limited to African American fifth grade students in the four elementary schools because data in the school district has shown that African American students were not achieving as well as other ethnic groups that were in the same year-round education program or traditional education program since third grade. The disproportionate test scores among African American students is highlighted because of No Child Left Behind (NCLB) Act, and researchers and educators are motivated to find ways to improve the high-stakes assessments of African American students.

Instrument

Whereas all public schools must demonstrate compliance with NCLB, it is left to the state to determine how to measure such compliance. For the state of Illinois, this measure is the Illinois Standards Achievement Test (ISAT). Public schools in the state of Illinois participate each year in the ISAT, which was designed to measure the extent to which students are meeting the Illinois Learning Standards. Testing data from grades three through eight are gathered from assessments in reading and math, and grades four and seven in science and are reported in the form of normed-scaled scores. Test scores are scaled separately for each grade level and subject area. According to the Illinois State Assessment 2001 Technical Manual, ISAT raw scores are transformed into standard scores so numerically equivalent scores represent the same level of proficiency.

Each Illinois Standards Achievement Test is designed to ensure that it is a reliable and valid measure of the Illinois Learning Standards. The selection of items and assembly of each test is guided by a set of specifications according to the Illinois Assessment

Frameworks. These specifications were developed by Illinois educators to help ensure the test content corresponds to the purposes, objectives, and skills framed by the learning standards and to define those elements of the standards that are suitable for state testing. The reliability of scores is determined on a range from zero to one, with the higher being more dependable. The reliability coefficient for the Illinois Standards Achievement Test in reading is .94 for third grade reading and fifth grade reading. The high coefficient indicates a high degree of confidence in the Illinois Standards Achievement Test score, as explained by the Illinois State Assessment 2001 Technical Manual.

Procedure

Data collection. This study was conducted in the Francis School District. The Assistant Superintendent of Curriculum and Instruction consented to the use of Illinois Standards Achievement Test (ISAT) reading data to determine whether year-round education or traditional calendar education made a significant difference in test performance of fifth grade African American students (see Appendix D for letter of consent). Archival ISAT data from 100 students was collected. Although there were more students in the schools, only data from 100 students was collected as they met the criteria for being in the same school from grade three to grade five.

The school district protected the anonymity of the students by providing the researcher with data that did not identify the students. The district gave the following anonymous information:

- student by a fictitious number;
- male or female;
- lunch status (free, reduced or paid lunch);

- special education services;
- Illinois Standards Achievement Test performance scores for reading for the students in the four schools who were in third grade in 1998 and in fifth grade in 2001.

Data that was not used in the current study is available for future studies. Since the Illinois Standards Achievement Test is given in third grade, third grade data was collected as a means of tracking the consistency of the African American students who were in the year-round education school or traditional calendar education school over a two-year period; however, no comparison of third and fifth grade Illinois Standards Achievement Test reading scores was made.

Data analysis. Data from 100 African American students from two year-round education schools and two traditional calendar education schools were evaluated to compare fifth grade reading scores from the Illinois Standards Achievement Test (ISAT) gathered in 2001. Descriptive and inferential analyses were conducted. Descriptive analyses consisted of determining means and standard deviations of study variables. Inferential statistics consisted of a 2 X 3 between subjects factorial ANOVA.

A between subjects factorial ANOVA was used to demonstrate main effects of each independent variable, as well as the interaction effect of both variables together on the dependent variable. As the main effect for free lunch was not significant, post hoc Tukey analyses were not conducted, and as the interaction was not significant, simple effects tests were not conducted. In keeping with accepted humanities-based research expectations, significance was set at the .05 level. In other words, only if the between group differences exceeded the point to which less than five of every 100 individuals'

performances can be attributed to chance, could one legitimately suggest that a significant difference between groups was noted.

Summary

Chapter three included an overview of the research design, hypothesis, measures, and methods that structured this study. This chapter has provided a description of the participants, the school district, and the instrument used to answer the research question and the statistical analysis that was used. Proper procedures were followed to protect the anonymity of the students' Illinois Standards Achievement Test data provided for the study.

