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Year round education: Implementing the first two years in the elementary grades

Boyles, Bruce Willard, Jr., Ed.D.

The University of North Carolina at Greensboro, 1993

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**YEAR ROUND EDUCATION: IMPLEMENTING
THE FIRST TWO YEARS IN THE
ELEMENTARY GRADES**

by

Bruce W. Boyles, Jr.

**A Dissertation Submitted to
the Faculty of the Graduate School at
The University of North Carolina at Greensboro
in Partial Fulfillment
of the Requirements for the Degree
Doctor of Education**

**Greensboro
1993**

Approved by


Dr. David Reilly

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APPROVAL PAGE

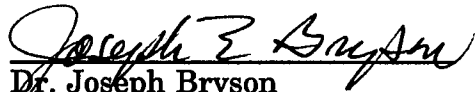
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The purpose of this qualitative/quantitative study was to examine the first two years of the implementation of a year-round education program in the elementary schools of the Mooresville Graded School District in Mooresville, North Carolina. Multiple comparisons were made between the results for students enrolled in the traditional and year-round programs to determine if differences existed in the outcomes of the two at the conclusion of two years. Areas included in the study were student attitudes, student attendance, student achievement, and teacher attitudes.

The student attitudes were measured by the School Attitude Measure and the year-round program scores were slightly higher than the national norm with a greater influence on females and minority students. Attendance data for year-round students was assessed using the Student Information Management System to compare average daily attendance percentages. Comparison between year-round and traditional results indicated slightly higher attendance percentages for students in grades 4 and 5. The study of student achievement involved testing of a null hypothesis that there was no association between student achievement on the California Achievement Test and participation in a particular program. The χ^2 test of association, with $\alpha=.05$, was used to compare the total population and various subgroup total battery, language, and mathematics scores. The values required acceptance of the null hypothesis

in all cases except for the comparison of male language achievement. The statistics suggested that the traditional program achievement, although low, is better for males in this instance. The study of teacher attitudes was conducted using an original survey which included fixed response items queried around time context responses and an open ended item to collect qualitative information. The year-round teacher responses were more optimistic regarding the teaching profession and student achievement. Traditional responses were highest in their optimism regarding teaching and their own teaching ability. The percentage of high satisfaction responses in all present and future contexts on all fixed response items was significantly higher for year-round teachers. The open-ended item responses for year-round teachers indicated an orientation toward beliefs and feelings regarding student achievement, teaching, selection of the year-round program and pedagogical issues. Traditional responses tended to be more pragmatic and oriented toward family and personal needs.

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TABLE OF CONTENTS

	Page
APPROVAL PAGE	ii
ACKNOWLEDGEMENTS	iii
LIST OF TABLES	vi
LIST OF FIGURES.....	ix
CHAPTER	
I. INTRODUCTION.....	1
Problem Statement	3
Conceptual Base	8
Purpose of the Study.....	13
Research Focus.....	13
Significance of the Study.....	14
Organization of the Dissertation.....	16
II. REVIEW OF THE LITERATURE	17
Educational Reform	17
Basis for Year-Round Reform	22
Research Findings.....	25
Student Attitudes	26
Student Attendance	27
Student Achievement.....	27
Teacher Attitudes	29
Summary.....	30
History of Year-Round Education.....	30
Organization and Structure of Year-Round Programs.....	32
Research Basis for the Study Design	36
III. METHODOLOGY.....	40
Description of Setting	40
Instruments and Methodology	45
Student Attitudes	45
Student Attendance	46
Student Achievement	47
Teacher Attitudes.....	48

Research Design.....	55
Limitations.....	56
IV. FINDINGS.....	58
Introduction	58
Student Attitudes.....	59
Overall Performance.....	63
Comparison by Gender.....	72
Comparison by Ethnicity.....	80
Student Attendance.....	88
Comparison by Grade	91
Comparison by Gender.....	98
Comparison by Ethnicity.....	102
Student Achievement.....	107
Statistical Procedures and Criteria	108
Comparison by Total Program	109
Comparison by Program/Enrollment Year	114
Comparison by Gender.....	117
Comparison by Ethnicity	120
Comparison by Grade Ranges	125
Teacher Attitudes.....	132
Fixed Response Items	134
Open Ended Item	147
V. CONCLUSIONS AND RECOMMENDATIONS	157
Summary	157
Student Attitudes	158
Conclusions.....	158
Recommendations for Further Study	161
Student Attendance	163
Conclusions.....	163
Recommendations for Further Study	165
Student Achievement.....	167
Conclusions.....	167
Recommendations for Further Study	168
Teacher Attitudes.....	169
Conclusions.....	169
Recommendations for Further Study	170
General Conclusions	172
Recommendations for Further Study	174
BIBLIOGRAPHY.....	176

LIST OF TABLES

	Page
1. Student Attitude Measure Levels and Scale Areas	61
2. 1991-92 Year-Round SAM Results for All Participants	64
3. 1990-92 Year-Round SAM Results for Two Year Participants	65
4. Year-Round SAM Results for Participants' First Year.....	68
5. Year-Round SAM Results by Gender for Two Year Participants ..	74
6. Year-Round SAM Results for Female Participants' First Year....	75
7. Year-Round SAM Results for Male Participants' First Year	78
8. Year-Round SAM Results by Ethnicity for Two-Year Participants	81
9. Year-Round SAM Results by Ethnicity for Participants' First Year	84
10. Traditional and Year-Round Student Locations 1990-1992	89
11. Kindergarten - First Grade Attendance 1990-1992.....	92
12. First Grade - Second Grade Attendance 1990-1992	93
13. Second Grade - Third Grade Attendance 1990-1992	95
14. Third Grade - Fourth Grade Attendance 1990-1992	97
15. Fourth Grade - Fifth Grade Attendance 1990-1992	99
16. Comparison of Attendance 1990-1992 by Gender and Program Groups.....	100
17. White Student Attendance 1990-1992 by Program/Grade Groups ..	103
18. Chi-Square Statistics - All Students Year-Round vs. Traditional ..	110
19. Observed Totals for CAT Mathematics Achievement for Year- Round vs. Traditional	112

20	Percentages for CAT Mathematics Achievement Year-Round vs. Traditional.....	113
21.	Chi-Square Statistics - Two Year, Year-Round vs. Traditional Participation	115
22.	Chi-Square Statistics - One Year, Year-Round vs. Traditional Participation	116
23.	Chi-Square Statistics - Year-Round, First Year vs. Second Year Enrollment	118
24.	Chi-Square Statistics - Year-Round Females vs. Traditional Females.....	119
25.	Percentages for CAT Mathematics for Female Students, Year-Round vs. Traditional	121
26	Chi-Square Statistics - Year-Round Males vs. Traditional Males..	122
27.	Percentages for CAT Language for Male Students Year-Round vs. Traditional	123
28.	Chi-Square Statistics - White Students, Year-Round vs. Traditional.....	124
29.	Chi-Square Statistics - Black Students, Year-Round vs. Traditional.....	126
30.	Percentages for CAT Mathematics for Minority Students, Year-Round vs. Traditional	127
31.	Chi-Square Statistics - 1990 Second Graders, Year-Round vs. Traditional.....	129
32.	Chi-Square Statistics - 1990 Third Graders, Year-Round vs. Traditional.....	130
33.	Chi-Square Statistics - 1990 Fourth Graders, Year-Round vs. Traditional.....	131
34.	Satisfaction With Teaching.....	135
35.	Satisfaction With Student Achievement	138

36. Satisfaction With Instructional Flexibility	141
37. Satisfaction With Your Teaching Effectiveness	143

LIST OF FIGURES

	Page
1. Primary Year-Round Calendar Models	33
2. Teacher Survey of Year-Round and Traditional Programs	49

CHAPTER I

INTRODUCTION

The focus of this study is a year-round program in a school district that operates schools on a single-track, year-round calendar in contrast to the traditional September to June agrarian calendar. The investigation is a qualitative-quantitative analysis of an alternate approach to schooling. The study includes historical information regarding the development of the program and the comparison of multiple variables in the two approaches to determine their differences. The study presents findings regarding the success of the program during its first two years of operation and the differences observed when the year-round and traditional programs are compared.

Educators, parents, and politicians have all called for reforms in the way that schools have traditionally operated. In 1983, following the release of A Nation at Risk by the National Commission on Excellence in Education, less than one third of parents indicated that they were pleased enough with their schools to give them an A or B. The Twenty-second Annual Gallup Poll (1990) regarding education, from which this information came, revealed that about ten percent more parents felt that their schools deserved an A or B than was the case in 1983 (Elam, 1990). President George Bush convened the nation's governors in 1989 for the specific task of discussing educational reform (Sarason, 1990). The meeting

came amid calls by educators for changes in the educational system that would lessen the risk of student failure. In their joint publication, addressing strategies for school and community collaboration in school improvement, the American Association of School Administrators and the National School Boards Association asserted that "America's best students are on a par with the world's best, but our bottom third undoubtedly performs worse than students in any of the industrialized democracies. More than one-third of America's children are at risk of failure in school even before they enter the kindergarten door the first time" (American Association of School Administrators and National School Boards Association, 1991). The calls for reforms that will significantly improve outcomes and change the manner in which schools operate cannot be ignored. It is not merely an issue of dissatisfaction with schools; it is an issue of dissatisfaction with our country, with the system of education that has been developed, and the direction the country is taking us in global society. Furthermore, it is a question of how well the current structure of educational institutions can prepare American students for the future.

Among the many educational reforms currently being considered and implemented, year-round education offers the possibility for improved opportunities for reteaching and improved outcomes. Children who are at risk under the current structure may need the focus of some year-round efforts. Changes in the traditional agrarian-based education calendar may provide opportunities for educators to deliver remediation programs to

students more effectively. Although year-round education is not new, little research has been conducted to determine whether year-round programs are in fact yielding significant results regarding instructional reform efforts.

A study by Merino (1983) and a subsequent report by the National Education Association (1987) report that much of the research that has been done regarding year-round programs has focused on parents' views, teachers' views regarding multi-track programs, and cost effectiveness and other non-instructional considerations. Less attention has been given to the process of program implementation and the impact of restructuring on assessable outcomes relative to the students' performance, attitude, attendance, and other variables.

Interest in year-round schools has been largely a result of overcrowded schools and calls for greater facility efficiency in western states, particularly California (Merino, 1983). An investigation of the differences afforded by a year-round program specifically compared with traditional programs has not occurred. Consideration of the difference in outcomes between traditional approaches to instruction and those allowed by year-round schedules is an important question regarding the value of year round programs as a tool for school reform.

Problem Statement

The close of the industrial age and the beginning of the information age, along with other changes in society and family life have influenced

educational ideas and practices. Innumerable educational reforms have been attempted with some successes, a few failures, and other cosmetic changes that produced no effect. Sarason aptly described the situation in 1990: "The educational reform movement, today and in the past, has not come to grips with the overarching aim...if these efforts are not powered by altering conceptions of what children are and what makes them tick, their results will be inconsequential" (Sarason, 1990). Countless educational reforms have been proposed, supported, funded, and endorsed by local education agencies, regional and state agencies, universities, businesses, and the general public. Virtually no segment of the educational program in the United States has gone without some attempt at restructuring from pre-kindergarten to graduate training programs for administrators. However, the reform movements in education have generally had little impact, because they occur in a complex adaptive system where changes are difficult due to the existing educational structure (Reilly, 1991). The National Commission on Excellence in Education (1983) found that teaching practices and curriculum content and design were inadequate. This Commission recommended sweeping changes to reform the educational landscape in America (1983). It gave evidence that, schools and school structures would become increasingly antiquated and ineffective unless those responsible for leadership in the schools respond to changes in society, family life, and expected future conditions.

Current calls for reform focus primarily on improved student outcomes in support of a more educated and a better prepared work force (Pierce, 1987). A recurring theme in many surveys regarding education is the failure of schools to prepare all children for a place in society. Thirty percent of respondents in the 1990 Gallup Poll indicated a belief that schools had become worse in the five years before the study, up from eighteen percent who had expressed the same level of dissatisfaction in 1988. Seventy-three percent of those polled reported that they believe school quality is detrimentally effected by societal problems (Elam, 1990). As the needs of society become more complex, schools will face greater challenges in the pursuit of solutions to meet those needs.

The Carnegie Task Force on Teaching in 1986 emphasized the need for restructuring now. Its report, entitled A Nation Prepared: Teachers for the Twenty-First Century, suggests that a "window of opportunity lies before us in the next decade to reform education." The report further suggests that conditions may not be as conducive to educational reform until "well into the next century." If educators fail to take action to restructure and reform schools now, it may be a long wait until conditions are again suitable for reform (Carnegie Forum on Education, 1986). Year-round education is beginning to gain attention as one potential component of the restructuring process.

Traditional school schedules were developed with the agrarian schedule, the two-parent family, and the average child in mind. The school

instructional program was designed for the average or above average child who would probably achieve despite the structure or schedule of the school attended. However, an increasing cause for concern is the group of borderline children who are barely succeeding. These children could be successful with some reteaching or special attention. Traditionally, remediation has been structured during summer school but recently structure and timing have been questioned. School systems are beginning to implement alternative schedules that are based not on an agrarian calendar, but rather on the learning schedules of children.

Research by the Board of Regents of the State of New York (1978) has shown that retention of information increases when learning occurs in smaller, more frequent increments. Traditional school calendars do not consider this. Traditional summer school programs have failed to recognize the research that has identified the need for remediation to be close to the original learning experience (Board of Regents of the State of New York, 1978). Moreover, traditional calendars have not provided the flexibility necessary for meeting the learning needs of children at various ability and socioeconomic levels. Year-round programs offering quarterly remediation sessions are one approach to the improvement of remediation activities for students.

Furthermore, year-round programs can provide opportunities for students to achieve mastery at a higher level, rather than at a minimum competency level. Developed by Carroll and Bloom, the mastery learning

concepts on which the remediation component is designed are methodologically based on "Skinnerian principles" (Joyce & Weil, 1986; Thomas, 1985). The remediation approach seeks to reform the instructional process so that children may have a greater opportunity to master the particular learning outcomes. The proponents of mastery learning, (Bloom & Block, 1971) suggest that redesigns of learning experiences, such as those possible with the remediation component of year-round programs, will ensure greater learning due to the additional time and instruction allowed. Remediation instruction is more appropriately placed and is more effectively delivered because it is the result of formative evaluation of the particular needs of the child, at a particular time in the school program.

The emphasis that has been placed on achievement scores in recent years has also affected the experiences to which children are exposed. The days of public speaking, plays, field trips, social dancing, assembly programs, and other activities that enriched the lives of children have been replaced by more emphasis and time on testing and preparation for testing. With the declining family structure many children may not be provided with enrichment activities that were once part of family life. Failure to address the cultural and social needs of children may create problems as dire as failure to address academic needs. The restructuring of the calendar into a year-round format provides increased opportunities for children to be enriched. The intersession format, found in the program to be studied, allows children and parents to select the opportunities that

complement the needs of the child. This enrichment, although offered by some systems during the traditional summer vacation, has not generally been considered a part of the total education of the child. The year-round structure allows schools to deliver this instruction as part of the total curriculum.

Ultimately, the problem is why do school leaders not implement structural changes, such as year-round education, which allow improved opportunities for more appropriate experiences for children. Clearly, the absence of such changes will destine American education to declining effectiveness in meeting the needs of coming generations.

Conceptual Base

Theories or paradigms about learning help people put their thoughts about how children learn into manageable packages. The development of children, whether cognitive, moral, behavioral, social, or intellectual depends on some change taking place in the child. For example, the behavioral model proposed by theorists such as Skinner would have educators identify reinforcers, establish a desired outcome, base the program on objectives, establish a schedule for delivery of the reinforcers in a specified environment, and simply record the results (Thomas, 1985). Piaget, on the other hand, would assert that the growth of thought occurs when children are presented with problems and solutions are sought by the children. Maslow proposed a humanistic approach based upon experiences (Thomas, 1985). Regardless of the development theory upon which an

educational program is based, there is the underlying assumption that children will experience some change. Learning at any level causes change in individuals. Reforms must be designed to effect the ways that children change when they encounter the school environment.

The attempts at making schools better have been grounded in the beliefs that scholars have regarding how children learn. Those learning theories have inspired and propelled educational leaders to develop new programs, design and redesign curricula, change the structure and organization of schools, rethink building function and architecture, and modify staff development and training. Regardless of the learning theory to which one subscribes, change is generally a mechanism that is utilized to allow the particular concepts of the theory to be fulfilled. One of the definitional qualities or structural components of developmental theories is this change mechanism. Reforms have generally been aimed at affecting this change process.

Reforms throughout the history of public education, both successful and ineffectual, have focused on influencing the learning process of children in some fashion. While some have focused on the curriculum, such as the emphasis on science following Sputnik in the 1950s, others have focused on instructional methodology such as the open classroom movement of the 1970s. Each reform era has developed around a theme or particular agenda (Elmore & McLaughlin, 1988). The sad fact, however, according to Reilly (1991), is that nearly all of the changes contained in

reform movements have been temporary. The structures have not changed and thus there have been no long-term reforms. "Long-term reform requires change in structure and in the components that make up the structure" (Reilly, 1991). According to Elmore and McLaughlin (1988), reforms "have traditionally had little effect on teaching and learning in the classrooms." The absence of these structural changes, relative to the school environment, has rendered reform efforts ineffectual.

Increasingly, improved student outcomes, as measured in a variety of ways, have been the focus of educational reforms. Leaders have addressed a variety of school changes from various building designs, to curriculum rewriting, to the inclusion of various technologies such as computers, to pedagogical changes. No one reform has proved to be a panacea for all educational ills. The education system has become so complex and the theories upon which the reforms are based have become so numerous that no single reform agenda can address all the areas that may be in need of change. The difficulty in reforming the system can also be attributed in part to the variety of needs and ability levels of the children. Some children will be successful regardless of the setting, curriculum, or methodology employed. Others will struggle to achieve at a minimum level despite modifications on their behalf. Equally challenging for those involved in school reform is the question of what children who are in schools now will need as adults. The uncertainty of the future and the challenge of changing the educational structure make school reform extraordinarily difficult.

With the increased criticism of schools and the emphasis on preparing children for the challenges of our changing society that have come about since A Nation at Risk (1983), demands for reform have escalated. Leaders are faced with the overwhelming task of carefully "conserving" the components of the system that work (Brubaker, 1984), while at the same time responding to the demand for changes. Educators face the mammoth task of synthesizing the various theories regarding intellectual development into an action package that makes a difference in the education of children. That demand, combined with the increasing fragmentation of families and social responsibility placed on school, constitutes the principal challenge to the schools. Educational leaders must move schools from their present position through structural changes that incorporate what is known about how children learn and how they are living today. Furthermore, consideration must be given to the conditions that are expected in future.

No discoverable theory suggests all children will change --i.e., learn-- at identical rates. It is an assumption with all theorists, whether they subscribe to operant conditioning or humanistic perspectives, that there will be some differentiation in learning rates, necessary stimuli, or any other theoretical component. Nevertheless, it is a universal belief among theorists that everyone can learn. School structures should be predicated on this belief that all children hold learning potential, and systems must be designed so that unique learning needs of each child may be met.

Mastery learning, deficit based remediation, enrichment activities, day care, before and after school care, flexible scheduling, improved teacher and student attitudes, working families, information retention, instructional review time, and a host of other factors make year-round school schedules a reform component to be considered. The overriding question regarding year-round programs is whether they make a difference. Is this attempt at structural change putting the locus of control back in classroom and is the outcome any different? Is the outcome either better or worse? Will the schedule suit the family needs more appropriately? Will children be harmed or helped by participation in a year-round program? Can teachers and administrators put theory into practice and will genuine reform occur? Will that reform consequently improve the outcomes and atmosphere in schools? These questions and many more fill the minds of those who ponder the dilemma of including year-round education as a component of educational reform packages.

Year-round programs offer opportunities for more appropriate services to children. The restructuring of the school year will allow some paradigms to be changed to meet the demands of a changing society. The implementation of year-round programs must be driven by an understanding of the potential for improvement, a desire to reform the structure, the courage to assess critically current theories and practices, and the wisdom to select alternative avenues for educational delivery. The design, implementation, and evaluation of an emerging year-round

program and the potential the program provides for differences in various measures are the basis for this study.

Purpose of the Study

The purpose of this study is to assess the first two years in the implementation of a year-round education program and to evaluate differences that may occur in a year-round program in comparison to a traditional program.

Research Focus

This study is an intensive examination of the differences which may be occurring as a result of the implementation of a year-round program in the Mooresville Graded School District, at the conclusion of two years of operation. It focuses specifically on a comparison of the program with the traditional calendar program. The primary focus for the study is one guiding question: Does year-round education make a difference in the education of children? Several questions of specific interest will be addressed as subordinate issues. Does year-round education make a difference regarding (a) student attitudes, (b) student attendance, (c) student achievement, (d) teacher attitudes? These questions focus attention directly on the possible differences in the instructional program and outcomes in a year-round setting. The questions will be asked in the context of the first two years of operation of the Mooresville program.

