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A COMPARISON OF MULTIGRADE EDUCATION
AND GRADED EDUCATION IN THE AREAS
OF ACADEMICS, SOCIAL SKILLS AND
ATTITUDES OF PARTICIPANTS

by
Cheryl L. Buff

A Thesis

Submitted in partial fulfillment of the requirements
of the Master of Arts Degree in the Graduate
Division of Rowan College
1997

Approved by _____

Date Approved May, 1997

Abstract

Cheryl L. Buff

A Comparison of Multiage Education and Graded Education in the Areas of Academics,
Social Skills and Attitudes of Participants

1997

Dr. Louis Molinari
Elementary School Teaching

This study compared the effects of multiage education and graded education on academic performance, social skills development and parent, student and teacher attitudes toward school.

The 34 multiage students and the 27 graded students were assessed through curriculum based tests and informal reading inventories. Statistical analyses were completed. A significant difference was found.

Both groups of students completed a social skills development survey. Cafeteria/playground aides were surveyed and discipline referrals were examined to find the percentage of students in each group who received a detention for a discipline violation. Data was collected, and statistically analyzed. No significant difference was found.

The parents of both groups of students completed a survey about their impressions of the education of their children. Both groups of students completed a survey about their attitudes toward school. The two multiage teachers and the two graded teachers added information through discussion and interview to determine their attitudes toward their

respective educational programs. Data was statistically analyzed. No significant difference was found.

Mini-Abstract

Cheryl L. Buff

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Dr. Louis Molinari
Elementary School Teaching

This study compared the effects of multiage education and graded education on academic performance, social skills development and parent, student and teacher attitudes toward school.

A significant difference was found between groups in the area of academic performance. No significant differences were found in the areas of social skills development and parent, student and teacher attitudes toward school.

Acknowledgments

Much gratitude to Dr. Molinari who spent much of his own time guiding me through this study.

Many kind words and encouraging thoughts kept me going. I appreciate all the people who took an interest in my progress.

Many friends and coworkers have generously offered their contributions to this study. I appreciate all of their efforts. Thanks to Mrs. Powel and Mr. Smith for granting me permission to complete my research at TJ. A huge thanks to my "research assistants," Cely, Toni and Margie, my "reading specialist," Jody, and my best friend and "computer consultant," Bob.

I feel honored to have had the help and interest of many friends and colleagues in completing this study. I wish to thank Leona, Dianne and their multiage students and parents for their willingness to contribute to my project. I would also like to thank Elayne and the students and parents in our class for their constant cooperation.

For always being proud of my accomplishments, thanks Mom, Dad and Tam.

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Chapter One

Significance of the Study

The multiage classroom is currently being implemented in many schools across the nation. The National Multiage Institute based at Northern Arizona University in Flagstaff, Arizona, reports the following:

The state of Kentucky has mandated multiage classes for kindergarten through third grade. Mississippi and Oregon are looking at similar legislation.

Pennsylvania, California, Texas, New York and Tennessee are reported to be developing similar programs. Multiage programs can be seen in Arizona,

Washington, Maine, Colorado, Missouri, Wisconsin and Indiana. (1995)

New Jersey schools are following the most recent educational trends and beginning multiage classrooms in districts such as Cherry Hill, Maple Shade and Washington Township.

According to Grant the concepts of "looping and Multiage hold the most promise for classroom success because they're enthusiastically embraced by teachers, principals, students and parents." (The Society For Developmental Education, 1997)

"Multiage grouping does away with grade level distinctions and is organized so that classes are made up of primary children of varying ages and abilities. Children may remain with the same teacher(s) for their primary years." (Multiage, Nongraded Primary Program, 1996)

The Center for the Expansion of Language and Thinking reports that multiage classrooms may vary in arrangement. Children may be assigned a grade level, as in a mixed age situation, or may not receive a grade level designation and simply be considered primary students in an ungraded classroom. The design of multiage education remains consistent even if the classroom set up changes. The participating primary children are most often divided equally by age, staying with the same teacher or teaching team for two to three years depending upon the program. "Each year, one third of the class (the oldest) leaves and a new third (the youngest) enters." (The Center for the Expansion of Language and Thinking [CELT], 1991)

Miller writes in his article from *The School Administrator* that multiage means "two or more grade levels that have been intentionally blended together to improve learning. The child's developmental needs, regardless of grade level curricular or administrative placement, stand out as a key defining characteristic of the multiage concept." (1996)

Miller's definition makes mention of a child's developmental needs. The multiage classroom operates from a perspective that appears to be Piagetian in nature. A multiage educator must be familiar with Piaget's stages of child development as well as Gardner's multiple intelligences. The basic premise of the multiage classroom is accepting and educating children with a wide range of cognitive abilities and learning styles. Educators and researchers such as Gaustad, Tapper and Ross all confirm this through their research and implementation of multiage classrooms.

