

A CASE STUDY OF THE EFFECT OF YEAR ROUND EDUCATION ON
ATTENDANCE, ACADEMIC PERFORMANCE, AND BEHAVIOR PATTERNS

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Submitted to the Faculty of the
Virginia Polytechnic Institute and State University
in partial fulfillment of the requirements for the degree of

Doctor of Education

In
Educational Leadership and Policy Studies

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April 17, 2003
Blacksburg, Virginia

Keywords: Achievement, Attendance, Behavior, Year-Round

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Abstract

Given that standards are legislated through the *No Child Left Behind Act of 2001* and the Standards of Learning have been implemented in the Commonwealth of Virginia, educational reforms call for extended learning opportunities and a requirement that leaders implement programs that are scientifically research-based which concentrate on the achievement of all students. Year round education is scientifically research based.

The purpose of this study was to compare year round and traditional education at an urban middle school on attendance, academic performance, and behavior patterns. The school had both year round education and traditional education from 1998-2001. This is a unique factor to this study, as no one has compared year round education and traditional education on attendance, academic performance, and behavior patterns in an urban setting with both year round education and traditional education in the same building.

The population in this quantitative quasi-experimental study was 113 grade 8 year round education (87) and traditional education (26) students from one urban middle school in southeastern Virginia, who had been in the programs for three years (grades 3-6). The over-riding research questions were: (1) does year round education make an impact on attendance as measured by grade 8 attendance data after controlling for initial differences in grade 5 attendance? , (2) does year round education have an impact on academic achievement as

measured by the SOL after controlling for grade 5 Degrees of Reading Power (DRP)? , (3) does year round education impact students' behavior patterns as measured by grade 8 out-of-school suspensions (OSS) and in-school-suspensions (SIPS) data?

Two one-way ANCOVAs, two chi squares, and t-tests were conducted to determine the statistical significant differences in attendance, academic performance, and behavior patterns (the first time placements in in-school suspension and out-of school suspension) of year round education and traditional education students with a pre-determined alpha of .05. The results indicated no statistically significant findings.

The conclusions and implications in this study were limited by the size of the sample, lack of random student assignment, students interacting with each other, and students having the same teachers. Year round education provides an educational option for students and families.

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Acknowledgements

Where do I begin? There have been so many wonderful people who have supported me while on this journey. Thanks a million to my husband, Alfred L. Sexton, Jr., who watched me gradually work through each step of this program. Each time I had doubts, he pushed me onward. He became the cook, the housekeeper, and my strength during the hard times.

I thank my parents, Addie Clark Bobbitt Draughan and the late James S. Bobbitt, Sr. for instilling in me the importance of knowing that I could accomplish anything I decided I wanted to do. My dad shared with me, when I was a little girl, a newspaper article about a lady in my hometown, Enfield, North Carolina, who was being congratulated on earning her doctorate. He said, “You can do this too.” Dad, it has taken me many years to do this, but I kept my eye on the dream and you in my thoughts for every mile I drove and the many hours of study I endured to make this dream come true.

I thank Dr. Billy Cannaday, Jr. for giving me the opportunity to open the first Year Round Middle School in the Eastern Region of Virginia and the state, as well as seeking approval to transition from a dual track to a single track YRE program for the school year 2001-2002. I am so grateful to Dr. Travis Twiford for being my inspiration and support.

I thank both Dr. Travis Twiford and Dr. Mary Yakimowski for agreeing to be my co-chairs. Thanks a million to Dr. Stephen Parson, Dr. Claire Cole Vaught-Curcio, and Dr. Billy Cannaday, Jr for serving on my committee. I shall be indebted to you for life and will forever be grateful for your leadership while on my dissertation journey.

I must say thanks to my YRE partners, Patricia Leary and Jan Corbett for encouraging me. We worked endlessly together to create a model YRE program for Hampton and surrounding school divisions throughout the Commonwealth of Virginia. To the staff, parents,

and students at Spratley Middle School, you are #1 because you are the substance of my dissertation. Again, thanks to each of you for making this journey possible and contributing to making this dream come true.

Dedications

I dedicate my dissertation to the three people who have had the most impact on my life. They are Alfred L. Sexton, Jr. (husband), James S. Bobbitt, Sr. (father) and Addie Clark Bobbitt (mother). I love you dearly.

Chapter I

The Problem and Its Context

“Our usage of time virtually assures the failure of many students”. p.6

Prisoners of Time (April 1994)

International Context

The National Commission on Time and Learning reported in *Prisoners of Time* (April, 1994), from the U.S. Department of Education 1993 data, that students in Japan, France, and Germany allocate twice as much time in core academics as students in the United States. According to the study, over a four-year period, American students spent 1,406 hours in academic time compared to 3,170, 3,260, and 3,628 required hours for students in Japan, France, and Germany, respectively. Schools in these foreign countries provide more instructional time than American schools. This additional instructional time improves learning. Knowledge is the key to the new Information Age. American students perform at a lower level. Their performances do not match those of students in other countries (*A Nation at Risk*, 1983). Many believe that progress in student acquisition of knowledge will continue to be less than that of other nations, because of the lack of instructional time (180 days versus 240 days) as compared to international educational systems (*Prisoners of Time*, 1994).

National Context

It has been 18 years since *A Nation at Risk* was released. As determined by The National Commission on Excellence in Education in 1983, all students should be prepared to make good decisions in an effort to seek good jobs, manage their lives, and be productive citizens. The report cited that education achievement was eroding. Gains in academic achievement diminished after the start of the space race and our educational system has lost sight of the basic purpose of

schooling, setting high expectations, and maintaining discipline. Businesses and military leaders complain of additional relative cost to training graduates in basic reading, writing, spelling, and computation. Opinion polls reviewed by the Commission on Time and Learning showed that 48% of Americans still oppose a longer school year. There must be a commitment to attending school. Nevertheless, the use of time is a challenge facing America's schools (*Prisoners of Time*, 1994). Have America's children become prisoners of educational time constraints?

Time was one of the four findings in *A Nation at Risk* that needed to be adjusted in order for students to be successful. Several recommendations for the use of time were given. The National Education Commission on Time and Learning (1994) and *A Nation at Risk* (1983) examined the quality and adequacy of the amount of time students in the U.S. spend on learning. One option suggested by the commission is directed at making provisions for additional learning opportunities. President Bush initiated the *No Child Left Behind Act* of 2001 (January, 2002), which emphasized accountability and improved student achievement for every child.

Although year round education is far from a new concept in the United States, it has emerged over the past ten years, nationally, to address achievement issues (Ballinger, 1995), attendance, and discipline (Heaberlin, 2000) as opposed to previous implementations due to student overpopulation resulting from limited space. As standards become a national initiative (NCLB, 2002), educators are actively seeking strategies to improve achievement on emerging content and achievement standards (The National Education Commission on Time and Learning, 1994).

The national focus is on time and learning reform. The United States has gone from 1,905 year round education public schools in 1993 to over 3,000 in 2001 (NAYRE, 2001). According to Cooper (1996), in a meta-analysis of 39 national studies, learning is lost over the long

traditional summer vacation. Palmer and Bemis (2000) argue, in their meta-analysis on learning loss, that “aside from more positive attitudes on the part of teachers, the research on non-academic outcomes attributed to year round education is for the most part inconclusive” (p.6). Kneese’s (2000) and Six’s (1993) synthesis of year round education studies from across the nation indicate that there is an improvement in achievement when year round education is compared to traditional education.

Of the countries studied, Bradford (1991) found that the United States has the shortest school calendar year. A 180-day traditional education school year continues to be the norm in America, although year round education schools across the nation have the 180-day calendar with the distribution of time altered throughout the year for continuous learning (Kneese, 1996). While both require the same number of days, the reconfiguration of time and the implementation of intersessions at the end of each instructional period make a difference in student attendance, academic performance, or behavior (Kneese, 2000; Alcorn, 1992; Cooper, 1996; Kneese, 1996; Palmer & Bemis, 2000).

State Context

According to the Assistant Superintendent of Accountability for the Virginia Department of Education, Virginia Standards of Learning have become an impetus for implementing the year round education calendar across the Commonwealth of Virginia (Finley, 2001). The SOL assessments are tied to school accreditation. In Finley’s (2001) report to the Virginia Commonwealth General Assembly’s Commission on Education Accountability, the number of year round education schools in Virginia have increased. The State Board of Education approved year round education schedules for 34 schools in 11 school districts for the school year 2001-2002. Of the 23 year round education schools operating in 2000-2001, one school improved and

met the Standards of Accreditation to become totally accredited, six improved to provisionally accredited/meets state standards, 14 of the remaining 16 earned provisionally accredited, and two were accredited with warning. The schools operate on a modified 45/15 schedule with 180 school days and the opportunity for additional learning times. The intersessions provide opportunities for additional instructional days following each grading period. The number of days may vary among school districts.

Statement of the Problem

Across the nation and in the Commonwealth of Virginia, the number of schools offering year round education has increased. In Virginia, the impetus remains the Standards of Learning and Standards of Accreditation (Finley, 2000). Concerns related to the extent year round education positively impacts student achievement, increases daily attendance, or decreases negative behavior of students are common. There are also questions as to how time is used and whether year round education has an effective outcome for all students or a select population.

Purpose of the Study

The purpose of this study is to compare year round and traditional education at an urban middle school on attendance, academic performance, and behavior patterns. The selected middle school operated both year round education and traditional education in the same building. This is a unique factor in this study, as no one has compared year round education and traditional education on attendance, academic performance, and behavior patterns in an urban setting with both year round education and traditional education in the same building. Research has been done on the utilization of year round education to address the facility needs and a number of studies have been completed on year round education, yielding mixed results. Notwithstanding

the mixed results, the number of schools utilizing the year round education schedule in the United States has increased in recent years (Woodard, 1995).

Significance of the Study

Data from this study will assist in determining the success of the eighth grade students on the year round education calendar, compared to the students on the traditional calendar. Success in the areas of attendance, academic performance, or behavior patterns for students in the year round education program, might lead to the selected school district or others deciding to increase the number of year round education schools. An initiative such as year round education should be research-based as outlined in the *No Child Left Behind Act of 2001*, if those in education leadership decide to implement such a program to promote student achievement (*Prisoners of Time*, 1996).

Definition of Terms

The following terms will be used throughout this study:

Academic performance	Kneese (2000) defined students' learning as their ability to maintain and improve educational achievement. The achievement used in this study is students' scores as determined by the Standards of Learning tests and Degrees of Reading Power for grade 8 students in Virginia.
Attendance	Attendance expectations as defined in <i>The Hampton City Schools Code of Conduct 2001-2002: Rights and Responsibilities Handbook for Middle School</i> (2001-2002, p. 22) is that students will be expected to maintain attendance in a class in order to receive credit. Each student will be

limited to five (5) absences (excused or unexcused), or the block-scheduling equivalent, per semester in order to receive credit for the class. The absences are cumulative in nature within a given course. The number of days refers to class days or the block-scheduling equivalent.

Behavior patterns

The collection of incidents exhibited by students that warrant disciplinary actions as recorded by school administrators. Any school record related to disciplinary action taken against a student for violating School Board rules or policies on school property or at school-sponsored events (*The Hampton City Schools Code of Conduct 2001-2002: Rights and Responsibilities Handbook*, 2001-2002, p. 11).

Dual track calendar

Both year round education and traditional education calendars of 180 days operate within the same building and often referred to as a School-Within-A-School (Wall, 1994).

Degrees of Reading Power (DRP)

A criterion-reference assessment that measures the students' depth of understanding or how well a holistically read passage is understood at the levels of independence, instruction, and frustration (TASA, 2000).

Intersession

Additional instructional days following each grading period. (Kneese, 2000).

Modified 45/15 calendar

The school year is divided into instructional periods with days of intersession or vacation time after each instructional

period. The calendar is made up of approximately 45 days of instruction and 15 days of intersession for additional learning (Kneese, 2000; Glines, 1992).

Multi-track calendar

A year round education calendar implemented to reduce over crowded school facilities, address academic needs, or facility needs (Mussatti, 1981; Glines, 1992).

Out-of-School Suspension (OSS)

A student placed out of school not to exceed ten school days for sufficient cause by a school administrator (*The Hampton City Schools' Code of Conduct, 2001-2002: Rights and Responsibilities Handbook, 2001-2002*).

Single-track calendar

A year round education calendar is one schedule and the same vacation times for all students and staff (Mussatti, 1981; Glines, 1992).

In-School Suspension (SIPS)

An In-School suspension program in which an administrator places a student in a non-punitive in-school program not to exceed 3 days for sufficient cause. (*The Hampton City Schools' Code of Conduct, 2001-2002: Rights and Responsibilities Handbook, 2001-2002*).

Standards of Learning (SOL) Tests

The Commonwealth of Virginia's Criterion-Reference Assessment that addresses the areas of writing, mathematics, reading, social studies, and science (*Virginia Department of Education Division of Assessment & Reporting, 1999*).

Traditional Education (TE)	Students attending school for 180 days (September to June) followed by an extended summer session of approximately three months (Mussatti, 1981; Glines, 1992).
Year Round Education (YRE)	A calendar concept of a 180-day school year divided into four instructional periods with each instructional period followed by an intersession or vacation. The 180 days are reorganized for continuous learning (Serifs, 1990; Kneese, 1996; Quinlan, George, and Emmet, 1987).

Limitations and Delimitations of the Study

Limitations are the natural conditions that may affect its outcomes (Charles, 1998). The conditions relate to internal validity or threats (Wiersma, 1994). Major internal threats are identified as experimental mortality or attrition, selection, and diffusion of treatment and bias contamination (Campbell and Stanley, 1963). This study was limited to grade 8 students who were in continuous enrollment on either the year round education or traditional education track for the three years of dual operation (1998-2001).

The students who withdrew from school or who withdrew and later re-enrolled were omitted from the study. The sample included all students from year round education and students from traditional education who met the above criteria. Students were not randomly assigned as participants to groups. In this design, one group of grade 8 students was in year round education and the other group participated in traditional education. Students zoned to the middle school have priority to attend the school and out of zone students are admitted based on available space. Parents had a choice to register their children in a year round education track or traditional

education track. Parents also opted to send their children to intersessions. The students in year round education and traditional education were enrolled in the same school, with the same master schedule, and they participated in the same extra-curricular activities. They interacted with each other and were taught by the same teachers on the dual track schedule at the urban middle school. Both tracks followed the same block schedule. Many of the elective teachers taught on a dual track schedule. The dual track teachers taught band, chorus, Spanish, French and geometry. Both intersessions and the after school program were offered to the year round education students, however, the traditional education students were offered only the after school opportunity.

The researcher's involvement in year round education can also be a limitation. The researcher had been assistant principal (1991-1994) and principal (1994-2002) of the middle school. In 1997-1998, after serving as a committee member on the Middle School Promotion Policy Committee for the school district, it became obvious that a new promotion policy would not change the achievement of the students. The former superintendent recommended that the committee look at the use of time as one means of addressing the deficiencies. As a result, the principal was asked to consider year round education for the middle school. Committees were formed within the school and the community to research year round education. Conferences were attended and visits were made to year round education schools. Year round education was implemented at the middle school during the 1998-1999 school year. It became the first and only dual track middle school in Virginia. The principal believed in the concept, and the middle school emerged as a year round education model locally, statewide, and nationally. In fact, it was honored during the 2001 National Annual Year Round Conference as "A National Year Round School of Merit". Since that time, the principal has become a board member of the National

Association for Year Round Education (NAYRE). Bias contamination was relevant as an internal threat because of the principal's strong beliefs in year round education and her role in implementing the year round education program at the middle school. The basis for this study was the use of statistical data compiled from the school district's MacSchool Data Bank. Thus, the researcher's bias contamination was minimized.