Significance of the Study

Modification of the school schedule to implement some type of year-round program as a component of school reform, is currently on the increase nationally. According to Langston (personal communication, September 2, 1991), Charles Ballinger, President of the National Association for Year-Round Education, reported that in August 1991 there were 1,629 year-round schools nationwide. That figure was up eighty-seven percent from the previous year. Most of the implementation of year-round programs has occurred on the west coast. In California, schools are under legislative mandate to implement year-round schedules to increase facility efficiency (Howell, 1988). Systems such as the Los Angeles School District now operate all schools on either multi-track or single-track year-round calendars. The trend for facility efficiency, as well as the feeling that the agrarian calendar model utilized in traditional schools is outdated and inappropriate, has motivated many school leaders to consider alternatives. The results of a year-round approach, are not all beneficial, however. Reports such as those by Ascher (1988) and Quinlan, George, & Emmett (1987) raised questions regarding the difference in performance of children in year-round programs (Goldman, 1990). Other researchers such as Hughes (1984) and Bechtel (1991) provide mixed and sometimes conflicting reports regarding the benefits of year-round education for all children.

The framework to be studied here is one of approximately a dozen general designs for year-round programs. The study of the difference

between this model and the traditional calendar currently utilized is particularly significant in North Carolina. In the early 1990s, approximately 15 percent of the school districts in the state were seriously considering a single-track model for implementation. The number of school districts in North Carolina implementing some type of year-round schedule has grown from two in 1990 to 18 in 1993. The number of school sites operating on a year-round schedule in North Carolina has grown to thirty-five in three school years (North Carolina Department of Public Instruction, 1993). As many as 25 percent of the school districts in the state are either considering implementation or have programs in operation. The Mooresville program studied here has been visited by over two hundred groups of educational leaders from North Carolina, South Carolina, Tennessee, Virginia, Vermont, Pennsylvania, and South Carolina since the program began in July 1990. In addition, the program has been the focus of presentations at numerous state and national meetings since 1990. Although some informal information about the program that was developed as part of the initial funding grant evaluation is available, there is an absence of data to assist those considering implementation of this specific design. This study seeks to provide preliminary data for analysis of the program from several aspects.

The significance of this study is further supported by the interest of the Legislature of North Carolina, the North Carolina Department of Public Instruction and the North Carolina State Board of Education. The creation

of a Year-Round Education Study Committee in 1991 has demonstrated the interest of these bodies in some type of year-round programs for the schools of North Carolina (North Carolina General Assembly, 1990). The work of this committee has been primarily concerned with a study of the various models and trends that are currently in place in the state and nation and an interest in implementation of year-round programs in additional districts. This study provides valuable information to those districts considering implementation of year-round programs, in particular the model studied here.

Organization of Dissertation

The first chapter serves as an introduction to the study. The focus of the qualitative/quantitative study of the year-round model and the basis for the selection of the topic are highlighted. Chapter II presents a review of the pertinent literature. It includes the historical perspective of educational reform and the philosophical foundation of various learning theories as the basis for consideration of year-round programs. The history, focus, and previous research regarding year-round education are reviewed to provide a background for the study of this particular model. The methodology to be utilized in the study is described in Chapter III. Chapter IV focuses on the results of the stated intent of the study. In Chapter V the conclusions ascertained are discussed along with recommendations for further study.

CHAPTER II

REVIEW OF LITERATURE

The review of literature focuses on educational reforms that have influenced the creation, development, and improvement of schools as well as developments influencing the year-round school schedule and calendar. The various movements that have occurred in American education are considered. Also included in the review is a presentation of the significant literature regarding learning theories that have influenced the development of the school calendar reform to be studied. This section includes a perusal of the research regarding learning, retention, and forgetting for students. Finally, considerable attention is given to a review of the research and derived data relative to year-round education. The historical basis for year-round education, the primary models utilized, the previous research findings related to the foci of this study, and the status of year-round education serve as the basis for this particular study.

Educational Reform

Educational reform is not a new effort in America. Schools were established by the early settlers so that children could learn to read and study the Bible (Johnson, 1979). The early settlement schools soon gave way to more organized institutions in the 1600s as colonies began to pass legislation regarding education. School laws originally called for extensive instruction in grammar schools. Then in 1635 the first American

secondary school was established in Boston to teach subjects such as Latin for boys who wished to attend college. The "Old Deluder Satan" laws in 1647 established the legal requirement for towns in Massachusetts to provide secondary education (Johnson, 1979). Although slow to get started, secondary schools led to educating children more formally for college and vocational pursuits in the 1700s. The reforms continued into the mid 1800s as schools took a more comprehensive approach instituting a full course of study including English, history, sciences, and mathematics. The present three-tiered structure of elementary, junior, and high schools evolved in the early 1900s with the creation of the junior high schools.

Much of the reform during the first three centuries of American education was structural. The initial philosophical challenges for schools came in the late 1800s when Dewey worked toward an instructional system and methodology that would serve the purposes of democracy. The creation of the Progressive Education Association in 1919 allowed those who agreed with Dewey's views to join in a common voice (Pierce, 1987). The principles of progressive education included belief in the freedom of the child to develop naturally, the interest of the child as the motive for all work, the role of the teacher as a guide rather than a taskmaster, the scientific study of pupil development, greater attention to the child's physical development, cooperation between school and home to meet the child's needs, and the progressive school as a leader in educational movements (Pierce, 1987). The general ideas and goals of Dewey and others early in this century seem to

agree with those who guide reform today. The reluctance of many leaders to embrace the progressive movement focused on concern for children and the fear that Dewey intended children to be left alone and schools to be operated without structure. However, Dewey's intent was the creation of schools as institutions to meet the needs of children (Pierce, 1987). Reform of society was not recorded as a goal of progressive education in Dewey's proposal. The Progressive Education Association called for further reforms in 1933 in its Eight Year Study in response to the Great Depression (Tyler, 1987).

The 1930s also saw a move for reforms around a banner of democratic ideals when the National Education Association defined the *Purposes of Education in American Democracy* (Johnson, 1979). These objectives were followed by revised goals and subsequent calls for reform in the 1940s following World War II. In the 1950s, and 1960s, reforms focused on social aspects of the school setting, especially desegregation. Other reforms since World War II have included calls for increased science and mathematics instruction, vocational training, manpower training, GI training, assurances for appropriate instruction of the handicapped, and the passage of the Elementary and Secondary Education Act in 1965 (Johnson et al., 1979). Following significant court cases such as Brown v. Board of Education, the 1960s were a time of social and educational programs to ensure that all children, regardless of socioeconomic status and ethnicity, gender, or handicap were given access to an education. The 1970s saw a movement for accountability of schools and programs, leading to new

reforms. Accountability to the citizens and students served by the schools focused on the expectation that schools should ensure minimum competence of students (Tyler, 1987).

At the close of this century, the history of reform movements have gained strength again. Instigated by the work of the National Commission on Excellence in Education, the publication of A Nation at Risk in 1983 ushered in great concern for the future of education in America, and brought about new calls for reform. Since 1983 the burgeoning information age has placed new demands on schools in order to prepare children for life in a technological society. These include early childhood and basic education programs. Christopher Cross, Assistant Secretary of the Office of Educational Research and Improvement maintained that, "Given the intensity of the school reform debate and the abundance of ideas for remedying the nation's educational ills, it is not surprising that many policy makers often find themselves adrift in a sea of uncollated and frequently conflicting information that does little to inform decision making" (forward to Kirst, 1990). These conflicts are hampering the ability of educators to design and orchestrate reforms. The furor created by the publication of A Nation of Risk has instigated a new emphasis on school improvement and reform in a concerted attempt to make schools better at responding to the current needs as well as projecting the future needs of the constituents. This restructuring is, "altering systems of rules, roles, and

relationships so that schools can serve existing purposes more effectively or serve new purposes altogether" (Schlechty, 1991, p. xvi).

Schlechty (1991) suggested that a necessary criterion for school reform is "effective leadership." Interest in school leadership and teacher empowerment is evident in any discussion of schools and school effectiveness today. Many of the calls for reform have included attention to teacher certification, administrative leadership, emphasis on instructional outcomes, governance issues, school evaluation, higher standards, technological literacy, instructional schedules, as well as a host of other important components of restructuring initiatives (Kernes & Doyle, 1989; Preyer & Forbes, 1991; National Commission on Excellence in Education, 1983; Schlechty, 1991).

Reform movements, regardless of their origin, have generally had a primary focus related to instruction. According to Fullan (1982) reforms and educational change help schools to "accomplish their goals more effectively by replacing some programs or practices with better ones." Goodlad (1984), Lightfoot (1983), Boyer (1983) and others in the 1980s, called for reforms in secondary schools as their research identified successful and effective practices. The expectations, the learning atmosphere, and the climate in schools were all questioned and studied.

The research and recommendations today focus attention on the methodology and preparation of teachers and administrators regarding the changes. Changes further include ideas such as year-round schedules to

deal with accountability issues such as costs, achievement, and teacher satisfaction. Also of importance are the needs of society and the largely unknown needs of students in a world that is rapidly changing. Those with the responsibility for implementing many of the reforms are sometimes skeptical. Elmore and McLaughlin (1988) have suggested that teachers are becoming more cautious in embracing reforms, participating in reforms only when benefits to students are clear. The changes which are considered must have teacher support, sufficient time for implementation, opportunities for teacher training, and administrative leadership. (Fullan, 1991; Hargreaves & Fullan, 1992; Rust & Dalin, 1990). The reform and restructuring components on the horizon today, such as year-round education, must address clearly student achievement, the organization of schools, curriculum content, as well as improving the quality of teaching (Elmore & McLaughlin, 1988).

Basis for Year-Round Reform

Many reform movements have been philosophically based on particular learning theories and research about the ways in which children learn. The foundations of the year-round program under study are found in the work of John Carroll (1971) and Benjamin Bloom (1971). The concepts of mastery learning and direct instruction are grounded in time rather than aptitude; that is, children will learn the information or skills given enough time and opportunities. The ideas suggested by Bloom and Carroll in the 1970s were derived from the work of Washburn and Morrison

in the 1920s (Joyce & Weil, 1986). Carroll (1971) maintained that aptitude was actually the amount of time needed by a student to master the material. Bloom carried the theories suggested by Carroll farther by developing a systematic approach to learning. Bloom suggested that time for learning should be the primary variable when considering student progress. Carroll maintained that student learning will be a "function of time allowed, the perseverance of the student, the quality of the instruction and the student's ability to understand, and aptitude" (Joyce and Weil, 1986, p. 318). The redesign of the year-round calendar permits the additional instruction that may be necessary for some children to occur in the intersession periods. The inclusion of potential days for remediation in the calendar permits increased opportunities for students to attain mastery of the skills and academic objectives. As Carroll and Bloom suggest, the guiding philosophy is that children will learn the material with the benefit of more time and opportunity for learning.

The ideas concerning mastery learning have been combined with compelling research to influence schools to implement year-round educational programs. The New York Board of Regents Division of Research in 1978 studied school calendars, summer school, and learning and retention rates, and discovered that more concentrated learning periods, with shorter breaks, allowed children to retain more information and forget less. The study documented observed learning advantages found in plans such as the one implemented in Mooresville. Much of the study

focused on the rate at which students forget information over the summer. The comparison of school year and summer retention information revealed that children forget at greater rates during the summer than during the shorter breaks found in year-round programs. This research was done in year-round schools in California with children in regular and compensatory programs (New York Board of Regents, 1978). The study investigated retention of information over long and short time spans to ascertain the impact of breaks in the schedule on learning. Their research dating back to the 1920s reveals that children have learning losses. Comparisons were made between students who attended summer school and those on a continuous learning, or year-round calendar. The result for some children was 19 months growth in one 12 month period on a year-round schedule. Furthermore, the study reported that both year-round and summer school programs reversed learning losses for disadvantaged children. That finding was significant because year-round children attended fewer days than children who were on a traditional schedule who attended summer school (New York Board of Regents, 1978). Subsequent studies have also found that there is considerable loss of achievement for some students during the traditional summer break. Year-round programs are promoted as a solution to this problem, allowing students to have more frequent and shorter breaks and more intensive periods of instruction and learning (Bishop, 1989).

Research Findings

Much of the literature regarding year-round education is based on the experiences of those who have been involved in its implementation. Many school districts that have operated year-round programs for several years have prepared documents to support their claims of success. However, their information can be improperly applied to programs and plans based on a different year-round model. Townsend (1992) reported that much of the literature and research is based on differing definitions of year-round education. Townsend investigated and evaluated year-round education and teacher and parent attitudes towards it as well as evaluations of its operational costs and student achievement.

The National Association for Year-Round Education meets annually to report on year-round programs and to consider implementation strategies. The Association shares information through periodic newsletters and dissemination of reports prepared by its members. Publications of the results of year-round programs are largely based on the experiences and opinions of supporters of year-round education. The majority of the literature speaks to the benefits of replacing traditional agrarian calendars with year-round schedules. Included in the list of benefits are the lack of disruption of learning caused by the long breaks, benefits to children with special needs, cost savings, increased achievement, building efficiency, and improved parent attitudes (Ballinger, 1988; Ballinger, Kirschenbaum & Poimbeauf, 1987; Brekke, 1986; Doyle and

Finn, 1985; Glines, 1987; Stover, 1989; White, 1988). Benefits to employees include additional employment, greater involvement in administrative matters, and staff development benefits (Ballenger et al, 1987; Cruz, 1988; Glines, 1990). Most of the information favoring the implementation of a year round calendar is found in journals and reports prepared by supporters of the concept; opponents and critics of year-round education are few. Those who have published data to suggest that year-round education is no panacea report that operational costs are no less than traditional, achievement gains are negligible, and there is a reluctance of parents and students to accept year-round schedules (Glines, 1988; Mazzarella, 1984; Merino, 1983).

Student Attitudes

The attitude of students, particularly at the elementary grades, has been given little attention by researchers studying year-round education. Several studies have found that parents and teachers possess positive attitudes toward year-round schooling (Jones, 1992; Ottley, 1978; "Parents Give", 1982). These studies generally report attitudes that support the year-round concept as being better for students as well as families and teachers. Some parent and student dissatisfaction exists (Banta, 1978). The return of some schools to traditional schedules following experimentation indicates that year-round scheduling is not universally accepted. Conclusive, significant studies that consider the attitude of students regarding year-round education at the elementary level are absent from the literature.

However, the age of the subjects at that level makes it difficult to conduct such a study. Decisions regarding year-round education are largely made by parents, based on family needs. The research foundation regarding student attitudes is the smallest of the four areas considered in this study.

Student Attendance

The research provides some indication that students may attend school more consistently in year-round settings (Richmond, 1977; White, 1987). Parents in Los Angeles identified improvement in student attendance as one of the benefits from year-round schedules ("Parents Give", 1982). The attendance benefits, like achievement and attitude, are often a function of the location and characteristics of the school. In Jefferson County, Colorado, White (1987) reported attendance gains at both the elementary and secondary levels. White further associated attendance gains with decreased dropout rates and with improved teacher attendance.

Student Achievement

The findings of Merino (1983) suggest that many of the year-round achievement studies are flawed. The implementation of year-round programs is inherently accompanied by other changes that make assessment of the impact of the schedule difficult. The analysis of year-round programs is further exacerbated by the broad definition of year-round. The year-round studies that have been conducted are usually matched to a particular plan or model. Comparisons of year-round achievement are as yet inconclusive in many cases. Recent studies have

indicated that there is little or no difference in student achievement in many year-round programs (Marr, 1989; Quinlan, George, & Emmett, 1987). Quinlan, George, and Emmett (1987) reported that the year-round achievement was at or above the level expected for the students they studied. However, proving student achievement gain in year-round programs is difficult due to the mixed results found in multi-track schools and varied locations. In the Oxnard School District (California), greater achievement gains were reported in year-round programs. "During those years when the Oxnard School District maintained separate year-round and traditional programs, we found that the proficiency test scores and the California Assessment Program scores were consistently and significantly higher at the year-round schools" (Brekke, 1990, p. 10). In a 1989 study done by the Utah State Board of Education, year-round schools were found to produce higher test scores after the implementation of year-round education. In this evaluation it was found that with "all of the changes which may take place simultaneously, including increased teacher enthusiasm, more structured curriculum, and increased testing and tracking of students, academic achievement is not hurt and may possibly be benefitted" (Utah State Board of Education, 1989, p. 3) In the San Diego Unified School District students in year-round schools made greater gains than those in traditional schools during the period from 1984-1990. In comparing year-round multi-track, single-track, and traditional schools in the district it was found that "students in year-round schools outperformed those in traditional schools

in the degree of achievement on the California Assessment Program and the California Tests of Basic Skills in reading, language, and math. Some of the schools studied had been operating on year-round schedules since 1972 (Alcorn, 1992). Clearly, some year-round programs are allowing students to achieve at higher levels. Research suggests that the implementation of a year-round program at worst does no harm to student achievement. Research further indicates that programs that have been operating longer such as Oxnard and San Diego are experiencing more positive, significant gains than others in the early stages of operation. However, the gains in all schools, like those in many other school programs, are influenced by other factors.

Teacher Attitudes

Elder (1989) found that teachers were generally more satisfied with their jobs in year-round programs. Merino (1983) reported that of the studies done regarding year-round education negative attitudes were encountered in only three. Pelavin (1979) found that teachers were generally favorable toward year-round programming. Those positive attitudes are contingent upon the support teachers feel they have in a year-round program (Rice, 1975). Teacher attitudes are a significant factor in the study of this change process. As Fullan and Stiegelbauer suggest, "If educational change is to happen, it will require that teachers understand themselves and be understood by others" (1991, p. 117). The assessment of where teachers are, as Fullan and Stiegelbauer describe, is crucial to an

understanding of the influence that teachers are having on the other changes that may be occurring in the year-round setting.

Summary

In order to utilize the information regarding the implementation of a year-round program, school districts must find specific, longitudinal research that addresses the particular characteristics under consideration. Given the large number of potential year-round models and the numerous variations of these models, school districts must carefully locate a program implementing the particular model they are considering. Even with that task accomplished, there may be absence of data to evaluate it.

History of Year-Round Education

Year-round education, contrary to the information disseminated by many of those who currently promote the reform, is not new. Year-round schooling, in the form of attempts to extend the school year in single track fashion, occurred as early as the 1800s. In Buffalo, Baltimore, Cincinnati, Chicago and New York school calendars were extended to eleven and twelve months in the early 1900s (Patton and Patton, 1976; Ross, 1975). Year-round programs also emerged in smaller places like Bluffton, Indiana; Minot, North Dakota; Aliquippa, Pennsylvania; and Nashville, Tennessee, for reasons of building efficiency and curriculum needs. Many of these earlier programs waned following the 1930s (Howell, 1988). The number of year-round programs held steady at less than 15 from the early part of the century until the mid-1950's. From then until the mid-1970s the idea of year-

round education was revisited by a number of school districts but little implementation took place (Patton & Patton, 1976).

In the early 1970s year-round schools were created in California, Florida, Illinois, and Virginia. The number of schools grew steadily to a peak of 537 schools in 1976, but the number dropped to 287 by the early 1980s (Howell, 1988; National Education Association, 1987). Renewed interest since then has caused the growth of year-round schools to reach an all-time high. During the 1991-92 school year 1,345,921 students were enrolled in 1,646 schools in the United States (Lucas, 1992). The reasons for utilizing year-round schedules in 1992 included building efficiency, instructional needs, curriculum enhancement, increases in the number of school days, and a host of other needs identified by local school districts. The bulk of the schools currently operating on year-round schedules are in California and other western states. Due to significant population increases, eight of the ten largest districts with year-round programs in the country are in operation in California, where 23 percent of all children in public schools are on a year-round schedule (San Diego City Schools, 1991). The greatest concentration of year-round programs in the Southeast has occurred in North Carolina since 1990. Since the first two programs in the state began in Mooresville and Wake County in 1989 and 1990, the number increased to 35 schools in 18 districts in 1993 (North Carolina Department of Public Instruction, 1993). Programs implemented in North Carolina have focused on both building efficiency and instructional opportunities.