To prepare for the education of primary multiage students, "teachers need an in depth knowledge of child development and learning and a larger repertoire of instructional strategies than most single-grade teachers possess." (Gaustad, 1995) Gaustad reports that students will be functioning at varying levels, so learning experiences must be open-ended and divergent. Expertise in flexible grouping and cooperative learning is necessary. (1995) Tapper offers two metaphors to define multiage education as it differs from traditional

education. Tapper refers to traditional education as a staircase, where one step is taken after skills on the preceding step are mastered. Multiage education, however, is a path. "Students come to us somewhere along the path. Sometimes they run swiftly, other times they seem to wander slowly. When they get to a particular place in the path they leave us." (1996) Multiage education by definition allows students to "move through a continuum without regard to age or grade barriers. Students do not compete with and are not compared to other students, but do compete and are compared against their own measured abilities and achievements. (Lake George Elementary School, 1995) "Multiage organization facilitates the use of developmentally appropriate practices." (Gaustad, 1995)

The Center for the Expansion of Language and Thinking acknowledges that "throughout life, people's learning and growth plateaus at times, sometimes regresses, and at other times, spurts forward." (1991) Nawanna B.Privett, a member of the Kentucky Department of Education and director of elementary schools in the Fayette County Public Schools states succinctly:

The major premises of the ungraded program are that all young children, ages five through eight, can progress continuously, without fear of failure, in flexible groups and at their own pace and that all children can learn when they experience developmentally appropriate activities that are carefully planned, implemented, and assessed. (1996)

Schools piloting multiage programs are witnessing advantages regarding academic performance, social skills development and parent, teacher, and student attitudes toward school. "Children develop at different rates cognitively, socially, emotionally, academically, and physically. We are tailoring our educational program to better meet each child's needs at each stage of development and not simply cover a grade level curriculum." (Multiage, Nongraded Primary Program, 1996)

Because the child's development is recognized, educators and researchers have predicted, and are observing academic benefits. Tapper reports benefits to special needs students:

Since nongraded or multiage programs focus on individual students in a diverse setting, the curriculum is geared to everyone on the curve, not just those in the middle. This helps special needs children who know that they can fit in and challenges talented children because "grade level" is no longer enough to get by. (1996)

Educators in traditional classrooms often view students with varying abilities as a problem. "In mixed-age primaries, however, the mix of abilities is seen not as a problem but as a wonderful resource to be celebrated and used for the benefit of all." (CELT, 1991)

A concern of administrators, teachers, and parents is the combination of older and younger students in one classroom. Academic benefits are present not in spite of this combination, but because of it. Older children are models for the younger ones while "the presence of younger children provides an opportunity for less stressful and more successful interaction for those older children who are less mature. The presence of younger ones can also help reverse the unhealthy trend of 'pushing down' the curriculum." (CELT, 1991) The younger children also help educators to provide a developmentally appropriate curriculum in the multiage classroom. (CELT, 1991)

Lolli reports in The World of Multiage that "children are free to work on whatever level they are comfortable and are not 'forced' by grade level expectation to function at a level too high or too low for them." (n.d.) Teachers are able to facilitate this learning in a multiage setting because of the two to three year period in which students are members of a teacher's classroom. This time "allows the teacher to do a more effective job of pacing the student's education and providing a much greater understanding of each child's style of learning." (Lake George Elementary School, 1995) Grant, Johnson and Richardson cite research by Anderson and Pavan that "a nongraded environment is

particularly beneficial for [African-Americans], boys, underachievers, and students of lower socioeconomic status in terms of their academic achievement and mental health." (1995)

Pilot schools are also seeing advantages in the area of social skills. "Children have a broader social experience with increased opportunities to lead and to follow, to collaborate and to make stable peer relationships." (Mattern and Yates, 1995) Lake George Elementary School, a site of multiage education, reports that the goal of the school is:

to provide an environment that will allow students to become successful learners, to enjoy learning, and to develop abilities in making responsible decisions and choices about what they learn in relation to their own interest and stage of development. We want our students to be prepared in all academic areas. However, our major emphasis is assisting the students to experience success, acquire self-confidence, self-direction, and independence. Respect and trust in the student is one of our most basic principles. (1995)

The Lake George Elementary School also reports that their multiage setting is conducive to younger students learning positive behaviors from their older classmates, which helps in the development of independent study skills and self-reliance. Also because of the association of older and younger students, responsibility and caring is modeled. Loll in The World of Multiage reiterates this point. "Children work together and help each other without regard to grade level distinctions or ages or ability levels." (n.d.) Another source reports that "one of the most important theoretical premises behind the mixed age primary is that learning is social: children not only learn from adults; they learn from each other." (CELT, 1991)

The parents of multiage students are clearly seeing benefits for their children. Grant, Johnson and Richardson suggest that parents should fully understand the principles of the multiage program before placing a child in that classroom. Most often, parents of

children in a multiage classroom "have an opportunity to establish a strong relationship with the child's teacher over a period of several years." (Grant, Johnson and Richardson, 1995) Parents and teachers are partners in developing long-term goals. Also, anxiety is reduced as each new school year begins because there is a familiarity with the teacher as well as classroom routines. The Lake George Elementary School also believes that parental choice of teaching teams provides parents with ownership of the program and allows the parents to be active participants in the education of their children. (1995) The Center for the Expansion of Language and Thinking reports that parental support is increased because "mixed age primaries promote better communication between home and school." (1991) "As the student-teacher-parent relationship develops over a longer period of time, students will receive a greater support for their success in school." (Mattern and Yates, 1995)