Chapter Four

Results

The purpose of this study was to determine the impact of the year-round education (YRE) school calendar on the standardized test performance of fifth grade African American students, as measured by the Illinois Standards Achievement Test (ISAT) in reading. To determine this, reading scores of groups of students from two YRE schools (School A and School B) were compared with two traditional calendar education (TCE) schools (School C and School D). In order to control for socioeconomic differences, an attempt was made to select year-round education schools and traditional calendar education schools that were similar in socioeconomic and number of African-American students attending the schools.

Demographic Information of Study Participants

Of the 100 students in the study, 42 (42%) attended YRE, 58 (58%) attended TCE, 48 (48%) were male, and 52 (52%) were female. Eighty-one (81%) of the students received free lunch, 5 (5%) received reduced lunch, and 14 (14%) paid lunch. Frequencies and percents for school type, race, and lunch status are presented in Table 2.

Table 2

Frequencies and Percents for School Type and Lunch Status

	Frequency	Percent
School Type		
Year-round education	42	42
Traditional calendar education	58	58
Lunch Status		
Free	81	81
Reduced	5	5
Paid	14	14

Descriptive Statistics

Means and standard deviations of reading scores by school type were calculated (Table 3). The range of ISAT reading scores for YRE was 129 -- 173, and the mean ISAT reading score for the 42 participants was 148.19 (*SD*12.44). The range of ISAT reading scores for TCE was 129 -- 179, and the mean ISAT reading score for the 58 participants was 146.81 (*SD*12.41). The total mean score for ISAT reading scores was 147.39 (*SD* 12.38).

Means and standard deviations of reading scores by lunch status were calculated (Table 3). The range of ISAT reading scores for students receiving free lunch was 129 -- 176, and the mean ISAT reading score for the 81 participants was 146.07 (*SD*11.67). The range of ISAT reading scores for students receiving reduced lunch was 131 -- 179, and the mean ISAT reading score for the five participants was 152.00 (*SD*20.98). The range of ISAT reading scores for students who pay for lunch was 137 -- 171, and the mean ISAT reading score for the 14 participants was 153.36 (*SD*11.69). The total mean score for ISAT reading scores by lunch status was 147.39 (*SD*12.38).

Table 3

Mean and Standard Deviation of ISAT Reading Scores by School Type and Lunch Status

Variable	<i>n</i>	<i>M</i>	<i>SD</i>	Range	
				Minimum	Maximum
School Type					
YRE	42	148.19	12.44	129.00	173.00
TCE	58	146.81	12.41	129.00	179.00
Total	100	147.39	12.38	129.00	179.00
Lunch Status					
Free	81	146.07	11.67	129.00	176.00
Reduced	5	152.00	20.98	131.00	179.00
Paid	14	153.36	11.69	137.00	171.00
Total	100	147.39	12.38	129.00	179.00

Note: YRE= year-round education. TCE= traditional calendar education.

Main Analyses

The current investigation posed three research questions. A 2 X 3 between subjects factorial ANOVA was used to evaluate the three hypotheses. A 2 X 3 between subjects factorial ANOVA was conducted because the two independent variables were between subjects in nature, and there was only one dependent variable, ISAT reading test scores. As there were no significant main effects or interaction effects, no post hoc tests were conducted. To determine practical as well as statistical significance of differences between levels of the independent variables, Cohen's *d* was calculated using SPSS and the Partial Eta Squared is reported for each main effect and interaction. A Cohen's *d* of .2 is considered small, .5 is moderate, and .8 is large (http://en.wikipedia.org/wiki/Effect_size).

Research question one. To answer question one, is there a significant main effect of the independent variable, school type, on the dependent variable, ISAT reading test

scores, a 2 (school type) X 3 (lunch status) factorial ANOVA was conducted. It was hypothesized that there would be a significant difference in ISAT reading scores between students enrolled in year-round education and traditional calendar education. The main effect for school type was not significant, $F(1, 94) = .53, p = .47$, partial eta squared = .006 (Table 4). That is, there were no significant differences between the year-round and traditional school groups on ISAT reading scores. The results of this analysis did not support the hypothesis.