The program design offered challenges because the schedule was new. Time was needed for the people to get accustomed to change and embrace doing things in a different manner. The operation of a dual track school created many administrative challenges. The implementation of a new program design also created training needs for the administration and the staff. Time was needed for school personnel to become accustomed to the changes and to embrace doing things in a different manner. This study was conducted during the first three years of implementation of the year round program. Since the design of the program was evolving over the three-year period, the full impact of the program could not be realized at this time.

Charles (1998) defined delimitation (external threats) as restrictions imposed by the researcher to narrow the scope of the study. The major external threats in this study were interaction of selection bias and the experimental variable (Campbell and Stanley, 1963). The students participating in the study were parentally selected. The population may not have been reflective of the demographics of the district. Other delimitations in this study were that the analysis did not extend to another middle school and the participants were not matched according to social economic status. The out of zone students who remained in the year round education or traditional education track for the three years of dual operation were included in the data. There were no special education students in the traditional education program at the middle school; therefore, special education students were not available for this study. Campbell and Stanley

(1963) discussed the external threat of multiple treatment interference that can be identified with the timing of implementing year round education and uniform attire during the same time periods.

Conceptual and Operational Models

Figure 1 is a conceptual model of the study illustrating a comparison of year round education and traditional education. The domains are attendance, academic performance, and behavior patterns. In figure 2, the operational model shows that the independent variable is program with the levels of year round education and traditional education. The dependent variables are attendance, academic performance, and behavior patterns. The models show how each of the three domains may be impacted by the year round education and traditional education calendars.

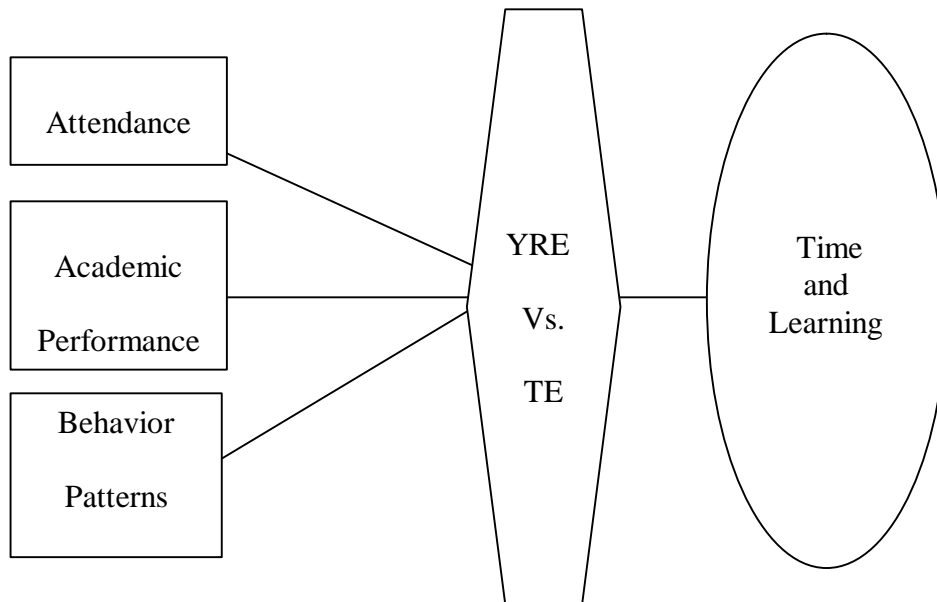


Figure 1. A Conceptual Model for a study to compare year round education (YRE) and traditional education (TE) with the domains of attendance, academic performance, and behavior patterns related to the use of time.

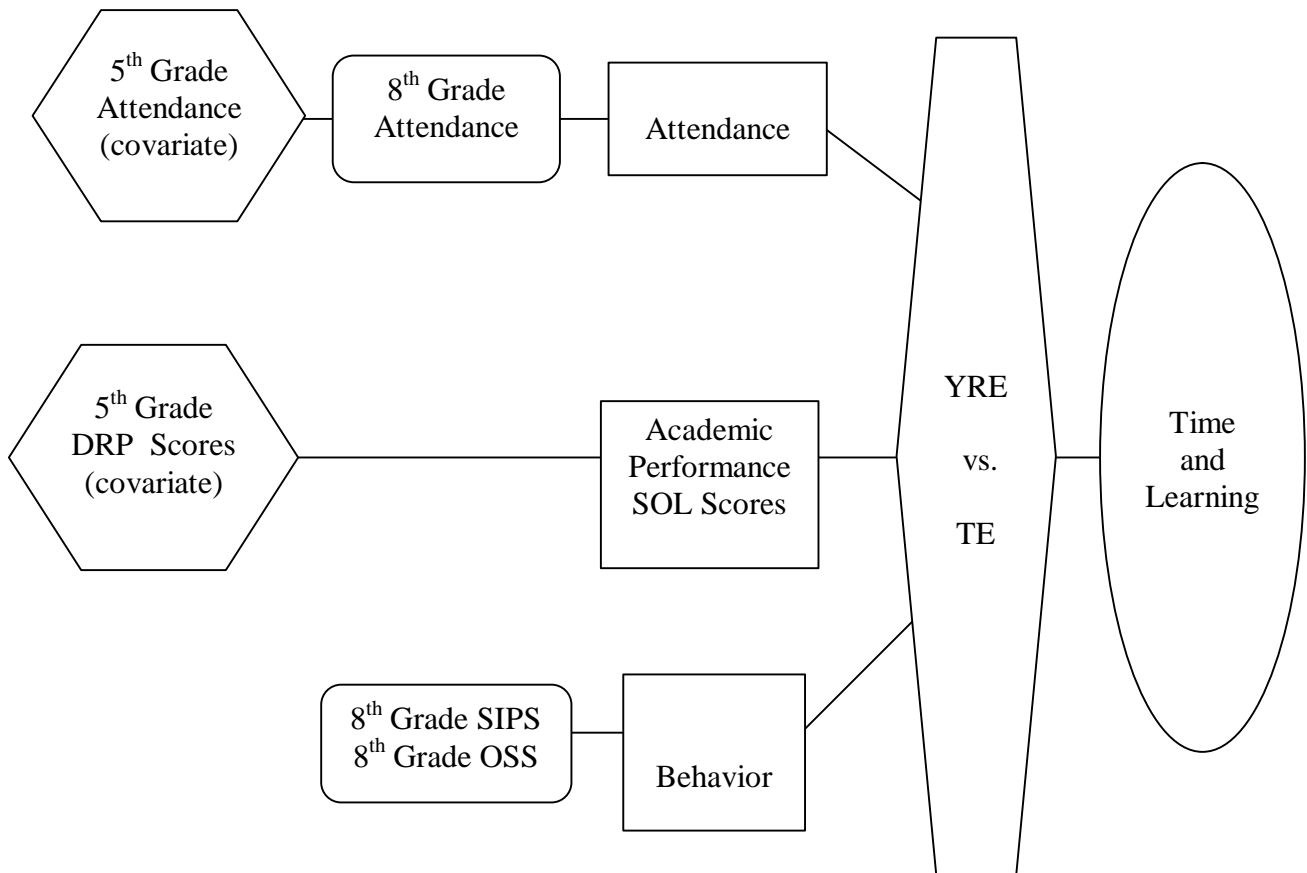


Figure 2. An operational model for a study comparing year round education and traditional education with the dependent variables of attendance, academic performance, behavior patterns and the covariances of grade 5 attendance and grade 5 DRP scores as related to the use of time.

Research Questions

This study addressed three over-riding research questions.

Research Question 1 Does year round education make an impact on attendance as measured

by grade 8 attendance data after controlling for initial differences in grade 5 attendance?

Research Question 2 Does year round education make an impact on academic achievement as measured by the Standards of Learning after controlling for grade 5 Degrees of Reading Power?

Research Question 3 Does year round education make an impact on students' behavior patterns as measured by grade 8 out-of-school suspensions and in-school suspensions data?

Summary

Chapter I was organized to introduce the study; address international, national, and state contexts; describe the statement of the problem, purpose of the study, significance of the study; definition of terms, limitations, the conceptual theoretical model, and research questions. Chapter II discussed the review of literature as it related to the conceptual model and the three questions of the study. A theorist and his model were presented supporting year round education and traditional education. The relevance of the study to a grounded theory was emphasized.

The history of year round education and literature, and the relationship to the variables were the major topics reviewed in Chapter II. The methodology included the setting and context, populations and samples, instruments, data collection procedures, and the methods of data analyses in Chapter III. In Chapter IV, the results and a discussion of the data were given. A summary and conclusion of the findings, implications, recommendations, suggestions for further study and reflections were presented in Chapter V.

Chapter II

The Review of Literature

The research for the review of literature for this study begins in 1904, when the first official year round education school was opened in America, and continues through to the present time. Dissertations, journals, books, on-line resources, newspaper articles, and personal conversations were used as part of the review. There were numerous studies that researched the effect of year round education on attendance, academic performance, and behavior patterns. Most of these studies were conducted in the late 1980s and early 1990s. The majority of the studies prior to this time were on year round education and its use to alleviate overcrowded facilities.

The issue of whether year round education has an impact on students' education is not only prevalent nationally (*Prisoners of Time*, 2000; *Goals 2000*; *A Nation at Risk*, 1983) but also internationally (Alderman and Pringle, 1995). Time is an education reform that has initiated many studies. Some researchers contend that year round education has statistically significant results (Kneese, 2000; Kneese & Knight, 1996; Roby, 1995; Alcorn, 1992; Palmer and Bemis, 2000). On the other hand, there is evidence that is inconclusive as to the effectiveness of single, dual, or multi-track year round education calendars (Wintre, 1986; Woodard, 1995; Kneese, 1996; Campbell, 1994; Grotjohn & Banks, 1993). The Commission on Time and Learning in *Prisoners of Time* (2000) made eight recommendations related to time. The first recommendation was to reinvent schools around learning issues, not calendar or time issues. The Commission also debated that, "There is no authentic research that argues persuasively that students need eight to twelve weeks in a row away from formal schooling" (p.56). Schools across the nation use time in numerous ways to affect student learning (*Prisoners of Time*, 2000).

Just as there are numerous types of year round education programs with various names and plans, there are just as many variations of how intersessions are structured to give additional time for learning. The uses of time and the types of programs that are offered may impact learning differently. An intersession adds additional days of learning to the 180-day calendar for year round education (Kneese, 2000). The intersessions provide remediation and enrichment.

Chapter II reviews the theoretical frameworks of cognitive and behavior theories. The Conceptual Theoretical Framework, as illustrated in Figure 1 with the domains of attendance, academic performance, and behavior patterns, is synthesized from the literature as it relates to year round education and traditional education. The literature reviewed covers year round education and its history. The research on the variables is discussed in this chapter.

Theoretical Framework

This study is grounded in a theoretical framework related to attendance and achievement, and achievement, behavior patterns and achievement, and academic performance concentrating on the use of time and learning. Based on The National Education Commission on Time and Learning (*Prisoners of Time*, 2000), there is “too much to teach and not enough time to teach it” (p. 1). Thus, Carroll’s theory (1963) emphasizes the importance of students being successful learners if there is sufficient time spent on what is to be learned. Conceptually, the year round education program offers that needed time for additional learning through scheduling variations such as the extended school year (Bradford, 1996), a balanced calendar or 45/15 model (Stenvall, 2000; Kneese, 2000; Shields and Oberg, 2000), block scheduling (Canady, 1995), and even an extended school day (*Prisoners of Time*, 2000).

Carroll’s theory (1963) relates to year round education in that it is most important that students attend the intersessions where additional learning opportunities occur (Kneese, 2000;

Stenvall, 2000). Intersessions are often optional (Ballinger, 2000; Stenvall, 2000; Kneese & Knight, 1995, Kneese, 1996) in schools across the United States with the exception of Achievable Dream (Hodge, 2001) in Newport News, Virginia. Many researchers have not determined whether year round education in many schools is successful because of the additional time offered in intersessions for remediation or enrichment (Public Schools of North Carolina, State Board of Education Evaluation, 2000). Most intersessions are optional in that parents have the choice of sending their children to school during these times for remediation or enrichment to take advantage of continuous learning.

The History of Year Round Education

The first official year round school was opened in Bluffton, Indiana, in 1904 under the leadership of Superintendent William Wirt. Wirt developed a rotating four-season schedule to address the space issue. This schedule was also created to improve the quality of education during that time. The quarters were divided into fall, winter, spring, and summer. The plan was successful but failed to provide the additional space needed. Volunteers to attend the summer program were sought for the summer months, rather than requiring students to attend school during that time. The move in 1904 served as a vision or focus for the rest of the nation in regard to a year round calendar (Glines, 1992).

Superintendent Addison Poland managed a K-12 year round program from 1912 to 1931 in Newark, New Jersey. The purpose of the program was to increase learning opportunities for students. The program was based on Bluffton's design of students earning credits by attending the four quarters. English was provided for twelve months to teach immigrants the English language (Glines 1992).

In 1925, Superintendent Harold Weber of Nashville, Tennessee, had the vision to significantly improve the quality of education by implementing a four-quarter system. The system covered 12 months and a non-graded program was established so those students would have continuous education. Later, Wirt became superintendent in Gary, Indiana, and promoted the platoon system to create and improve academic achievement. He wrote *The Great American Lockout* in the 1930's. He protested the fact that students were denied the opportunity to experience continuous learning. As a result, during the Depression, Gary opened a school that ran seven days a week for fifty weeks. Two weeks in August were the only time the school was closed. J. Lloyd Trump was principal of this school in the early thirties (1992).

The United States has been experimenting with year round schools for almost 100 years. The year round concept has increased, decreased, and increased again and again, for various reasons. Over the years, schools adopted the extended calendar for reasons such as fuel conservation, space due to overcrowding, and improved educational opportunities (Peltier, 1991).

Ballinger (1988) stated that the September to June calendar is no longer effective. When the calendar was first conceived, there was a strong purpose, and that purpose was to address the agriculture needs during the late 19th Century and the early 20th Century. There was no plan at that time to improve academic performance. Ballinger is adamant when he asks what subliminal messages are we sending to students when we announce that formal instruction is over in June and that real learning will not be available again until September.

In the early 1990s, over half of the states had some year round schools. Albuquerque, New Mexico, mandated the year round education calendar for grades K-12. The leading states with year round calendars during that time were Utah, Florida, Texas, Colorado, Nevada, and

North Carolina. California was the leader in the nation, and in 1992 more than 200 districts were involved. Because of the large number of schools, California represented 30% of the student population (Glines, 1992) in year round schools. Some communities still rely on agriculture. In today's modern world, farming sophistication is such that farmers do not have to depend on child labor to operate farms as in the past. Warrick-Harris (1995) asked her staff how many of their students helped to harvest crops last year and how many mothers of their students stayed at home. Many of the teachers answered none to the questions. As a result, the question still stands as to why we continue to organize learning times for students based on the agricultural practices of 100 years ago.

Table 1 shows that year round education in the United States flourished over a ten-year period as reported by Warrick-Harris (1995). The growth in year round education population increased from 354,087 in 85-86 to 1,640,929 in 94-95. As of 2001, there were over 2,000,000 students enrolled in year round education across the nation (NAYRE 2001). The majority of the year round education schools has been elementary schools. The year round education movement by states, districts, schools, and students were tallied from the 2001 NAYRE data. The table shows the increase in the four categories from 1985-2001. The numbers have increased tremendously over the fifteen-year period. The breakdown gives a clear picture of a movement toward a nation that is interested in embracing year round education. From 1985-2001, the number of states that have year round education increased from 16 to 44 (364%), year round education schools in the nation increased from 411 to 3,059 (1,344%), districts have gone from 63 to 651 (986%), and students in year round education have climbed from 354,087 to 2,162,120 (1,638%).