The attitudes of students also appear to be positive regarding their participation in a multiage classroom. Children were happy to "become involved in various peer tutoring activities and the older students seemed to enjoy the new sense of leadership that they were expected to fulfill while working with their younger peers." (Jeanroy, 1996) The Concrete Elementary School in Washington state reports much success regarding student attitudes and achievements. Student retention, while not completely eliminated, has been reduced with the implementation of multiage education. Student attendance rates were increased while discipline referrals decreased. (Jeanroy, 1996) Multiage educators report "industriousness, independence, and self-reliance," as well as "new found excitement for learning and...a love for school," as students participate in the first year of the program. By the second year, educators observe "improved student attendance, an overall higher level of discipline, more altruistic behavior, and enhanced self-concepts" on the part of the multiage students. (Grant et al., 1995) "Mixed age grouping invites cooperation and nurturing and tends to reduce discipline problems." (CELT, 1991) A family feeling and a sense of belonging are encouraged.

Teachers who are participating in multiage classrooms are positive about school. The multiage teacher is "less of a lecturer and more of a facilitator or tutor." (Miller, 1996) Multiage educators are also pleased that the older primary students are aware of classroom routines at the beginning of each school year. "Therefore less teacher time is needed to start class and teach appropriate classroom behavior, and there is more time to devote to the younger children who need the most help. (Lake George Elementary School, 1995) While multiage educators report much stress and exhaustion in reorganizing materials, classroom space and curriculum, the same teachers report "a long-term interest in the education and welfare of children largely because they have seen significant positive changes. In addition, teachers feel they have made valuable contributions to the development of a program in which they feel ownership." (Jeanroy, 1996)

While the successes of multiage education are many, only few pitfalls have been reported. From the academic perspective, one may suspect that the de-emphasized grade level barriers may contribute to teachers overlooking learning disabilities or neglecting gifted learners. Perhaps the most common academic disadvantage is the multiage classroom becomes a special education environment because of its accommodating nature. (Grant et al., 1995) From a teaching perspective, one may anticipate personality conflicts between students and teachers to be uncomfortable and prolonged in a two to three year multiage program. Difficult parents remain a burden to multiage teachers for the duration of the student's participation in the program. (Grant et al., 1995)

While not yet mandated in the state of New Jersey, several New Jersey school districts are investigating the strategies of implementing multiage education, as well as evaluating the advantages and disadvantages of existing multiage programs. It is necessary for one to determine benefits and pitfalls of multiage education as well as consider the multiage students' academic performance, social skills development and attitudes of parents, students and teachers toward school.

Statement of the Problem

Could it be that multiage education is an educational trend that will result in improved academic performance and social skills development among the participating students and also have a positive effect on parent, student and teacher attitudes toward school? This study will attempt to investigate the definitions and purposes of multiage education. Also considered will be the preparation necessary to implement multiage education and the criteria used for selecting students who will participate in the multiage classroom. This study will assess the academic performance of multiage students as compared to graded students, will attempt to evaluate the development of social skills among multiage students as compared to graded students, and examine attitudes of participating multiage and graded parents, students and teachers. Finally, successes and failures of the multiage program will be examined.

Purpose of the Study

The Washington Township School District is currently piloting a multiage classroom at Thomas Jefferson Elementary School. This multiage classroom accommodates 34 students in the second and third grades. An additional multiage classroom is being considered for the 1997-1998 school year which will accommodate students in grades four and five.

The purpose of this study is to determine the effect multiage education will have on students' academic performance, social skills development and parent, student and teacher attitudes toward school as compared to the effect graded, or traditional education will have on the same variables.

This study will attempt to investigate the definitions and purposes of the multiage classroom, and determine if these definitions and purposes are consistent with those of the graded, or traditional classroom.

Statement of the Hypothesis

There will be no significant difference between the curricular outcomes in a multiage setting as compared to the curricular outcomes in a graded, or traditional setting.

A. There will be no significant difference in the academic performance of students participating in a multiage classroom as compared to the academic performance of students in a graded classroom.

B. There will be no significant difference in the development of social skills among students participating in a multiage classroom as compared to the development of social skills among students in a graded classroom.

C. There will be no significant difference in the attitudes toward school among parents of students participating in a multiage classroom as compared to the attitudes toward school among parents of students participating in a graded classroom.

D. There will be no significant difference in the attitudes toward school among students participating in a multiage classroom as compared to the attitudes toward school among students participating in a graded classroom.

E. There will be no significant difference in the attitudes toward school among teachers participating in a multiage classroom as compared to the attitudes toward school among teachers participating in a graded classroom.

Method of Study

This study will attempt to investigate the preparation necessary for implementation of the multiage classroom at the Thomas Jefferson Elementary School. The study will also attempt to address the criteria used for selection of students. Through the interview of participating multiage educators, and a review of the multiage classroom proposal for the Washington Township Board of Education, this study hopes to acquire this information. The goals of the program will be investigated for the purpose of comparison to traditional classroom goals.