Research question two. To answer question two, is there a significant main effect of the independent variable, lunch status, on the dependent variable, ISAT reading test scores, a 2 (school type) X 3 (lunch status) factorial ANOVA was conducted. It was hypothesized that there would be a significant difference in ISAT reading scores between the three lunch groups. The main effect for lunch status was not significant, $F(2, 94) = 1.48, p = .23$, partial eta squared = .031 (Table 4). That is there were no significant differences between the free lunch, reduced lunch, and paid lunch groups on ISAT reading scores. Because there was no significant difference between the levels of the independent variable on the dependent variable, no further post hoc tests were conducted. The results did not support the hypothesis.

Research question three. To answer question three, is there a significant interaction effect between the two independent variables on the dependent variable, ISAT reading test scores, a 2 (school type) x 3 (lunch status) factorial ANOVA was conducted. It was hypothesized that there would be a significant interaction between the two independent variables. The results of this analysis indicated that the interaction was not significant. Specifically, the interaction effect for school type x lunch status was not

significant, $F(2, 94) = 2.44$, $p = .092$, partial eta squared = .049 (Table 4). That is, fifth grade African American students enrolled in year-round education schools who receive free/reduced lunch did not score significantly higher on the ISAT than their peers enrolled in traditional calendar education schools. Because there was no significant interaction no further post hoc tests were conducted. The results did not support the hypothesis.

Table 4

Dependent Variable: ISAT Reading Score

Source	SS	df	MS	F	p	eta ²
School_Type	77.88	1	77.88	.53	.47	.01
Free_Lunch	431.71	2	215.86	1.48	.23	.03
School_Type*Free_Lunch	712.40	2	356.20	2.44	.09	.05
Error	13706.77	94	145.82			
Total	2187551.00	100				
Corrected Total	15169.79	99				

Summary

Illinois Standards Achievement Test (ISAT) data from 100 African American participants in four schools in the Francis School District was analyzed to determine the relative impact of the year-round education school calendar on standardized test performance. The results indicated that contrary to the hypothesis, there was no significant difference in ISAT reading scores between students enrolled in year-round education and traditional calendar education. That is, fifth grade African American children from year-round education and traditional calendar education schools scored similarly on ISAT reading assessments. The main effect for lunch status was not significant, contrary to the hypothesis. That is, fifth grade African American children from the three lunch levels (paid lunch, reduced lunch, free lunch) all scored similarly on

ISAT reading assessments. Finally, the interaction analysis revealed no significant interaction between the two independent variables on the dependent variable as hypothesized. That is, the level of lunch status did not depend on school type and fifth grade children from all level combinations scored similarly on the ISAT reading test. The implications of these results are discussed in chapter five.

Chapter Five

Discussion

Since the results on the efficacy of year-round education on student outcomes is mixed and there is no research on the efficacy of year-round education in an African American population, the purpose of the current research was to determine the impact of the year-round education school calendar on the standardized test performance of fifth grade African American students, as measured by the Illinois Standards Achievement Test (ISAT) in reading. Results of this investigation did not support year-round education schools verses students attending traditional calendar education schools.

In this current study, data was obtained from 100 African American students attending two year-round education schools and two traditional calendar education schools to compare fifth grade reading scores from the ISAT gathered in 2001. Descriptive and inferential analyses were conducted. Descriptive analyses consisted of determining means and standard deviations of study variables. Inferential statistics consisted of a 2 X 3 between subjects factorial ANOVA.

A between subjects factorial ANOVA was used to demonstrate main effects of each independent variable, as well as the interaction effect of both variables together on the dependent variable. In keeping with accepted humanities-based research expectations, significance was set at the .05 level. This chapter summarizes and discusses the results of the study, and discusses the implications of these findings for policy, practice, and future research.

Research Question One

The first research question asked if there was a significant main effect of the independent variable, school type, on the dependent variable, ISAT reading test scores. It was hypothesized that there would be a significant difference in ISAT reading scores between students enrolled in year-round education and traditional calendar education. The results of this analysis revealed no significant differences between the year round and traditional school groups on ISAT reading and therefore did not support the hypothesis.