Table 1

Year Round Education in the United States from 1985-2001

	1985-86	2000-2001	% of Increase
States	16	44	364
Districts	63	651	968
Schools	411	2,983	1,377
Elementary	355	2,402	1,478
Middle	31	280	111
High	25	223	112
Special	0	78	100
Enrollments	354,087	2,162,120	1,638

Note. From the National Association for Year Round Education, 2001. Adapted with permission of the Executive Director of NAYRE, M. Stenvall.

As of July 2001, there was 25 year round education schools in Virginia with over half of them in the Hampton Roads region (White, 2001). In 1974, one high school in Buena Vista was opened and remained the Commonwealth's only year round school until 1996. In 1996, the second year round school was opened in Danville. In 1998-99, Hampton City Schools opened three year round schools, two elementary schools, and one middle school. Since that time, 6 school districts in Hampton Roads have implemented the 45-15 calendar, with a total of 15 schools. In 1998, Fairfax opened an elementary school, and Danville opened its first middle school. The Hampton City School Board approved year round education for an additional four elementary schools for school year 2001-2002 (Hampton City School Board, 2001).

Table 2 shows the 2001 year round education Schools in the school districts of Buena Vista (4 schools), Danville (5 schools), Fairfax County (6 schools), Hampton (8 schools & 1 charter), Henry County (1 school), Isle of Wight County (1 school), Martinsville (1 school), Newport News (1 school), Norfolk (2 schools), Suffolk (2 schools), and Virginia Beach (2 schools). Buena Vista, Danville, and Hampton schools have operated on the year round calendar longer than the other districts. Finley stated that since 1998, year round education in Virginia has increased from six schools in two districts (Danville and Hampton) to 33 in 11 districts in 2001-2002. In 1998-1999, fifty percent (3) of the Virginia year round schools were elementary, thirty-three percent (2) middle, eighteen percent (1) high, and zero percent charter. In 2001-2002, eighty-two percent (28) of Virginia year round schools were elementary, twelve percent (4) middle schools, three percent (1) high, and three percent (1) charter schools. There was an increase of 25 elementary schools. Elementary schools increased in Virginia at a similar rate as elementary year round schools nationally (Findley, 2001).

Table 2

Year Round Education Schools in Districts throughout the Commonwealth of Virginia in 2001-2002

District	School	Level	Grades	Implementation Year
Buena Vista	Enderly Heights	Elementary	K-5	2001-2002
	F. W. King, Jr.	Elementary	K-5	2001-2002
	Parry McCluer	Middle	6-8	2001-2002
	Parry McCluer	High	9-12	1974-1975
Danville City	Glenwood	Elementary	K-5	1998-1999
	Schoolfield	Elementary	K-5	1996-1997
	Taylor	Elementary	K-5	1998-1999
	Gibson	Middle	6-8	1998-1999
	Langston	High	9-12	1998-1999
	Focus/Global Village	High	6-12	1998-1999
Fairfax County	Dogwood	Elementary	K-5	2000-2001
	Franconia Center	Elementary	K-5	2000-2001
	Franconia	Elementary	K-5	2000-2001
	Glen Forest	Elementary	K-5	2000-2001
	Graham Road	Elementary	K-5	2000-2001
	Timber Lane	Elementary	K-5	1998-1999
Hampton City	Aberdeen	Elementary	K-5	2001-2002
	Bassette	Elementary	K-5	2001-2002
	Cooper	Elementary	K-5	2002-2003
	Robert E. Lee	Elementary	K-5	2001-2002
	Merrimack	Elementary	K-5	1998-1999
	Captain John Smith	Elementary	K-5	1998-1999
	George Wythe	Elementary	K-5	2000-2001
	C. Vernon Spratley	Middle	6-8	1998-1999
	Hampton Harbor	Charter	3-12	2001-2002
Isle of Wight	Carrsville	Elementary	K-5	2000-2001
Martinsville	Clearview	Elementary	K-5	2000-2001
Newport News	Dunbar-Erwin	Achievable Dream	1-12	2000-2001
Suffolk	B.T. Washington	Elementary	K-5	2000-2001
	Northern Shores	Elementary	K-5	2000-2001
Virginia Beach	Bettie F. Williams	Elementary	K-5	2001-2001
	Seatack	Elementary	K-5	2000-2001
York County	Magruder	Elementary	K-5	2001-2002
	Yorktown	Elementary	K-5	2000-2001

From Year Round Schedules in Virginia Schools presented to the Commission on Educational Accountability—Briefing at the Virginia State Department of Education in Richmond, Virginia
C. W. Findley, February 2001.

Why Implemented

Ballinger (1999) offers several reasons as to why the year round education program continues to increase. He contends that urban and suburban communities are becoming uncomfortable with the number of idle students during long summer breaks. The year round education intersession is becoming popular because deficiencies are addressed at the end of each grading period, rather than after ten months of failure. Cooper (1996) has reported that there is summer learning loss. Wintre (1986) refutes that the learning loss is significant except for grade 3 loss in mathematics over the long summer break.

Models of Year Round Education

Quinlan, George, and Emmett (1987) define year round education as a reorganization of the school calendar into instructional blocks and vacations distributed across the calendar year so that learning is continuous throughout the year. The school year is designed in such a way that there is continuous learning and a number of shorter vacations (Kneese, 2000; NAYRE 2000). The primary goal is to minimize learning loss and work toward eliminating the amount of time used to review material from the previous school year (Ballinger, 1987). YRE can also be defined as terminology that promotes a paradigm that involves any reconfiguration of the school calendar that followed the traditional 180-day schedule; thus, learning is more continuous throughout the year (Serifs, 1990).

There are several types of year round education models. They include single-track, multi-track, and extended school year. The single-track and multi-track models are 45/15, 60/20,

60/15, 90/30, trimester, quarter, and quinmester. The multi-track was implemented without a reconfiguration of the calendar to introduce days for intersessions or extended time. The options for the extended year are flexible all-year plans and 11-month plans (Ballinger, Kirschenbaum, and Poimbeauf, 1987; Mussatti, 1981).

The number of instructional days and the number of vacation or intersession days identifies the year round education model. For example, the 45/15 schedule indicates that there are 45 days of instruction and 15 days of vacation or intersession. Another example is that of 90/30 with 90 days of instruction and 30 days of vacation or intersession. For the single-track, all students are in school at the same time. The multi-track is a little more complicated in that students attend school on various schedules. As one group rotates out for vacation, another group rotates in for school. The multi-track schedule is used in schools where there is overcrowding (Gline, 1992; Mussatti, 1992; Peltier, 1991).

Ballinger, Kirschenbaum, and Poimbeauf (1987) stated that the trimester, quarter, and quinmesters have students in school at any time during the school year. During these times, students have the option of attending school during off times for academic acceleration. The flexible all-year plan allows the students to attend at will and plan vacations during a time that is more advantageous to them.

With the number of different year round education models, many advantages and disadvantages exist. There are strengths and weaknesses in each plan. Thus, each district must examine closely the calendar or schedule that best fits students' needs. There are opportunities for educational institutions to create variations of the various plans that exist (Peltier, 1991). Any of the plans may be modified.

Intersession

The urban middle school in this study implemented a modified 45/15 (Glines, 1992; Mussatti, 2000) calendar as approved by the school board. The school year was divided into instructional periods with days of intersession or vacation time after each instructional period. There were 180 days in both the traditional and year round program. In addition, the year round calendar embedded 25 intersession days. The 25 days were used for focused remediation instruction and enrichment. The holidays were the same for year round and traditional. The calendar was made up of approximately 45 days of instruction and 15 days of intersession for additional learning (Kneese, 2000; Glines, 1992). The instructional days could vary from 39 to 52 days and the intersession days could vary from 5 to 10 days. The teachers had the option of working during the intersession and earning additional money. The rate of pay for the teachers during intersession was the same as the districts' summer school pay rate per day. The families had the option to send their children to intersession for intervention or enrichment.

Students were assigned to classes during the intersession based on their instructional needs. Students had the option of choosing an enrichment activity if their mathematics, reading, writing, history, and science grades were acceptable. Based on multiple criteria, core teachers evaluated the success of each student based on the mastery of essential skills. Those students who exhibited deficiencies were recommended for remediation. The curriculum taught during the intersession was aligned with the SOL and based on the needs of the students. There was a maximum of 10 students per class. Students were given a pretest and a posttest in the class assigned, resulting in individual needs being addressed. The intersession teacher reported the assessment data (pretest and posttest) to the instructional teachers for reference during the following grading period. Progress reports were mailed to parents at the end of each intersession.

The administration kept an in-house database for reading, writing, mathematics, history, and science of student achievement during the intersessions. Attendance data were also kept in a database, as well as a record of the number of students who took advantage of the intersessions during the three years of dual track operation.

Research Studies of Impact on Effectiveness in Year Round Education

Advantages of Year Round Education

Mussatti (1998) reports that one advantage of year round education is that the public use of school facilities opened year round may improve public relations (Mussatti, 1981). Higher salaries and complete year contracts may be given to teachers. Learning loss and loss of study skills will be diminished due to a decrease in the long summer vacation. Students will not experience the boredom, wasted time, and delinquency often associated with long summer breaks. Ballinger (1995) contends that students who have worked very hard after several weeks of instruction have the option of taking a vacation. Intersessions are those times during the year round calendar or schedule when students and teachers opt to take a vacation or return for remediation, enrichment or acceleration sessions. Intersession is an enormous improvement over summer school. Students have the opportunity to move beyond what is offered during a 180-day school year, combined with a long summer break, to an opportunity to experience intersessions during intervals throughout the year (Glines, 1992).

An improvement in educational achievement can be linked to a year round education schedule (Roby, 1995). For disadvantaged students attending year round schools, learning retention is increased. Cognitive retention is important to educational practices. Disadvantaged students forget more than students who are not disadvantaged (Cooper, 1996). The students who are not disadvantaged continue to have experiences that support the retention of learned material

even though they forget as well. However, they do not forget as much. It is evident that by reducing extended periods of non-schooling, year round education schools will increase the performance of disadvantaged and migrant students whose home environments do not reinforce what has been learned in school. Retention losses will be reduced (Morse, 1992).

Ballinger (1995) stated that the most important advantage of the year round education calendar is the fact that a large amount of learning loss during the summer is eliminated. The schedule is so flexible that it easily addresses the academic needs of the students. The progress is continuous for the elementary schools. White (1992) states that Jefferson County School district in Colorado found the year round education schedule to be much easier for elementary school than high school because students remain with the same teachers and same schedule all year long. Time options are offered to families to address the variety of learning needs of students. Remediation is immediate, and a student does not have to wait nine or ten months before receiving assistance in deficient areas. Enrichment can be readily offered to students to extend or accelerate their learning. When students have the opportunity to apply what they have learned, it is more advantageous.

Ballinger (2000) contends that the most important reason for changing to a year round education schedule is to eliminate the significant learning loss that occurs during the summer as reported by Cooper (1996). Students can receive assistance in areas of weaknesses immediately after an instructional block, rather than waiting until the traditional summer break to get the help needed. Many students who do well can continue to advance. The interest in learning is continuous, and students look forward to learning. Ballinger (1995) also summarized Winter's (1995) findings that after looking at 19 studies of academic growth in year round education, students in the year round education program achievement scores were better than those on the

traditional education calendar. The 19 studies showed 58 categories of improved academics measures compared to the traditional education students. The year round education students outperformed traditional education students. Warrick-Harris (1995) states that an advantage can also be that larger population of students may be considered for different sports and extracurricular activities by the coaches. The intersessions provide opportunities for students to be creative in extracurricular activities (Ballinger, Kirschenbaum, & Poimbeauf, 1987). The flexibility in the year round program offered more opportunities in instruction for teachers. Teachers have that choice of teaching or taking a vacation during the breaks or intersessions (Ballinger, 1995). With the frequent breaks, teachers found that they do not have to use sick leave for mental health days (Peltier, 1991). There is a break in teacher salary. Teachers have the option of teaching during intersessions or substituting for other teachers. Staff development for teachers can be continuous at intersession times (Ballinger, 1995).

Disadvantages of Year Round Education

Just as the advantages of year round education are numerous, so are the disadvantages (Mussatti, 1981). White (1992) cites that operating schools for 12 months continuously creates additional work for the administrators at the building level and at the central level. There is no time provided for down time for the administration during the summer months. If the school district is operating under the year round education and traditional education calendar (dual track) at the same time, two sets of needs have to be met. There are different deadlines, deliveries, and due dates. There are two openings and closings of schools. The preparation for both can often be mind-boggling, difficult, and confusing.

Parents wanted their children to be out of school when the year round education calendar required them to be in school if scheduled for dual or multi-track (Merino, 1983). One of the

most common problems was the scheduling of families with more than one child in the school system. The obvious question was, will all of my children be on the same track? (Peltier, 1991). Warrick-Harris (1995) acknowledged that many students, teachers, and parents object to a change from a September to June calendar, because they do not want change and are creatures of tradition and habit. Parents with older children who were not on the year round education track may have problems with scheduling younger children who are on different tracks. Juggling two schedules can be very difficult for some families.

Dual tracks can often create communication problems between students, teachers, parents, and community (Peltier, 1991). Moore (1992) discussed the fact that developing personnel policies can be a challenge, especially if a school division has both traditional and year round calendars. Although staff development can be continuous through intersessions, it can sometimes be difficult for teachers to participate in staff development and take classes at local colleges and universities during the summer months. Implementing a year round program into a district is not easy (Peltier, 1991). Moore (1992) discussed the challenges of room sharing on a multi-track schedule. Grade level, track assignments, teacher transfers, communication, exchange days, administrators' expectations when adopting year round education, models to learn from prior to implementation, personnel issues, site management issues, discovering strategies, and adjusting them to district culture, contract issues, staffing, and extra-duty pay were cited as disadvantages by Moore (1992).

In a 1994 study, Wall addressed the perception of principals and year round education in North Carolina Schools. The year round education schools were urban, suburban, and rural. The responses from 61 principals out of 69 principals given surveys were reported in the results. Seven research questions were used to collect the data related to the operation of year round

education schools. Parts II and III of the survey consisted of responses using a Likert Scale and open-ended questions, respectively. The survey focused on the 29 items in six domains of school operations, school calendar, daily schedules, facilities, transportation, funding, and personnel. Chi square statistics were computed using demographic regions. No significance was noted using chi square. Each item was rated according to the six domains and the means and standard deviations were computed.

Wall's (1994) findings disclosed that principals found it was difficult to schedule meetings, schedule itinerant and fine arts teachers, create a flexible calendar for building maintenance, cope with the constant use of the building, work with an increase in transportation cost and additional funding in a dual track school. Principals agreed that there was an increase in the time devoted to work because of running two schools that were on different schedules. It was difficult for the principals to take vacations because of continuous planning for two tracks. It was highly recommended that districts should implement a single-track year round education calendar. Principals voiced a greater need for assistant principals because of the amount of work in a dual track school. On the other hand, the principals stated that there seemed to be little difference on a day-to-day basis while operating a single year round education track.

In part III of the analysis of the questions, Wall (1994) reported the results that the year round education program changed the operation of the schools. The principals stated that the secretaries were more stressful. The secretaries were stressed with having to keep records for two schools. Often, "floating administrators" must be assigned to prevent administrative burnout. "It has increased the workload for principals and secretaries" (p.68). A concern was that principals felt that central office had difficulty working with year round education schools.