This study will attempt to compare the academic performance of grade three multiage students at Thomas Jefferson Elementary School with the academic performance of grade three students in a traditional classroom at Thomas Jefferson Elementary School. This performance will be assessed through examination of curriculum based tests and informal reading inventories.

This study will also attempt to compare the development of social skills among students in grades two and three in the multiage classroom at Thomas Jefferson Elementary School with the development of social skills among grade three students in a traditional classroom at Thomas Jefferson Elementary School. The development of social skills will be assessed through teacher observations and interviews as well as student surveys. Both grade levels in the multiage setting will be considered to adequately evaluate the development of social skills of the "olders" and "youngers" because both are educated in the same environment, and research cites that each group will influence the other.

Finally, this study will attempt to compare attitudes of parents, students and teachers involved in a multiage classroom with the attitudes of parents, students and teachers involved in a traditional classroom. Attitudes will be assessed through parent, student and teacher surveys and interviews.

Limitation of the Study

The Thomas Jefferson Elementary School is currently piloting a multiage classroom for students in grades two and three. The present school year, 1996-1997, is the first full year of the existence of the program. This is a possible limitation of the study, because the two year multiage cycle has not yet been completed. Therefore, standardized test results, curriculum based test results, teacher observations and parent, student and teacher surveys will not reflect a complete multiage program. Also, because there is only one multiage classroom at the present time, the number of students participating is very small.

A second limitation is that the third grade classroom being compared to the multiage classroom is not traditional in all aspects. The classroom considered as a traditional model is an In-Class Support environment with approximately one third of the class requiring academic modifications and/or assistance with social skills development as per Individualized Educational Plans. The multiage classroom offers a team teaching approach to instruction as does the traditional grade three classroom in this study.

Another possible limitation is that the teachers in the multiage classroom may not be able to share information regarding the students, or may not be willing to allow research to be conducted involving their students or the parents of their students. After much discussion with the multiage teachers, this anticipated limitation seems unlikely.

A final anticipated limitation may be a lack of response to parent, student and teacher surveys. The class size of the multiage classroom is 34, of which approximately half are third grade students, while the class size of the graded classroom is 27. Most all parents and students would have to be willing to complete surveys in order to receive a number of responses to reliably analyze results. The multiage classroom employs two certified educators, one instructional aide, and one student aide. The traditional classroom employs two certified educators. The small number of teachers would require that all involved be willing to participate in observations and surveys to achieve a reasonable number of responses.

Definition of Terms Used

Grant, Johnson and Richardson offer a concise definition of terms in their 1995 publication. "Multiyear placement simply means that the students stay with the same teacher for more than one year. The multiage and looping classrooms are the best examples of a multiple-year classroom." A looping classroom differs from a multiage classroom in that looping refers to a single grade class staying together with one teacher for two to three years. Reasons for implementation of such a program are that it is "a low-risk concept that requires little funding and minimal training," and does not utilize

additional preparation time or classroom space. A multiage classroom, on the other hand, refers to multiple grades combining together to stay with the same teacher or teaching team for two to three years.

The ERIC Clearinghouse on Elementary and Early Childhood Education (as cited in Privett, 1996) in a digest "Nongraded and Mixed-Age Grouping in Early Children Programs" also offers definitions of frequently overlapped terms. Multiage may also be referred to as mixed-age grouping since the "age span of the class is greater than one year but they extend beyond the homogeneity principle." (1996)

Nongraded and ungraded are also terms associated with the multiage concept. Because "multiage grouping is a grouping procedure that results in most classrooms containing students of various ages rather than the traditional one age group or grade," (Lake George Elementary School, 1995) it may be referred to as nongraded or ungraded. Children in such a situation are grouped for instruction based upon their "perceived readiness to acquire knowledge and skills." (ERIC Clearinghouse on Elementary and Early Childhood Education, 1996) Age does not influence grouping.

The converse of nongraded or ungraded would be graded. Graded refers to a single grade classroom with students being taught by one teacher for the period of one year before moving to the next grade with a different teacher for that year.

Finally, one must be cautious to distinguish between a multiage continuous progress classroom and a combination/split-grade classroom. When a school implements a multiage continuous progress class, it is "usually done for philosophical and educational reasons." (Grant et al.,1995) Educators feel that a student will benefit from being with one teacher over a period of two to three years, and the teacher will benefit from gathering student information to utilize over this same time frame. Continuous progress also implies subject integration, developmentally appropriate lessons, cooperative learning, appreciation of multiple intelligences and on-going assessment.

The combination/split-grade classroom is very different from the multiage continuous progress classroom.

A combination/split-grade class often exists only for a one-year period. It is usually created for budgetary reasons or because there are too few students to justify two different classrooms. Staff in a combination or split-grade report great difficulty teaching and managing two separate grade levels. (Grant et al., 1995)

Chapter One has been an attempt to establish the significance of a study of multiage education. The problem has been stated, and the purpose for the study expressed. The general hypothesis, that no significant differences will be found between multiage and graded education, and several specific hypotheses concerning academic performance, social skills development and attitudes of parents, students and teachers toward school have been developed. The method of study has been outlined, and possible limitations have been anticipated. Finally, the chapter concluded with a definition of terms frequently used in discussions of multiage and graded education.