Organization and Structure of Year-Round Programs

Two basic settings for year-round programs have emerged. The first is a self-contained school where all children follow the same calendar schedule. Often children are on some schedule configuration that permits an extension of the school year. However, all children attend for a specified number of days on a calendar that is common for all students. The second type of setting is one in which there is a school within a school. Students who attend within this arrangement may be on one of several schedules operating simultaneously. Within this setting, a variety of calendars that are considered year-round may be employed. Although Most year-round calendar models do not require the addition of days to the traditional 180-day schedule the programs are classified as year-round. Schools that operate on a schedule that allows more concentrated periods of learning with more frequent breaks for students are generally categorized as year-round schools. Among many possible configurations, several that are considered the most popular models are described here. (see Figure 1)

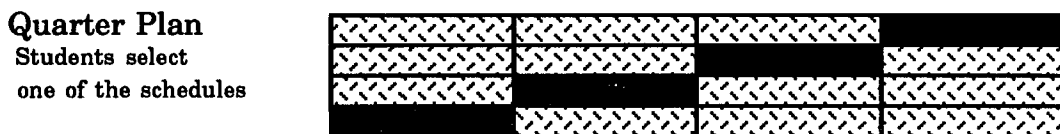
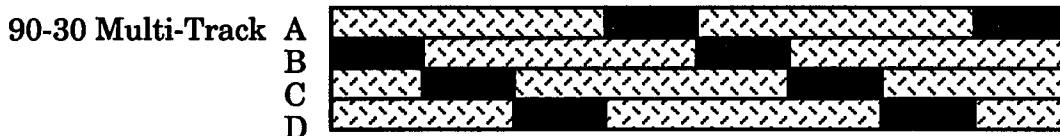
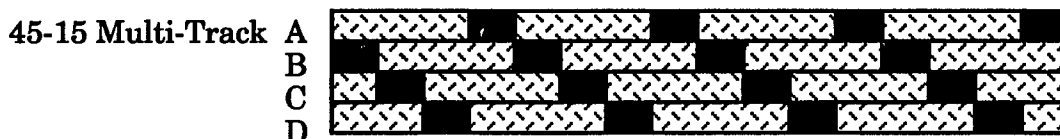
The 45-15 Multi-Track and the 45-15 Single Track plans are commonly used by school districts. In each the children attend school on a yearly schedule of four quarters of approximately 45 days each. Each quarter is followed by a 15-day period that may include holidays, periods of remediation, or days for enrichment. The 15-day periods are often called intersessions. Where all children are on the same calendar, the 45-15 schedules are considered single-track. The multi-track plan allows four

Figure 1

Primary Year-Round Calendar Models

Students in School  Vacations 

June-----July



groups of children (or less) to operate on a 45-15 schedule with staggered schedules. Up to three cohorts of children are in attendance at any one time, so that during any 15-day period, with a four track plan, some students will be on vacation. This plan is typically used to allow districts to increase building capacity in schools. While one track is on vacation, the three remaining tracks will be in session, thereby reducing the number of children who need classroom space at any particular time. The program to be studied here operates on a 45-15 single-track schedule.

Another popular schedule is the 60-20 Plan. Much like the 45-15, children attend for terms of approximately 60 days with holidays, vacations, or intersessions of approximately 20 days. Programs operating on this schedule can serve multiple cohorts of children simultaneously. The plan can be used in a single track fashion as well. The 60-20 plan will accommodate the desire for longer instructional time and longer breaks (Howell, 1988). The 60-15 plan is quite similar and is also frequently utilized. The 60-15 plan provides opportunities for common summer or winter breaks for students. Similar to the 60-20 plan is the Trimester plan, which also has 60-day terms, but with vacation periods that are flexible. Some may be more or less than 20 days. This plan provides some scheduling options and is generally used in single-track fashion.

The 90-30 plan permits schools to operate two 90 day semesters with a 30 day vacation between. This calendar facilitates two long periods of instruction followed by two breaks for students and teachers. The length of

terms is longer than the calendars previously described but less than the traditional school schedule. As with the 45-15 and the 60-20, the 90-30 plan can be used for either multi-track or single-track operation.

Two other plans that are similar are the Quarter and Quinmester plans. These configurations divide the school year up into four or five terms respectively. Students select either three or four terms to attend. They have the option of attending all terms, thereby increasing the length of their school year. The 12 week terms in the Quarter plan and the slightly shorter Quinmester terms generally operate on a single-track pattern (Ballinger et al., 1987; Howell, 1988).

The Concept 6 plan has been used to increase building capacity. With this format, the year is divided into six terms of approximately 43 days. Students must attend four of the six terms. The Concept 6 plan can limit the length of the school year to approximately 170 days of instruction unless modifications are made to permit terms to run simultaneously. The plan permits schools to deal with overcrowding. However, there may be slight reductions in the number of days students attend (Ballinger, et al., 1987).

Other less frequently used plans have also been developed. The Five-Track, Five-Term plan allows the calendar to be divided into five tracks of 45 days each. Students attend four of the five tracks with the fifth track being a vacation. This 180-day schedule is similar to the traditional school year, but with some students taking their vacation at a time other than the summer. This multi-track plan allows an increase in building utilization. The

Flexible All-Year Plan, which is growing in popularity, allows students and parents to decide which days children will attend school. The school may be open for 240-250 days per year and students are required to attend 180 days of their choice. Obviously, this plan requires flexibility and individualization on the part of teachers (Ballinger et al., 1987).

In addition to these calendar plans, many school districts have modified or adapted one of the designs to create a new and unique schedule for their students. These basic models have served as frameworks for schools to use in developing a calendar that suits the specific needs of their students.

Research Basis for the Study Design

Goodenough (1981) maintained that people may hold beliefs contrary to research that questions the validity of those beliefs. Much of the tradition that exists in the enterprise of education is somewhat grounded in mystique. Teachers hold beliefs about schools and how they should operate and how children should learn that are often unproven by research. Those beliefs sometimes become the stumbling blocks to reforms that are deemed necessary. The data generated in the quantitative portions of a study are more valuable when given a richer qualitative interpretation, set in an understanding of the beliefs that exist in the setting. Goodenough's writing on culture would suggest that the paths of year-round and traditional education begin to part when beliefs begin to impact on values about how the educational delivery system should be operated. By examining the

attitudes of teachers through a survey and looking at the data ethnographically, some belief patterns that are influencing the program may be discernible. If there are influences, then possibly they may be linked to differences in outcomes when traditional and year-round programs are compared.

Although, as Merino (1983) and the National Education Association (1987) reported, some study of teacher attitudes has occurred, there has not been a study that links these questions of student achievement, attendance and attitude, with teacher attitudes. According to Merino (1983), the studies have focused on the non instructional aspects of teacher attitude. Less attention has been given to the process of program implementation and the impact of restructuring on measurable outcomes relative to student performance, attitude, and attendance.

The questions used in a qualitative study influence the procedures that are selected. The intent of this study was to look at the first two years of the implementation of a year-round program, particularly the aspects influencing the instructional program, by blending qualitative data acquired from teachers and student performance data. The difference, if any, that the year-round program yields is the foundational issue. The qualitative/quantitative perspective is important because the attendance and attitude issues are related to the interactions children have with teachers and the subsequent achievement of the students. The analysis of the products of the year-round setting are paramount. The observation and

analysis of a particular setting, as Malinowski supported in his work (Baber, 1992), is where the theoretical underpinnings of the practicality of programs such as year-round education can best be studied. The study of these facets of the year-round setting may guide those considering replication of the program.

There is a distinct culture relative to the year-round program. The traditional structure is cluttered with routines and accepted behaviors, many of which have gone unquestioned. The year-round reforms are beginning to change some of those routines. These routines include not only a redesign of the calendar, and when we expect children to be in class, but also the ways in which they are taught in the classroom. The changes that are a part of calendar reform must be linked to the values that are influential in initiating and sustaining them; therefore, the study of teacher attitudes in combination with student attitudes, achievement, and attendance becomes significant. These attitudes are linked to the goals that teachers have in their classrooms and the subsequent actions, or customs and routines they use. Mills' (1961) research into social behavior has led to a need to know why teachers act as they do, not simply how they act. The how is put into a more meaningful context when the why is considered.

The Mooresville Graded School District approach to year-round education presented in Chapter IV can guide other districts considering a replication of this particular model. The findings on year-round education are extensive in some areas and quite minor in others. The consideration of

many plans under the banner of year-round education further complicates the assessment that districts must make of the value of a year-round program for their students. The study design described in the following chapter focuses on the results that may be expected by a district in the first two years of implementation of a 45-15 single-track schedule with intersessions.

CHAPTER III

METHODOLOGY

Description of Setting

The study was conducted in Mooresville, North Carolina in the Mooresville Graded School District where a year-round program began in 1990. Initially, 200 children entered the Optional Year-Round Program at Park View Elementary School in July of 1990. Facilities there were shared between the year-round program and a traditional kindergarten through third grade program. The original eight classes, grades kindergarten through five were housed on the Park View campus the entire 1990-91 school year. Beginning with the 1991-92 school year, grades 4 through 6 were relocated to other campuses where traditional classes for those grades were housed. A fourth and fifth grade program was housed at the N.F. Woods Elementary School and a sixth grade program operated at the Mooresville Middle School. Each of these programs has operated as a school within a school since it began.

The plan for the program, developed by the Superintendent's Leadership Team and approved by the Mooresville Graded School District Board of Education in 1989, was implemented utilizing local, state, and federal funds normally supplied to schools. Additional funding of approximately one-half million dollars was acquired through a Next Century Schools Grant awarded by R. J. Reynolds-Nabisco in 1989. The

grant was for a three year period to enhance the year-round program. The funding for operations, personnel, materials, supplies, and remediation sessions, however, was from regular funding provided to schools in North Carolina by the legislature. Funds allotted for summer school programs were redirected to the quarterly remediation program. Other components of the program such as personnel, transportation, food service, materials, etc., were funded through normal means, by the State of North Carolina just as for traditional programs.

The year-round program was one of choice for families. Parents submitted applications for children who wished to participate. Information and application forms were provided to all children in the district in the early spring of 1990 and 1991. Applications were accepted through the beginning of the summer term. All students who reside in the district and whose parents submitted an application were accepted into the program. Students whose residence was outside the district and whose parents submitted an application were allowed to attend as tuition students on a space-available basis. The practice of allowing non-resident students to attend was consistent with that found in the traditional program.

The program operated on a 45-15 schedule. Students attended classes for four 45-day sessions for a total of 180 days of instruction. Additional remediation and enrichment sessions, called intersessions, were provided in one-week increments during the three week period between the 45-day quarters. The remediation intersession immediately followed the quarter

with students who fell below the mastery level on quarterly assessments being required to attend. The enrichment intersessions were weeks of specialized thematic units of instruction during the second week following the quarter. These enrichment intersessions were optional for students and a tuition of approximately forty-five dollars was charged. Tuition was determined by the cost of the particular activity with some costs being greater.

Students were selected for the remediation sessions based on their performance on quarterly criterion-referenced tests that assessed their performance in mathematics and communication skills. The tests were developed by the teachers working as grade level teams. Working as a committee, the teachers selected the specific competencies to be taught during the quarter and prepared items for the tests. Upon approval, the tests were prepared, along with scoring sheets. The tests were essentially untimed. Teachers revised the quarterly assessment tests each term to reflect the scope and sequence of their planned instruction during the quarter, based on the North Carolina Standard Course of Study (1985). The tests were administered to students during the final two weeks of the term. Administration was typically conducted in three morning sessions. Children who scored below the criterion of eighty percent were required to attend remediation sessions. Some students were also recommended by teachers for remediation based on quarterly performance . Students who were recommended were not required to attend.

Remediation sessions were scheduled in the week following each 45-day quarter. The sessions, taught by certified teachers, were typically from 8:00 a.m. until 12:45 p.m. each day. The instruction during the sessions was deficiency based and aimed at helping the child achieve the desired mastery level. The child's regular classroom teacher developed an individualized instructional plan for the child, to address the identified problem area. Remediation session teacher-student ratios ranged from 1:7 to 1:15 depending upon the particular needs of the children.

The enrichment intersessions were conducted the second week of the quarterly break. They were typically staffed by agencies and individuals outside the school setting and were sometimes conducted off campus. The thematic material included such topics as world cultures, health and fitness, arts, and technology. The tuition-based enrichment sessions were day-long activities. Participation is optional and there were no prerequisites other than some age requirements. For example, an overnight camp intersession was reserved for students in grades 3 through 6 only.

The third week following the quarter was generally reserved for vacation for students and teachers. Child care was provided at a cost to the parents. The cost was competitive with other providers in the community. Parents were given the option of full or part-time day care on any day during the three weeks or they could use the day care in combination with any of the intersession offerings. The day care options were offered in concert with before-and after-school care. Before-school care is provided

from 6:00 a.m. until school begins at 8:00 a.m. After school care operates from 2:45 p.m. until 6:30 p.m. each day. The child care options were provided to parents at the elementary school sites.

Characteristically, the students involved in the year-round program were typical of the district population. Because they come from the school system, their instructional background was consistent with that of other children in the traditional classrooms. The socioeconomic status is also consistent with that found throughout the district. The system population is predominantly middle-class working families. Although the professional/upper income population within the district has grown slightly in recent years, it is similar in the year-round and traditional programs.

The entire year-round and traditional population was included, where possible, in the study. Students were grouped according to a number of variables for comparison. For example, students were subdivided into those in their first year of the year-round program and those in the second; they were grouped by gender and ethnicity, where appropriate. Data generated by year-round students regarding achievement, attendance, attitude, and other selected variables were compared with data from students in the traditional program, as well as by length of participation, and national norms. For example, attendance rates between traditional and year-round programs were compared. All students in the traditional program in the district were considered where appropriate.

Instruments and Methodology

Specific variables were considered in the study to address the questions identified in the research focus. The question, "Does year-round education make a difference in the education of children?" served as the primary focus of the study. Specific subordinate questions and the appropriate instruments and measures for evaluation of these questions supported the study of the primary focus.

Student Attitudes

The first question, "Does participation in the year round program make a difference regarding student attitudes?" was studied utilizing data from student responses on the School Attitude Measure. The SAM was selected by the assessment agency chosen by the R. J Reynolds-Nabisco, Next Century Schools Grant Program to be administered to all children in grades 2 through 6 who participate in the program. It was designed to survey and evaluate several dimensions of student attitudes: (1) Motivation for Schooling, (2) Performance-Based Academic Self Concept (3) Reference-Based Academic Self Concept (4) Student's Sense of Self Control Over Performance, and (5) Student's Instructional Mastery (Wick, 1990). The mean normal curve equivalent scores of children in the year-round program were compared with norms prepared by the publisher. In addition scores for children who took the assessment in both the first and second years of the program were compared. They were likewise compared with scores of children entering in 1991-92, during the second year of the

program. The survey, given to all year-round students upon entry into the program, is a series of questions related to the five areas identified.

Students responded to the questions on a Likert-type scale with "never agree", "sometimes agree", "usually agree", and "always agree".

Subgroups were compared with the norms to determine whether there was a difference in the responses within any one of the five attitudinal areas in the entire year-round population or the various groups.

Student Attendance

To determine the extent to which year-round makes a difference regarding attendance, comparison was made utilizing daily attendance data. Attendance rates, generated from the Student Information Management System, were studied. Student attendance percentages for the various sample groups were collected by calculating a percentage of days attended of the number of days a student was officially enrolled in the school. Various groups and subgroups were considered. These included grade-level groupings, groupings by ethnicity, number of years in the program, and gender, among other significant groups identified during data collection and analysis. The average daily attendance percentages were compared for the 1990-91 and 1991-92 school years. Student attendance percentages were compared to traditional attendance patterns to determine whether the year-round program was having a significant impact on the attendance of children.

Student Achievement

Answering the third question, "Is student achievement different in year round programs?" was in many ways, the most difficult. A major question of those considering year-round education is whether there are achievement differences that merit the effort required to implement and operate a program. The student achievement issue utilized the California Achievement Test (CAT) scores. The performance of children in the year-round program on the CAT was compared with that of students in the traditional program. Again, various subgroups were considered. Gain in grade equivalent for the year-round students was compared to gain for traditional students. This comparison involved testing a null hypothesis that there is no dependence between the mean grade equivalent gains and participation in either the traditional or year-round populations as well as various subgroups within the year-round population. The chi-square test of association was used to measure whether the mean grade equivalent gains on the California Achievement Test were significantly related to participation in a particular program. Subgroupings were based on ethnicity, gender, grade, and number of years in the program.

The nature of the study itself facilitated the development of additional measures, questions, or assessment procedures during the collection of data. Potential and actual differences discovered suggested further areas of study which are included in the recommendations found in Chapter V. The rapid growth of the Mooresville Year-Round Program, combined with the

absence of data regarding this specific design for year-round instruction, makes these initial data valuable. As other school systems use the program as a model, these data can serve as a basis for continued study.

Teacher Attitudes

The final question, "Does year round education make a difference regarding teacher attitudes?" was studied utilizing a survey. A questionnaire was sent to all 17 teachers in the Mooresville Graded School District Year-Round Program. These teachers were the only staff in the North Carolina who had developed and implemented a year-round program based on a 45-15 calendar. Because they taught in buildings that housed both traditional and year-round programs, the survey was also sent to teachers on the traditional schedule for comparison data. This population consisted of 35 teachers. The teachers served a student population of approximately 1000 children of whom about half were enrolled in the year-round program. All teachers elected to teach in either the traditional or year-round program. The small size of the system, the high level of communication and administrative support for evaluative activities, and the professional nature of the staff indicated that a high return rate for the questionnaires could be expected.

The questionnaire consisted of four questions with fixed responses and a fifth open-ended question. The questions were both retrospective and prospective. The questionnaire itself (Figure 2) was field tested in another school district which was in the first year of operating a year-round

Figure 2**Teacher survey of year-round and traditional programs**

Please circle the characteristics that describe your teaching situation.

Program: Traditional Year-Round

Grade level: K 1 2 3 4 5 6 7 8

Year in program: first second more than two

Please circle your level of satisfaction with each of the issues identified below for each of the specified time periods.

	Past	Present	Expected Future
1. Satisfaction with teaching	high medium low	high medium low	high medium low
2. Satisfaction with student achievement	high medium low	high medium low	high medium low
3. Satisfaction with instructional flexibility	high medium low	high medium low	high medium low
4. Satisfaction with your teaching effectiveness	high medium low	high medium low	high medium low

5. For what reasons have you chosen to teach in either the traditional or year-round program? *Please use the back of this form or attach additional pages as necessary.*

program modeled after the program being studied. Teachers in both the traditional and year-round classrooms in that district were part of the field test. The issues of satisfaction with teaching, student achievement, instructional flexibility, and teaching effectiveness were queried around responses of high, medium, and low. These were asked regarding the past, present, and expected future attitudes. The open-ended question dealt with the teacher's reasons for selecting to teach in either the year-round or traditional program. These data provided some qualitative information to assist in securing an understanding of teacher choice. Comparison of the data provided insight into differences that exist in the needs of those who selected the year-round or traditional schedules. "Hyperqual", a computer program designed to manage qualitative data, was utilized to catalog and codify the survey data, regarding teacher attitudes, for analysis.

There was a need to assure anonymity of the respondents because of the small size of the population and the supervisory responsibilities of the researcher in the school system. Previous observations and analysis indicated that teachers in both programs were highly professional and vocal about their particular program. Their responses, particularly to the open ended question were expected to be more candid with anonymity insured.

Given the appropriateness of this ethnographic orientation as the basis for a complete understanding of the differences in a year-round program, it was important to consider the data collection options. Several

factors influenced the decision to utilize a survey. A survey allows the social researcher to probe not only the goals and beliefs of the individual but also the values and norms of the group. These goals, beliefs, values, and norms all influence the way teachers teach. Gaining an understanding of that philosophical base, given the small size of the population, is crucial. Surveys are also an appropriate tool for dealing with the limits of time. The survey allows the researcher to look into the past as well as the future. Because attitudes teachers have about the process of education invariably reach back to their days as students and into the future as they perceive it their actions are influenced, as Goodenough (1981) suggests, by these beliefs. More specifically, these teachers represent several subgroups. Some were in their first year of teaching in the year-round program while some were in their second. Still others are veterans of traditional schedules. Whether there was a difference in the attitudes and beliefs of the groups was of interest.

As Ellen (1984) suggested, as an ethnographic technique, surveys are on the end of the spectrum that tends toward sociology, technique, and quantitative methodology. That orientation and association were quite comfortable for this particular study, since the focus was a qualitative and quantitative understanding of the difference that the particular program may be making regarding the education of children. The history of the program is brief, being only two years, yet the cultural development of the attitudes teachers bring to the process is considerably longer. The focus

here, however, has been on the education of the children as opposed to a specific study of teacher behavior. Because of the desire to glean teacher attitudes and beliefs rather than researcher values and beliefs relative to the year-round program, a survey was deemed to be most appropriate. Also of note is the fact that all of the teachers who were involved in the year-round program had been questioned quite extensively over the previous two years. The high volume of visitors to the program had sensitized teachers to verbal questioning. The use of a survey was unprecedented with these professionals, relative to their year-round experience. The novelty of the methodology was expected to provide insightful information. Ultimately the survey served the several purposes suggested by Ellen (1984). First, the survey provided some systematization. There was anonymity for the respondents, as well as an assurance of consistency. Second, the opportunity for data for ethnographic content analysis was achieved through an open-ended question on the survey. Third, the survey format lent itself to field testing with other professionals. Finally, because of the familiarity of the researcher with the setting, the survey served as formal data to integrate with the "fieldwork" that had already occurred.