Thus, the current findings support some of the previous research. Although previous researchers have shown that school calendar does make a difference in achievement outcomes, some investigators do not find an augmented effect for year-round education on achievement. Cooper et al. (1996) examined the effects of summer vacation on standardized test scores. The learning loss study found that summer learning loss equaled at least one month of instruction as measured by grade level equivalents on standardized scores. Stenvall (2001) found that moving from a traditional calendar to a modified calendar offers a safety net and extended learning time during the school year, which can help prevent failure. After investigating 20 years of educational studies on year-round education, Worthen and Zisray (1994) found that student achievement in year-round schools is equal or greater than achievement in traditional calendar schools, and that overall students were more focused and had more positive attitudes and parents were reportedly more satisfied with the year-round program. Alternatively, other researchers reported no differences between the year-round education and traditional calendar (Bussard, 2009; Merino, 1983; McMillen,

2001; Shields & Oberg, 2000c). The current research corroborates these findings in the current African American sample. Although none of the previous literature used ISAT reading scores as the outcome variable, these scores have been shown to be positively correlated with achievement, and the results from the investigation add to the literature on this topic.

Research Question Two

The second research question asked if there was a significant main effect of the independent variable, lunch status, on the dependent variable, ISAT reading test scores. It was hypothesized that there would be a significant difference in ISAT reading scores between the three lunch groups, which were free lunch, reduced lunch, and paid lunch. The results of this analysis revealed no significant differences in the main effect for lunch status. That is, there were no significant differences between the free lunch, reduced lunch, and paid lunch groups on ISAT reading scores. The results did not support the hypothesis.

The current results do not support the previous research on this topic. Previous research indicated that income levels do make a difference in achievement outcomes. Cooper et al. (1996) demonstrated a summer learning loss in reading achievement for students from low-socioeconomic backgrounds, and gains for students from the middle-class over the summer. Other researchers indicated that economically disadvantaged children fall behind during the summer by as much as two months in reading achievement, while middle-income students tend to make slight gains in that subject over the same period (Viadero, 2000). Alexander et al. (2005) reported that economically disadvantaged children depend more on school-like experiences to acquire

the academic skills needed in order to succeed, whereas higher-income children have the means to participate in activities that allow for continuous learning; however, the current results seem to contradict this postulate. The disproportionate learning losses experienced by economically disadvantaged minority children over the summer need to be addressed and improvements need to be made.

Studies show that economic status is not the only factor in student achievement. Students continue to face conflicts between school, family, culture, and peers. Social support, primarily from family, peers, and teachers, has been associated with academic achievement. Parent education, employment and expectations around education influence a child's educational aspirations and attainment (Wagmiller, Kuang, Aber, Lennon, & Alberti, 2006). According to a study by Fram, Miller-Cribbs, and VanHorn (2007), lower income children have less stable families and more limited extra-familial social support networks. Fram et al. (2007) also reported that low-income children are often less cognitively stimulated than higher income children and noted that in low-income families there is less reading and being read to less, less experience with complex communications with parents, as well as a more limited vocabulary. It is believed that students from middle-class backgrounds have parents who act as resources for their children's learning by sharing their knowledge, investing time and energy, and acquiring material goods and opportunities that can optimize child development (Fram et al., 2007). Parents from middle-class backgrounds may be better positioned to enhance their children's learning because they have more education, more life experience, more economic resources, and the added parent-child time. The current results indicated that there were no differences between socioeconomic groups on ISAT

reading scores. Although the previous literature did not use ISAT reading scores as the outcome variable, achievement and reading scores have been shown to be positively correlated; therefore, it is unclear why the current research did not support the literature. Further research on the impact of poverty income levels on academic achievement would be helpful to add to the literature and expand our knowledge in this area.

Research Question Three

The third research question asked if there was a significant interaction effect between the two independent variables on the dependent variable, ISAT reading test scores. It was hypothesized that there would be a significant interaction between the two independent variables. Specifically, the interaction effect for school type by lunch status was not significant. That is, fifth grade African American students enrolled in year-round education schools who receive free/reduced lunch did not score significantly higher on the ISAT than their peers enrolled in traditional calendar education. The results did not support the hypothesis.