There were difficulties in scheduling students in the proper sequence for certain subjects on the multi-track when student attendance was rotated on a multi-track schedule. Participation cannot be voluntary when large numbers of students are scheduled and rotated through a multi-track program. The high school schedule is quite complicated with the changes of classes, teachers, and schedules (Peltier, 1991). There are numerous electives. Teachers are assigned students by individual student choice. High school scheduling can be complicated and combining small elementary school populations to accommodate a multi-track plan can be a disadvantage. Cross-track scheduling is often a solution when there are not enough students for the advanced classes. Yet, students may miss out on camps and other organized recreational programs because many are scheduled during the summer months (Warrick-Harris, 1995). There is often a lack of computer and clerical support (Peltier, 1991; Wall, 1994). There is an issue with building maintenance. Time out for a thorough cleaning of the building would become a thing of the past (Mussatti, 1981; Wall, 1994). Administrators cited a concern for the lack of support from the central administration when the other schools were out on vacation. They were often forgotten (Peltier, 1991; Wall, 1994).

Cost and Year Round Education

In 1981, Mussatti found that costs could be reduced for school items such as buildings, transportation, textbooks, utilities, maintenance, and other resources by implementing a year round education multi track calendar. In White's final analysis, he states that Jefferson County's reasons for going off the year round program might be moot. In fact, in spite of the number of disadvantages mentioned, Jefferson County (Colorado) was considering moving back to the schedule to save building cost. There were three factors related to an objection and the

disadvantages of a year round education program. Financial savings that were anticipated could not be realized (Peltier, 1991).

Additional cost for plant operation, air conditioning, and changes in teachers' salary (per hour or per diem) becomes a challenge. There are additional transportation expenses. Cost is a factor in preparing the community. Revamping the school curriculum to include structured instructions for intersessions can affect cost as well (Peltier, 1991).

Attendance and Year Round Education

Palmer and Bemis (2000) compared attendance of students in year round education to students in traditional education by doing a meta-analysis. A vote count method of statistically significant directional findings of studies from 1980-1997 was used. Twelve studies showed mixed results for programs on 60/20, 60/15 or 45/15 calendars in which elementary and middle school students attended. One out of five testing for statistically significant difference had better attendance than the rest of the district. Non-statistically significant differences were from a two-day increase to a two-day decrease.

Peltier (1991) compiled some unexpected benefits of the year round education calendar, based on the research of Ballinger, White, Kirschenbaum, and Poinbeauf (1987) and Quilan, George, Emmet (1987). The studies showed an increase in attendance for both students and teachers on the elementary school and secondary school levels in some districts. Attendance for both students and teachers on secondary and elementary levels increased and the dropout rates in high schools decreased from 5% on the traditional education calendar to 2% on the YRE calendar in Jefferson County School District (Colorado) as reported by Peltier. Table 3 is a summary of Palmer and Bemis's study on attendance.

Table 3

Summary of Study on Year Round Education and Attendance

Author	Date	Purpose of Study	Methodology	Findings
Palmer and Bemis	2000	To compare attendance of students in YRE and TE.	Meta-analysis, vote count method of statistically significant directional findings of studies from 1980-1997.	Twelve studies showed mixed results for programs on 60-20,60-15, or 45-15 of elementary and middle school students. One out of 5 testing for statistically significant difference had better attendance than rest of district. Non-statistically significant differences were from a 2 day increase to a 2 day decrease

Academic Performance and Year Round Education

The curriculum may be improved or reorganized with in a year round education calendar to provide remediation, enrichment and/or acceleration (Mussatti, 1981). Other studies, such as Peltier's (1991), acknowledged from research done by Merino (1983), Mussatti (1981), and Young and Berger (1981) that there is no significant difference between the achievement of students on the year round education program and the traditional schedule. Nevertheless, this finding is reflecting that the year round education schedule is doing what it was implemented to do. In these studies, the year round education calendar was implemented to address overcrowded schools. It is evident that student achievement was maintained and the year round education program was achieving its general goal. Peltier concluded that year round education could improve achievement by citing the results of the Oxnard, California, study. As of 1981, more than 80% of the schools in that district were on the year round schedule. The year round education students' scores district-wide on the state's annual reading, writing, and math assessments has improved.

The student achievement benefits of year round education are often realized when districts are able to offer remediation, enrichment, and acceleration intersessions (White, 1992). The change in the school calendar can help those students with a language deficit and the rhythm of learning is more consistent (Ballinger 1995). Mussatti (2000) stated that when school districts were moving to year round education years ago for space purposes, student achievement was not considered at the time. As time went by, the issue of student achievement began to emerge and an interest to explore the possibility that year round education did impact student learning increased. Student achievement was beginning to be seen as a residual effect of moving to a year round education calendar primarily for space purposes.

Alcorn (1992) asked the question, "Can year round education school raise test scores?" (p.12). Six of the elementary schools in San Diego Unified School District moved to multi-track in 1972. Since 1972 to 1991, 29 school communities chose to move to a single-track year round education program in an effort to improve school-wide programs. The question arose in 1991 as to whether the academic achievement of these six schools was higher than those elementary schools that remained traditional. This question initiated the study done by Alcorn in 1992. Both single and multi-tracks were part of the study. The independent variable was the seventeen district elementary schools that had been in year round education for ten years. The dependent variables were reading, language, and mathematics. The results from grades 3 and 6 California Assessment Test (CAT) scale scores and the grade 5 percentile ranks from the Comprehensive Test of Basic Skills (CTBS) in reading, language, and mathematics from 1984-1990 were used. These scores were used to determine if there was a significant difference between the achievements of year round education students compared to traditional education students.

The results of the 1991 comparison favored year round education in reading, language, and math. Twenty-seven comparisons were made in three grades, three subjects, and at three intervals. There was a comparison of objectives achieved and the average scale score changed. Seventeen year round education schools exceeded traditional education, one traditional education school exceeded year round education, and nine had no significant difference. Alcorn (1991) found the year round education schedule to be advantageous in student achievement and one of the recommendations was that restructuring the school year to a year round education calendar should be investigated as a means of addressing the goal of restructuring for excellence in learning outcomes. The thought is to allow year round education to become the catalyst to re-focus on every aspect of the educational system.

In 1994, Kneese studied the impact of year round education on student achievement. Three hundred and eleven grades 4, 5, and 6 students were matched with traditional grades 4, 5, and 6 students in a dual track school. There was a significant difference in favor of all the year round education students in both reading and math. The at-risk students did exceptionally well in reading. The students who were in the low economic status schools did better in both math and reading.

Kneese (1996) examined student achievement data from students in grades 5 and 7 on a single track, 60/15 year round education programs of 180 days with intersessions that were optional. Neither intervention nor enrichment sessions were offered during these times to further academic opportunities. The program evaluation was done for Alamada Unified School District in California. The purpose of the study was to compare the students in year round education to the students in traditional education to determine if the year round education students' achievement was greater or if they obtained acceptable growth compared to that of the paired traditional education students from 1992-1996. The two groups were matched by number of days in school, same number of days prior to testing, and class size (27-32). The explanation for the gain difference was the difference in learning time, which was spread throughout the year for year round education or teacher effectiveness.

The research design used by Kneese (1996) was an *ex post facto* control group design consisting of a pretest and posttest. The three-year round education schools were paired with traditional education schools based on the California socioeconomic indicator. The indices were high social economic status schools (4), Title 1 or low social economic status schools (3), and middle social economic status schools (3.5). After the socioeconomic matching was done, two

groups of students were selected from each school. Those students consisted of those who took the District Level Tests in grade 3, grade 5, and again in grade 7. Transfers were not included.

The Northwestern Evaluation Association developed the District Level Tests, based on outcomes and aligned with the curriculum. The level of difficulty of the achievement tests increase in difficulty from year to year. As a result, academic growth can be measured from one year to the next year. The reading and mathematics scores were used. The pretest was the spring 1993 and spring 1994 Rasch unit scores. The posttest was the fall 1994 and the fall 1995 Rasch scores. These scores relate student achievement directly to the curriculum scale for each subject. The scores range from 160 to 260. A typical grade 5 score is 200. Descriptive statistics were calculated for each variable. Inferential statistics were calculated to determine statistical differences in academic gains. The mean differences were compared in an ANCOVA, t-tests (tests of statistical significance), and effect size (practical significance). ANCOVA was used to determine the statistical significance of pretest-posttest change in quasi-experimental designs. The ANCOVA was adjusted for initial differences in pretest means (Gall, Borg, & Gall, 1996). Effect size was calculated to determine the magnitude of the mean difference between the groups. In the results, means, as a measure of central tendency, represented the entire group of scores.

Table 4 indicates the results by program, gender, and year. After comparing the pretest and posttest results, even though the mean scores were higher in the traditional education comparisons, the year round education gain scores for pretest and posttest were higher. The grade level pretest and posttest analysis by grade level showed that while the traditional education mean scores were higher, the gain scores for year round education were higher. While

the pretesting and posttesting results were higher for year round education students in gain scores, the traditional education students' mean scores were higher.

Table 4

Comparison of District Level Test Scores in Reading and Mathematics for Year Round Education Program and Traditional Education Program: Results by Program, Gender, and Year

Results By Program							
	Gains in Reading				Gains in Mathematics		
	Pretest	Posttest	Gain	<u>n</u>	Pretest	Posttest	Gain
YRE	198.85	209.02	10.17	429	197.84	207.47	9.63
TE	203.81	212.57	8.76	691	202.64	210.43	7.79

Results By Grade								
	Gains in Reading, Grades 3-5				Gains in Reading, Grades 5-7			
	Pretest	Posttest	Gain	<u>n</u>	Pretest	Posttest	Gain	<u>n</u>
YRE	192.38	205.04	12.65	251	207.98	214.65	6.67	178
TE	195.69	207.59	11.90	355	212.44	217.86	5.41	333

Gains in Mathematics, Grades 3-5				Gains in Mathematics, Grades 5-7				
	Pretest	Posttest	Gain	<u>n</u>	Pretest	Posttest	Gain	<u>n</u>
YRE	191.37	201.17	9.80	251	206.97	216.34	9.38	178
TE	195.97	202.18	6.21	355	209.70	218.23	8.47	333

Results by Year							
Spring 1993-Fall 1994							
	Gains in Reading				Gains in Mathematics		
	Pretest	Posttest	Gain	<u>n</u>	Pretest	Posttest	Gain
YRE	202.30	213.06	10.76	211	201.23	210.64	9.41
TE	204.36	212.92	8.56	433	203.43	210.53	7.21

Results by Year							
Spring 1993-Fall 1994							
	Gains in Reading				Gains in Mathematics		
	Pretest	Posttest	Gain	<u>n</u>	Pretest	Posttest	Gain
YRE	200.41	209.71	9.30	218	197.69	208.06	10.37
TE	202.95	212.52	9.57	258	200.68	210.43	9.75

Note. From *The impact of Year Round on Student Learning: A Study of Six Elementary Schools* by C. Kneese, 1996. Adapted with permission from author.

Table 5 shows the results by the social economic status level of each school. The mean score was higher in five of the six comparisons of the pretest and posttest for reading between schools, A-F. The gain scores were higher for the year round education students with a very small difference between mid-social economic status schools, C and D. In comparing the pretest and posttest of the math results, the mean scores for five out of the six comparisons were higher for the traditional education students. The year round education students had greater gain scores in all comparisons with a very small difference between the low social economic status schools, E and F.

In the tests for significant differences, ANCOVA was used to evaluate the results. After holding the pretest score constant, there was no significant difference found from the grade's main effect, year or school social economic status level. Significant differences were in the two-way interactions between school calendar and school social economic status level ($F=5.10$, $p<.01$) and school calendar and year ($F=4.90$, $p<.03$) on student performance in reading. From the spring of 1993 to the fall of 1994, there was a significant difference in the gain results between the year round education and traditional education students. The t-test results show that there was a significant difference in reading gain scores between students in schools A and B (high social economic status) in favor of the year round education program ($t=4.89$, $p<.00$). There was a significant difference in reading gain scores between students in schools A and B in favor of year round education ($t=4.89$, $p<.00$) based on the t-test results. The gain scores between schools C and D (mid social economic status) or between schools E and F (low social economic

status) showed no significant differences were found when evaluating. There were practical significant results in favor of year round education in two out of the three comparisons in the effect size analysis. Between schools A and B ($d=.55$), there was a medium effect and between schools E and F ($d=.08$), there was a very small effect.

The year round education students out performed the traditional education students in the mathematics ANCOVA findings. In the evaluation results by characteristics of grade, year, and social economic status type, there was a significant difference in the two-way interaction between calendar and grade ($F= 10.00$, $p<.00$, calendar and school social economic status level ($F=8.49$, $p<.00$), and calendar and year ($F=6.20$, $p<.08$). For the students who were in fifth grade, there was a significant difference at the time of the posttests, but not for the students who were in 7th grade in the gain difference between year round education and traditional education. From the spring of 1993 to the fall of 1994 only, the gain difference between year round education and traditional education was significantly different for the year. For the school social economic status level, the t-test results showed that there was a significant difference in mathematics gain scores between students at high social economic status schools A and B ($t= 6.29$, $p<.00$) and students in mid social economic status schools C and D ($t=2.09$, $p<.04$). There were no significant differences in mathematics gain scores found between low social economic status schools, E and F. A large effect was found between schools A and B ($d=.71$); a small effect ($d=.20$) between schools C and D; and a very small effect ($d=.06$) between schools E and F.

Throughout the study, the pretest scores of all the traditional education students were greater than the year round education students. The mean gain scores were higher for the year round education students. The mean scale scores favored year round education for the total

population with the exception of a comparison in one area, grade 7 mathematics. Based on the analysis, year round education would be more beneficial in mathematics rather than reading.

Table 5

Comparison of District Level Test Scores in Reading and Mathematics for Year Round Education (YRE) Program and Traditional (TE) Calendar School Program: Results by School Social Economic Status (SES) Level

Gains in Reading					
	Pretest	Posttest	Gain	SD	n
High-SES Schools					
School A (YRE)	204.87	215.90	11.03	8.38	126
School B (TE)	210.39	217.39	7.00	7.27	271
Mid-SES Schools					
School C (YRE)	195.00	204.23	9.23	9.49	218
School D (TE)	199.25	208.44	9.19	8.94	205
Low-SES Schools					
School E (YRE)	199.82	211.13	11.31	11.08	85
School F (TE)	199.87	210.43	10.56	9.13	215
Gains in Mathematics					
	Pretest	Posttest	Gain	SD	n
High-SES Schools					
School A (YRE)	199.93	213.27	13.34	7.94	125
School B (TE)	207.88	216.29	8.42	6.89	270
Mid-SES Schools					
School C (YRE)	196.95	204.62	7.67	8.24	218
School D (TE)	201.33	207.28	5.95	8.76	205
Low-SES Schools					
School E (YRE)	179.07	206.23	9.16	7.91	86
School F (TE)	197.27	206.04	8.77	7.07	213

Note. From *The Impact of Year Round on Student Learning: A Study of Six Elementary*

Schools by C. Kneese, 1996. Adapted with permission from author.

Roby (1995) compared three year round education grade 6 classes and three traditional grade 6 classes in mathematic and reading in the West Carrollton City School District in Ohio. The purpose was to determine if there was a significant difference between the students in the year round education program and the students on the tradition education track in academic achievement. In the ANCOVA, results favored the year round education program. A statistically significant advantage was disclosed for the year round education students with the verbal covariate on the ITBS. The effect size was pro year round in all categories. There was a statistical difference in the male and female data suggesting boys do better in the year round education program. Roby recommended that the year round education calendar be considered if student achievement was a priority. The results of Alcorn's (1992) and Kneese's (1996) studies favored year round education.