It was important to consider the teachers in a complete analysis of the larger question regarding the difference year-round education may be making because the teachers have such a significant level of involvement and subsequent impact on the student outcomes to be studied. The data secured from teachers regarding attitude ultimately broadens the study so

that an understanding may be gained as to why differences and similarities might exist between year-round and traditional program outcomes and culture. As Wagner (1990) described the process of ethnography for school administrators, there is extreme importance in understanding meanings constructed or perceived by those involved in activities (Wagner, 1990). Although there are phenomenological problems that may be inherent in Savage's approach (since there is familiarity with the subjects), it is hoped that praxis has been achieved by allowing the subjects an opportunity to speak anonymously (Savage, 1990). The theory and practice, values, and beliefs that influence routines was the information ultimately sought.

To analyze the data, responses from the questionnaires were searched for common beliefs that existed in the year-round teacher responses that were different from those in the traditional setting. The analysis sought to discover what attitudinal differences, if any, might impact on the achievement, attendance, and attitude measures of the students. If year-round teachers are producing different results, then some beliefs must be causing them to act in a different fashion, relative to instructional pedagogy. As Goodenough implied, an individual must consider the rules of society when contemplating a course of action and place that in the context of held beliefs. At that point the cost of breaking the rules must be weighted against the cost of not doing so (Goodenough, 1981). The recipe that was been selected by the educators involved a change in the yearly schedule, various changes in the instructional pedagogy, enhancements to

the curriculum, and a difference in the interface with parents and the community. An understanding of the influences and the customs that were under development during the first two years of this program is crucial in the initial study of the program.

That something different is occurring in year-round classrooms is plausible, if teachers possess different attitudes regarding instruction, student achievement, teaching effectiveness, instructional flexibility, and differing reasons for changing the schedule. Teachers may have done something different instructionally if they produced a different result. If there is in fact evidence of some difference in attitude, beliefs, and values that teachers in the year-round program possess, then perhaps these differences may influence instruction. That information will ultimately lead to further evaluation and study. Perhaps those potential differences may be a function of training, or culture, or simply experience. If differences are observed and are pronounced, then that information should be the basis for a more in-depth longitudinal study. Value differences observed should be documented and perhaps replicated, if possible, in other year-round programs.

The information becomes exceedingly important as many systems across North Carolina and the Southeast consider implementing year-round programs. Other school systems may benefit by considering the values and beliefs of the teachers it selects for these programs. If the values are identifiable, perhaps school systems can influence what Goodenough

describes as "Culture" and move toward changing it to impact on instruction. The influences on the cultural pool, according to Goodenough (1981), provide a reference for examining the changes that occur. The expectation is that year round programs are at least a component of the cultural change of education.

Research Design

This study involved the comparison of the data collected regarding the students who participated in the year-round program and those who participated in the traditional program. Statistical tests were conducted utilizing the StatView II program, where appropriate, for data comparison. The chi-square test of association was used in the achievement section to determine if the values associated with the particular variables differ statistically. The observed values of various subgroups within the year-round population and the traditional students were compared. Data regarding student attitudes were analyzed by comparing mean normal curve equivalent scores for the various subgroups within the year-round population. The attendance data was a simple comparison of the average daily attendance percentages of the various subgroups identified. Student data were compared for the first two years of the year-round program in cases where data were available. The achievement test analysis included data from the 1989-90 school year as baseline data for calculating gains.

Limitations

The program that was the focus of the study was in the second year of operation and had grown and adapted rapidly. Some portions of the program, such as some facets of the remediation component, have been constantly assessed and revised. Difficulties were encountered because of the relocation of various grade levels within the population during the years under study. The year-round students in all grades were housed at Park View Elementary School in 1990-91. In 1991-92 the year-round students were divided by grade levels and attended Park View Elementary, Woods Elementary, and Mooresville Middle School. These relocations made tracking and grouping of children for comparison difficult. The study was further limited due to the small size of the sample relative to some subgroupings. Two hundred students participated in the initial year of the program and 485 students enrolled during the second year. The district is small, and few students scored low enough on some selected and mandated assessments to require participation in both year-round and traditional remediation programs. The small sample which attended remediation and summer school programs made comparison of these student groups impractical. Further, locally developed criterion-referenced tests used for determining whether children were to attend remediation had not been designed for use in other settings and had therefore not been assessed regarding reliability and validity. The tests, revised prior to each administration, reflected the content of the particular quarter. The content

validity of the tests was in direct proportion to the efforts of the teachers who participated in the development of the tests. There have been no attempt to correlate the criterion-referenced tests and the CAT and there are no plans to do so. The intent of the end of quarter tests is to determine whether students have mastered the prescribed material at a mastery level. The absence of achievement measures, other than the CAT, is also a limitation.

The rapidity of the change and the fluid nature of some aspects of the program also limited the study. Some components of the year-round program considered to be successful, such as the quarterly assessment, were implemented in the traditional program and comparisons may be somewhat influenced by this implementation. The limitations encountered were addressed during the course of the study. The qualitative methodology was selected because the program was in developmental process. The study, intended to be an initial evaluation of the program, sought to provide a contextural analysis of the program. The statistical methodology described in this chapter was been selected to provide some quantitative data relative to the questions that are most appropriately measured though statistical analysis. The analysis included, but was not limited to, understanding how numeration occurs in the year-round program and the value of that type of methodology for future study. The essential purpose of the study was the analysis of the difference in the year-round program as compared to the traditional program.

CHAPTER IV

FINDINGS

Introduction

This chapter is organized around the four component questions that are the basis of this study. The sections seek to answer the questions in these four areas in order to determine whether the Mooresville Graded School District Year-Round Program is making a difference in the education of children. The questions dealing with student attitudes, student attendance, student achievement, and teacher attitudes are asked in the context of the second year of the program. Student attitude differences are assessed through the use of the School Attitude Measure, a standardized attitude battery, which was used exclusively with the year-round students. The attendance data are for the same group during the same period. Achievement data come from the California Achievement Test scores of the children in elementary classrooms throughout the district between 1989 and 1992. The final area, teacher attitude, was examined using an original survey given to all elementary teachers in the district, both year-round and traditional.

The data presented in each section address the initial results of the year-round program in the district. Judgments about the long-term impact of the program are not the intended purpose of this study. This initial study should provide the focus for subsequent, longitudinal study of this program

while giving those school districts considering replication of this model insight into the potential results during the first two years of operation of a similar program. Because of the excitement surrounding the implementation of this program, there is certainly a strong possibility of the Hawthorne Effect. The extent of that effect, if any, can only be determined through additional study.

Each of the following sections begins with a restatement of the basic question to be addressed. It also includes a description of the findings regarding that question, followed by an analysis of that data. Some initial conclusions regarding component data are presented here with the major conclusions reserved for Chapter V.

Student Attitudes

The question, "Does participation in the year-round program make a difference regarding student attitudes?" was addressed through the use of a standardized attitude measurement inventory. The School Attitude Measure (SAM) was administered to all students participating in the Mooresville Graded School District year-round program. The instrument was initially chosen by the assessment agency selected to evaluate progress of the program under the funding grant from R.J. Reynolds-Nabisco. The survey was given to students who were enrolled each of the first two years of the program. Students who enrolled in 1990-91 and who were in the program for two years were administered the survey twice, while students who entered during the second year of the program were surveyed once.

Students were given the survey early in the 1990-91 and 1991-92 school years in classroom groups. Scoring was completed by the test publisher, American Testronics, and scores were reported in normal curve equivalents.

Students in the year-round program were assessed using the appropriate form of the instrument for their grade level. (see Table 1) The SAM attitudinal subscore areas include Motivation for Schooling, Performance-Based Academic Self-Concept, Reference-Based Academic Self-Concept, Student's Sense of Self Control over Performance, and Student's Instructional Mastery. The questions on each level of the instrument are divided equally among the five attitudinal sub areas. The E/F and G/H levels of the SAM, yield sub scores in each of the five areas surveyed. For the C/D level only a total score and normative information is provided for the these dichotomously scored items. However, the areas of focus of the questions on the C/D Level are identical to other levels. The E/F and G/H Levels primarily use response alternatives of never agree, sometimes agree, usually agree, and always agree. A standard percentage of the questions use similar reverse-coded responses for questions written in negative terms. The C/D Level test uses yes/no responses for questions and these are primarily coded in the positive direction.

The survey was designed to examine student attitudes relative to schooling in the five attitudinal areas. The (SAM) contains statements to which students are supposed to respond, based on their attitudes and

Table 1**School Attitude Measure Levels and Scale Areas**

Description		
Level	Grade Level	Number of Items
C/D*	1-2	50
E/F	3-4	60
G/H	5-6	75

***Level C/D is teacher dictated**

feelings. Presumably students in the year-round program should perform differently than the typical student on the SAM, if their attitudes about school are different. The edition of the SAM used was normed in 1988-89 with a standardization sample of over 89,000 students. Criteria used in the selection of the norming sample included geographic region, socioeconomic status, and school district size. Public schools surveyed were identified in forty different strata around the three criteria. The purpose of the stratification was to ensure sampling adequate for appropriate norming. (Wick, 1990)

Scores on the SAM are provided in normal curve equivalent (NCE) scores. The NCE scale was developed to present a normalized scale to be used in the evaluation of many federally funded educational programs. The normal curve equivalent scale has $\mu = 50$ with a standard deviation of 21. "The NCE unit is 1/98 the distance between the first and ninety-ninth percentiles, expressed in z-score units" (Glass & Hopkins, 1984, p. 67). For this study the mean scores, for various subgroups in the year-round population, were calculated using the NCE scores. Subgroups by gender, ethnicity, and number of years in the program were compared with various other subgroups in the population and with the national mean, where appropriate, to determine whether a difference exists between attitude scores for year-round and traditional students.

Overall Performance

Overall, students who had entered the year-round program by the second year indicated that their attitude toward school was higher than the attitude of comparable students across the nation. The total battery NCE mean for all students who had entered the year-round program by the second year was above the national mean NCE score of 50, as were scores on each of the five attitudinal subareas. (see Table 2)

Two Year Participants. Analysis of the mean NCE scores for children who enrolled in its first year (1990) is crucial because these scores represent baseline data as they began the program. Consideration of their scores, compared with the national mean, provides some indication as to their general attitudes about school as they began their year-round experience. Furthermore, the comparison of their first-year scores with their second-year scores provides an indication of the difference, if any, that the program is making for these children. Also of allied interest was the question of whether the children who entered during the first year were different than students who entered during the second.

Those children entering at the beginning of the first year of the program had a slightly lower mean NCE score for the total battery. These first year students scored highest in their attitude toward Motivation for Schooling with their lowest score regarding their Sense of Control Over Performance. (see Table 3) Here they fell below the national mean NCE score. The scores generally indicate that these first year children possessed

Table 2

1991-92 Year-Round SAM Results for All Participants

Attitudinal Area	Mean NCE Score
	Year-Round
Motivation for Schooling	53.9
Performance-Based Academic Self Concept	53.5
Reference-Based Academic Self Concept	52.5
Sense of Control Over Performance	53.0
Instructional Mastery	56.5
Total Battery	57.1

Note. National NCE $\mu=50$ with $\sigma=21$.

Table 3

1990-92 Year-Round SAM Results for Two Year Participants

Attitudinal Area	Mean NCE Scores	
	Year One	Year Two
Motivation for Schooling	57.4	56.5
Performance-Based Academic Self Concept	52.0	52.3
Reference-Based Academic Self Concept	53.5	52.6
Sense of Control Over Performance	48.9	57.1
Instructional Mastery	56.7	56.0
Total Battery	54.7	58.6

Note. National NCE $\mu=50$ with $\sigma=21$.

a work ethic relative to school when they entered the program. The group who entered during the first year had a desire to succeed as measured by the questions on the SAM. The value that this group placed on the school experience was slightly above the national norm. The lower score on Sense of Control over Performance would suggest that these students began the year-round program with a feeling that they did not have control over school outcomes. The mean NCE score for this initial group entering the program, regarding Instructional Mastery, was also high. The group indicated a slightly higher than normal level of school skills. Finally the score relative to Performance-Based Academic Self-Concept, and the slightly higher score on Reference-Based Academic Self-Concept indicate that this group had an attitude near normal regarding academic self concept. Because academic self-concept has been "found to be positively correlated with achievement even when the effects of intelligence and socioeconomic status are statistically eliminated," the students' attitude toward their own abilities is crucial (Brookover, Thomas, and Patterson, 1964, p. 274).

After one full year in the program the attitudes, measured by the SAM for this group of children, were more positive. (see Table 3) The total battery mean NCE for this group in 1991-92 was up by 3.9 points over the previous year when they were beginning in the year-round program. The majority of this total battery increase came in one attitudinal area. The mean NCE score for the Student's Sense of Control Over Performance

increased 8.2 points over the 1990-91 score with all other areas within the battery remaining fairly constant. The differences between the mean scores for the two years were within +/-1 point in the other subareas. It appears that the experiences of this group of students, during their first year in the year-round program, allowed confidence regarding school outcomes to increase. The items of this particular section address the students' willingness to take responsibility for school outcomes, their awareness of the relationship between actions and educational outcomes, and self-reliance and independence in school. The increase in positive attitude during the first year suggests that the year-round program influences children in such a fashion that they feel greater control over their educational destiny.

One Year Participants. The scores of children entering the year-round program during the second year were consistent with the first-year students in three of the five areas of study.(see Table 4) During their first year of participation, NCE mean scores on Reference-Based Academic Self-Concept, Sense of Control Over Performance, and Instructional Mastery for the 1991-92 initial enrollee group were within approximately +/- 1 point of the previous enrollees' initial score. In the two remaining areas, student scores for those entering during the second year were higher on one and lower on one. Students entering in 1991-92 were lower by 5.4 points in the area of Motivation for Schooling. The mean NCE was slightly above the national norm. The result would suggest that the second group of students

Table 4

Year-Round SAM Results for Participants' First Year

Attitudinal Area	Initial Mean NCE Scores	
	1991-92 Enrollees	1990-91 Enrollees
Motivation for Schooling	52.0	57.4
Performance-Based Academic Self Concept	54.3	52.0
Reference-Based Academic Self Concept	52.5	53.5
Sense of Control Over Performance	50.0	48.9
Instructional Mastery	57.0	56.7
Total Battery	55.6	54.7

Note. National NCE $\mu=50$ with $\sigma=21$.

entering the year-round program felt less confident and motivated because of some past experiences. Perhaps the difference could be attributed to the age of the population who entered the second year. The first-year mean grade was 2.49 while the average grade level of the students beginning in the second (1991-92) was 3.64. The difference may be a result of length of school experience that manifested itself in lower attitude and motivation. These students entering in the second year may have felt less motivation to work hard in school because they had more unsuccessful or unpleasant experiences in school. The scale in the Motivation for Schooling area assessed student desire to work hard in school, the relationship of working hard to experience, the relationship between current work and future needs, and the value of school compared to other interests. This older population may have a greater repertoire of interests, because of their age, which conflict with their interest in school experiences.

The other difference between the initial scores for the first- and second year groups was the Performance-Based Academic Self-Concept. Students entering the program in year two scored 2.3 points higher than the first year group. Because these questions deal with the students' feelings about their ability to perform in school and the confidence they have in themselves to accomplish the work, this group would seem to be slightly more prone toward success than the first group entering year-round. Here again, the higher mean grade level of the group may be a factor. Students in this group may be influenced by their own past success and have higher

confidence levels. Perhaps the students feel greater security in the classroom and school settings because they have been there longer and anticipate fewer surprises or frightening situations. These students may have a greater understanding of their own abilities and limitations due to experience. Furthermore, they may feel less apprehension regarding their ability to do the things required in school. Naturally, the more experiences they have had the more confident they will feel with new activities.

Comparison and Analysis. The mean NCE sub scores in the five areas would suggest that the attitudes of the 152 children who participated in the assessment during the first year, although they are younger, were not significantly different from the 199 students participating in the second year. The difference of approximately one year and two months in age appears to make little difference in attitude as measured by the SAM. The difference in initial total battery mean NCE score for the two groups of .98 is negligible over the 98 point total NCE range. As described in the section regarding the first year performance, the difference between the 1990-92 participants' first-year and their own second-year scores is much more significant than the difference between the initial year scores of their counterparts who enrolled in 1991-92. Comparison of the 1990-91 and 1991-92 groups reveals that they are quite similar at the time of enrollment in the year-round program. Consideration of the initial score of the 1990-91 group as a baseline is appropriate only if done in the context of the advanced attitude scores for a chronologically less mature group. The difference in

gain for this group during the first year of the program is an important indicator of the difference the program may be making in their school experience. These children who are actually younger have nearly equal attitudes toward schooling as compared with the older, second year participants. In 1991-92 those students who had enrolled in the first year of the program had a mean grade level of 3.5 while the mean grade level of students just beginning in the year-round program in year two was 3.6. After one full year of operation of the program the first-year enrollees had a mean NCE score of 58.61 and those joining the program at that time had a score of 55.62. Thus the group that had enrolled in the initial year of the program had a higher mean NCE score in 1991-92 (their second year), but was slightly younger than the second-year enrollees at this point.

When considering the subareas the major increase in the Student's Sense of Control Over Performance score is the most significant. Students' feelings about whether they are responsible for school outcomes is crucial. The statements in this section of the survey are related to the "student's willingness to take responsibility for school outcomes, awareness of the relationship between actions and outcomes in schooling, and self-reliance and independence in school." (Wick, 1990 p.3) Clearly the redesign of the calendar and the subsequent redesign of the school experience for children has had the most significant impact with this initial group in this attitudinal area. Because the subsection deals with locus of control, the children may be feeling that the year-round program provides greater

opportunities for change and personal input in the school program. That sentiment has been conveyed by teachers and parents informally and is consistent with the optional nature of enrollment in the program. All parents, teachers, and students, to the degree allowed by parents, have elected to participate in the program. Thus, there is naturally a greater sense of control over the experience. This subscore may indicate that children feel that they are in greater control of their school experience in the year-round program and the sense of control increases as students participate. The experiences of this group during one year of participation in the year-round program have significantly influenced the childrens' attitudes about whether they can control their environment.

The scores of the initial year-round group changed only slightly in the other subareas after one year of participation. The difference between the first year scores for both groups indicate that students entered the program at essentially the same attitudinal level. There were no scores, when considering the entire group, which suggested that the year-round program was a factor contributing to significant losses in student attitude level after a year of participation.

Comparison by Gender

The comparison of mean NCE scores for males and females revealed that there were significant differences between the genders in their attitudes toward schooling in the year-round program. Data analysis suggested that the program had an impact on both males and females, but

the positive effect was much more significant for females. While both groups produced total battery gains, the male subscores were much more erratic with some gains and loses. Female subscores, by contrast, were all positive gains. Comparison of the scores by gender in Table 5 reveals that there were declines in male attitudes in all subareas except one during the year of participation in the year-round program. For females attitudinal subscores all increased and all scores were above the national mean after one year.

Females. Comparison of the first- and second-year mean NCE score for female students alone reveals more pronounced differences than the previous total group comparison. The mean NCE scores for females who enrolled in the year-round program in the first year were higher than the national norm for the total battery. However, scores on the Performance-Based Academic Self-Concept and Student's Sense of Control Over Performance areas in 1990-91 were slightly below the national average with all other subarea scores being above. When compared to the scores for the group entering in 1991-92, the initial scores for the first-year enrollees were lower. (see Table 6) The smallest difference between the two groups for any of the sub scores was 1.8 points on the Motivation for Schooling subarea. The greatest difference of 9.65 points was on the Performance-Based Academic Self-Concept questions. Female students entering the program in 1991-92 scored 6.41 points higher on Reference-Based Academic Self-Concept, 4.48 points higher regarding Sense of Control Over Performance

Table 5

Year-Round SAM Results by Gender for Two-Year Participants

Attitudinal Area	Mean NCE Scores			
	Males		Females	
	90-91	91-92	90-91	91-92
Motivation for Schooling	52.3	50.0	61.6	61.9
Performance-Based Academic Self-Concept	56.8	52.8	48.0	51.9
Reference-Based Academic Self-Concept	56.3	50.7	51.3	54.1
Sense of Control Over Performance	51.0	56.0	47.2	58.0
Instructional Mastery	58.2	54.7	55.4	56.9
Total Battery	54.0	57.1	55.1	60.0

Note. National NCE $\mu=50$ with $\sigma=21$.