Chapter Two will attempt to present current literature regarding multiage education. The purposes of multiage education will be addressed, and the preparation for the program, as well as the methods used for selection of participants will be reported. The chapter will conclude with research that has been collected specifically concerning academic performance, social skills development and parent, student and teacher attitudes about the multiage program.

Chapter Three will describe the procedure used to implement this study. The populations of the experimental group and the control group will be defined. The instruments used and the methods of determining results will be discussed.

Chapter Four will present the findings of this study. A statistical analysis of the data will be explained and summarized.

Chapter Five will attempt to draw conclusions based on the findings.
Recommendations for future study will be made.

Chapter Two

Definitions and Purposes of Multiage Education

According to the Center for the Expansion of Language and Thinking, "mixed grade and ungraded primaries are classrooms in which the ages of children in a single classroom will span several years." (1991) A characteristic of the multiage classroom is multiple blended grades with the students remaining with the same teacher or teaching team for two to three years. (Grant et al., 1995) Grant, Johnson and Richardson contend that "a multiage educational program is a union of an organizational structure and unique combinations of teaching and learning strategies. The way learning occurs is made possible by the multiple age structure." (1995)

The multiage curriculum encourages problem solving through the use of "real world" materials and hands-on activities. It is child centered, and intended to provide students with an opportunity to work at their own pace. Grouping within the classroom is flexible and based upon teacher observations and evaluations. (CELT, 1991)

The curriculum is to be appropriate for a child's level of development. Multiage researchers believe "that every child comes into the world with talents and abilities, and with so much potential to contribute to this world." (Grant et al., 1995) Perhaps the foundation of multiage education is that "schools are ready for children instead of making children ready for school." (Grant et al., 1995) Childhood learning is considered to be a "journey, not a race." (Privett, 1996) Mattern and Yates have found that multiage

education allows greater grouping flexibility where not only age is considered, but in addition, student needs, abilities and interests. (1995)

Some agreements regarding the definitions and purposes of multiage education among researchers and educators is the role of the teacher as a facilitator, students learning from students while gaining independence and responsibility, the involvement of parents in a child's education, and the ability of teachers to provide students with learning choices to reflect preferred learning-style differences. Quite often multiage education involves team teaching which is two or more teachers "working together to determine students' progress, to develop the best approaches for solving the instructional problems of individual students, and to divide teaching assignments according to abilities, interests, and strengths of each member of the teaching team." (Lake George Elementary School, 1995)

In "traditionally organized classrooms, varied abilities are seen as a problem requiring solutions." (CELT, 1991) Miller confirms this statement. "In the traditionally single-grade competitive classroom found in most schools, reading ability is the primary gauge of competence, and evaluations are highly visible and comparative." (1996) Miller continues by writing that "student learning is characterized by listening, responding, studying independently, and taking tests." (1996) In a multiage classroom, mixed abilities are not an obstacle, but rather an opportunity to investigate other facets of the intellect.

Preparation for the Multiage Classroom and Selection of Participants

Multiage education is a curriculum that requires much teacher preparation. "You don't have to leap into multi-grade methodologies all at once. You can start by just grouping kids in one subject area. It doesn't have to be a full-blown, completely non-graded situation." (Miller, 1996) Gaustad suggests that "teachers of different grade levels often introduce multiage grouping by mingling their students for occasional projects." (1995) Teachers interested in multiage classrooms often prepare for implementation by reading and researching, attending workshops, visiting schools where multiage classrooms

are in place and trying multiage techniques within a single grade classroom. Martern and Yates report that their preparation began two years prior to actual implementation. It appears as if research has found "where to begin is much less important than beginning well." (Gaustad, 1995)

The Kentucky legislature in 1990 mandated ungraded classrooms be implemented in all districts for all students not yet entering fourth grade. Kentucky allowed for schools "to develop a learning community that is successful for all young children. The legislature removed the barriers that traditionally hindered educators from implementing child-centered, developmentally appropriate environments where children can progress continually." (Privett, 1996)

"Each one of Kentucky's 837 primary programs represents an array of choices made by the teacher, principal, and school council." (Primary Your Way, 1996) The 1996 Kentucky General Assembly stated in response to its recently approved budget bill that "the school shall determine the organization of its ungraded primary program including the extent to which multiage groupings are necessary to implement the critical attributes." (Frequently Asked Questions About Primary Planning, 1996) There are seven critical attributes of Kentucky's nongraded primary program that need to be considered when a school develops an action plan for implementing the program. They are: developmentally appropriate educational practices, multiage/multiability grouping, continuous progress, authentic assessment, qualitative reporting methods, professional teamwork, and positive parent involvement.

"KRS 156.160 (1) (a) 1.a. specifically refers to the primary program as 'ungraded' as does the budget bill." (Frequently Asked Questions About Primary Planning, 1996) This same law provides for flexibility within each school to design and implement primary programs to best satisfy the needs of their students. This may require the use of multiage or multiability grouping, but in all cases, must be considered ungraded,

continuous progress where a child moves further in his development with each grouping change.