Studies have shown that the calendar makes a difference in the overall learning of all students. A research synthesis conducted by Cooper et al. (1996) examined the effects of summer vacation on standardized test scores. The learning loss study found that summer learning loss equaled at least one month of instruction as measured by grade level equivalents on standardized scores. On average, students test scores were at least one month lower when they returned to school in fall than scores were when they left in spring. In a seven-year longitudinal study conducted by The New York Board of Regents looking at student retention of information over the summer break, students were tested at the end of the school year and at the beginning of the new school year

three months later. The study showed that economically disadvantaged students fell behind on test indicators over the summer break, while others continued to gain. Stenvall (2001) found that moving from a traditional to a modified calendar acknowledges that most students do not maintain formal learning over a two- to three-month break from school. The modified calendar offers a safety net and extended learning time during the school year, both of which can help prevent failure. Rather than waiting to the end of the year, Stenvall (2001) found that year-round education provided constructive educational opportunities for students and their community on a continuous basis and lessened the need for review (Alcorn 1992; C. Ballinger, personal communication, August 2002). According to White (1992), more curricula could be covered because less time was spent in review.

The current results indicate that the year-round program did not differ from the traditional programs for any socioeconomic category, and there was no interaction between type of school and free lunch status on reading scores. Although the previous literature did not use ISAT reading scores as the outcome variable, achievement and reading scores have been shown to be positively correlated; therefore, it is unclear why the current research did not support the literature. Further research on the impact of poverty levels on year-round education and traditional calendar education schools would be helpful to add to the literature and expand our knowledge in this area.

Strengths and Limitations of Study

As a consequence of the nature of the collected data and the research design, the following study limitations have been identified as potentially confounding the ensuing study outcomes:

- The generated student profile and testing outcome results are only as good as the extent to which the data collection protocol and Illinois Standards Achievement Test (ISAT) instrumentation were found to be reliable and valid (in other words, as protocol and ISAT reliability/validity are diminished, so are the corresponding conclusions).
- Any inferences derived as a consequence of this study are restricted solely to the study sample and others sharing like characteristics.
- The derived study results and inferences are restricted solely to the time frame allocated to study completion.
- The results of this study serves solely as one source of evidence regarding the impact of year-round education experiences on students ISAT performances. Consequently, no administrative decisions should be based solely on the outcomes of this exploratory study.
- Third grade Illinois Standards Achievement Test score data were collected as a means of tracking the consistency of the African American students who were in the year-round education school or traditional calendar education school over a two-year period; however, there was no data available on the third grade students to determine their academic status in the third grade prior to ISAT testing.

Implications and Recommendations for Future Research

Some researchers maintain that the impact of socioeconomic status plays a role in the achievement gap of African American students. Although the current investigation showed no ISAT reading score differences between socioeconomic groups in the sample, the majority of research on this topic shows that the achievement gap between African American students who belong to lower socioeconomic strata and those who belong to higher socioeconomic strata is extremely large—and even greater when compared with other ethnicities (Kober, 2001). Schools that successfully teach students of poverty and students of color do not begin with the assumption that there are things they do not have to explain. They begin by figuring out what children need to know and be able to do; they assess what their students already know and are able to do;

they figure out how to move students from where they are to where they need to be; and then they analyze the students (Chenoweth, 2010). During these discussions, they look at student achievement data, build curriculum maps, and develop benchmark assessments, grading rubrics, and lesson plans. Even more profoundly, such discussions take time, which means that successful high-poverty and high-minority schools must build their schedules carefully in order to ensure that teachers have the necessary time to meet together in grade level teams.

Because middle-class students bring more social capital than students of poverty, parents are more likely to notice a problem in decoding or in mastery of basic skills and facts and either demand more help or provide it at home, either on their own or with the help of outside tutoring. The parents are also more likely to fill in the background knowledge that too often teachers assume their children have. Economically disadvantaged students, on the other hand, are often terribly left behind without the added support of family and peers. This may be due to lack of knowledge or lack of interest.

The concept of year-round education (YRE) brings mixed reviews. Data collected from the National Association of Year-Round Education over a 15-year period shows a significant growth in YRE in 1986 and 2001. In 1986, there were 362,669 students in YRE, 408 schools, 69 districts, and 14 states. In 2001, the data collected shows there are 2,162,120 students in YRE, 3,059 schools, 651 districts and 44 states. The latest data in 2007 shows a decrease in the number of students, number of schools and school districts. Data in 2007 shows there are 2,099,633 students in YRE, 3,000 schools, 387 districts and 44 states.