Year round education has been implemented for achievement purposes and more studies are being done to determine if there is a statistically significant difference between year round education and traditional education as it relates to attendance, achievement, and other aspects of the school program (Mussatti, 2000). In a four-year study done by Carolyn Kneese (1996), there is statistically significant evidence that students achieve in year round education. Cooper, Nye, Charlton, Lindsay, and Greathouse (1996) have found in a review of 39 studies that students score lower on achievement tests following long summer vacations. Thirteen studies were analyzed using meta-analysis techniques (Cooper, 1996). The results show that there is summer learning loss in mathematics and reading. The loss is greater in mathematics for all students. Wintre (1986) agrees that there is a significant improvement of overall academic skills, but there is no empirical evidence that students experience learning loss over the long summer vacation, although there was significant loss in grade 3 computation.

Campbell, 1994; Grotjohn and Banks, 1992; and Ritter, 1992, in their studies, found no statistically significant difference in student achievement in year round education compared to traditional education. Time is clearly critical in students achieving and meeting standards. In the fourteen case studies reviewed by Aldelman and Pringle (1995), time as it relates to school reform needs to be investigated further. Many schools in the study did not address time as a component for restructuring the educational system.

Kneese (2000) defined student learning as their ability to maintain and improve educational achievement. One way American schools measure student achievement is through tests. The two types of educational measurements are norm-referenced and criterion-referenced tests. Of the two, the criterion-reference test best defines student achievement. The test scores are interpreted by percentage correct in the area where students must master the skills. Educators use the results from criterion-reference tests to determine whether to implement programs, to determine the success of a program, or whether to continue a program.

Kneese (2000) stated, in a personal conversation, that it is very important to make sure that both groups match in characteristics. One should look at race/ethnicity, attendance, achievement, and other similar areas to “level the playing ground” while doing the study. If there are five students with a 3.5 to a 3.7 grade point average in one group, then there should be the same number with similar grade point averages in the second group. The data from such a test are more meaningful as related to student achievement. Table 6 is a summary of studies on year round education and academic performance

Table 6

Summary of Studies on Year Round Education and Academic Performance

Author	Date	Purpose of Study	Methodology	Findings
Alcorn	1992	To compare YRE and TE students reading, language, and mathematics scores.	Tested grades 3,5,6 on CAP and grade 5 on CTBS	YRE students scored higher in all areas with exception of grade 5 in language
Campbell	1994	To determine outcomes and perceptions of year round schooling for at-risk participants in an elementary program.	CTBS over 2 years end of each year.	No statistically significant improvement in achievement scores.
Cooper	1996	Summer learning loss in mathematics and reading	Meta-analysis, vote count method and size effect; 39 studies; 13 meta-analyses.	Loss in mathematics for all students; loss in reading for disadvantaged.
Grotjohn and Banks	1993	Synthesis of Year Round Schools and achievement to determine if Year Round Schools make a difference.	Vote Count Method, Data collection ERIC Search, Requested complete studies listed by NAYRE.	Reported no adverse effect on academic achievement on most students.
Kneese	1996	To analyze the impact of YRE on student differences in learning.	Program evaluation; grade 5 and 7 in 3 SES schools; matched YRE to TE; data collection, Rasch scores (RIT); Data analysis descriptive (mean scaled scores and inferential (ANOVA).	Gain scores favor single track YRE with exception of 1; statistically significance found in half of comparisons; YRE most beneficial for math and high SES students; Hawthorne effect possible for third year although YRE was positive but less effective in year 3.

Kneese	1996	To review student learning in YRE.	Meta-analysis; multi or single tracks, control or comparison groups; dependent variable is achievement; 1 year in YRE, pretest/posttest gain score design; cross-sectional and longitudinal analyses; results of statistical analysis reported.	Single track more educationally significant than multi-track; results still inconclusive.
Kneese	2000	To review student learning in a research synthesis relating to achievement for local decision- making.	Meta-analysis, vote count, inferential statistics, descriptive statistics, 36 studies comparing YRE to TE.	For at-risk or economically deprived, YRE best in reading; YRE academic performance generally equals to or better than TE.
Palmer and Bemis	2000	To compare academic achievement of YRE and TE students	Meta-analysis; Vote Count Method of statistically significant directional findings of studies from 1980-1997.	27 of 33 comparisons indicated significant positive effects of YRE on achievement; 11 of 13 in reading; 9 of 11 in math showed positive significant differences. Students attending YRE perform as well if not better than traditional students.
Ritter	1992	To investigate the effect of YRE calendar on gifted and talented students.	Two groups of homogeneous gifted 6 th graders; 22 YRE students and 26 TE students; each in prealgebra math program; each group tested at mid-term and at the end of the year; DV-achievement and IV mathematics scores.	Mid-year TE out scored YRE and at end of year YRE outscored TE; YRE scores remained constant throughout year. TE rises in midterm and sharp decline at the end of the year; At the end of the year, scores were not statistically significant. There may have been more steady learning in YRE.

Roby	1995	To compare a YRE school and TE school in reading and mathematics achievement.	1 YRE and 1 TE; 6 th grade, 3 classes in each school; randomized controlled groups; posttested, no pretesting to adjust for covariate of cognitive ability equalized the control and comparison groups. Chi square (goodness of fit) to match ethnicity and SES. ITBS and CogAT. Score interpreted by Normal Curve Equivalent; adjusted using ANCOVA. Covariates are CogAT verbal, quantitative, nonverbal scores. Sought difference between mean mathematics and reading scores in YRE and TE.	With covariates held constant, a statistically significant difference in math; with mean scores adjusted for quantitative and nonverbal covariates- no statistically significant difference in mathematics.
Six	1993	To review studies related to achievement in YRE and TE.	Meta-analysis; vote count method; data collection from 2 groups; 1 group was in the program for 2 years, 3 testing points, comparison group and group 2 did not meet all three criteria; reviewed 13 studies from 1980-1992.	Ten favored YRE; 7 of 10 statistically significant; 3 statistically significant not reported – results inconclusive
Winters	1995	To review studies relating to the achievement of students enrolled in YRE.	Meta-analysis; vote count method, data collection from 1991-95; in YRE 2 years; statistics based on 3 testing	19 studies; test results mixed; yet favorable for YRE; YRE- 54 out of 64 categories (+); TE- 3 out of 64 categories (+); 7 mixed findings.

Wintre	1986	To challenge the assumption of generalized academic losses over the summer	points or comparison group; studies in 2 groups; 1 group met all specification and the other group did not. Metropolitan Achievement Tests (MAT); grades 1,3,5; non in summer school programs; all middle class elementary; all did pre and posttesting, administered in spring and fall.	Significant improvement of overall academic skills; significant interaction with grade level and content areas; significant loss in grade 3 mathematics computation; no empirical evidence that student loss summer of 1986; some inconclusive, contradicting confusing data
Woodward	1995	To review the effect of school calendars on achievement.	Synthesis of several studies	Success of YRE inconclusive; question as to whether YRE will improve student learning as measured by standardized tests of basic skills; consensus remains that TE schools are lacking in ability to instruction needed for student success.

Behavior Patterns and Year Round Education

Heaberlin's (2000) study investigated the impact of year round education and discipline of students at Newnan Crossing Elementary School in Georgia. Students were matched from grades 1-2 through grades 4-5 in their final year of traditional education in 1996-97 and the first year of year round education in 1997-98 at Crossing Elementary was compared. The Crossing Elementary students in grades 2-5 were also compared to a similar traditional education calendar elementary school in the same district after one year of year round education. The number of out-of-school suspensions and referrals made to Coweta County Superintendent's office were the data used. A paired t-test with a predetermined alpha of .05 determined the significance of the mean value of the dependent variable comparing the matched students at Crossing and an independent samples t-test determined the statistical significance of the mean values for each dependent variable comparing Crossing's year round education program and a similar traditional education elementary school. Although the comparison in the number of out-of-school suspensions and the number of discipline referrals to the superintendent were favorable for the Crossing Elementary students, there were no statistical significant differences. Heaberlin concluded that, although there were no statistical significant differences, year round education could possibly be just as effective as traditional education.

Table 7 shows the results from the paired sample t-test in out-of-school suspensions for matched students in grades 1-5 during the 1996-97 and 1997-98 school years at Newnan Crossing Elementary School. A decrease in discipline problems resulted from the multi-track plan implemented due to over crowding (Webster & Nyberg, 1992). Programs at the multi-level year round tracks can work. Vandalism in schools has been reported to decrease (Ballinger, 1995).

Table 7

Paired Sample T-test in Out-of-School Suspensions for Matched Students in Grades 1-5 during the 1996-97 and 1997-98 School Years at Newnan Crossing Elementary School

Grades	N	Final Year of Traditional Calendar			First Year of YRE Approach 1997-98			df	t	p
		1996-1997 Range High to Low	Mean	SD	Range Low to High	Mean	SD			
1-2	39	0-3	.21	.73	0-1	.03	.16	38	1.74	.090
2-3	34	0-1	.15	.36	0-0	.00	.00	33	2.39	.023*
3-4	29	0-3	.38	.82	0-1	.03	.19	28	2.57	.016*
4-5	32	0-2	.28	.58	0-1	.03	.18	31	2.78	.009*

*

Note. Adapted from The Effects of Year Round Education on Elementary School Students Unpublished

Doctoral Dissertation by R. Heaberlin, 2000. Adapted with permission from the author.

Table 8 is a summary of Heaberlin's (2000) study on behavior patterns.

Table 8
Summary of Study on Year Round Education and Behavior Patterns

Author	Date	Purpose of Study	Methodology	Findings
Heaberlin	2000	Investigate the impact YRE has on Newnan Crossing Elementary School students' achievement, discipline, and attendance	Paired sample t-test and an independent samples t-test population of students in grades 1-5 matched students in final year of TE (96-97) and first year of YRE (97-98) Students in YRE at Crossing Elementary compared to a similar TE elementary (97-98) Out-of-school suspensions and referrals to Coweta County superintendent	Decrease in suspensions for Crossing students but no statistically significant difference

Summary

There are advantages and disadvantages to year round education as discussed in the review of literature. Based on the literature, the advantages are learning retention, achievement, intersessions, and advantages for the teaching staff. The disadvantages range from conflicts with vacations, administrative burnout, with communication problems on dual tracks to lack of time for building maintenance. Year round education is increasing throughout the United States and the advantage related to achievement appears to be the catalyst, according to the literature.

Chapter III

Methodology

Chapter III discusses the methodology to be used in this study. The setting and context, sample, variables, research design, instrumentation, procedures, description of analysis employed, and the research questions are discussed.

Setting and Context

Hampton, Virginia is an urban city located on a peninsula in the eastern region of Virginia on the Hampton Roads Bay, which flows into the Chesapeake Bay. The population is approximately 250,000. The school district in this study consists of approximately 23,000 students with 24 elementary schools (7 year round), 6 middle schools (1 year round), 4 high schools, and 1(year round) charter school.

The middle school is an urban school located in the city limits of east Hampton near Buckroe Beach and the Hampton Roads Bridge tunnel. The population of the school was approximately 980 students in grades 6 through 8. Approximately 66% percent of the students were on free and reduced lunch and approximately 73% were minority students.

The students were registered in the classes on both schedules based on Advancement Via Individual Determination (AVID) qualifications, giftedness, advanced, and general ability levels. AVID is a program that assists average and at risk students who have the potential to attend college. Strategies such as Cornell note taking, Socratic Questioning, and Writing Inquiry Collaboration (WIC) were implemented to help students with study skills. Tutoring sessions were held throughout the week to reinforce skills learned in mathematics, science, social studies and language arts. All students were taught during a 90-minute A/B block schedule in which students attended classes on alternate (blue and orange) days.

The middle school was the first middle school in the school district and one of the first in Virginia to implement year round education. From 1998-2001, both the year round education and traditional education programs were located in the same building (dual track). The year round education program was implemented in 1998. The school remains the only year round education middle school in the district.

Sample

Over a three-year period from 1998-2001, the middle school population was divided into two tracks on a modified 45/15 schedule. The dual track population consisted of students in either the year round education or traditional education program. Table 9 shows the total enrollment for year round education and traditional education students during the three-year period. In 1998-1999 (grade 6), there were 761 year round education students and 360 traditional education students. For 1999-2000 (grade 7), 809 year round education students and 299 traditional education students were enrolled. In 2000-2001, grade 8 had an enrollment of 742 year round education students and 337 traditional education students enrolled in Spratley Middle School the third year of dual track. Of this population, 87 remained in year round education and 26 remained in traditional education for the entire three years.

Table 9

Urban Middle School: Dual Track Student Population from 1998-2001

Year	Date	Total Enrollment	
		YRE	TE
1	1998-1999	761	360
2	1999-2000	809	299
3	2000-2001	742	337

Note. From data collected from Hampton City Public Schools' Mac School Data Base

This study involved the 2000-2001 eighth graders attending an urban middle school in Hampton, Virginia who were enrolled in the year round education or traditional education programs at the middle school from grades 6-8. The sample in this study was the 87-year round education students and the 26 traditional education students who remained on the same track for the three years from 1998-2001. A total of 113 grade 8 students participated in the study. Of these, 76% (87) of these students were in the year round education program and 24% (26) were in the traditional education program. All of the special education students were on the year round education track and were excluded in the population because there were no special education students on the traditional education track.

These students were enrolled on three teams of eighth grade language arts, mathematics, social studies, and science classes. All of the students rotated through a 4 1/2 weeks mini workshop in technology. There were two teams (8 classes) of year round education students and one team (4 classes) of traditional education students. All three teams had four language arts classes (12 classes), four social studies classes (12 classes), four mathematics classes (12 classes) and four science classes (12 classes) per team and used the same resources. The school district curriculum strategies were practiced in all classes to prepare students for the Virginia Standards of Learning in the areas of reading, writing, mathematics, social studies, and science.

Instrumentation

Based on the Operational Model, grades 5 and 8 attendance; grade 8 Standards of Learning scores and grade 5 Degrees of Reading Power scores for academic achievement; and the first time placement of students in out-of-school suspension and in-school suspension for grade 8 were the instruments used to analyze the impact of year round education.

Student Attendance

The 113 middle school year round education and traditional education grade 8 students' attendance data for the 180-day school year were compared. The eighth graders' grade 5 attendance (1997-1998) was used as the covariate to control for initial differences.

Standards of Learning

The Standards of Learning is Virginia's achievement assessment. It is a criterion-referenced assessment with three achievement levels. The levels are passing, proficient, and advanced. As a criterion referenced test, it allows for the interpretation of a student's score in relation to a specified standard of performance. The reporting categories for English/reading, writing, mathematics, social studies, and science are outlined in the Virginia Standards of Learning Blueprint. The reporting categories (skills students must master in reading, writing, mathematics, social studies and science) are scored from 0-50 with 30 being a strength indicator (The Virginia Department of Education Division of Assessment and Reporting, 1999).

The validity or accuracy of the Standards of Learning tests was determined based on the related measures of the Stanford 9 and the Literacy Passport Tests. Traditional item statistics, Rasch item statistics, and differential item functioning were done on each question before they were placed in the test bank. The Haenszel Alpha procedure was used to question test bias. Spearman Rank Order Correlation Coefficient was utilized in tested areas. The Virginia Department of Education Division of Assessment and Reporting (1999) used outside experts to review the items on the Standards of Learning test. The pass rates on the grade 8 Standards of Learning tests were correlated with national percentile ranks on grade 8 Stanford 9 tests, the pass rates on the grade 8 Standards of Learning tests correlated with national percentile ranks on the

grade 6 Literacy Passport Test, and the grade 8 Standards of Learning tests in relation to the Kuder-Richardson # 20 Reliability Coefficients.