Kentucky legislature also provided for extensive teacher training including education in developmentally appropriate practices for Language Arts and Math. The training begins with a two day session for principals and teachers. Participants return for additional training and feedback sessions over a period of three years.

Teachers in a multiage setting should "have opportunities to observe competent models demonstrating multiage methods, try them out in the classroom, receive feedback on their efforts, reflect on the experience, revise their plans, and try again." (Gaustad, 1995) Administrators must also give teachers time, training and support. "Effectively implementing a single innovation requires several years...and multiage teaching involves multiple, complex innovations." (Gaustad, 1995) Principals assist multiage educators by offering opportunities for in-service training, monitoring implementation, and giving praise, feedback and suggestions. (Gaustad, 1995)

Teachers must support developmentally appropriate teaching strategies, and be able to decide when and how grouping will be used. Portfolio assessment and evaluation of student progress through anecdotal records is a necessity. An ability to foster cooperative learning and social skills development is also characteristic of a multiage educator. Multiage teachers need to have a rapport with parents and colleagues to promote the positive aspects of the program and enable team teaching to take place. "According to Miller, teachers in effective multi-grade instruction must attend to six essential areas: classroom organization, classroom management and discipline, instructional organization and curriculum, instructional delivery and grouping, self-directed learning, as well as planning and using peer tutoring." (Cahill, 1996)

Administrators need an understanding of the foundations of multiage education, even though they are inconsistent with the foundations of the traditional graded classroom. Administrators must also "create a school culture that supports teacher learning, an

environment in which it is safe to risk making mistakes. Without such support, many teachers will retreat to safe, familiar age-graded methods." (Gaustad, 1995)

The principal must facilitate "positive, cooperative interactions among teaching team members." (Gaustad, 1995) Perhaps most importantly, the principal has the responsibility of building support within the school community and in the larger community for the newly implemented multiage program. Careful planning and broad support from faculty and community prevents dissention among staff and discontent among parents when switching from graded to multiage classrooms.

Budgetary restraints may be a difficulty in the preparation and implementation of the multiage classroom. Long term staff development is time consuming and costly, yet necessary. Developmentally appropriate materials such as authentic literature, textbooks, manipulatives and high interest level materials need to be purchased. Texts and multimedia materials need to be shared with multiage educators, and community programs need to be established to build support. Substitute teachers or additional paraprofessionals may need to be employed to ensure multiage teachers have time to plan lessons, rewrite curriculum, attend staff development meetings, and qualitatively assess student performance.

"Administrators must accept the challenge of communicating to the public that educational quality cannot exist without adequate financial support, and enlist their aid in providing these resources." (Gaustad, 1995)

"Changing to a multiage classroom reflects a magnitude of change far greater than simply changing to a new textbook or learning a new strategy or program. Implementing multiage instruction and organization represents a major shift in classroom norms." (Miller, 1994) Changing to a multiage environment means "providing curriculum and instruction consistent with the development of individual children that addresses the physical, social, intellectual, emotional, and aesthetic/artistic needs." (Primary Your Way, 1996) Multiage instruction also changes the current methods of assessment. "Authentic assessment occurs continually in the context of the learning environment and reflects

actual real-life learning experiences that can be documented through observation, anecdotal records, journals, logs, work samples, conferences, and other methods."

(Primary Your Way, 1996) Some Kentucky schools have adopted the Kentucky Early Learning Profile (KELP) to indicate student progress and ensure that all of the elements of student evaluation are considered as part of the ungraded primary program.

When implementing a multiage program, Grant, Johnson and Richardson recommend "creating a study team with members representing the central office, principal, teachers, parents, specialists, and members of the school board." (1995) Also suggested by the researchers is that a time line of a minimum of one year be established to investigate multiage issues. Considered should be the funding of everything from phone calls and travel expenses to textbook purchases. The team should also study and discuss current literature and attempt to make contact with multiage support organizations. Outside consultants may be invited in to speak to any interested staff members, as well as sending those interested staff members to visit operating multiage classrooms, where they can talk to multiage teachers. Attending workshops and conferences on multiage education is also critical at this time.

Once the initial research is complete, the study team will most likely be prepared to create a multiage classroom plan. Staff selection is "the key to lasting success. Assign only those staff members who want to teach in a multiage class." (Grant et al., 1995) The staff should ideally have three to four years of teaching experience and be aware of whole language strategies, developmentally appropriate activities and be willing to take risks, (Grant et al., 1995) The team needs to decide upon the grade levels participating and propose a budget for any anticipated expenses, including such items as classroom furniture and materials, consultant fees, and training costs. For success, parents should be educated about the program because "multiage classrooms are the most dramatic departure from traditional structure in almost 150 years." (Grant et al., 1995)

Multiage researchers and educators advise that the implementation process not be hurried. A five year time line is not unreasonable. Year one is spent researching, while year two should concentrate on studying literature-based reading such as writing in journals and response logs. The third year may undertake the math curriculum to provide a movement from concrete to symbolic to abstract thought. Curriculum and assessment needs to be put into place by year four so that year five can be a year to "add new, integrated units based on concepts, emphasizing individual projects holistically assessed by the teacher, the individual student, and the student's peers." (Grant et al., 1995)