Even though the numbers have declined, there remains an interest in year-round education. The Indianapolis School District adopted the balanced calendar in 2011. The California Department of Education, which has the largest number of year-round education school districts, reported favorable tests results at some of their year-round education schools. Johnson (2010) stated that some of the nation's biggest districts have adopted or expanded year-round education in their schools. Johnson specifically named Chicago Public Schools, Houston and Indianapolis.

Some schools that have utilized the year-round education concept have transitioned back to the traditional calendar education school. According to the California Department of Education, some of the schools on the multi-track calendar will transition back to the traditional calendar due to operation costs. The California Department of Education stated the extreme cost to operate buildings year-round, and to provide bussing and enrichment programs in buildings using the multi-track calendar (S. Farrell-Hart, personal communication, March 2012). The full service school, Achievable Dream Academy in Virginia, has transitioned back to a traditional calendar education school. The Academy decided to extend their school day. The Clark County School District in Las Vegas faces a \$30 million shortfall in its budget and plans to return to the traditional calendar.

Accurate data would be helpful in determining the number of YRE schools in the United States. Many schools and school districts are adopting the balanced calendar as a means of improving student achievement and closing the achievement gap. According to Dr. Charles Ballinger, an observer and participant in the year-round

education concept for over 40 years, there is a gradual change in the school calendar with schools taking extended breaks in the middle of the school year. Schools are taking more time during holidays and spring break. By doing this, the summer vacation is reduced to eight weeks. “So many schools are sliding into a year-round schedule” (C. Ballinger, personal communication, April 2012). Districts and schools that are returning to the traditional calendar are looking at costs and budget shortfalls. Districts and schools must decide which calendar meets the needs of the student population.

Implications for policy makers. The No Child Left Behind Act (Public Law 107-110) was signed into law on January 8, 2002. This new law served to redefine the federal government’s role in K-12 education, specifically to help close the achievement gap between disadvantaged and minority students and their peers. *The No Child Left Behind Parent Guide* is explicit with its suggestions for parents’ to foster their school related involvement. Although the current research did not assess the impact of parent involvement in the education of students, it may be beneficial for educational policy to further expand their recommendations of parental involvement to include activities that help parents to understand high-stakes assessments and how to assist the schools in preparing children for the tests. Providing materials, resources, and the understanding of high-stakes assessments would increase the preparation process for students and families.

Many states have requested a waiver from the current requirements of the NCLB Act of 2001. In order for a waiver to be approved by the U.S. Department of Education, states must show the adoption of higher standards under which students were college- and career-ready, develop and implement a state-based system of

differentiated recognition, accountability, and support and develop guidelines for effective instruction and leadership (U.S. Department of Education, 2011). In order to meet the requirements of the waiver, states have adopted the Common Core State Standards for English Language Arts/Literacy and Mathematics. It is important that all stakeholders—educators, parents, students, and the community -- have a clear understanding that the purpose of the Common Core State Standards for English Language Arts/Literacy and Mathematics is to improve educational outcomes for all students, close achievement gaps, increase equity, and improve the quality of instruction.

Recommendations for future research. Findings from this study did not support the hypotheses that year-round education has an impact on the academic achievement of African American students. Even though the findings did not support year-round education, previous research supports year-round education and the impact of year-round education on students from low-socioeconomic backgrounds. Future investigations of Illinois Standards Achievement Test (ISAT) reading scores of African American students should continue using a larger sample of students, and longitudinal investigations that examine the impact of year-round education on ISAT reading scores from fifth grade in to middle school and high school. Future research could also examine the impact of income levels of African American students as it relates to academic achievement and test scores to discern if economic status and parent education make a difference in academic achievement. Further research could examine African American students' perceptions of school, peers, and the teaching staff as it relates to academic achievement. Comparison research is needed to identify strengths

and weaknesses of student achievement in year-round education schools and traditional calendar education schools in different states and different school districts to distinguish if patterns of strengths and weaknesses are revealed for children of poverty.

Conclusion

The purpose of the current research was to examine the impact of the year-round education school calendar on the standardized test performance of fifth grade African American students, as measured by the Illinois Standards Achievement Test (ISAT) in reading. Results of the investigation did not support the hypothesis that there is a significant difference in ISAT reading scores for students attending year-round education schools verses students attending traditional calendar education schools.