Degrees of Reading Power

The Degrees of Reading Power test measures how well students understand what has been read holistically. The answers given by the students based on the text read are reviewed to determine the depth of the students' understanding of the passage. There is a close relationship between the difficulty of the passage and the results of the test. The results are assessed based on what the student can do. The results are reported on a readability scale (TASA, 2000). The test scores are linked to the readability values of books, and reflect what the student is able to read (TASA, 1995). The Degrees of Reading Power test is the most compatible to the Standards of Learning Reading test as the covariate because both assess the domain of reading. The students' grade 5 (1997-98) Degrees of Reading Power scores were used. The eighth graders' grade 5 Degrees of Reading Power scores were used as the covariate. The students took both the Primary and Standard Degrees of Reading Power test in grades 5 and 8.

Behavior Patterns

The behavior patterns measure was determined by the 2000-2001 year round education and traditional education students' suspensions. The 113 students' first time placement in suspension data consisted of out-of-school suspensions and in-school suspensions data for 2000-2001.

Data Collection Procedures

Student Attendance

Attendance of the 113 year round education and tradition education students was measured by the number of days students were present on a 180-day school calendar. The data were retrieved from the district's MacSchool Data bank.

Student Academic Performance

Eighty-seven grade 8 year round education students and twenty-six traditional education grade 8 students at the middle school took the Virginia Standards of Learning tests in the spring of 2001. Student achievement was measured using the reading, writing, mathematics, science, and history Standards of Learning scores. The data were obtained from the district's MacSchool Data Bank.

Behavior Patterns

The middle school's year round education and traditional education students' discipline data was determined according to the number of first time placements in in-school suspension and out-of-school suspension. The 2000-2001 discipline data from the district's MacSchool Data Bank for the two groups were used.

Variables

The independent variable was group membership with the two levels of year round education or traditional education programs. The dependent variables were the student academic performance on the grade 8 Standards of Learning tests in the areas of reading, writing, mathematics, history, and science tests; attendance; and the behavior patterns of students. The covariates were the grade 5 Degrees of Reading Power comprehension test and attendance. The

control was the use of one school district and one middle school with dual tracks (year round education and traditional education) in the same building.

Research Design

A quasi-experimental research method was used. The relationship between several variables was explored. Quasi-experimental research is “a type of experiment in which research participants are not randomly assigned to the experimental and control groups” (Gall, Borg, Gall, 1996, p. 767). The focus of the study was to determine if year round education improved the students’ attendance, academic performance, and behavior patterns.

Research Questions

The following are the research questions:

- Research Question 1 After controlling for initial differences in the grade 5 attendance, is there a statistically significant difference in attendance rates between students in year round education and traditional education?
- Research Question 2 After controlling for initial differences in the grade 5 Degrees of reading Power reading comprehension, is there a statistically significant difference in academic performance between students in year round education and traditional education?
- Question 2a Is there a statistically significant difference between year round education students and traditional education students with respect to Standards of Learning Reading scores?
- Question 2b Is there a statistically significant difference between year round education students and traditional education students with respect to Standards of Learning Writing scores?

- Question 2c Is there a statistically significant difference between year round education students and traditional education students with respect to Standards of Learning Mathematics scores?
- Question 2d Is there a statistically significant difference between year round education students and traditional education students with respect to Standards of Learning Science scores?
- Question 2e Is there a statistically significant difference between year round education students and traditional education students with respect to Standards of Learning History scores?
- Research Question 3 Is there a statistically significant difference between students in year round education and students in traditional education with respect to behavior patterns?
- Question 3a Is there a statistically significant difference between students in year round education and students in traditional education with respect to placement in out-of-school suspension (OSS).
- Question 3b Is there a statistically significant difference between students in Year round education and students in traditional education with respect to placement in the in-school suspension Program (SIPS)?

Description of Analyses

The Statistical Package for the Social Sciences (SPSS, 1991-1999) was used to analyze the data. Descriptive analyses were done to determine the mean, standard deviation, and percent of students who remained in the year round education (87) and traditional education (26) groups

during the three years of dual operation based on gender, race/ethnicity, and free and reduced lunch. The overall means and standard deviations of grade 5 and 8 attendance; grade 5 Degrees of Reading Power scores; the grade 8 Standards of Learning achievement scores for reading, writing, mathematics, history, and science were analyzed for year round education and traditional education students who remained in the dual track program for the three years. The number of students suspended at least once and the percent by group were analyzed.

In this Quasi-experimental Design, the inferential statistical analyses consisted of two one-way ANCOVAs, two chi squares, and t-tests. An ANCOVA is used when the effects of a covariate, or an uncontrolled source of variation, need to be removed from an ANOVA and there is one dependent variable (Nichol and Pexman, 1999). The predetermined alpha was .05. According to Huck (2000), an alpha is used for assessing internal consistency. An alpha of .05 means that the probability of error will occur 5 times out of 100. If the probability of the observed statistical value was .05, the hypothesis of no difference would be rejected, and the conclusion would be made that there was a difference in the means of the year round education and the traditional education students. On the other hand, if the probability of the observed statistical value were greater than .05, the hypothesis of no difference would fail to reject.

To determine the behavior patterns, operationalized as out-of-school suspensions and in-school suspensions, two chi squares were used to determine whether differences between observed and expected frequencies are statistically significant (Nicol & Pexman, 1999). In the non-parametric analysis, chi square, the descriptive statistics of mean, and standard deviation analyses were done for out-of-school suspensions and in-school suspensions. In the chi square analysis for OSS and SIPS statistics, χ^2 , df, and the significance were given. In the two-tailed t-tests, the mean and the significance were given. In Figure 3, the method of analysis concentrated

on students who were enrolled at the urban middle school during the three years of dual track operation.

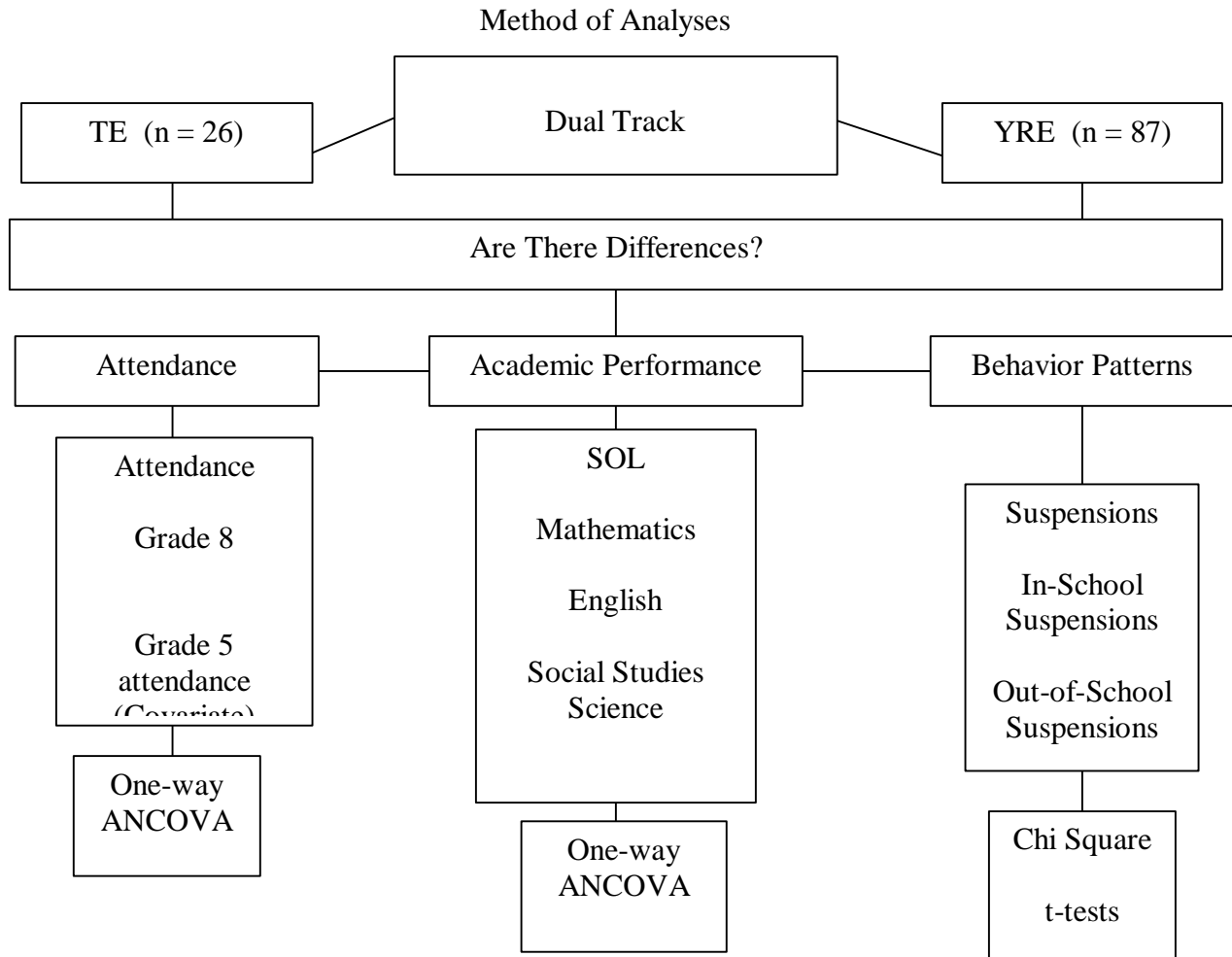


Figure 3: The methods of analyses used to compare attendance, academic performance, and behavior patterns of the year round education and traditional education students who remained in the dual track program during the three years of operation.

Chapter IV

Results

The school district provided, from the Mac School Data Bank, the attendance data and Degrees of Reading scores from grade 5; the eighth grade attendance data; the Standards of Learning scores in reading, writing, mathematics, history, and science; and suspension data for the students involved in the study.

Data Analyses Findings

In Table 10, the descriptive data of year round education and traditional education students are shown by gender, race/ethnicity, and students enrolled in the free and reduced lunch program. Overall, of the 113 year round education and traditional education students in the study, there were more girls (53.1%) than boys (46.9). Blacks made up 75.2% of the population while Whites made up 22.1% of the population. More students were enrolled (73.45%) in the free and reduced lunch program than not (26.48) enrolled in the free and reduced lunch program. The population on the year round education track showed a greater percent of girls (51.7%) than boys (48.3%). There were more Blacks (79.3%) on the YRE schedule, and a greater percent of students in year round education was enrolled in the free and reduce lunch program (77.01%) than not enrolled. On the traditional education track, there was a greater percent of girls (57.7%) than boys (42.3%). There was more traditional education Blacks (61.5%) than Whites (34.6%), with a greater percent of traditional education students in the lunch program (61.53%) than were not enrolled. The middle school is representative of the district's population in gender, race/ethnicity, and students enrolled in the free and reduced lunch program.

Table 10

Demographics of Year Round Education (n=87) and Traditional Education (n=26) Students (n=113) by Gender, Race/Ethnicity, and Lunch Program

		YRE	TE	Overall
Gender				
Boys	n	42	11	53
	%	48.3	42.3	46.9
Girls	n	45	15	60
	%	51.7	57.7	53.1
Race/Ethnicity				
Black	n	69	16	85
	%	79.3	61.5	75.2
White	n	16	9	25
	%	18.4	34.6	22.1
Other	n	2	1	3
	%	2.3	3.9	2.7
Lunch Program				
Enrolled	n	67	16	83
	%	77.01	61.53	73.45
Not Enrolled	n	20	10	30
	%	22.98	38.46	26.48

Attendance

Attendance data for the year round education and traditional education students are presented in Table 11. Overall, there were 113 (87 year round education and 26 traditional

education) students. The school year is 180 days. The mean days of attendance for the total population was 172.6 with a standard deviation of 8.91 days. On average, the year round education students attended school 2.2 days more than the traditional education students with the means being 173.1 days and 170.9 days, respectively.

Table 11

Attendance (n=113) Based on 180 Days for Year Round Education (87) and Traditional Education (26) Students

		YRE	TE	Overall
Grade 5	M	170.1	167.1	169.4
	SD	11.36	10.86	11.88
Grade 8	M	173.1	170.9	172.6
	SD	8.23	13.46	8.91

A one-way analysis of covariance (ANCOVA) for grade 8 attendance was conducted to determine if there was a statistically significant difference among students in a year round education program and students in a traditional education program with respect to attendance after controlling for initial differences in grade 5 attendance. Table 12 presents inferential statistics for attendance. The computed F for year round education and traditional education attendance was .27 with a significance of .60, indicating there was no statistically significant difference in attendance based on the pre-determined alpha level of .05.

Table 12

Analysis of Covariance for Grade 8 Attendance

	<u>df</u>	<u>SS</u>	<u>MS</u>	<u>F</u>	<u>Sig.</u>
Covariate	1	2075.21	1037.606	17.55	.01
Between	1	16.07	16.07	.27	.60
Within	94	5558.73	59.14		
Total	96	7633.94			

Academic Performance

The descriptive statistics for year round education and traditional education students' academic performance in reading, writing, mathematics, history, and science are shown in Table 13. Overall, grade 5 students had a Degrees of Reading Power mean reading score of 51.84 and a standard deviation of 10.60. Overall, the grade 8 Standards of Learning reading scores showed a mean score of 421.81 and a standard deviation of 53.69. The reading descriptive data show that the grade 5 Degrees of Reading Power mean is higher for the traditional education with a standard deviation of 13.27 compared to 9.62 for year round education students. The grade 8 Standards of Learning Reading data show a higher mean for year round education at 422.7 compared to a mean of 418.68 for traditional education with a standard deviation of 55.29 for year round education and 49.05 for traditional education. The overall Writing Standards of Learning data for grade 8 had a mean of 416.97 and a standard deviation of 28.78. Of these numbers, the year round education Writing Standards of Learning mean score of 418.6 was higher than the traditional education Writing Standards of Learning mean of 411.4. The year round education and traditional education standard deviations were 36.68 and 25.97,

respectively. The overall mathematics descriptive statistics number had a mean Standards of Learning score of 441.27 and a standard deviation of 50.58. Of these numbers, the year round education Mathematics Standards of Learning mean of 444.43 was higher than the traditional education Mathematics Standards of Learning mean of 430.88. The year round education and traditional education standard deviations were 49.12 and 54.87, respectively. The overall History Standards of Learning data for grade 8 shows a mean of 400.24 and a standard deviation of 59.7. The year round education Standards of Learning history mean score of 401.83 was higher than the traditional education History Standards of Learning mean of 394.75. The traditional education history mean score did not meet the Virginia Standards of Learning pass score of 400. The year round education and traditional education standard deviations were 57.4 and 68.28, respectively. The science descriptive statistics mean Standards of Learning score was 440 with a standard deviation of 48. The year round education Science Standards of Learning mean score of 437.35 was lower than the traditional education Science Standards of Learning mean of 451.13. The year round education standard deviation was 41.20 and the traditional education standard deviation was 68.83.

The passing Standards of Learning score in each area is 400. The year round education students scored higher than the traditional education students in all areas with the exception of science. The data shows that the mean Standards of Learning grade 8 scores were higher in reading, writing, and mathematics for year round education with the exception of the Science Standards of Learning. The grade 8 year round education students met the Virginia Standards of Learning pass score on every test. The traditional education students met the standards in all areas except history.

Table 13

Descriptive Statistics of Year Round Education and Traditional Education Students' Academic Performance in Reading, Writing, Mathematics, History, and Science

	Grade 5 SOL				Grade 8 SOL							
	DRP		Reading		Writing		Mathematics		History		Science	
	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD
Overall	51.84	10.60	421.81	53.69	416.97	28.78	441.27	50.58	400.24	59.74	440.30	48.36
YRE	51.20	9.62	422.77	55.29	418.63	25.97	444.43	49.12	401.83	57.40	437.35	41.20
TE	53.81	13.27	418.68	49.05	411.44	36.68	430.88	54.87	394.75	68.28	451.13	68.83

A one-way analysis of covariance (ANCOVA) for grade 8 academic performance was conducted to determine if there was a statistically significant difference between students in a year round education program and students in a traditional education program with respect to academic performance after controlling for initial differences on the grade 5 Degrees of Reading Power. Table 14 shows that there is no statistically significant difference in reading scores between year round education and traditional education students. The F was .72 with a significance of .40 based on a pre-determined alpha level of .05.