Regarding the selection of students for the multiage program, different processes may take place. "Some districts explore parental choice, while in other districts, educators make recommendations regarding which children might benefit from the multiage experience." (Grant et al., 1995) The administrators at the Lake George Elementary School believe that allowing parents an opportunity to choose teaching teams promotes a feeling of ownership of the program. (1995)

When selecting students to participate, it is difficult to adhere to any one particular configuration. An age range of three to four years, however comes highly recommended. Multiage classrooms may keep the same students for two to three years. (Grant et al., 1995)

"A well-balanced student population is an important cornerstone of your program," state Grant, Johnson and Richardson. (1995) These researchers suggest that parent permission be a necessity, while parent choice is highly recommended. Researchers also advise that various criteria be examined in order to select students. There should be an equal number of boys and girls, an equal number of students who are the same age, and an equal number of students from each grade level. "A classroom with a good balance of students will allow the teacher to group children appropriately for instruction, and children will be able to form friendships and working relationships that foster emotional and social development." (Grant et al., 1995) The students should adequately reflect the population

of the larger community in regard to race/culture. Finally, the number of mainstreamed students in a multiage classroom should be no more than the number placed in any single grade, and all ability levels need to be represented. There must be a balance of lower and higher ability students so the grouping is heterogeneous. (Grant et al., 1995)

Academic Performance: Positive and Negative

Research suggests that multiage students will "experience increased learning time since roughly half of the class will already know the classroom management procedures." (Multiage, Nongraded Primary Program, 1996) Research has also found that the young children in a multiage classroom are "stimulated intellectually by older children." (Mattern and Yates, 1995) Whimbey investigated the relationship of older students' IQ scores to the opportunities of these older students to teach information to younger classmates. In Whimbey's program T.A.P.S.: Talking About Problem Solving, he found that the older students' academic performance dramatically improved. He "showed that when students were routinely given the opportunity to teach someone else, their scores on IQ assessments improved as much as eighteen points." (Mattern and Yates, 1995)

Lake George Elementary School educators contend that working with students in a multiage setting over a period of two years "allows the teacher to do a more effective job of pacing the student's education and providing a much greater understanding of each child's style of learning." (Lake George Elementary School, 1995) "Spending three years with one teacher prevents children from 'falling through the cracks'" (CELT, 1991) because there is greater continuity. Teachers are able to plan activities that pick up where the last year left off.

Educators at this multiage site also report that less teacher time is required to establish appropriate student behavior because the older students are familiar with classroom management and routine, and they model appropriateness for the younger students. Therefore,

teacher help can be given to students requiring the most attention, because management difficulties are reduced.

Both Lolli and The Center for the Expansion of Language and Thinking found that multiage environments allow children to work at a comfort level, and do not use grade level expectations to dictate learning. "The presence of younger children helps preserve a more developmentally appropriate curriculum for the older children in the classroom." (CELT, 1991)

Successful academic performance might best be encouraged through the non-traditional assessment used in the multiage classroom. The Lake George Elementary School uses a checklist to report the status of student achievement to parents. Grades are completely eliminated. School administrators and educators believe that the removal of letter grades "allows all students to experience success, eliminates the comparison of students and allows students to compete with themselves rather than with their associates." (Lake George Elementary School, 1995) Ross, the principal of the Lake George Elementary School, continues:

Progress of students should be judged and evaluated by how well the students compare with their own abilities and their own capabilities. The message of grades is that no matter how hard you work you will never be as good as someone else. (1989)

Privett suggests that assessment be continual and be concerned with demonstrated learning. "It is no longer appropriate to talk about ability groups, but rather to determine where children are within a continuum of beginning, developing, competent, or expanded stages of their learning." (1996) The Kentucky schools are currently implementing an assessment system called the Kentucky Early Learning Profile. This assessment is qualitative and narrative in form. It reflects parent contributions, anecdotal records, specific performance demonstrations and learning descriptions. "Continuous progress basically guarantees that no child fails prior to fourth grade." (Privett, 1996) Jeanroy adds

that before implementing multiage education at the Concrete Elementary School in Washington, "30-35 students were retained each year. Now only two or three students each year are ever brought before the school's retention review committee." (1996)

Another positive aspect of the multiage classroom is that students have an opportunity to remain in the same classroom for an additional year if developmentally young children need more time to learn. This is not considered a failure or a retention. (Grant et al., 1995)

Academically, students at the Concrete Elementary School have been very successful. Using a random sample of 25% of the school's 480 students, the Multi-Level Academic Survey Test was given to determine grade level equivalencies in reading and math. Results showed that students at this multiage site were 2.4 months ahead of grade level in reading, and 4 months ahead of grade level in math. Jeanroy goes on to explain that this is significant improvement being that the CAT and MAT standardized tests from the previous four years placed students at the school in the 35th to 45th percentile range. (1996)

Other research on multiage or nongraded education has been conducted by Pavan and Anderson and reported in Nongradedness: Helping it to Happen. After reviewing 64 research studies on nongradedness published between 1968 and 1990, Pavan and Anderson found that results favored nongradedness. Using standardized achievement tests to determine academic progress of nongraded students as compared to graded students, 58% of the studies reported favorable academic growth among nongraded students, 33% showed no difference in academic growth between graded and nongraded students, and 9% showed poor performance among nongraded students. (Grant et al., 1995)