The following conclusions can be made from the findings from the current research study. Even though advantages for year-round education have been shown in African American students from low-socioeconomic backgrounds, the current findings did not support the research. There were no significant differences between the year round and traditional school groups on ISAT reading scores. Also contrary to the current literature, there were no significant differences between the free lunch, reduced lunch, and paid lunch groups on ISAT reading scores. Finally, there was no interaction between the independent variables, and fifth grade African American students enrolled in year-round education schools who receive free/reduced lunch. African American students did not score significantly higher on the ISAT than their peers enrolled in traditional calendar schools. Limitations and implications were discussed and recommendations for future research were made.

Although the current research did not support the previous literature that

indicates year-round education might mitigate some of the risks associated with low-socioeconomic status, further research should be conducted on this topic. The present research indicates that within classrooms, educational quality and student outcomes may depend on several factors. Future research on the particular qualities and attributes of the teacher, the social and physical context in which learning unfolds, and the specific activities and events structuring how children experience their time as learners may continue to shed light on the educational attainment discrepancies between different groups of students.

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Appendix A

ISAT Performance Level Descriptions

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.

Meets Standards

Student work demonstrates proficient knowledge and skills in the subject. Students effectively apply knowledge and skills to solve problems.

Below Standards

Student work demonstrates basic knowledge and skills in the subject. However, because of gaps in learning, students apply knowledge and skills in limited ways.

Academic Warning

Student work demonstrates limited knowledge and skills in the subject. Because of major gaps in learning, students apply knowledge and skills effectively.

Appendix B

Scale Score Ranges that Define ISAT Performance Levels in Reading

Grade Standards	Academic Warning	Below Standards	Meets Standard	Exceeds
03	120-137	138-155	156-173	174-200
05	120-129	130-155	156-170	171-200

Appendix C

Year-round School Calendars

There are many variations of YRE calendars that provide several options for students learning. School districts interested in YRE have the option of adopting the single-track YRE calendar or the multi-track YRE calendar. Each calendar is unique to the needs of the district.

Single-track YRE. Single-track YRE provides a modified calendar for a more continuous period of instruction. Students and staff follow the same instructional and intersession (vacation) schedule. Single-track does not reduce class size, nor does it allow a school to accommodate more students. Single-track YRE can share the same holidays as the students in traditional school education. The rescheduled vacation is placed throughout the school year into periods called intersessions allowing time for remediation and enrichment throughout the school year (NAYRE, 2001a).

There are three general types of single-track calendars (NAYRE, 2001a; C. Ballinger, personal communication, August 2002).

1. Balanced/Modified Calendars are usually 45/10 (45 days of instruction followed by 10 days of intersession), 45/15 (45 days of instruction followed by 15 days of intersession), 60/20 (60 days of instruction followed by 20 days of intersession) or 90/30 (90 days of instruction followed by 30 days of intersession). The usual summer vacation is divided throughout a school year. Intersessions are offered during the break times.

2. Extended School Year lengthens the school year from the current 180 instructional days up to 240 instructional days.
3. Flexible All-Year Calendar is a calendar where school is open for instruction approximately 240 days per year and students are required to attend the minimum number of days designated by each state. Although minimum required days of attendance might vary from state to state, the minimum required days of attendance for most states is 180 days. Students may select their schedule of attendance, as long as attendance meets state requirement of 180 days. This flexibility of the calendar causes education to be individualized; students and staff vacation throughout the year in short breaks. According to the National Association for Year-Round Education Directory of School District's on Non-Traditional Calendars, 50 schools currently use the flexible calendar.

Multi-track YRE. Multi-track YRE alleviates overcrowding. Multi-track YRE divides students and teachers into groups, or tracks of approximately the same size. Each track is assigned its own schedule. Teachers and students assigned to a particular track follow the same schedule and are in school and on vacation at the same time. Multi-track YRE usually follows the balanced/modified calendar concept (NAYRE, 2001a).

There are three types of multi-track calendars (NAYRE, 2001a; C. Ballinger, personal communication, August 2002).

1. Three-Track Calendar
 - Increases student capacity by up to 50%. Example: A school built for 1000 students can actually enroll 1500 students. One group (track) of 500

students will be on vacation or intersession while 2 groups (tracks) of 500 students are in school.