Table 14

Analysis of Covariance for Grade 8 Reading Standards of Learning

	<u>df</u>	<u>SS</u>	<u>MS</u>	<u>F</u>	<u>Sig.</u>
Covariate	1	65035.84	32517.92	16.16	.01
Between	1	1441.93	1441.93	.72	.40
Within	82	164985.17	2012.01		
Total	84	230021.01			

The data in Table 15 shows there was no statistically significant difference between programs (year round education and traditional education) with respect to Standards of Learning writing scores. A one-way analysis of covariance (ANCOVA) for grade 8 academic performance in writing was conducted to determine if there was a statistically significant difference between students in a year round education program and students in a traditional education program with respect to academic performance in writing after controlling for initial differences on the grade 5 Degrees of Reading Power. The F was 1.94 with a significance of .17 based on a pre-determined alpha level of .05.

Table 15

Analysis of Covariance for Grade 8 Writing Standards of Learning

	<u>df</u>	<u>SS</u>	<u>MS</u>	<u>F</u>	<u>Sig.</u>
Covariate	1	25721.89	12860.945	23.99	.01
Between	1	1039.80	1039.80	1.94	.17
Within	84	45027.63	536.043		
Total	86	70749.52			

A one-way analysis of covariance (ANCOVA) for grade 8 academic performance in mathematics was conducted to determine if there was a statistically significant difference between mathematic scores for students in a year round education program and the students in a traditional education program. There was not a statistically significant difference between programs (year round education and traditional education) with respect to Standards of Learning

mathematics scores. The F was 1.17 with a significance of .28 based on a pre-determined alpha level of .05 (See Table 16).

Table 16

Analysis of Covariance for Grade 8 Mathematics Standards of Learning

	<u>df</u>	<u>SS</u>	<u>MS</u>	<u>F</u>	<u>Sig.</u>
Covariate	1	41010.53	20505.27	9.80	.01
Between	1	2454.37	2454.37	1.17	.28
Within	84	175597.19	2090.44		
Total	86	216607.72			

In Table 17, there was no statistically significant difference between programs (year round education and traditional education) with respect to the Standards of Learning history scores. A one-way analysis of covariance (ANCOVA) for grade 8 academic performance in history was conducted to determine if there was a statistically significant difference in scores between students in a year round education program and students in a traditional education program after controlling for initial differences on the grade 5 Degrees of Power test. The F was 2.69 with a significance of .10 based on a pre-determined alpha level of .05

Table 17

Analysis of Covariance for Grade 8 History Standards of Learning

	<u>df</u>	<u>SS</u>	<u>MS</u>	<u>F</u>	<u>Sig.</u>
Covariate	1	121723.09	60861.55	27.30	.01
Between	1	6002.895	6002.90	2.69	.10
Within	84	187295.14	2229.704		
Total	86	309018.23			

A one-way analysis of covariance (ANCOVA) for grade 8 academic performance in science was conducted to determine if there was a statistically significant difference in Standards of Learning scores between students in a year round education program and students in a traditional education program after controlling for initial differences on the grade 5 Degrees of Reading Power test. Table 18 shows that there is no statistically significant difference between programs (year round education and traditional education) with respect to Standards of Learning science scores. The F is 2.08 with a significance of .15 based on a pre-determined alpha level of .05.

Table 18

Analysis of Covariance for Grade 8 Science Standards of Learning

	<u>df</u>	<u>SS</u>	<u>MS</u>	<u>F</u>	<u>Sig.</u>
Covariate	1	83990.02	41995.01	33.92	.01
Between	1	2568.46	2568.46	2.08	.15
Within	80	99048.78	1238.11		
Total	82	183038.80			

Behavior Patterns

The descriptive statistics of year round education and traditional education students' in-school suspensions and out-of-school suspensions, are presented. Table 19 shows that 57 of the 113 students (50.4%) in the study were suspended at least once during the school year. Eleven of the 26 traditional education students (42.3%), and 46 of the 87 year round education students (52.9%) were suspended.

Table 19

Year Round Education (YRE) and Traditional Education (TE) Students' Behavior Patterns

Operationalized as In-School Suspensions and Out-of-School Suspensions

	n	n Students Suspended at Least Once	% Suspended by Group
TE	26	11	42.3
YRE	87	46	52.9
Total	113	57	50.4

Table 20 presents the in-school suspension data. Forty-six students (40.70%) in the study were in in-school suspension at least once. The average number of days in in-school suspension for those suspended was 5.02 days. Nine of the 26 traditional education students (34.60%) were placed in in-school suspension at least once, while 37 of the year round education students (42.50%) were in in-school suspension at least once. Those traditional education students who were in in-school suspension spent an average of 3.67 days in suspension while those suspended students from the YRE group spent an average of 5.02 days. The data do not indicate that the behavior was more severe for one group than for the other. The data reflect only the first time placement of students in in-school suspension or out-of-school suspension.

Table 20

The Number of Students Placed in In-School Suspension at Least Once, the Percent of Category, and Average Number of Days Placed in In-School Suspension

	n	n of students suspended at Least Once	% Suspended by Category	Average n of Days
TE	26	9	34.60	3.67
YRE	87	37	42.50	5.35
Total	113	46	40.70	5.02

Table 21 presents the data on out-of-school suspensions only. Twenty-seven students (23.9%) in the study were in out-of-school suspension at least once. The average number of days in out-of-school suspension for those suspended was 11.7. Six of the 26 traditional education students (23.10%) were placed in out-of-school suspension at least once, while 21 of the year round education students (24.10%) were in out-of-school suspension at least once. Those traditional education students who were in out-of-school suspension spent an average of 14 days in suspension while those suspended students from the YRE group spent an average of 11.05 days. The data show that the year round education students spent fewer days on an average in out-of-school suspension than traditional education students.

Table 21

The Number of Students Placed in Out-of-School Suspension at Least Once, the Percent of Category, and Average Number of Days Placed in Out-of-School Suspension

	n of Students	n of Students Suspended at Least Once	% Suspended by Category	Average Number of Days
TE	26	6	23.10	14
YRE	87	21	24.10	11.05
Total	113	27	23.9	11.7

Table 22 presents the expected suspension rate for first time suspensions for year round education (77%) and traditional education (23%). The observed suspension rates are 81% (year round education) and 19% (traditional education). The chi square is .69 with a df of 1 and a significance of .4. Based on the chi square analysis, there is no statistically significant difference between the first time suspension rates for the year round education and traditional education groups.

Table 22

Prevalence of In-School Suspension and Out-of-School Suspension Between Year Round Education (YRE) and Traditional Education (TE) Students During the Grade 8 Year of Dual Track Operation (Chi Square)

	Expected Suspensions	Observed Suspensions	χ^2	df	sig.
YRE	77	81			
TE	23	19			
			.69	1	.4

The average number of days served in in-school suspension and out-of-school suspension was compared in a 2-tailed t-test shown in Table 23. The mean days for year round education in-school suspensions (5.35) and out-of-school suspensions (11.05) are presented. The mean days for traditional education in-school suspensions (3.66) and out-of-school suspensions (14) are given. There was no statistically significant difference in the length of suspensions for in-school suspension (.215) or out-of-school suspension (.595) in either the year round education or traditional education group.

Table 23

The t-test Data of Days Year Round Education (YRE) and Traditional Education (TE) Students were Placed in In-School (SIPS) and Out-of-School Suspension (OSS) in 2000-2001

Program	Suspensions	M	Sig.
YRE	SIPS	5.35	
	OSS	11.05	
TE	SIPS	3.66	
	OSS	14	
	SIPS		.215
	OSS		.595

Summary

In Chapter IV, the descriptive and inferential analyses as related to the research questions were presented. The research questions referred to the impact year round education had on the urban middle school students' attendance, academic performance and behavior patterns (in-school suspension and out-of-school suspension). There was a comparison of the urban middle school students (n=113) who were on either the year round education (n=87) or traditional education (n=26) tracks for the three years of dual operation. The descriptive data revealed that the attendance of the year round education students was higher than the attendance of the traditional education students. The Standards of Learning mean scores of the year round education students in reading, writing, mathematics, and history were also higher than the reading, writing, mathematics, and history Standards of Learning scores of the traditional education students. In science, the descriptive data indicated that the traditional education students' Standards of Learning mean score was higher than the year round education students' mean score. However, the inferential analyses (one-way ANCOVA) showed that there was no statistically significant difference in year round education and traditional education students'

attendance or in their reading, writing, mathematics, history, and science Standard of Learning scores (academic achievement). There was no statistically significant difference in the year round education and traditional education students' suspension rates or length of suspensions (in-school suspensions and out-of-school suspension) in the chi squares and t-test analyses.

Chapter V

Summary and Conclusions

The year round education initiative is not a new concept, but has flourished over the past decade (Ballinger, 1995). The number of studies related to attendance, achievement, and suspension has been minimal, but has increased over the past few years. The uniqueness of this study is that there are no studies of students on year round education and traditional education in a dual track setting within the same middle school. The purpose of this study was to address three research questions: (1) to determine the impact year round education had on grade 8 attendance after controlling for initial differences in grade 5 attendance; (2) to determine the impact year round education had on academic achievement as measured by performance on the reading, writing, mathematics, history, and science Standards of Learning tests after controlling for initial differences in grade 5 on the Degrees of Reading Power test; and (3) to determine the impact year round education had on grade 8 out-of-school suspensions and in-school suspensions.

Summary of Findings

Descriptive statistics were based on the total number of students who remained in the year round education and traditional education tracks for the three years of dual operation from 1998-2001. One hundred thirteen students met that criterion. The gender, race/ethnicity, and the number of grade 8 students in poverty as measured by the number of students enrolled in the free and reduced lunch program at the urban middle school were determined through descriptive analyses. The urban middle school served approximately 980 students in grades 6-8 during the school year of 2000-2001. The population was a very transient population. As a result, a total of

113 students remained at the middle school for the time period studied on either the YRE (n=87) or TE (n=26) track from 1998-2001. The study included all qualifying students.

The descriptive and inferential analyses as related to the research questions were presented. The research questions referred to the impact year round education had on the urban middle school students' attendance, academic performance and behavior patterns (in-school suspension and out-of-school suspension). There was a comparison of the urban middle school students (n=113) who were on either the year round education (n=87) or traditional education (n=26) tracks for the three years of dual operation. The descriptive data revealed that the attendance of the year round education students was higher than the attendance of the traditional education students. The Standards of Learning mean scores of the year round education students in reading, writing, mathematics, and history were also higher than the reading, writing, mathematics, and history Standards of Learning scores of the traditional education students. In science, the descriptive data indicated that the traditional education students' Standards of Learning mean score was higher than the year round education students' mean score. However, the inferential analyses (one-way ANCOVA) showed that there was no statistically significant difference in year round education and traditional education students' attendance or in their reading, writing, mathematics, history, and science Standard of Learning scores (academic achievement). There was no statistically significant difference in the year round education and traditional education students' suspension rates or length of suspensions (in-school suspensions and out-of-school suspension) in the chi squares and t-test analyses.

Discussion of Findings

The purpose of this study was to determine the effect of year round education on attendance, academic performance, and behavior patterns of 113 students at an urban middle school located in a Virginia school district. The subjects of this inquiry were 113 students who remained at the urban middle school during the operation of dual tracks (year round education and traditional education) from 1998-2001. There were 87 year round education students and 26 traditional education students who met the established criteria and attended the middle school and remained in the same program for the three years of the study. The number of students in the study was small, particularly the traditional education students. Based on the findings of other researchers, primarily Palmer and Bemis (2000), the results of this study are consistent with previous research.

Attendance

The data from this study yielded no statistically significant difference in the year round education and traditional education students' attendance. One group's attendance appeared to be no better than the other. Palmer and Bemis's (2000) findings were similar to the finding in this study based on their meta-analysis. There was no statistically significant difference.

Academic Performance

The data from this study yielded no statistically significant difference in the year round education and traditional education students' Reading, Writing, Mathematics, and History Standards of Learning test scores. Alcorn (1992) had similar results when he compared year round education and traditional education students' reading, language and mathematic scores. He used the results from grades 3, 5, and 6 CAT and grade 5 CTBS test results. Kneese (1996) analyzed the impact of year round education on student differences in learning using Rasch test

mean scale scores. The results in the meta-analysis ranged from showing a difference, showing no difference, to being inconclusive. The results of this study are within the range of their findings.

In a one-way ANCOVA, the academic performance of year round education and traditional education students was compared. A small number of students was (113) in the study. With a pre-determined alpha of .05, there were no statistically significant differences for reading, writing, mathematics, history, and science Standards of Learning test scores. Grotjohn and Banks (1993) conducted a meta-analysis of year round education schools on achievement to determine if year round education schools make a difference. Their study reported no effect on academic achievement for most students. In Kneese's (1996) study to analyze the impact of year round education on students' differences in learning, she stated that the results might not have been as good as they were the year before. Even though the year round education results were positive, it was possibly due to the Hawthorne Effect for the third year. This study was based on the urban middle school's third year of year round education. It appears that the year round education program is equally as effective as traditional education, as there is no statistically significant difference in academic performance. Based on the data, neither program was any better than the other. Based on Kneese's 2000 meta-analysis of 36 studies on student achievement of year round education and traditional education students, year round education students achieved higher scores in reading. She concluded that the academic performance of year round education students generally equaled to or was better than traditional education students. The findings in this study were consistent with the conclusion that Kneese made stating that the performance of the year round education equaled that of the traditional education students because there was no statistically significant difference between the two groups.

Behavior Patterns

The data from this study yielded no statistically significant difference in the year round education and traditional education students' first time placement in in-school suspension and out-of-school suspension. Heaberlin (2000) found in his investigation of discipline problems of Newnan Crossing students, a year round education school, that even though there was a decrease in suspensions, there was no statistically significant difference in the year round education and the traditional education students' discipline. His findings were similar to the findings in this study.

Conclusions and Implications

The results of this study revealed no statistically significant findings. The generalizability was limited because of several factors. The conclusions and implications were limited by the size of the sample. There was a lack of random assignment of the students. The year round education and traditional education students interacted with each other, which resulted in no clear delineation between the two groups. The same teachers taught many of the students. Basically, the organization of the school had little impact on student achievement, behavior, and attendance. These items limited the conclusions and implications in this study. As a result, the study did not show advantages or disadvantages of year round education or traditional education.

Recommendations

This study did not indicate significant differences in year round education from traditional education as it related to attendance, academic achievement, and behavior patterns. The recommendations for the year round education initiative are as follows:

1. Even though the actual data showed that one program is no better than the other in improving attendance, academic achievement or behavior patterns, a recommendation is that year round education be utilized as an alternative scheduling choice.
2. It is recommended that year round education be utilized as a scheduling option to provide additional instructional time for students who do not meet Annual Yearly Progress (AYP) in the *No Child Left Behind Act of 2001*(NCLB) legislation.
3. It is recommended that the school district continue the year round education school schedules that are currently in place and monitor the progress of the 7 elementary schools, 1 middle school, and 1 charter school.
4. It is recommended that professional development be provided for staff on how to deal with change.
5. It is recommended that professional development be provided for teachers on different instructional techniques to be used during the intersessions, how to implement an effective intersession, and how to align the intersessions with curriculum and student needs.