Table 6

Year-Round SAM Results for Female Participants' First Year

Attitudinal Area	Initial Mean NCE Scores	
	1991-92 Enrollees	1990-91 Enrollees
Motivation for Schooling	63.4	61.6
Performance-Based Academic Self-Concept	57.7	48.0
Reference-Based Academic Self-Concept	57.7	51.3
Sense of Control Over Performance	51.7	47.2
Instructional Mastery	63.8	55.4
Total Battery	61.4	60.0

and 8.42 points higher on the Instructional Mastery subarea. The differences in mean NCE scores suggest that there may be some differences in the attitude levels of the two groups at the time when they entered the year-round program. Demographic differences in the two groups are negligible, with one exception. As with the total group, the second-year female population is older. The mean grade for the 1990-91 enrollment group was 2.4 at the time the SAM was administered, while the second-year group mean grade was 3.7. Because of the higher percentage of older female children and the earlier maturation of females, the scores may reflect a higher attitude that is a result of age and maturity, rather than other influences.

All second-year subscores for female students represent gains over their first-year scores on the SAM (see Table 5). As with the total group, the most significant gain for an attitudinal subarea is Student's Sense of Control Over Performance. The difference between the mean NCE scores for the two years was 10.78 points. Although male scores also showed gains for this area, the female gain was much more substantial. This group which enrolled in the program initially posted gains of 3.81 points and 2.87 points respectively on the Performance-Based and Reference-Based Academic Self-Concept areas and a 1.52 gain regarding Instructional Mastery. The smallest gain came on the Motivation for Schooling subarea. Here the first-year female students' mean NCE score only increased by .29. Attitudes of female students appear to be more enhanced by participation in

the year-round program than those of males. The scores indicate that positive attitudes for females have increased in each of the five areas during the year of participation in the year-round program.

Males. The comparison of mean NCE scores for males in the first and second- year groups indicate that there is a greater difference in attitudes upon entry into the program. (see Table 7) Mean scores for males entering in the second year of the program were significantly lower on all subareas of the SAM. The first-year group scored above the national mean in all areas and the initial scores for this group were also higher than the male group entering during the second year. The Motivation for Schooling mean NCE score for the second-year students was the most discrepant at 9.28 points below the first-year group. The Performance-Based and Reference-Based Academic Self-Concept scores were 5.22 and 8.0 points lower respectively for the second-year group. The Sense of Control and Instructional Mastery scores for second-year participants were likewise 2.4 and 6.71 points below first year males. Overall it appears that the first-year males came to the program with above average attitudes, both among males and as compared to the total group. The mean grade level of males in the first-year was 2.6. That level is almost identical to the mean grade of 2.61 found in the second-year male group when they entered.

In contrast to the gains in female student attitude measured in mean NCE scores on the five attitudinal areas of the SAM for the first-year group, males declined in four of the areas from the first to the second year. (see

Table 7

Year-Round SAM Results for Male Participants' First Year

Attitudinal Area	Initial Mean NCE Scores	
	1991-92 Enrollees	1990-91 Enrollees
Motivation for Schooling	43.0	52.3
Performance-Based Academic Self-Concept	51.6	56.8
Reference-Based Academic Self-Concept	48.3	56.3
Sense of Control Over Performance	48.6	51.0
Instructional Mastery	51.5	58.2
Total Battery	51.3	54.0

Table 5) The scores of the male group who enrolled in the first year of the program declined by 2.27 points on Motivation for Schooling in their second year, 4.04 points on Performance-Based Academic Self-Concept, 5.62 points on Reference-Based Academic Self-Concept, and 3.52 points on Instructional Mastery. The single area of gain from first to second year for males was Student's Sense of Control Over Performance where the mean NCE score for 1990-91 male enrollees increased by 6 points.

Male attitudes, as measured by the SAM, for those enrolled in the year-round program declined. The most significant area of decline, Reference-Based Academic Self-Concept addresses the male students attitudes about how he thinks others feel about academic performance. The questions in this area also assess the willingness of the male student to discuss performance with others. It further gathers information about the consistency between the perceived views of others regarding the male student's ability and his own expectations. In general it would seem that first year, year-round males believed that the discrepancy between their ability and the expectations of others regarding their performance was widening. It may be that the increased frequency of major assessments, for quarterly evaluation, influenced male students. The reference-based score combined with the performance-based score that also indicates a decline, suggests that male students did not feel as positive about themselves and their academic progress in the year-round program as did females. The Instructional Mastery and Motivation for Schooling scores further

indicated the reduction in positive attitude. The single positive difference for Student's Sense of Control Over Performance suggests that the male students understood that the control for their performance rested within themselves. The score indicates that the male students perceived that they could control the school environment for success.

Ethnicity

Ethnicity appears to have had limited overall impact on student attitude with the students who enrolled in the first year of the program. (see Table 8) Total battery mean NCE scores for black and white students differed by only 1 point for first-year enrollees after a year of participation in the year-round program. The summary gains for the first-year black and white students were also very comparable, with black student attitudes having improved slightly more than white students. The white students' gain from the initial administration of the SAM to the second year testing of this first group was 4.13 while the black students' gain was slightly higher at 4.72. Together, these scores indicate that the attitudes of black and white students who entered during the initial year of the program were very similar. With the program having positively influenced black students slightly more.

Although the total battery scores were similar, there were discrepancies regarding the scores within the battery, when considering ethnicity. The data suggest that the year-round program may allow black student attitudes to improve. The first-year, year-round black students'

Table 8

Year-Round SAM Results by Ethnicity for Two-Year Participants

Attitudinal Area	Mean NCE Scores			
	Black		White	
	90-91	91-92	90-91	91-92
Motivation for Schooling	57.0	59.3	57.5	55.7
Performance-Based Academic Self-Concept	47.7	54.1	52.5	52.4
Reference-Based Academic Self-Concept	54.7	49.2	53.1	53.3
Sense of Control Over Performance	45.9	50.7	49.0	57.8
Instructional Mastery	50.1	52.8	57.8	56.3
Total Battery	53.0	57.7	54.6	58.7

Note. National NCE $\mu=50$ with $\sigma=21$.

scores increased in three areas, while those of white students declined. Between year one and year two, white students declined in their Motivation for Schooling score by 1.8 points. Black students by contrast increased in this area by 2.3 points. It appears that black students may have benefitted from increased motivation in the year-round program while white students did not. The scores for Performance-Based Academic Self-Concept were the most discrepant. Again initial enrollee white students declined slightly between the first and second years. The scores in this area for white children declined by .16. Black students posted their greatest attitudinal increase in this area. The increase of 6.38 points here was the largest for any area of the battery for black students. It appears that participation in the year-round program allowed black students, more than whites, to feel better about their school performance and to have increased levels of confidence regarding academic ability. The final area where black students' gains were greater than whites, regarding attitude, was Instructional Mastery. The students' perception of their actual school skills was indicated by their scores. Black students increased by 2.67 points while scores of white students again declined, in this case 1.47 points. The scores in these three areas suggests that something has occurred in the year-round program to aid black students regarding motivation, personal self-concept, confidence, and instructional mastery. By comparison, white students were not as likely to be impacted positively in these areas.

The difference between Reference-Based Academic Self-Concept scores for black and white students was, by contrast, greater for white students. White students gained .14 points while the black students declined 5.47. This would suggest that black students who initially entered the year-round program perceived that others, such as parents and teachers, believed that they were less likely to be successful in school. Both black and white students posted gains in the subarea of Sense of Control Over Performance. The gain for black students between the first and second years was 4.79 points while white student gain was 8.85. The indication is that all students who enrolled in the first year of the year-round program were feeling that they were more in control of their performance. The score indicates that white student attitudes were impacted in greater degree than black student attitudes. However, this is the single area of the battery where scores for both groups were increases.

Students Enrolling in Year Two. A comparison (Table 9), of initial attitude scores of first year participants and those enrolled in the second year, by ethnicity, gives some indication of the differences between the two groups within the year-round population in Mooresville. The profile of students enrolled during the second year showed greater discrepancy than that of those enrolled in the first, when ethnicity is considered. While the white Total Battery NCE score for second year students is very close to that of first-year participants, (-.4 difference), the difference for black students is considerable. The score for black students who entered during the second

Table 9

Year-Round SAM Results by Ethnicity for Participants' First Year

Attitudinal Area	Mean NCE Scores			
	Black		White	
	90-91	91-92	90-91	91-92
Motivation for Schooling	57.0	59.1	57.5	49.6
Performance-Based Academic Self-Concept	47.7	58.5	52.5	52.9
Reference-Based Academic Self-Concept	54.7	60.2	53.1	49.8
Sense of Control Over Performance	45.9	43.6	49.0	52.1
Instructional Mastery	50.1	61.8	57.8	55.4
Total Battery	53.0	60.6	54.6	54.2

year is 7.6 higher than the mean NCE for those who entered during the first year. There is a much greater difference in the second year black participants score when compared to the initial enrollees, than is the case for white students. One significant factor that may be effecting this score is the higher percentage of black participants who enrolled in 1991-92. The percentage of year-round participants who were black during the second year was 23 percent. That was up from only 12 percent in the first year. White student participation percentage, because of the increase in population size in 1991-92 and due to the increase in minority participation, declined from 85 percent the first year, to 76 percent of the total the second year. The total battery NCE scores suggest that the attitudes of white students who entered during year one are not substantially different from those electing the program in year two. However, black students who entered during the first year had lower attitude levels than those who waited until the second year to enter.

Scores on the attitudinal areas suggest that black children who entered in the second-year group came with significantly higher attitudes in two areas. These were Performance-Based Academic Self-Concept and Instructional Mastery. It seems that these black students had greater confidence in their own ability to achieve and a higher attitude regarding their own work, at the time of the assessment, than the first-year participants. Likewise, the scores on Reference-Based Academic Self-Concept and Motivation for Schooling were also higher. The single area

where the attitude level of the second year black entrants fell below that of the first-year group was their Sense of Control Over Performance. This suggests that the children and parents may have enrolled in an effort to relocate the locus of control over the educational experience. This second-year group may have entered the program in hopes of improving their ability to control their educational destiny. The low score indicates that these students felt a low level of control over school outcomes. Their involvement in the year-round program may have been in part an effort to relocate or reclaim control over their own performance.

White students, by contrast, appear to have had a higher attitude toward Sense of Control Over Performance. It is, in fact, the greatest area of positive difference between the first- and second-year white enrollees. Although it is not the highest score within the battery for white children, it does represent a positive change over first-year students. Perhaps this can be attributed to the willingness of white students and parents, who may have been frustrated with the traditional schedule, to enter in greater proportions during the initial year of the program. That idea is supported by the higher percentage of white students in the first year. Overall the second-year white participants had much lower results regarding Motivation for Schooling than their first-year counterparts. The second-year group mean NCE score was 7.9 points lower than the first, falling below the national norm. Again, this may be attributable to a sense of frustration with previous experience and a desire to try a new way of

schooling. The significance here is that the second-year white group indicated that it was much less motivated than the first-year group. Second-year white students were likewise lower on Reference-Based Academic-Self Concept by 3.3 points and instructional mastery by 2.4 points. The Performance-Based Academic Self-Concept score was slightly higher for the second-year group by .4. In concert these scores suggest that the white children who entered the year-round program in year two had a slightly lower attitude toward school and their ability to function effectively in school than those who entered the year-round program initially.

Summary

The data regarding student attitude suggest that, at the conclusion of the second year, children in the year-round program generally had higher attitudes than was the national norm when the total battery was considered. The gains found between first-year and second-year results for the SAM indicated that attitudes for the group of children who enrolled during the first year had improved slightly. The discrepancy in mean grade level between those initially enrolling in the program during the first year and those waiting until the second does not appear to be a major factor effecting the total battery scores. The initial scores for the two groups were quite similar with less than one point difference in the two years.

The School Attitude Measure results indicated that there were some differences when considering the attitude of various subgroups within the year-round population. The data available suggest that the female and

black student subgroups were the most influenced relative to attitude. The attitudinal gains for these groups when comparing first- and second-year scores merit further study. The absence of data for the traditional students makes comparison with other students in the district impossible. Further study to determine whether these attitudinal differences are consistent throughout the total school population or if they are a function of the year-round program would be beneficial. Further conclusions regarding student attitude are included in the following chapter along with recommendations for future study to determine the scope and extent of attitudinal differences.

Student Attendance

The success of any school depends in part on the attendance of children for instruction. The question then, "Does year-round education make a difference regarding attendance?" is crucial in assessing the program. The comparison of attendance figures for year-round and traditional students reveals some differences. The data considered in this study included attendance information for the 1990-1991 and 1991-1992 school years. All students enrolled in the Mooresville Graded School District in kindergarten through grade 5 during these years were included. The 1990-91 data was initially divided into five subgroups. The entire student population of South Elementary (K-3), Park View Traditional (K-3), and Woods Elementary (4-5), represented the entire traditional student population during this year. (see Table 10) The student population of the Year-Round Program at Park View was divided along the K-3 and 4-5 grade

Table 10

Traditional and Year-Round Student Locations 1990-1992

School	Location of Grade Levels	
	1990-91	1991-92
Park View Year-Round	K-5	K-3
Park View Elementary (Traditional)	K-3	K-3
South Elementary (Traditional)	K-3	K-3
Woods Elementary (Traditional)	4-5	4-5
Woods Year-Round	--	4-5

levels for consistent grade level comparison. The 1991-92 data was divided into five groups also. However, these groups were different due to the changes in location for grades 4 and 5.

The figures presented in the comparisons in this study are average daily attendance percentages. Two figures were used to calculate the percentage. The first, average membership for a particular school or group, was calculated "based on the sum of the number of days in membership for all non-violating students, divided by the number of days in the time period." The second, average daily attendance was calculated "based on the sum of the number of days in attendance for all students divided by the number of days in the year." (North Carolina Department of Public Instruction, 1992, p. 2:9) The average daily attendance percentage represents the average percentage of the students present daily, during the time period. In this case the time period was the entire school year indicated.

The average daily membership, average daily attendance, and the subsequent percentages were calculated using the Student Information Management System. The SIMS software is used by schools in North Carolina for maintaining attendance data. The average daily attendance information is utilized by the state as a basis for funding. The average daily attendance percentage is likewise used for evaluation and comparison purposes. The figures are consistently used as a basis for comparison of attendance in school systems and individual schools throughout North

Carolina. This study includes comparisons of data by grade, gender, ethnicity, and program.

Comparison by Grade

Kindergarten. In 1990-91, the kindergarten students in the traditional program at South Elementary and the year-round students posted equal average daily attendance percentages, with the Park View Traditional percentage being slightly less. (Table 11) While the total percentage of the population at each location changed most significantly at Park View during the 1991-92 year, when those students became first graders, student attendance improved from kindergarten to first grade. Each of the schools posted a gain. The greatest gain occurred at Park View Traditional where there was an average daily attendance percentage increase of 1.8 percentage points. The students at South Elementary increased 1.6, while the smallest gain of 1.3 was in the year-round program. Although the year-round program at Park View posted the smallest gain compared with the traditional programs, the increase in population for the year-round program in 1991-92 came primarily from Park View Traditional, the school with the lowest attendance percentage for this population during the prior year.

First Grade. The 1990-91 first grade population was similar to the kindergarten population in distribution. (see Table 12) As those students moved to the second grade in 1991-92, the distribution changed as the year-round program population increased and Park View and South declined.

Table 11

Kindergarten - First Grade Attendance 1990-1992

Average Daily Attendance and Population Distribution (%)

School	Kindergarten 1990-91		First Grade 1991-92	
	Attendance	Population	Attendance	Population
Park View Year-Round	94.8	18.9	96.1	29.4
Park View Traditional	92.4	33.2	94.6	24.6
South Traditional	94.8	47.9	96.4	46.0

Table 12

First Grade - Second Grade Attendance 1990-1992

Average Daily Attendance and Population Distribution (%)

School	First Grade 1990-91		Second Grade 1991-92	
	Attendance	Population	Attendance	Population
Park View Year-Round	96.2	19.5	96.2	30.3
Park View Traditional	95.4	32.3	95.2	25.3
South Traditional	95.9	48.2	95.8	44.4

The average daily attendance percentage of the traditional schools declined for these students as they moved from first to second grade. The .1 average daily attendance percentage loss at South Traditional was slight. At Park View Traditional the percentage also dropped slightly for a .2 loss. The year-round students were the only group that did not decline, remaining constant from first to second grade. The average daily attendance percentage for the year-round students was the highest for any group in both 1990-91 and 1991-92. The attendance percentage remained constant, although the population increase of 30 children in the year-round second grade came from Park View Traditional the school with the lowest first grade attendance in 1990-91.

Second Grade. The population shift from traditional to the year-round program continued with the second to third grade students. (see Table 13) For this group of students the year-round population more than doubled to 29.1% of third grade students in the district, with 12.6% of the total population moving from Park View Traditional. Park View Traditional was the school with the lowest attendance percentage for second graders in 1990-91.

All schools posted gains for the second to third grade year. The traditional program gains were greater than those of the year-round program between 1990-91 and 1991-92. South Traditional increased .7 for the largest gain while Park View Traditional achieved a gain of .6. The year-round program gained the least for this period at .2.

Table 13

Second Grade - Third Grade Attendance 1990-1992

Average Daily Attendance and Population Distribution (%)

School	Second Grade 1990-91		Third Grade 1991-92	
	Attendance	Population	Attendance	Population
Park View Year-Round	96.2	11.6	96.4	29.1
Park View Traditional	95.4	45.3	96.0	32.7
South Traditional	96.1	43.1	96.8	38.2

Third Grade. The students in third grade in 1990-91 moved from three locations, South, Park View Traditional and the year-round program at Park View to two locations in 1991-92. As fourth graders they were enrolled in the Woods Traditional or Woods Year-Round Program, both on the same campus at N.F. Woods Elementary School. The decision was made by the administration to relocate the fourth and fifth grade students to the Woods Elementary campus for the 1991-92 school year so that the students would have access to appropriate activities for their grade level and to relieve overcrowding on the Park View campus. In 1991-92 the year-round population again doubled while the remaining students attended the traditional program at Woods. (see Table 14)

During the period from 1990 to 1992 the traditional students posted gains in average daily attendance percentage. The traditional students average daily attendance scores were lower at both Park View and South than the percentage for the year-round students in 1990-91. When they became fourth graders at Woods Elementary in 1991-92, the average daily attendance percentage increased over the previous figure for each school. The year-round students declined, however. The year-round average daily attendance percentage dropped by .2 from 1990-91 to 1991-92.

Fourth Grade. The final grade level grouping considered are those students who moved from fourth to fifth grade from 1990-91 to 1991-92. The percentage of the total population participating in the year-round program was smaller for this grade level than for any other grade. The entire

Table 14

Third Grade - Fourth Grade Attendance 1990-1992

Average Daily Attendance and Population Distribution (%)

School	Third Grade 1990-91		Fourth Grade 1991-92	
	Attendance	Population	Attendance	Population
Park View Year-Round	96.4	18.0	--	--
Park View Traditional	95.7	30.7	--	--
South Traditional	95.4	51.3	--	--
Woods Traditional	--	--	96.3	64.0
Woods Year-Round	--	--	96.2	36.0

increase in the year-round population for 1991-92 came from the fourth grade traditional population which had already been housed at Woods Elementary during the 1990-91 school year. As with the previous group, both the year-round and traditional students were at Woods School during the second year of the study as a result of the decision to relocate the fourth and fifth grades for 1991-92. (see Table 15)

For traditional students the loss in average daily attendance percentage was .4 percentage points. Year-round students however, had a gain of .8, for the period from 1990 to 1992. It is interesting that the two groups had identical average daily attendance percentages of 96.0% in 1990-91. The .8 increase was the second highest increase, when considering grade levels, by the year-round students. It was surpassed only by the kindergarten increase.

Comparison by Gender

The most significant change in attendance percentage throughout the total K-5 grade span for both year-round and traditional programs was at the fourth and fifth grade level in the year-round program. Both males and females in this group posted gains. (see Table 16) The average daily attendance percentage for year-round fourth and fifth grade males increased .9 during the two years. The attendance percentage gain for females was even greater at 1.1 percent. By comparison, the traditional fourth and fifth grade male students remained constant at 95.8 for both years while the traditional females increased by .3 percentage points.

Table 15

Fourth Grade - Fifth Grade Attendance 1990-1992

Average Daily Attendance and Population Distribution (%)

School	Fourth Grade 1990-91		Fifth Grade 1991-92	
	Attendance	Population	Attendance	Population
Park View Year-Round	96.0	7.3	--	--
Woods Traditional	96.0	92.7	95.6	78.2
Woods Year-Round	--	--	96.8	21.8

Table 16

Comparison of Attendance 1990-1992 by Gender and Program Groups

Program/Grades	Average Daily Attendance			
	Males		Females	
	1990-91	1991-92	1990-91	1991-92
Year-Round Total	96.0	95.8	95.4	96.0
K-3	96.2	95.6	95.4	95.7
4-5	95.5	96.4	95.7	96.8
Traditional Total	95.1	95.4	95.7	95.6
K-3	94.7	95.3	95.7	95.5
4-5	95.8	95.8	95.6	95.9

The gains and losses for year-round and traditional programs, by gender, were inconsistent when compared. For example, the K-3 year-round males declined by .6 while females increased slightly at .3 percentage points. The comparable traditional males posted a gain of .6 while females declined .2. The overall difference between males in the two programs was 1.2 percentage points with traditional being higher. The female difference was .5 with year-round being the highest.