- Only track where there is not a 180-day school year. Students attend school 163 days, a difference of 17 days that are made up in instructional minutes to accommodate state-required cumulative annual instructional minutes. Students attend school an additional 30 minutes each day to equal the total number of instructional minutes for students attending school 180 days.
 - Concept 6 divides the school year into six sections of approximately 41 school days per section. Student must attend four of the six sections. Example of Concept 6: Group A- Intersession, In School, In School, Intersession, In School, In School.
 - Modified Concept 6 divides the school year into 12 sections of approximately 20 school days per section. Students must attend eight of the 12 sections. Intersessions are always back-to-back. Example of Modified Concept 6: Group A- Intersession, Intersession, In School, In School, In School, In School, Intersession, Intersession, In School, In School, In School, In School.
2. Four-Track Calendar
- Increases student capacity by up to 33%. Example: A school with a capacity of 750 students can enroll 1000 students. One group (track) of 250 students will be on vacation or intersession while three groups (tracks) of 250 students would be in school at the same time.

3. Five-Track Calendar

- Increases student capacity by up to 25%. Example: A school with a capacity of 800 students can enroll 1000 students. One group (track) of 200 students will be on vacation or intersession while four groups (tracks) of 200 students would be in school at the same time.
- Schools usually follow a 60/15 (60 days of instruction followed by 15 day intersession) calendar that can allow up to 197 days of instruction. Districts utilizing a multi-track 60/15 calendar generally provide a 180-day instructional schedule, with a common three-week vacation for all groups (tracks) in the summer, in addition to each group's (tracks) intersessions.
- Orchard Plan Calendar is set up in a school district in Utah. The Orchard Plan is set up by individual classrooms and uses the 60/15 calendar. The teacher is on duty for 11 months of the school year. The teacher teaches 3-week units because one-fifth of the students are on intersession at any given time. Example of Orchard Plan: The teacher in room 101 has 35 students. Group A (seven students will be on intersession, leaving 28 students in the classroom. In 3-weeks, Group A will return and Group B (seven students) will be on intersession, etc. There is a lot of group and individual learning in this plan.

Appendix D

Letter of Consent



June 5, 2004

Dear Ms. Merrill:

This letter confirms that we have discussed your interest in doing research in the [redacted] School District. In order to protect the anonymity of the students, I will code the ISAT data so the data does not identify the students.

If I can be of further assistance, please contact me at [redacted]

Sincerely,



J. Jay
Assistant Superintendent for Instruction and School Improvement

Abstract & Keyword Form

Carolyn Ann Merrill

The Impact of Year-Round Education on Fifth Grade African American Reading Achievement Scores in an Urban Illinois School

Keywords

1. Year-round Education
2. Education
3. African American Reading Achievement
4. Illinois Standards Achievement Test (ISAT)
5. Standardized Test

The purpose of this quantitative, causal-comparative study was to determine the impact of the year-round education school calendar on the standardized test performance of fifth grade African American students, as measured by the Illinois Standards Achievement Test (ISAT) in reading. The ISAT reading scores from two year-round education (YRE) schools (School A and School B) were compared with two traditional calendar education (TCE) schools (School C and School D). The selection of schools was based on numerous factors in order to ensure that the year-round education schools and traditional calendar education schools were similar in socioeconomic status and in the number of African American students attending the schools. Descriptive and inferential analyses were conducted. Descriptive analyses consisted of determining means and standard deviations of study variables. Inferential statistics consisted of a 2 (school type) x 3 (lunch status) between subjects factorial ANOVA to demonstrate main effects of each

independent variable, as well as the interaction effect of both variables together on the dependent variable. Results of this study concluded that there was not a significant difference between the year-round and traditional school groups on ISAT reading scores. There were no significant differences between the free lunch, reduced lunch, and paid lunch groups on ISAT reading scores. The interaction effect for school type x lunch status was not significant. Although the current research did not support the previous literature that indicates year-round education might mitigate some of the risks associated with low-socioeconomic status, further research should be conducted on this topic. The present research indicates that within classrooms, educational quality and student outcomes may depend on several factors. Future research on the particular qualities and attributes of the teacher, the social and physical context in which learning unfolds, and the specific activities and events structuring how children experience their time as learners may continue to shed light on the educational attainment discrepancies between different groups of students.