Suggestions for Further Study

This is one of the first studies done using a middle school with both tracks in the same building to determine if there is a statistically significant difference in attendance, academic performance, and behavior patterns in a middle school setting. Suggestions for further study include:

1. There should be ongoing studies of the success or lack of success of year round education by comparing the year round school to a traditional school in a separate setting.

2. There should be a study to look at different year round education formats such as 45/15, 45/10, or 30/10.
3. A larger population of students could be studied, as time progresses, rather than the small number (113) of students who remained at this urban middle school on either the year round education or TE track during its three years of dual operation.
4. A similar study utilizing a larger student population of the urban year round education middle school in this study could be compared to a comparable traditional education middle school in the same school district.
5. There should be a follow-up study five or more years later on the population in this study that addresses high school and college graduation rates.
6. There should be a study on the population in this study to assess their long-term changes related to high school attendance, academic performance, and behavior patterns.
7. There should be a study of the effect of year round education on student, parent, and teacher self-efficacy.
8. There should be a study of the effect of year round education on student, parent, and teacher attitude.
9. There should be a study to examine data from formative assessments to determine impact of learning loss.
10. There should be a study on the relationship between student attendance during intersession and student achievement.

Reflections

In 1998, Dr. Billy Cannaday gave me the opportunity to become the principal of one of the first year round schools in a Virginia school district. In fact, the urban middle school in this

study was one of the first year round middle schools in the Commonwealth of Virginia. The middle school students had low attendance, poor achievement, and the highest number of suspensions in the district. The perception of the school by the community was very negative, possibly due to the social economic status of the students and the reputation for being an unsafe school.

This study gave me the opportunity to learn about year round education programs across the nation. In the initial committee research on year round education and the reasons for many districts moving to year round schedules, it was realized that schools across the country were experiencing the same lack of success. A review of the literature showed mixed results on the effectiveness of year round schools. Yet, all of the studies showed some practical positive changes in student progress. The committee was convinced that the year round reform was one option that could be utilized to change the level of performance of the school. After months of researching and educating the stakeholders, surveying the staff, parents and students, the committee made a recommendation to the school board for implementing a 45/15 year round calendar to begin July 1998.

The organizational pattern of the school changed from one traditional calendar to include the year round calendar (dual track). Teachers made a choice as to which track they desired and families chose between year round and traditional as well. More teachers and families chose the year round track rather than the traditional schedule. Being the principal of a dual track school was not easy, nor was it easy for the support staff and custodial staff. The staff was literally on duty year round. The administrative staff became very creative in developing duty schedules and in rotating time off for the three groups. Some of the resource teachers felt the impact of the dual track because they (band, chorus and other elective teachers) gave up their planning time to teach

on both tracks with a supplement. The dual track schedule made it difficult staffing the elective courses. Even though the teacher attrition rate decreased in the year round program, it was difficult to replace a year round teacher many times because many applicants had a limited knowledge as to the operation of a year round schedule. The traditional teachers and students were comfortable because the schedule had not changed for them.

The year round teachers and students realized that it was great to have the option of teaching or attending an intersession. The teachers were able to earn extra money. The down time between each grading period gave them the opportunity to rejuvenate. I was able to watch both groups in the building and could observe the differences. The most noticeable observation was that the traditional teachers were noticeably exhausted by winter break and the year round teachers were not because they had a break in October. The students in year round appeared to be more focused and on task. One of the most rewarding aspects of intersession is that the report cards for the year round students did not go home until after intersession. The teachers were able to re-teach many of the skills and the students were able to master the skills at the end of the intersession.

The administrative experiences from operating a dual track school mirrored the experiences expressed by Wall (1994) in his study. It was very difficult to schedule staff development sessions, and meetings. The administrative staff and support staff began to experience burnout prior to creating a rotation schedule for rejuvenation during the intersessions. The time devoted to being on duty increased because of two schools in one building. The secretary and attendance clerk had to keep two sets of records and the duties of the bookkeeper increased because of the times the two tracks were in and out of the building and often time the need for funds varied.

Although the administrative staff developed a master schedule that worked for the two groups, it was important to make sure that all events (PTA, Honor Roll, dances, Field Day, etc.) took place at a common time when year round and traditional were in session. The most important task was to make sure that all the logistics for opening school and closing school twice were communicated to all central office departments, especially transportation. The in-school staff had to be up-to-date as well. The leadership had to clearly define the lines of communication.

During intersession, the transportation schedule was a challenge initially. Even though both groups arrived at school at the same time each day of intersession, it was important that the administration made arrangements for the busses to return at 12:30 each day for the year round students and return at 3:15 to transport the traditional students. Although both tracks observed the same holidays, spring break, and winter break, the workdays for the teachers, distribution of progress reports and report cards were not the same. The administrative staff had to be highly organized and alert to the needs of both tracks. The three years of dual operation worked like clockwork and the students on both schedules improved in attendance, academic achievement and behavior. The hard work and the time put in by the administrative, support staff, and teachers resulted in success for the students, overall.

In 1999, there was evidence that all students were beginning to improve academically. Their attendance improved and the suspensions began to decrease. Year round education appeared to make a difference. In the year 2000, the students' successes continued. I became very interested in whether year round education made a difference in the student's attendance, academic achievement, and behavior patterns. Because of the unique situation of having both tracks in the same building, this appeared to be the ideal situation to determine if there was a

significant difference in attendance, academic achievement, and suspensions between year round education and traditional education students.

From my study, I found that the cross contamination of students being in the same classes, having the same teachers, teachers having the same professional development opportunities and using the same strategies, as well as students attending the same extended day learning programs and social events may have masked my findings. Even though the results of this study failed to show statistically significant differences in attendance, academic performance, and behavior patterns, there were evidences of improvement in these areas in both the year round and traditional programs. The SOL scores increased, the attendance improved for students, and the behavior of the students improved on both the year round and traditional tracks based on the data collected. One of the most obvious changes was that the perception of the school became more positive as evident by the increase in the number of out-of-zone requests submitted by parents for students to enroll in the year round program. Many of the students who were on the traditional track in the same building transferred to the year round track. This urban middle school, that scored in the teens on the SOL tests prior to 1998, in 2002, was only three points away from being totally accredited based on the results of the Standards of Learning (reading, writing, mathematics, history, and science), Virginia's criteria for accreditation.

Even though there were no statistically significant differences between year round education and traditional education students' attendance, academic performance, and behavior patterns at the urban middle school in this study, year round education could be considered as a schedule of choice or an option for districts, schools, and parents. The school calendar year was designed in such a manner that the intersessions at the end of each 45days (approximately) of instruction gave teachers the opportunity to address skills where students were deficient,

immediately, rather than waiting until the completion of 180 days of instruction. I discovered that aligning the offerings in the intersession with the SOL to meet the needs of the students was effective. Pretest and posttest data collected at the end of each intersession showed an increase in skill mastery. Annual SOL assessments showed overall improvement in student performance. The pattern of assessments utilized in the school was consistent with the requirements of *The No Child left Behind* Act (2001). Many families saw the worth of having continuous learning occur for their children. The quote written in the April 1994 publication of *Prisoners of Time* continues to capture my attention. It says, “Our usage of time virtually assures the failure of many students”. The key words in that quote are “many students”, not “all students”. This serves as a strong argument that although my findings were not significant, year round education can be utilized as an alternative scheduling choice based on the needs of the children.

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Appendices

Appendix A

Approval of Study by Hampton City Schools

REQUEST FOR APPROVAL
RESEARCH PROJECTS
HAMPTON CITY SCHOOLS

SCHOOL (IF APPLICABLE) Spratley Middle SCHOOL YEAR 2001

PERSON/DEPARTMENT MAKING REQUEST Mildred B. Sexton

BRIEF DESCRIPTION OF THE PROPOSED RESEARCH PROJECT (INCLUDE SPECIFIC PURPOSE(S)):
The study is to determine if there is a significant difference in achievement, attendance and attitude of Year Round students to include gender and race/ethnicity.

WHICH OF THE FOLLOWING DO YOU ANTICIPATE USING IN YOUR RESEARCH? (COPIES OF INSTRUMENTS AND LETTERS TO REQUEST RELEASE OF TEST SCORES MUST BE PROVIDED)

SURVEYS or QUESTIONNAIRES STUDENT RECORDS
 TEACHER RECORDS SCHOOL RECORDS Attendance TEST RESULTS

WHAT DO YOU INTEND TO DO WITH THE PROJECT FINDINGS/CONCLUSIONS?

I shall continue to improve Year Round Programs at Spratley and in Hampton City Schools. I shall share findings with the division.

IF THE PROPOSED PROJECT IS IN CONJUNCTION WITH COLLEGE COURSEWORK, APPROVAL OF THE PROFESSOR MUST BE INDICATED BELOW.

COURSE: Research Dissertation INSTITUTION: Virginia Tech

SIGNATURE OF PROFESSOR AS HAVING REVIEWED PROPOSED PROJECT:



March 3, 2001
Date

SUBMIT TO: Deaine R. Harrell, Coordinator, Psychological Services
Hampton Center Parkway II
303 Butler Farm Road
Suite 110
Hampton, Virginia 23666

APPROVED
 NOT APPROVED

COMMENTS:



Coordinator, Psychological Services, Chairman

Director of Secondary Instruction

Director of Program Evaluation

Director of Elementary Instruction

Director of Guidance and Testing

Director of Special Education

Appendix B

SOL Validity and Reliability Tables

Appendices 16, 17, and 18 show the pass rates on the grade 8 standards of learning (SOL) tests correlated with national percentile ranks on grade 8 Stanford 9 tests, the pass rates on the grade 8 standards of learning (SOL) tests correlated with national percentile ranks on grade 6 Literacy Passport Test (SOL), and the grade 8 SOL tests in relation to the Kuder-Richardson # 20 Reliability Coefficients. The correlation indicates the SOL tests' validity and reliability.

Pass Rates on the Grade 8 Standards of Learning (SOL) Tests Correlated with National Percentile Ranks on Grade 8 Stanford 9 Tests (SOL Test Validity and Reliability Information: Spring 1998 Administration)

Grade 8 SOL Test (Spring 1998)/ Grade 8 Stanford 9 Test (Spring 1997)	Spearman Rank Order Correlation Coefficients (Number of Schools)
SOL English: Reading/Literature and Research with Stanford 9 Reading Vocabulary	.80 (368)
SOL English: Reading/Literature and Research with Stanford 9 Reading Comprehension	.80 (368)
SOL English: Reading/Literature and Research With Stanford 9 Total Reading	.81 (368)
SOL English: Writing with Stanford 9 Language	.82 (369)
SOL Mathematics with Stanford 9: Mathematics Procedures	.77 (368)

SOL Mathematics with Stanford 9 Mathematics: Problem Solving	.85 (368)
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SOL Mathematics with Stanford 9 Total Mathematics	.83 (368)
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Virginia Department of Education Division of Assessment & Reporting, February 1999

Pass Rates on the Grades 8 Standards of Learning (SOL) Tests Correlated with National Percentile Ranks on Grade 6 Literacy Passport Tests (LPT) (SOL Test Validity and Reliability Information: Spring 1998 Administration)

Grade 8 SOL Test (Spring 1998)/ Grade 6 Literacy Passport Test (LPT) (Spring 1997)	Spearman Rank Order Correlation Coefficients (Number of Schools)
SOL Grade 8 English: Reading/Literature and Research with LPT Reading Grade 6	.75 (288)
SOL Grade 8 English: Writing with LPT Reading (Grade 6)	.61 (287)
SOL Grade 8 Mathematics With LPT Reading (Grade 6)	.56 (290)

Virginia Department of Education Division of Assessment & Reporting, February 1999

Grade 8 SOL Tests: Kuder-Richardson #20 Reliability Coefficients (Spring 1998 Administration)

SOL Test	Number of Test Questions	KR #20
English: Reading/Literature and Research	42	0.87
Mathematics	60	0.92
History and Social Studies	50	0.88
Science	50	0.88
Computer/Technology	40	0.86
English: Writing*	21*	0.82**

* 20 multiple-choice items and 1 writing prompt **person separation reliability

Virginia Department of Education Division of Assessment & Reporting, February 1999.

Appendix C

Exemption of Research Involving Human Subjects Approval

13 November 2002

MEMORANDUM

TO: Travis Twiford ELPS 0302
Mildred Sexton ELPS 0302

FROM: David M. Moore

SUBJECT: IRB EXEMPTION APPROVAL – “The Effect of Year Round Education on Attendance, Academic Performance, and Behavior Patterns” – IRB # 02-566

I have reviewed your request to the IRB for exemption for the above referenced project. I concur that the research falls within the exempt status. Approval is granted effective as of November 13, 2002.

cc: file

Subject: Re: permission
Date: Tuesday, October 22, 2002 3:24 PM
From: Mildred Sexton <msexton@sbo.hampton.k12.va.us>
To: Bob Heaberlin <bob.heaberlin@cowetaschools.net>

```
>> -----Original Message-----
>> From: Mildred Sexton [mailto:msexton@sbo.hampton.k12.va.us]
>> Sent: Monday, October 21, 2002 8:49 AM
>> To: Bob Heaberlin
>> Subject: Re: permission
>>
>>
>> On 10/19/02 3:22 PM, "Bob Heaberlin" <bob.heaberlin@cowetaschools.net>
>> wrote:
>>
>>> Mildred,
>>> You have my permission to use my tables or cite anything
>> from my doctoral
>>> dissertation: The Effects of Year-Round Education on
>> Elementary Students, The
>>> University of Georgia, 2000.
>>> Good luck,
>>> Bob
>>>
>>> Bob Heaberlin, Ed.D
>>> Principal
>>> East Coweta Middle School
>>> 6291 East Highway 16
>>> Senoia, GA 30276
>>> 770 599 6607 <ext. 204>; 770 599 1051 (fax)
>>> bob.heaberlin@cowetaschools.org
>>>
>>>
```

VITA

Mildred Bobbitt Sexton

Address: 307 Chinquapin Orchard Yorktown, Virginia 23693
Home Phone: (757) 868-9457 **Work Phone:** (757) 727-2021
E-Mail Address: msexton@sbo.hampton.k12.va.us

Education

1998-2003:	EdD	Virginia Tech
1988-1990:	CAS	Old Dominion University
1980-1982:	MA	Hampton University
1964-1968:	BA	North Carolina Central University
1960-1964	High School Diploma	Inborden High School; Enfield, NC

Work Experiences

2002-Present	Hampton City Schools	Director of Compensatory Education Programs-Title I
1994-2002:	Hampton City Schools	Principal Spratley Middle
1991-1994	Hampton City Schools	Assistant Principal Spratley Middle
1974-1991	Hampton City Schools	Teacher (4 Middle Schools)
1972-1974	Virginia Juvenile System	Teacher Hanover School for Boys
1968-1972	Halifax County Schools	Teacher Inborden and Enfield High

Leadership Initiatives

Reforms: Implemented 1st Dual Track Year Round Middle School in

Virginia – 1998 (Awarded National Year Round

School of Merit)

Moved from Dual Track Year Round Middle School to

Single Track in 2001

Implemented 1st Mandatory Student Uniform Dress Policy

Hampton City Schools, Spratley Middle 1999

Implemented Block Scheduling, Spratley Middle 1994

Career Highlights

Boards of Director:

Virginia Middle School Association President 1994-1996
National Association of Year Round Education 1999-Present

Consultant:

National Association of Year Round Education

Workshops:

Leadership, Year Round Education, Uniform School Attire,
Middle School Education, Interdisciplinary Teaching,
Team Teaching, Assessments and Teaching for Mastery,
Block Scheduling, School Improvement Plan, Strategic
Planning