When considering gender, the most significant differences for males and females are at the 4-5 grade level where year-round participation seems to positively influence attendance. However, males at the K-3 level also seem to attend school slightly better in the traditional program. Consideration of the total year-round and traditional populations reveals that females in the year-round program showed slightly better attendance during the two years studied. The attendance percentage for all year-round females increased by .6 while the total for all traditional females declined by .1 for the same period. Males conversely did better in the traditional program. Traditional males gained .3 from 1990-91 to 1991-92. Although the gain was slight, the year-round males posted a loss for the same period. Their average daily attendance declined by .2.

Average daily attendance percentage differences for the year-round and traditional programs, which are most significant at the 4-5 grade level, appear to favor the year-round program slightly after two years. The attendance percentages for both programs, regardless of gender, are

consistently high. Differences in the results achieved by students in the two programs will be slight at best due to the already high attendance figures for students. Significant differences by school were not noted in the analysis of the data.

Comparison by Ethnicity

Data regarding average daily attendance percentages between the year-round and traditional programs by ethnicity are included in Table 17. The percentages indicate that, when considering ethnicity, there were greater differences between the year-round and traditional programs than by other subgroupings such as grade and gender. Data is only presented for black and white students due to the small size of other minority populations in the district.

White Students. The year-round white population size more than doubled from 169 students in 1990-91 to 360 students in 1991-92, and the average daily attendance percentage improved by .4 percentage points for the period. (see Table 17) The size of the traditional population declined, however from 819 students in 1990-91 to 680 students in 1991-92. The average daily attendance percentage also increased, although slightly less, for this group at .3. In addition to improved average daily attendance percentage overall, white students achieved attendance gains in both the kindergarten through third grade and fourth through fifth grade subgroups in the year-round program. However, the traditional students also posted gains in these subgroups. In the year-round K-3 program, student attendance

Table 17

White Student Attendance 1990-1992 by Program/Grade Groups

Program/Grades	Average Daily Attendance			
	White		Black	
	1990-91	1991-92	1990-91	1991-92
Year-Round Total	95.6	96.0	96.3	95.5
K-3	95.7	95.9	96.1	94.6
4-5	95.1	96.3	95.2	97.4
Traditional Total	95.0	95.3	96.4	96.1
K-3	94.8	95.1	96.2	95.9
4-5	95.3	95.6	96.8	96.7

improved .2 points while the population increased from 137 students in 1990-91 to 265 students in 1991-92. The traditional attendance gain was slightly better at .3. The population of 560 in 1990-91 declined to 469 in 1991-92.

The student attendance gain for white students in the fourth and fifth grades in the year-round program was greater than traditional. These year-round students posted a gain of 1.2 which surpassed the traditional growth of .3. The traditional population at the fourth and fifth grade level declined from 259 to 211 during the two years while the year-round increased from 32 students to 95. Although the year-round white students posted slightly higher attendance gains than the traditional group, the differences were not significant enough to conclude that the year-round program influences attendance differently for this group at the conclusion of the second year.

Black Students. The data presented in Table 17 for black students however, is less positive. While the total population of white students, as well as both the K-3 and 4-5 white subgroups, experienced average daily attendance percentage gains in both programs between 1990 and 1992, the black students generally declined. Although the attendance percentage declined for black students in both the traditional and year-round programs from 1990-1992, the decline was greater in the year-round program. Overall, kindergarten through fifth grade, black students in the year-round program declined by .8 percentage points from 1990-91 to 1991-92. The decline was the highest for any ethnic subgroup in either program. During this period the year-round black population size grew from 26 students in

1990-91 to 72 students in 1991-92. The comparable traditional black students' attendance percentages also declined. However, that decline was less than in the year-round program. In 1990-91 traditional black students average daily attendance percentage decline was .3. This loss in attendance percentage occurred in the context of a population decline from 286 students in 1990-91 to 263 in 1991-92.

Further analysis of the black population reveals a more significant attendance decline. For the kindergarten through third grade black students, the year-round students' average attendance declined 1.5. The black student population size in this grade range more than doubled from 21 students in 1990-91 to 49 in 1991-92. The traditional black population attendance percentage also declined .3 percentage points from the first year to the second. One subgroup that posted a significant gain in student attendance was the fourth and fifth grade black year-round population. This subgroup improved 2.2 from 1990-91 to 1991-92. The size of this population however, was quite small. In 1990-91 only 4 black students were in this group and the number grew to 23 in 1991-92. The traditional fourth and fifth grade black student's attendance average declined .1 for the same period while the population size for this group declined from 90 to 76 students.

Hispanic and Asian Students. Due to the small size, the Hispanic and Asian populations provide little information that could be considered valid for generalizations. The entire Hispanic and Asian populations in the year-

round program comprised only four students. Overall and in the K-3 and 4-5 subgroups there was no percentage change during the 1990-91 to 1991-92 period in average daily attendance. The traditional program included a slightly larger population of 25 students. The Hispanic students showed the only significant increase from 96.6% in 1990-91 to 98.0% in 1991-92 for an increase of 1.4 percentage points. The average daily attendance percentage for Asian students in the traditional program declined slightly from 95.7% in 1990-91 to 95.6% in 1991-92.

Summary

The attendance information for the year-round and traditional populations should not be considered conclusive. The shifts in population from one program to the other during the years studied influences the attendance percentages to some degree. Comparisons here are also influenced by the relatively high attendance percentages traditionally found in the school district. The high percentage is a result of emphasis by the district on student attendance at school. The high attendance percentages leave small margins for improvement. Data contained in this section, as with each section in the study, should be viewed with the consideration that the year-round program has only been in operation for two years. Attendance improvements of a few days per year, in a 180-day calendar for small segments of the population will be statistically small. Conclusions regarding these findings and recommendations for a long-term analysis of attendance data are included in the following chapter.

Student Achievement

A major question asked by those considering year-round education as a possible school reform option is whether there is a difference regarding student achievement. The data presented in this section concerns student achievement in the Mooresville Graded School District during the first two years of the Year-Round Program, as measured by the California Achievement Test (CAT). Because of the selection of the CAT by the North Carolina Department of Instruction as a measurement of student achievement, baseline data for the students enrolled in the District were available prior to beginning the year-round program in 1990. Statewide, the CAT has been utilized in grades 3, 6, and 8, in part to determine promotions and retentions and summer school participation. The Mooresville Graded School District administers the CAT to students in grades 2 through 9 as part of the local assessment of student progress from year to year. The CAT is the single achievement test given consistently to all students in the district that can be used for comparison prior to the beginning of the year-round program and during the first two years of operation. It was therefore selected as the measure of student achievement for the purposes of this study. Student performance on the CAT for year-round and traditional students, as well as performance by selected subgroups within the population, provides data for comparison concerning the initial years of the program.

The data considered in this study were collected using student rosters of CAT scores for the 1989-90, 1990-91, and 1991-92 school years. Student scores on the CAT were combined with demographic and program data and were entered into the StatViewII™ program for analysis. Data for the 1989-90 and 1990-91 school years for students who were enrolled in other school systems, yet who enrolled in the Mooresville School District for either of the two years, were collected from cumulative folders where possible. Students who came from other states where the CAT was not administered, or for whom CAT data were not available were not included in the population considered. In addition to the CAT score data, other data collected included ethnicity, gender, grade levels, and the particular program and school in which each student was enrolled each year.

Statistical Procedure and Criteria

The chi-square test of association was used to determine whether there was a difference in the achievement for the two programs, year-round and traditional, at the conclusion of the second year of the year-round program. Grade equivalence, a ratio measurement, was selected for comparison due to the appropriateness of that measure in calculating the chi-square, χ^2 . Five ranges for the differences between 1989-90 and 1991-92 grade equivalent scores were selected based on the size of the population and the subgroups studied. These ranges, written in interval notation, are $(-\infty, .5)$, $[.5, 1.75)$, $[1.75, 3.0)$, $[3.0, 4.25]$, and $(4.25, \infty)$. The differences between 1989-90 and 1991-92 grade equivalent were calculated using the

StatviewII™ program. The program was further utilized to calculate the chi-square statistics and a level of significance, $\alpha=.05$, was selected. For each group to be considered, the null hypothesis to be tested was H_0 : program and achievement are not associated, for that group, at the conclusion of the second year of the program. Therefore, the alternate hypothesis was H_1 : program and achievement were associated for that group. The χ^2 was calculated for the grade equivalent differences regarding the total battery, language, and mathematics scores. A conclusion that there was an association between program and achievement would indicate that there was a difference in the outcomes of the two programs. Likewise, a conclusion of no association would imply that the year-round program is not making a difference after two years of operation.

Comparison by Total Program

A comparison of the total battery grade equivalent differences between the total year-round program and the traditional program is included in Table 18. The χ^2 and alpha, α , reveal that at the end of the second year of the program it cannot be concluded that overall achievement is tied to enrollment in a particular program at the selected level of significance. A study of the scores for the language and mathematics areas is consistent with the total battery results. Since the observed α is larger than the selected α , the null hypothesis is not rejected. Therefore the language scores for the two programs are not associated to the individual programs at this juncture. Mathematics scores likewise, indicate that it is appropriate to

Table 18

Chi-Square Statistics - All Students Year-Round vs. Traditional

Chi-Square Statistics			
CAT Area	Total χ^2	α	df
Total Battery	4.01	.404	4
Language	1.61	.808	4
Mathematics	4.47	.346	4

retain the null hypothesis that the program makes no difference in the achievement gains as measured by grade equivalence scores.

There is no statistical association between program and the difference in total battery and subarea grade equivalent scores, at the conclusion of the second year using the selected test. However, the larger χ^2 on the mathematics portion of the battery indicates that there is a greater association between the program and mathematical achievement when compared to the association for language. The difference is not significantly large enough to conclude that mathematics achievement and program are associated at the .05 level of significance. The expectation (see Table 19) would be that the largest group of students would fall into the 1.75 to 3.0 grade equivalent difference range, given the two years being considered. The results (see Table 20) indicate that the largest percentage of traditional student grade equivalent difference occurs in the .5 to 1.75 range while the expected range of 1.75 to 3.0 has a smaller percentage of the traditional students. By contrast, the percentage of year-round students in these two ranges is the same. Also a larger percentage of year-round than traditional students had gains of three years or more. Although there appear to be some differences at the end of the second year in mathematics, there is not a significantly large enough difference to conclude that the year-round and traditional programs are impacting student achievement differently utilizing the chi-square test of association.

Table 19

Observed Totals for CAT Mathematics Achievement for Year-Round vs. Traditional

Intervals	Observed Frequencies	
	Year-Round	Traditional
$(-\infty, .5)$	6	32
$ [.5, 1.75)$	32	133
$ [1.75, 3.0)$	32	119
$ [3.0, 4.25]$	18	43
$ (4.25, \infty)$	4	25

Table 20

Percentages for CAT Mathematics Achievement for Year-Round vs. Traditional

Intervals	Percents of Column Totals	
	Year-Round	Traditional
$(-\infty, .5)$	6.52%	9.09%
$ [.5, 1.75)$	34.78%	37.78%
$ [1.75, 3.0)$	34.78%	33.81%
$ [3.0, 4.25]$	19.57%	12.22%
$ (4.25, \infty)$	4.35%	7.1%

Comparison by Program/Enrollment Year

Two Year Participation vs. Traditional. The data (Table 21), reveal that there is no association between achievement and two year participation in either the year-round or traditional programs based on the χ^2 . All of the χ^2 results show that the participation in a particular program does not impact student achievement at the conclusion of the second year of participation. There is certainly a tendency to expect that students who participated in the year-round program for two years might be performing differently, however, the data for the population studied does not support that conclusion.

One Year Participation vs. Traditional. Consideration of the students who participated in the year-round program for only one year is necessary for a complete assessment of the association that could exist between program and achievement. Because the students enrolled for the second year of the program, their grade equivalent differences for the period from 1990-1992 can not be completely attributed to either program. It is important to ascertain if student achievement levels for second year entrants are significantly different from that of those who have experienced two years in the year-round program. The results of the chi-square test of association (Table 22), require acceptance of the null hypothesis for this group at the conclusion of the second year of the year-round program. The data do not support the conclusion that one year of participation in the year-round program influences student achievement.

Table 21

Chi-Square Statistics - Two Year, Year-Round vs. Traditional Participation

Chi-Square Statistics			
CAT Area	Total χ^2	α	df
Total Battery	3.97	.409	4
Language	3.06	.547	4
Mathematics	2.32	.678	4

Table 22

Chi-Square Statistics - One Year, Year-Round vs. Traditional Participation

Chi-Square Statistics			
CAT Area	Total χ^2	α	df
Total Battery	4.70	.320	4
Language	1.68	.795	4
Mathematics	4.26	.372	4

Year-Round First Year vs. Second Year Enrollment. The comparison of the achievement of first and second year enrollees in the year-round program using the chi-square test of association does not show any association between year of enrollment and achievement gains. All statistics are under the χ^2 curve in the area of acceptance of the null hypothesis. (see Table 23) The idea of differences in the achievement of children based on the length of their participation in the year-round program of either one or two years is not supported by comparison of these particular groups, using the χ^2 . The alpha levels which are particularly high for mathematics and language indicate that the achievement of the two groups is closely matched at the conclusion of two years.

Comparison by Gender

Females. The results of the chi-square test of association for CAT total battery, language, and mathematics differences for females would all require an alpha greater than the established level of significance to claim an association between the program and the level of achievement. As with the total population, there is an indication that more of a relationship exists between mathematics achievement and program than between language and program, but at a level insufficient to conclude association at the end of the second year. Analysis of the percentage of female students falling in the various ranges, for the differences in mathematics achievement, provides the following insights. (see Table 24) The highest percentage of scores for both year-round and traditional students fell into the expected range of 1.75

Table 23

Chi-Square Statistics - Year-Round First Year vs. Second Year Enrollment

Chi-Square Statistics			
CAT Area	Total χ^2	α	df
Total Battery	4.21	.378	4
Language	2.15	.708	4
Mathematics	1.75	.781	4

Table 24

Chi-Square Statistics - Year-Round Females vs. Traditional Females

Chi-Square Statistics			
CAT Area	Total χ^2	α	df
Total Battery	2.95	.566	4
Language	2.80	.593	4
Mathematics	5.28	.260	4

to 3.0 years. (see Table 25) However, more of the year-round females had gains greater than or equal to three years.

Males. The language χ^2 for males represents the single instance where there is clearly an association when considering the relationship of program to achievement, by gender. (see Table 26) Because $\alpha=.044$ is smaller than the selected level of significance of .05, the null hypothesis is rejected and the alternate hypothesis, achievement and program are associated, is accepted. Although both year-round and traditional males had the highest percentage of differences in the lowest range (Table 27), a higher percentage of year-round males had a difference below the expected range of 1.75 to 3.0. The chi-square test results for total battery and mathematics did not produce alphas small enough to reject the null hypothesis. It is safe to accept the null hypothesis at the given level of significance. The χ^2 of 1.74 for males on the mathematics portion of the CAT shows that the two programs are more evenly matched relative to achievement than any other achievement area based on gender considered.

Comparison by Ethnicity

White Students. The results of the chi-square test of association for white students (Table 28), enrolled in the year-round and traditional programs indicate that there is no association in total battery, language, or mathematics achievement and program since all alphas obtained were larger than .05. The language chi-square of .36 was the most notable. As Glass and Hopkins (1984) point out, the more nearly the distribution of

Table 25

Percentages for CAT Mathematics for Female Students, Year-Round vs. Traditional

Intervals	Percents of Column Totals	
	Year-Round	Traditional
$(-\infty, .5)$	4.0%	6.59%
$ [.5, 1.75)$	28.0%	35.93%
$ [1.75, 3.0)$	42.0%	41.32%
$ [3.0, 4.25]$	20.0%	8.98%
$ (4.25, \infty)$	6.0%	7.19%

Table 26

Chi-Square Statistics - Year-Round Males vs. Traditional Males

Chi-Square Statistics			
CAT Area	Total χ^2	α	df
Total Battery	3.20	.525	4
Language	1.74	.784	4
Mathematics	9.80	.044	4

Table 27

Percentages for CAT Language for Male Students, Year-Round vs. Traditional

Intervals	Percents of Column Totals	
	Year-Round	Traditional
$(-\infty, .5)$	45.24%	25.41%
$ [.5, 1.75)$	9.52%	20.54%
$ [1.75, 3.0)$	26.19%	21.08%
$ [3.0, 4.25]$	4.76%	12.43%
$ (4.25, \infty)$	14.29%	20.54%

Table 28

Chi-Square Statistics - White Students, Year-Round vs. Traditional

Chi-Square Statistics			
CAT Area	Total χ^2	α	df
Total Battery	3.33	.504	4
Language	.36	.986	4
Mathematics	1.86	.761	4

scores in the various populations match, the closer the test statistic will come to zero. The χ^2 in this case, and the percentages found indicate that the year-round and traditional programs do not differ in language achievement attained by white students.

Minority Students. When considering minority student achievement the χ^2 requires acceptance of the null hypothesis. (see Table 29) There is no association between program and achievement for minority students for both the total battery and language portion of the CAT. Mathematics, although also within the range to accept the null hypothesis, is very close to meeting the .05 level of significance since $\alpha = .058$. The year-round percentages (Table 30), are centered at the expected range of 1.75 to 3.0 and the traditional percentages are positively skewed toward the lower ranges.

Comparison by Grade Ranges

The configuration of grades of the schools involved in this study changed during the years from which data was collected. In addition children in kindergarten and first grades in 1990 and 1991 do not have CAT data, because the test was not administered to these grade levels. Due to these restrictions, analysis by three grade levels within the total population was deemed appropriate. The first group are those students who progressed from grade 2 through 4 from 1990 to 1992. The second group spanned grades 3 through 5, and the final group grades 4 through 6.

1990 Second Graders. The chi-square test of association data for the group of students who progressed from the second grade in 1990 to the

Table 29

Chi-Square Statistics - Black Students, Year-Round vs. Traditional

Chi-Square Statistics			
CAT Area	Total χ^2	α	df
Total Battery	1.76	.779	4
Language	6.37	.173	4
Mathematics	9.14	.058	4

Table 30

Percentages for CAT Mathematics for Minority Students, Year-Round vs. Traditional

Intervals	Percents of Column Totals	
	Year-Round	Traditional
$(-\infty, .5)$	0.0%	7.95%
$ [.5, 1.75)$	25.0%	45.45%
$ [1.75, 3.0)$	55.0%	37.5%
$ [3.0, 4.25]$	20.0%	5.68%
$ (4.25, \infty)$	0.0%	3.41%

fourth in 1992 in the year-round and traditional programs indicate that the null hypothesis should not be rejected for total battery, language and mathematics. (see Table 31) The conclusion that there was not an association between program and achievement for this group is accepted. All statistics fully support this conclusion for the grade grouping at the conclusion of the 1992 school year.

1990 Third Graders. The null hypothesis for students progressing from the third to fifth grades, like the 1990 second graders above, is accepted for all three chi-square tests between program and achievement utilizing the CAT test data. (see Table 32) There is not observed association between program and achievement at the conclusion of the second year of study for this group, based on these obtained alphas. It can not be concluded that either the year-round or traditional programs are impacting these students in such a fashion that achievement is different.

1990 Fourth Graders. Again, the null hypothesis cannot be rejected for the students that moved from fourth grade in 1990 to sixth grade in 1992. (see Table 33) Differences in achievement associated with program were not observed with this population using the chi-square test of association. At the .05 level of significance participation in a particular program for two years was found to be inconclusive with regard to achievement.

Summary

Although there have been reports of student achievement gains due to participation in year-round programs by Ballinger (1988), Brekke (1990),

Table 31

Chi-Square Statistics - 1990 Second Graders, Year-Round vs. Traditional

Chi-Square Statistics			
CAT Area	Total χ^2	α	df
Total Battery	5.34	.254	4
Language	3.00	.558	4
Mathematics	3.57	.467	4

Table 32

Chi-Square Statistics - 1990 Third Graders, Year-Round vs. Traditional

Chi-Square Statistics			
CAT Area	Total χ^2	α	df
Total Battery	1.27	.866	4
Language	3.31	.507	4
Mathematics	8.36	.079	4

Table 33

Chi-Square Statistics - 1990 Fourth Graders, Year-Round vs. Traditional

Chi-Square Statistics			
CAT Area	Total χ^2	α	df
Total Battery	5.10	.277	4
Language	1.73	.785	4
Mathematics	1.95	.745	4

California Association for Year-Round Education (1991), San Diego City Schools (1991), and others, the findings here do not support that conclusion at the end of the second year of operation in the Mooresville Graded School District Program. Schools where achievement gains were reported have been in operation longer than the program examined here. The findings of this study do support the findings of previous studies that point out that the overall achievement of students in year-round schools is not below that of their traditional counterparts. However, at the conclusion of two years, achievement gains were not discernible. The results of these multiple chi-square tests for the various subgroups consistently supported the conclusion that there was no difference between achievement levels of the children in the year-round program and the traditional with one exception. This exception occurs for males in the language battery. Here the chi-square test results, combined with the percentage of male students having gains in each range of scores, clearly indicate that male students in the year-round program had gains that were lower than the traditional males. However, both populations of male students had greater percentages of students achieving gains below the expected range of 1.75 to 3.0. The results of this analysis point to some interesting conclusions and implications for further study regarding student achievement suggested in Chapter V.

Teacher Attitudes

Teacher attitude toward teaching and the instructional program was assessed through a survey of all teachers in both the traditional and year-

round programs (see Figure 2). The two part survey had five questions. The first four questions asked teachers to rate their satisfaction level as either high, medium, or low in three contexts. These were the past, the present, and the expected future. The final question was open-ended and gave teachers the opportunity to discuss their reasons for the selection of a particular program. The first and fourth questions solicited information about attitude toward teaching and the teachers' perceived teaching effectiveness. The second and third questions provided insights into instruction. These questions allowed teachers to address achievement and instructional flexibility. Coupled with the open-ended question regarding reasons for selection of a program, these two questions pointed to differences in the two instructional programs. Together, the questions on the survey provide insights to answer the question, "Is there a difference regarding teacher attitude?" as well as providing information about the instructional program. The survey was originally pilot tested in the Hendersonville City Schools, during the spring of 1992, where a year-round program was in the first year of operation. Results of the pilot test were used to refine the instrument in preparation for surveying the teachers in the Mooresville Graded School District.

All year-round and traditional classroom teachers in the Mooresville Graded School District were surveyed. Surveys were distributed by principals to all classroom teachers in kindergarten through grade 5 in the district. Fifteen of the 17 year-round teachers, or 88.2% of the staff

responded to the survey. In the traditional program 29 of the 35 teachers, or 82.9% responded. The responses indicate that there is a consistent difference in the satisfaction level of teachers in the year-round and traditional programs, more pronounced in some of the areas surveyed. The difference tended toward greater ratings of satisfaction from year-round teachers than from traditional teachers. In every context surveyed except two, the year-round respondents indicated higher overall satisfaction. The two exceptions were in the past context responses to two questions by traditional teachers. In this section each question will be considered.

Fixed Response Items

The first question asked teachers to rate their satisfaction with teaching. Fewer year-round teachers who responded expressed high satisfaction with teaching in the past than did the traditional respondents. As shown in Table 34, half of the year-round teachers expressed a high satisfaction level with teaching in the past, while a greater number of traditional teachers felt a high level. The balance of traditional teachers expressed a medium level of satisfaction and none expressed a low level. The remaining half of year-round responses indicated that their satisfaction level in the past was medium and there were no indications of low satisfaction. Overall past satisfaction in the high category was greater with the traditional teachers, although the total percentage of those expressing high or medium satisfaction was equal for the two groups.

Table 34

Satisfaction With Teaching

Program	Percentage of respondents (%)								
	Past			Present			Expected Future		
	High	Med.	Low	High	Med.	Low	High	Med.	Low
Year-Round	50	50	0	86	7	7	86	14	0
Traditional	71	29	0	38	50	12	71	17	12

There was a significant change in the satisfaction levels related to the present for both groups. The traditional responses indicated overall decline in satisfaction with fewer of the teachers who responded indicating high satisfaction, and a greater percentage indicating medium satisfaction and others dropping to the low level. However, year-round teachers indicated a raised level of satisfaction. In this group the majority expressed a high level at present. Significantly fewer year-round teachers, than traditional, expressed medium and low levels. Overall 88% of traditional staff members felt a high or medium level of satisfaction at the time of the survey, while the percentage for year-round was 93. Although both represent an overall decline over the past level, due to those indicating low satisfaction, the percentage of those in the high category changed dramatically for the year-round increasing 36%. The percentage of those moving down from high satisfaction to medium, from the past to the present in the traditional program, was 33%. While considerably more than half, (86%) of year-round respondents expressed high satisfaction, over 62% of traditional respondents expressed medium or low levels of satisfaction.

The respondents in both programs expressed some optimism about the future in their responses regarding the expected future conditions. Year-round teachers maintained their high expectations as indicated by their responses in the high category. The remainder of the year-round program teachers indicated an expectation of medium satisfaction. Although less in the present context, the traditional program teachers

indicated that they expected a high level of satisfaction in the future. This level was identical to that expressed regarding high satisfaction in the past. This is an indication that traditional teachers anticipate some improvements will occur which will allow them to return to past levels of satisfaction. Less overall optimism however, was expressed by this group. The percentage that expected medium satisfaction was less, while the low level was greater. Of the traditional staff 29% expect to be satisfied below the high level while in the year-round program only 14% fall into this category. Overall the year-round staff responses indicate an increased optimism regarding satisfaction with teaching. The percentage of those in the high category at present, and in the expected future, is higher for year-round than traditional respondents. Traditional staff responses indicate a dissatisfaction with teaching today with an expectation that satisfaction will equal past levels at some time in the future. However, responses do not indicate that the satisfaction level will reach that of the year-round staff at any point. Traditional satisfaction levels are not significantly close to year-round in either the present or expected future.

The second survey question asked teachers to again rate satisfaction levels (Table 35), in this instance regarding student achievement. Teachers in both programs were again asked to rate their satisfaction in the past, present, and expected future. Past levels were quite similar for both programs. The level of traditional and year-round responses that indicated high satisfaction were within 10 percentage points, as were medium

Table 35

Satisfaction With Student Achievement

Percentage of respondents (%)

Program	Past			Present			Expected Future		
	High	Med.	Low	High	Med.	Low	High	Med.	Low
Year-Round	21	79	0	64	29	7	93	7	0
Traditional	29	71	0	21	71	8	50	46	4

satisfaction percentages. The percentages for both groups revealed that many more were in the medium range in the past than in the high. Responses indicated that, of all questions on the survey, the teacher satisfaction level between the two programs was closest on this particular issue given this particular time context. It was equalled only in the question dealing with teaching effectiveness in the past. Just as with the previous question regarding satisfaction with teaching, the status changes in the present context.

Responses regarding the present indicate that present satisfaction level with student achievement is significantly higher overall for the year-round teachers who responded. The combined high and medium responses are relatively equal for the two programs; however, the percentage of high responses from year-round teachers more than tripled, (from 21% in the past to 64% in the present). The traditional high responses declined slightly from the past to the present, with the medium responses remaining constant.

As teachers consider the future, year-round teachers expressed greater optimism. Of this group, the vast majority expect a high level of satisfaction with a minority that expected medium levels. The traditional teachers were significantly less optimistic. Only half expected high satisfaction while the remainder expected medium and low levels. Although 96% of the traditional teachers expressed expected satisfaction levels of either high or medium, the percentage in the high category is only

about half that of year-round teachers, where all responses were in the high or medium categories.

The third question (Table 36), which addresses satisfaction with instructional flexibility, yields responses that are similar in that they indicate greater levels of satisfaction among year-round respondents. Responses of traditional teachers regarding instructional flexibility are particularly interesting. The high, medium and low categories are more consistent on this question than others in the survey for traditional teachers. The percentages of responses at the high level by the traditional staff of 29% in the past, 25% in the present and 38% in the expected future are quite similar. Responses indicating medium satisfaction for this group were also consistent across the time contexts. Likewise the percentage of low levels showed little deviation. These figures represent changes of 13% or less at all satisfaction levels from one time context to the next, with the majority of changes being much less.

Year-round teacher responses were more consistent with their responses on other survey questions. They again moved from a majority of responses, at the medium level, to a majority of high responses. Responses indicated that half were at the medium level in the past, declining in the present and expected future. Finally, the expression of low levels of satisfaction with instructional flexibility in the past declined in the present context with no responses at this level in the expected future. By contrast, gains in high satisfaction level for this group were 30% from past to present

Table 36

Satisfaction With Instructional Flexibility

Percentage of respondents (%)									
Program	Past			Present			Expected Future		
	High	Med.	Low	High	Med.	Low	High	Med.	Low
Year-Round	43	50	7	72	21	7	79	21	0
Traditional	29	67	4	25	63	12	38	50	12

and an additional 7% from present to future. For traditional teachers however, the overall gain at the high level from past to future was only 9%.

Overall year-round respondents indicated greater past and present satisfaction and future optimism with instructional flexibility. Those expressing high and medium levels in the present totaled 93% increasing to 100% in the expected future. The traditional respondents held steady with 88% expressing high and medium levels of satisfaction for both the present and expected future. Consistently lower levels of satisfaction were expressed on the instructional flexibility issue by traditional respondents than with any other question.

The final question on the fixed response section of the survey invited respondents to express satisfaction with their teaching effectiveness (Table 37). Regarding this issue, the year-round teachers were divided evenly between high and medium satisfaction levels. The percentage of high responses increased in the present and expected future for this group. Traditional responses were quite similar in the past context with nearly half expressing high satisfaction with teaching effectiveness and the remainder expressing medium levels. These figures remained fairly constant in the present with slightly fewer who expressed high satisfaction and slightly more who expressed a medium level. This represented the single incident of an increase in the high category from past to present for traditional respondents. It was also the single context in the survey where

Table 37

Satisfaction With Your Teaching Effectiveness

Program	Percentage of respondents (%)								
	Past			Present			Expected Future		
	High	Med.	Low	High	Med.	Low	High	Med.	Low
Year-Round	50	50	0	72	21	7	86	14	0
Traditional	42	58	0	46	54	0	75	21	4

high and medium responses by traditional teachers surpassed the percentage of high and medium responses by the year-round teachers.

The expression of optimism by year-round teachers continues to be consistently conveyed in this final question regarding satisfaction with teaching effectiveness. Although it did not surpass the year-round level, it is significant that respondents from the traditional program expressed a greater percentage of high responses regarding the expected future level of satisfaction on this question than any other. This was the single question which asked teachers to make a judgment about their own performance. That more traditional respondents expressed high expectations for the future on this particular question than any other, suggests that these teachers are more optimistic about their future teaching effectiveness than any of the four aspects surveyed.

Teachers in both programs who responded to the survey tended to be most alike in their responses about the past. The single context where more than half of the respondents of either group express high satisfaction in the past context comes from the traditional teachers regarding satisfaction with past teaching. This was one of two contexts where traditional teacher responses indicated a greater percentage at the high satisfaction levels than year-round. The other area regarded student achievement. While the traditional responses regarding high satisfaction with student achievement were greater, they were among the closest responses when compared with year-round. The traditional level of high satisfaction response was 29%

while the year-round was 21%. This difference of 8% was equalled only by the differences on past satisfaction with teaching effectiveness where year-round exceeded traditional. All other differences were more significant between the two groups.

The single question on which there was the greatest difference between the responses of the two groups was past satisfaction with teaching. Here the difference in the percentage of high responses was quite significant. The 71% of traditional respondents who had experienced high satisfaction with teaching in the past is almost cut in half as they respond regarding the present. Of the 71% who responded high regarding the past, 23.8% were first- or second-year teachers. Of these, 50% taught at the K-3 level and 50% taught at the 4-5. The overall indication is that traditional teachers were previously more satisfied with their profession than they are at present. The 12% of traditional teachers who indicated low levels of satisfaction in the present and future context for this question is not surpassed by any other group on any other question throughout the survey. This question and the question regarding instructional flexibility were equal in this regard. These responses would seem to indicate that traditional teachers feel that past educational methods combined with past teaching conditions were more satisfactory than they are today.

Present context responses indicate that the year-round staff were presently more highly satisfied in all areas than were the traditional staff. Year-round responses at the high level were more than double on all

questions except one. On the questions regarding student achievement and instructional flexibility the percentage of high responses for year-round teachers was three times greater than the number for traditional teachers. Year-round teachers were most critical of themselves in their responses regarding their teaching effectiveness. Although much higher than traditional, they did not express the same difference in level of satisfaction, by comparison, as with the other questions. Overall present context responses at the high level indicated that year-round teachers were more satisfied in all areas than in the past context. However, traditional responses only indicated this sentiment in the question dealing with their teaching effectiveness. Although higher on this question, the traditional percentage change from the past context was very slight.

In considering the implications of differences in the traditional and year-round responses relative to the future, traditional teachers seem to be more optimistic than they had been in the past or present about the profession and their ability to teach, while year-round teachers responded highly regarding student achievement potential. For both groups, the lowest expectations were expressed regarding instructional flexibility

The future context responses to questions one and four, regarding satisfaction with teaching for the traditional teachers were significantly higher than their responses to the two questions dealing with instruction and achievement. Responses to the questions dealing with teaching would suggest that the optimism of traditional respondents about teaching is

generally higher than their beliefs about instruction. When compared with year-round responses there is a significant difference. Year-round teachers were high on the questions that dealt with teacher attitude. However, by contrast their highest responses relative to the future context were on question two which addressed achievement.

Traditional teachers seem to be more optimistic about their ability to teach than about the instructional program. While optimism is high for year-round teachers in the same context, these teachers were most optimistic about the students' ability to achieve in the future. It is also significant that the percentage of year-round teachers expressing high expectations for the future was greater, on all four questions of the survey, than the single highest percentage for traditional respondents of 75% on the teaching effectiveness question.

Open Ended Item

The final question on the survey provided teachers with an open-ended opportunity to discuss their reasons for selecting the particular program in which they taught. Responses ranged from no response at all to the question, to detailed explanations for the selection of a program. The question, "For what reason have you chosen to teach in your particular program?" provided some insights into the specific reasons why teachers may be somewhat satisfied with their particular situation. The scope, length and content of the responses yielded considerable information regarding the decisions made by teachers.

Initially the most notable difference in year-round and traditional responses was the length. Year-round teachers' answers to this question ranged from six words to 238 words. By contrast, traditional responses ranged from zero to 155 words. The average response length for year-round teachers was 62.4 words, while traditional teachers averaged 35.4 words. The length, specificity, and details found in the responses indicated that there may be some difference in the decision to teach in a particular program or at the very least a difference in the enthusiasm level of teachers.

Year-round responses consistently communicated two themes. The most prevalent theme was the teachers' beliefs. Year-round teachers made statements about what they believed regarding education, children, and themselves as teachers. Within this group were statements conveying, "I believe" or "I feel." These responses were primarily specific; however, some generalities were made. The specific responses focused on several topics. The remediation component was singled out by teachers as one of the facets of the program upon which they based beliefs. They expressed that the remediation opportunities were appropriately positioned in the calendar to provide optimum help for children. Teachers also conveyed a belief that the year-round schedule forces, encourages, or requires teachers to be more organized. It facilitates a pacing of the instruction and instructional efficiency that they felt was not present in their past traditional teaching. According to teacher responses the year-round program, by causing

teachers to become more organized around the quarters of instruction, assures more accountability concerning the curricular objectives, and facilitates the coverage of more material. Teachers used words such as "rhythm" to describe the schedule of the year-round program. Belief in the value of the quarterly assessment component was also expressed.

Teachers' responses indicated that they believed these assessments also helped to ensure an organized and comprehensive instructional plan. Instruction was described as "on-going, progressing, with no large gaps" by the teachers.

These responses also communicated more generalized beliefs and feelings. These included feelings that the year-round structure allowed teachers more flexibility to try new and innovative approaches. Teachers expressed feelings that they were prone to be more creative in their classrooms. Teachers consistently expressed that they felt less "burnout" with their job. Although all were not specifically expressed as beliefs or feelings, the benefits mentioned were less classroom stress, more time for relaxation and renewal, chances to reflect, time to regroup and reorganize, and other more general statements about the appeal and value of the 45-15 schedule, relative to reduced teacher burn-out.

The second primary theme found in the responses of year-round teachers was personal benefits which brought pleasure or enjoyment. These benefits were described as facets that teachers enjoyed, loved, appreciated, liked, or with which they were pleased. Respondents

expressed that they enjoyed the children with whom they worked. In addition, improved parent involvement was identified as a benefit for teachers. This involvement was credited with making the job of teaching easier. Also cited was the opportunity to experience learning with children. Teachers wrote about the natural curiosity of children and how that curiosity is better served by the schedule. Although using that curiosity as an instructional benefit is not considered a personal reward or benefit to teachers, their expressions of pleasure regarding the phenomenon are.

The responses of year-round teachers indicated more positive personal feelings regarding their profession. Teachers noted opportunities for choices regarding extended employment, options for selecting planning days, greater involvement in and responsibility for curriculum structuring and alignment, and increased staff development activities as evidence of their elevated professional status. Teachers consistently expressed pleasure with the opportunities the year-round program provided for their personal lifestyle. Teachers mentioned the ability to meet family needs and obligations as a benefit of the year-round program. The family benefit also included teachers having their children on the same schedule and having them benefit from the year-round enrichment activities. Teacher responses indicated that most feel that the new schedule more appropriately suits their natural teaching rhythm, allowing for "regular rest and energizing." Although the responses of year-round teachers were largely oriented toward instruction, surprisingly only one teacher mentioned the decreased

time spent on review, a widely publicized benefit of the program. The responses did remain focused and on topic with little deviation from the question and were supported by explanations and details.

Traditional responses, although shorter than year-round provided some specific insights into the feelings and needs of this group. Fewer of these responses dealt with the specifics of why they chose to be a traditional teacher or why they had chosen to remain in the traditional program. The most frequent answer given by these teachers was family obligations. The responses addressed the issue in a variety of ways. However, family was the general theme. Responses included "child care situation/needs," "having the summer months off to be with my family," " my children do not want to participate in year-round," " family needs," "family convenience," " taking 3-4 week vacations every summer with my family," and "my children are in another school system." Each of these responses indicates that some teachers' choices regarding their particular program are situationally based rather than based upon some pedagogical belief. In all cases except one, where children and family were listed as reasons for teaching in the traditional program, this was the only reason discussed.

It is significant that only one response from a traditional teacher addressed the instructional merits of the traditional calendar. No teacher discussed the traditional calendar and explained why the opportunities it provided were good, better, or appropriate for children. One teacher indicated that they were allowed to teach the curriculum more the way they

wanted to: "I feel comfortable with the freedom and I am allowed to teach the way I decide is best for my students." This was the single reference to the instructional merit of the traditional program. It is also significant that the responses to the question by traditional program staff included hopes for changing to the year-round program. Responses included those who said that the reason they were teaching in the traditional program was that they were originally hired for that program. These however included comments commending the year-round program. Others expressed interest in moving to the year-round program following the completion of a graduate degree. These teachers stated that they were remaining on the traditional schedule because it was easier to interface with "the university/graduate school schedule."

Feelings, beliefs, and personal benefits other than family relationships were less prevalent in the traditional responses than in the year-round. Three teachers expressed feelings of love, appreciation, or enjoyment for teaching. These responses were not as detailed or lengthy as those expressed by the year-round teachers. Two of the three responses focused specifically on a love for children and the relation of that love to teaching. These responses addressed the decision to teach in general, rather than why the traditional schedule was chosen.

The responses by traditional teachers contained less information specifically related to the question than those of the year-round staff. Traditional teachers tended to drift away from the original question

regarding the reasons for choosing a particular program. The level of criticism for education, administration, and situations was significant. The responses suggested that some of the frustrations they were experiencing could be credited to those who administered instructional programs. Traditional teachers also identified paperwork, committee duties, extra responsibilities such as bus duty, and meetings as causes for frustration. The responses of this group suggested a feeling that these activities were requiring time which might be devoted to teaching. Also of concern to traditional teachers was a feeling of lessening support from parents and increased discipline problems. The respondents expressed concern that parents as well as students failed to demonstrate proper respect for teachers. Those concerns were generally coupled with others concerning class size. Traditional teachers described problems generated by large class sizes and expressed feelings that this too, was a cause for concern and unhappiness. In addition to these problems, the increased workload and "overtime" required for completing lesson plans, grading papers, contacting parents, and other extra duties were noted as problems by traditional teachers. Because of the shorter length of responses and the inclusion of negative information which did not specifically respond to the question asked, traditional responses tended to be less informative about their program and more focused on the attitude of these teachers.

Summary

Comparison of traditional and year-round responses to the open-ended question yields insight which is consistent with that gained through study of the fixed-response questions. The responses of the traditional teachers surveyed indicated that they were less instructionally oriented in their motivations for teaching. Their lower satisfaction levels regarding student achievement and instructional flexibility are consistent with their responses on the open-ended question. The lowest levels on the fixed response questions came from traditional teachers regarding instructional flexibility. That corresponds to the concerns they expressed regarding dissatisfaction and problems regarding the bureaucracy and administration of schools in question 5. Throughout the survey, traditional responses indicate that these teachers perceive that they have less control over the instructional process. Lack of a significant number of traditional responses regarding instruction, per se, is consistent with the lower satisfaction responses on questions 2 and 3 which were more instructionally related. Conversely, the year-round responses were high regarding student achievement and instructional flexibility. Likewise, references to instructional problems related to educational bureaucracy were absent in the responses to the open ended questions where pedagogy was discussed positively. In essence, the year-round teachers' responses would indicate that some teachers who selected the program may be more concerned with instructional matters while others choosing to teach in a

traditional setting may be more motivated by personal needs and circumstances.

Although the brevity of the survey makes conclusive assessment of teacher motives for program selection inappropriate, it is plausible to make some inferences that may guide further study. Clearly the highest responses of traditional teachers were in the past context on the questions dealing with teaching satisfaction. The references to increased paperwork, responsibility, and administrative involvement are consistent with the responses regarding teaching and teaching effectiveness. These teachers were much happier in the past. Year-round teachers conversely were less happy overall in these areas in the past, and therefore they are enthusiastic about the changes they describe in question 5.

Traditional teachers' concerns regarding present frustrations with the responsiveness of parents and students to instruction, in the open-ended question, are clearly supported by the responses regarding achievement, instructional flexibility and the teaching profession. The lowest responses came in the present context for these questions and teachers clearly were unhappy in their discussions of the current school/parent relationship and the current attitude of students toward learning. Teachers cite difficulties with disrespectful students, increased time spent on discipline, and the lack of parental discipline. These concerns are absent in the year-round responses where present context responses on the same fixed-response questions are significantly higher.

Overall the responses to question 4 regarding satisfaction with their teaching effectiveness and the nature of responses indicates a marked difference between teachers in the two programs. The attitude of each group expressed an attitude toward teaching that was consistent throughout the survey. Year-round responses can be classified as direct, positive, detailed, specific, and directly answering the question, without exception. Traditional responses by contrast consistently did not respond to the question asked. The responses were quite consistent with the low levels of satisfaction expressed on the first four questions. Teachers in the traditional program have more concerns and disappointments regarding education through the traditional program. They expressed those concerns by deviating from the questions and adapting their answers to their own agendas regarding discipline, administration, teaching conditions, etc. Conclusions found in the following chapter include suggestions for further study regarding teacher attitudinal differences in the Mooresville Graded School District Program.

CHAPTER V

CONCLUSIONS AND RECOMMENDATIONS

Summary

This study was conducted at the conclusion of the second year of operation of the Mooresville Graded School District Optional Year Round Program. Approximately two hundred children participated during the 1990-91 and 1991-92 school years. The remainder of the participants who entered during the 1991-92 school year, with the exception of kindergarten students, had previously participated in the traditional program. Teachers who were surveyed for the study were likewise divided. Where possible, data for the traditional program were included in the comparison. However, the traditional school comparison was not always possible due to the absence of those data, particularly on the student attitude information.

The conclusions are intended to provide those interested in year-round education with information regarding the differences that might be expected between year-round and traditional programs, using the 45-15 single-track model, with intersessions. Caution should be taken in applying the results and consequent conclusions to other year-round models. The Mooresville Graded School District program was designed to address instructional pedagogy and practice. Readers should also take great caution in applying the conclusions found here to the long-term differences year-round programs may make. The results reported here are not

longitudinal. The long-term effect of this model of year-round education will require subsequent study.

The year-round program in Mooresville, during the first two years, was still in the phase Fullan and Stiegelbauer (1991) call implementation. The program is beyond the initiation phase, but not yet to the continuation period. They suggest that the implementation phase, the second one in the change process, requires a minimum of two to three years. The changes that have taken place in Mooresville were beginning steps in a larger change continuum. The continuation of the schedule change and the subsequent success or failure of a restructuring of the calendar, using this particular model, remains a question to be considered for some time to come. As Fullan and Stiegelbauer suggest, it may be some time before this change yields significantly different outcomes. In the interim, continuing analysis of the progress, results, and conditions should be valuable.

The following conclusions resulting from the study address each of the questions previously considered. Specific recommendations regarding each question are presented following the conclusions. General conclusions and recommendations resulting from the study are presented following the detailed information.

Student Attitudes

Conclusions

The attitude of year-round students toward school and the educational aspects of schooling, assessed through the School Attitude Measure are

very near, equal to, or above the national norm in all cases. There were no instances where the mean normal curve equivalent score fell below the high forties. In the majority of cases, regardless of group considered within the year-round population, the scores fell between NCE mean scores of 51 and 60. With an overall score of 57.05, children in the Mooreville Graded School District Year-Round Program can be considered above average with regard to attitude. Because students in the traditional program were not given the attitude assessment during the 1990-91 and 1991-92 school years, comparisons are impossible.

As reported in Chapter IV, there was an age difference in the students who enrolled in the first and second years of the year-round program, with the second-year group being approximately one year older than the first. There was, however, little difference in the initial scores for the two groups. Attitude levels were fairly consistent regardless of the particular level of the assessment used. The scores appear to be reliable for the population of students found in this school district. The important conclusion regarding these scores is that students participating in the year-round program for two years have a slightly higher mean NCE score for the total battery. The 1991-92 results indicate that the children who entered the program the first year had higher attitudes than those who waited until the second year to enter.

Several subareas within the total battery SAM were frequently higher for the year-round participants. The most significant finding was that the

children who entered in the first year of the program had an increase of 9 points in their Sense of Control Over Performance score. That increase was significantly higher than gains in other areas. It is clear that this group possessed much lower attitudes relative to locus of control at the beginning of the year-round experience. The much higher score in the second year suggests that the year-round program has affected attitudes about their own ability to influence their educational destiny. After one year, the students seem to be indicating that they feel that they have greater control over their experience.

Further disaggregation of the scores by gender revealed that females are better served by the year-round program, relative to attitude. The group of females who entered during the first year of the program had lower initial scores than the second year enrollees. The gain of over ten points on the total battery for females clearly suggests that the attitudes of female students are enhanced by participation in the year-round program. Male scores were generally higher than those of females upon entry into the program, but the scores in attitude for males declined in the second-year administration. Males, contrary to females, seem to be influenced negatively by participation in the program at the conclusion of two years.

Like student attendance and achievement data, the School Attitude Measure reveals some significant differences in the overall attitude of students with regard to ethnicity. The total battery difference between black and white students from first to second year administration of the SAM was

.59. Both groups posted significant total battery gains of over 4 points. Although the total battery increase was fairly equal between the two groups, the subarea scores were more discrepant. Black students who were initial enrollees posted significant gains in the areas of Motivation for Schooling, Performance-Based Academic Self-Concept, Instructional Mastery, and Sense of Control Over Performance. These increases, coupled with decline in black student attitudes relative to Reference-Based Academic Self-Concept suggest that the year-round program may be producing more positive results for black students than for whites regarding attitude.

The study of student attitudes, as measured by the SAM, indicates that further study is merited. The data regarding attitude are crucial in determining the impact of the program in the other areas considered in this study. Clearly the attendance of students and their academic achievement will be influenced by their attitude toward the school experience and their ability to function effectively in school.

Recommendations for Further Study

The major focus of the initial work done by the agency selected to evaluate the Mooresville Graded School District Year-Round Program under the funding grant from R.J. Reynolds-Nabisco has involved student attitude. The SAM has been consistently used with the children enrolled in the program. To assess totally the student attitude differences, it would be valuable to examine differences between the attitudes of the year-round and traditional participants utilizing an experimental design. A primary

recommendation would be the administration of the SAM to traditional children and a comparison and analysis with a paired group. The absence of data for traditional children in this school district prohibits a full understanding of the significance of normal curve equivalent scores for the year-round children. Although it is valuable to know that attitudes are improving, they may be improving no more significantly than normal for students in the school district.

Validation of the findings of this study in comparison with the attitudes of other year-round programs using the 45-15 schedule with intersessions would also be valuable. Perhaps the pairings suggested regarding the other areas, included in this study, could include student attitude. Analysis of attitude should include evaluation of the changes that might occur, over time, in both traditional and year-round programs. A study of only two years does not provide an understanding of the impact of long term participation on the feelings that students have regarding school and their abilities. Although some studies have been done regarding attitudes in schools in the western United States, they have not included the study of 45-15 programs with intersessions in areas such as North Carolina. The attitude of students in a state in which a deviation from a very traditional agrarian approach to the calendar is being implemented may yield significant differences in student attitude.

Finally, data analysis regarding attitude and other socioeconomic factors would be helpful. The differences in attitude relative to ethnicity

may indicate socioeconomic factors in addition to ethnicity. The education and consequent occupations of parents may be more influential than the participation in a particular program. Perhaps year-round parents are more progressive in their attitudes about school, as evidenced by their selection of the year-round program. Student attitude differences may actually be based more in socioeconomic status than in program.

Subsequent studys should consider these possibilities.

Student Attendance

Conclusions

The daily attendance data for the Mooresville Graded School District schools that housed year-round and equivalent grade level traditional programs suggest that any differences in attendance, related to program, are slight. Two factors regarding the attendance of children in the district must be remembered when considering the data presented in this study. The first is the generally high attendance percentage that has traditionally existed in the district. The emphasis placed on attendance in the schools prior to the beginning of the year-round program makes the margin for gains small. The second factor influencing attendance analysis is the movement of children from the traditional program to the year-round during the two years from which data was collected. The large migration of the population to the year-round program makes conclusive analysis difficult.

Several general conclusions can be made however, from the data that are available. The analysis of attendance for grade level groups reveals that students in kindergarten through grade 2, while maintaining or posting gains in attendance in the year-round program, did not improve at levels as high as traditional for kindergarten, second, and third grades. The level at which the year-round students surpassed the traditional ones was first grade. Although the year-round students in first grade showed no gain, the traditional students at Park View and South declined slightly. Overall, the small differences in attendance percentage for the K-3 students are inconclusive.

The fourth and fifth grade data are slightly more favorable for the year round program. The attendance percentage for this grade improved regardless of the grouping considered, with one exception. The total population, gender, and white student attendance percentages all reveal greater gains for year-round students. The total year-round population and gender comparisons are the most significant differences throughout the study. Year-round students posted gains while traditional students generally showed losses. The single exception to the year-round gains was with the minority population. Specifically, the study of black student attendance in the year-round and traditional programs revealed that there was a decline. The decline was found in the K-3 grade level grouping. The year-round decline in attendance percentage for the K-3 group of 1.5% was considerably higher than the traditional decline of .3% for the same period.

Year-round fourth and fifth grade students did achieve a significant increase of 2.2% for this grade level. However the population for this group was extremely small, 4 students, in the 1990-91 baseline year. The population increased to 23 students during the second year. Conclusions based on this small population size during the baseline year would be ill advised. Clearly further study of this population would be necessary to ascertain the significance of these results.

Recommendations for Further Study

As with the other areas of the study, further longitudinal study of the attendance patterns for year-round and traditional students is recommended. The conclusions found in this study are based on the attendance data for two years. The excitement surrounding the new year-round program, student illness that is seasonal or weather related, or student population changes may be factors effecting the data for this brief period. With the migration of the population from traditional to year-round programs and the current and planned realignment of attendance zones of schools in the district, school by school analysis will be difficult. Subsequent study of the program might rely on an experimental design, including control groups from both populations. Significant questions should address differences that may exist at grade levels, with ethnic groups, with gender, and recidivism in the two programs. Comparison with other year-round programs utilizing the same 45-15 model with intersessions would also be appropriate. Subsequent studies may also address the possibilities of the

influence of year-round programs on attendance given the idea of an attendance percentage ceiling in high attendance schools such as those studied here.

Clearly, the most appropriate analysis would come with a study designed to account for individual student attendance differences over a longer period. The previously mentioned concerns would suggest a study that allowed for the calculation of attendance percentages for individual children and then the calculation of attendance differences by program. Consideration of gains or losses for students who participate in the program for various lengths of time would also be appropriate. Inclusion of non-attendance data for reasons such as discipline, sickness, truancy, or family needs would also provide insight into the concept of an attendance ceiling in high attendance schools. The year-round schedule has created the need for some children to be absent due to family vacations, attendance at various camps, and other educational opportunities during July and August. The impact of seasonal absences is a significant factor in the year-round program in the summer. However, the traditional program may be effected at other times such as the winter holiday period. These influences on attendance percentage should be studied to determine the extent to which they are programmatic. This analysis would provide useful information for use in calendar planning.

Student Achievement

Conclusions

The study of student achievement utilizing the chi-square test of association suggests that there is only a very limited association between participation in program and achievement. The results do not support the conclusion that there is a difference regarding student achievement in the year-round program, at the conclusion of the second year. The data studied do not indicate that program participation influences students in such a fashion that they achieve significant gains or post significant losses. The total battery comparisons for the entire traditional and year-round populations reveal slight differences in the expected proportion of students in various ranges. Those differences, however, fail to support conclusions of a statistical difference. The same conclusion is true regardless of the time, up to two years, that students have participated in a program. The students participating in the year-round and traditional programs during the entire two years under study do not produce a significant difference from those who were in each program for one year. Overall it can be concluded that there is not a difference in the degree to which achievement can be associated with program in either the year-round or traditional programs at the end of two years when considering the entire population.

Certain subgroups within the population were found to achieve differently in the two programs. Males were found to be achieving higher on language in the traditional program. The rejection of the null hypothesis

in this instance pointed to differences in the percentage of males scoring in each range. Analysis of the percentage of males scoring in each of the interval ranges indicates that the traditional males scoring in the lower ranges was less than that of year-round male students.

The achievement of minorities on the mathematics portion of the battery was also noteworthy. Although the chi-square did not indicate a conclusive difference in achievement that is a result of program, the minority student results are very close to the level of significance. Conclusions regarding long-term minority students' mathematics achievement would be tenuous at best, due to the small sample size in the year-round program during the first year.

Recommendations for Further Study

Continuing, longitudinal study of the achievement of all children in the year-round and traditional programs will be necessary to determine whether significant differences in achievement are occurring. Ultimately, a primary goal of any educational program should be maximizing student achievement. Data should be collected to compare the achievement of individuals over longer periods as well as to compare various groups within the population to one another. The emphasis on higher order thinking, criterion-referenced assessments, and critical thinking skills in the year-round program will make the use of standardized tests less desirable for analysis of the total achievement differences that might occur. Further study should include continued administration of the California

Achievement Test as well as administration of the new North Carolina end-of-grade tests. Comparison of the results of the two tests as well as longitudinal analysis of each would prove helpful in determining whether either program is having a more significant impact. Subsequent studies might include the use of the end-of-grade tests in a pretest/posttest study to determine yearly gains in the two groups.

Teacher Attitudes

Conclusions

The most significant differences between the year-round and traditional programs discovered in this study were relative to teacher attitudes. Teachers in the year-round program had higher attitudes about present school conditions as assessed through the fixed response items on the survey and they were clearly more optimistic about the future. Teachers who had elected to teach in the year-round program had done so because of their belief that it provides better learning schedules and options for students. The lack of responses by year-round teachers regarding family needs and personal circumstances suggests two possibilities. Perhaps those teachers who choose year-round education are less concerned and oriented toward family and personal needs or they are better able to meet those needs by participating in the year-round program. If the latter case is true, perhaps the schedule facilitates meeting those needs and thereby allows them to have higher attitudes and greater optimism about school. Conversely, traditional teachers who responded are more attentive to the

personal and family needs which they have. Likewise, the schedule may hamper their ability to meet the family obligations that they face. The influence of teacher attitudes on the other areas studied is significant. The changes taking place in the lives of teachers as a result of this schedule reform are part of the local characteristics identified by Fullan and Stiegelbauer (1991) as significant in the success of the overall change.

Recommendations for Further Study

Subsequent study of teacher attitudes in the Mooresville Graded School District Optional Year-Round Program might proceed in either of two directions. Ethnographic interviews with teachers in both traditional and year-round programs should provide some important data. Teacher ideas concerning the instructional program could be analyzed to determine the differences in the pedagogical framework employed by teachers in each program. It would be helpful to determine the structural designs which apply in their approach to teaching. Teacher ideas concerning the inclusion of curricular and pedagogical practices, such as collaborative learning, team teaching, peer teaching, review and reteaching, etc., may be unique to a particular program. Teacher attitudes about standard and atypical practices might be consistently different in the two programs. The culture in which each program operates may be markedly different. The ethnographic interview may allow potential differences to be discovered.

The second recommendation for further study regarding teacher attitude would be a series of case studies. Selection of comparable year-

round teachers and an intensive case study of these subjects could facilitate an understanding of their particular circumstances and perhaps give insight into the causes for the differences in attitudes found in the survey conducted in this study. Case studies of teachers from both programs might highlight the reasons year-round teachers seem to be more instructionally oriented in the responses on this survey. Likewise, the case studies may reveal why traditional teachers have been sensitized to the bureaucratic nature of educational institutions. The differences are undoubtedly a part of the life stories of the teachers. Perhaps a look backstage would provide insight into the occurrences in the lives of teachers that make them more or less prone to select a particular program and find professional success. Analysis of the lives of individuals involved in the programs, along with the initial survey information contained in this study, might prove helpful in the creation of more appropriate settings for education.

Further study in the previously mentioned areas might include pairing with one of the other year-round programs in the state modeled after the Mooresville Program. Differences and similarities in the findings with another program may provide further insights into the attitudes and consequent differences in teacher performance and satisfaction. One logical choice for a study involving two school systems would be the Hendersonville City Schools where the pilot survey for this study was tested. Comparison of ethnographic interviews or case studies between two or more year-round programs would assist in determining the true

differences between teacher attitudes in the two programs and the subsequent impact on instruction.

General Conclusions

The purpose of this study from the inception has been an initial analysis of the differences that the Mooresville Graded School District Year-Round Program may be making in the educational experience of children who have participated in the first two years of the program. The intention has not been to obtain data to draw conclusions and make specific recommendations about the long-term effectiveness of the program. Such conclusions can only be made after a much longer and more extensive study of the various aspects of the program. The focus here has been to provide those interested in implementing a similar year-round program with data to illustrate the results and effects that may be achieved during the initial years of implementation. Clearly, the recommendations for further study contained in this chapter have emphatically recommended longitudinal studies to determine the complete effects of the program. The adoption of the Mooresville Graded School District model for a year-round program has already occurred in over 25 schools in North Carolina in the past two years. Opportunities for further study will be available in other school districts. The results of this study should guide the many other districts who are now considering implementing the model in North Carolina as well as other states. The findings here do not suggest that other districts implementing a year-round program will find significant

differences in student achievement, student attitude, or attendance during the initial years. Differences found in this study were very slight and generally provided no clear indication that significant gains or losses may be expected during the first two years of the implementation of a year-round program. The single area where the year-round program did produce favorable results over the traditional program was that of teacher attitudes. Clearly the attitudes of year-round teachers included in this study were more optimistic and they had higher satisfaction levels at the conclusion of the second year. The responses of traditional teachers revealed higher levels of dissatisfaction and frustration that may have an impact on their effectiveness in the classroom.

The results of this study in three of the areas studied are inconclusive in terms of their assistance to educators and parents considering year-round education. The primary conclusion drawn from this analysis is that there is no difference after two years. Although the year-round program has not been proven to be different and better here, it has neither been proven to be different and worse in terms of achievement, attendance, or attitude. Parents who believe the schedule is better for their child and their family can make that choice without fear of detriment to their child's educational progress. Likewise those parents who believe traditional schedules are best for their family can be equally confident. Further studies might focus on the idea that teachers who have better attitudes and greater optimism, may in fact do a better job instructionally. The data here suggest

that year-round teachers are, at the very least, more satisfied. According to the responses on the survey, year-round teachers are also more oriented toward their beliefs and feelings regarding what is best for students.

Recommendations for Further Study

The recommendations for further study relative to the four areas do not include the two areas mentioned in this general conclusions section. The first recommendation is the study of parent satisfaction level with the year-round schedule. If no significant differences are found in the results of year-round and traditional programs after longitudinal study, the primary issue then would be the level at which families are satisfied with the particular program. If a particular program is better for the family, absent any differences detrimental to the student, then it can be concluded that the program is best for the child.

The second recommendation would a study to determine the impact of teacher attitude on student satisfaction and happiness in the classroom, as well as instructional program. Study might focus on the question of whether a happier teacher is instructionally different. If so, then the impact of that difference on student results should be determined.

Educational reformers must strive to adapt the educational system to meet the complex needs of the children that are served by that system. If year-round schools meet the needs of some children in a better fashion than traditional programs, then they must be studied. The changing needs of society and the increased emphasis on schools to be accountable to the

children they serve makes consideration of every possible restructuring option of crucial importance. The renewed interest in a redesign of the school calendar as one facet of the current reform movement is important and must be considered. The continued study of the Mooresville Graded School District Year-Round Program and the subsequent study of schools which have replicated this model, as well as other calendar options, should provide valuable information for continued school reform. Clearly, schools must strive to meet the constantly changing needs of the children and families that they serve.

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