Research shows only two major academic drawbacks to a multiage program. One difficulty is that the multiage classroom encourages a level of functioning that may be too comfortable to students. For this reason, students who may be late or delayed learners may not be referred until teachers are unable to observe any progress. The "multiage

teachers view students as learners in a two- or three-year program that is continuous progress. Without rigid grade barriers it is possible for a teacher to inadvertently overlook a child with a potential learning disability." (Grant et al., 1995)

A second academic disadvantage is that the multiage program is based on the premise that "all children, regardless of the severity of their difficulties, will thrive within the program, then the program may be doomed to failure because of the unrealistic demands placed upon the teacher and students." (Grant, et al., 1995) Researchers advise multiage educators to not overload the classroom with "high-maintenance children." (Grant et al., 1995) There seems to be a temptation to include an overwhelming number of special needs students in a multiage classroom because of its accommodating nature. The multiage classroom must not become an academic dumping ground. (Grant et al., 1995)

Social Skills Development

Research indicates the following:

Children learn from each other. Older and younger children benefit regardless of their ages and abilities. Children learn together and learn how to help and cooperate with each other. We believe that cooperation and social development is an important lifelong skill and a major reason for multiage grouping. (Multiage, Nongraded Primary Program, 1996)

Mattern and Yates see that the older students have the benefit of gaining leadership qualities and responsibilities within the classroom. Younger students "learn positive modeling from their older associates and develop more independent study skills and more self-reliance." (Lake George Elementary School, 1995) Further, all children "have a broader social experience with increased opportunities to lead and to follow, to collaborate and to make stable peer relationships." (Mattern and Yates, 1995) "Young children must learn to be both followers and leaders, both teachers and learners, both

speakers and listeners. Without opportunities to work in cooperative groups and to assist each other they will not learn these important life skills." (Privett, 1996)

Often stereotyping of students is reduced as new multiage participants enter the classroom each year. Ross offers the example that "in the first year a child may be the smallest, but in the next year there may be younger 'newcomers' who are smaller." (Lake George Elementary School, 1995)

The Center for the Expansion of Language and Thinking also has found that "mixed age grouping invites cooperation and nurturing and tends to reduce discipline problems." (1991) There appears to be a family feeling and a sense of belonging within the multiage classroom. (CELT, 1991) Jeanroy reports most impressively, that "major discipline referrals to the principal by teachers, playground monitors and others decreased significantly" (1996) at the Concrete Elementary School. Administrators contribute this decline in discipline referrals to a number of factors, one of which being the implementation of multiage classrooms. Cooperative learning strategies as well as social interaction skills learned in the multiage classroom helped students solve problems in a positive fashion. Discipline problems also usually decrease because students are successful, and individual differences are accepted. (Grant et al., 1995)

Parent, Student and Teacher Attitudes

The Lake George Elementary School reports that over a period of time, parents have had favorable attitudes regarding the multiage program. Their studies show that in 1979, 88% of the parents reported that their children were receiving a quality education. This figure increased to 97% by 1995. (1995)

"Mixed age primaries promote better communication between home and school" (CELT, 1991) because multiage teachers have more than one year to explain school programs and parents have more than one year to help teachers learn about their children. Grant, Johnson and Richardson report that parents of multiage students establish strong relationships with teachers over a period of time which allows parents and teachers

to be partners in setting student goals. Also, teacher evaluations of students in a multiage setting are well received by parents because they take place over an extended period of time. (1995) Parent anxiety is also most often reduced year to year because parents have a familiarity with the teachers. (Grant et al., 1995)

Miller states that a traditional classroom offers a rigid environment that "produces 'losers and winners' and generates a status system that favors students with the highest reading ability." (1996) When labeled in this manner, "feelings of inferiority, low aspirations, lack of motivation, and interpersonal hostility" (Miller, 1996) may result among a large number of students. To the contrary, "where everyone is learning at different rates, there is usually less competition; a multiage setting eliminates "faster, better, smarter." (Grant et al., 1995)

Students in multiage classrooms appear happy. They are successful and are continuously being recognized for their successes. "Multiage education emphasizes building upon strengths-which builds self-esteem." (Grant et al., 1995) The learning environment is also suited to the learning style of the participants, and one values the whole child, not just his academic strengths. Jeanroy reports similar findings. He sees happy children participating in peer tutoring and gaining leadership skills. He also identified more relaxed children in a multiage environment because the competitive atmosphere of the graded classroom was eliminated. (1996)

Research also reports that children in a multiage environment are likely to develop good mental health because their physical, emotional, mental and social needs are being met in a caring and nurturing environment. Studies show that "students in nongraded programs have more positive attitudes toward school than students in graded programs, and that students in nongraded programs score higher on affective measures than their counterparts in graded classrooms." (Grant et al., 1995)

Pavan and Anderson considered mental health and positive school attitudes in their evaluation of the successes of nongraded education. Pavan and Anderson reviewed

studies published over a period of 22 years. They found that 52% of the studies favored nongraded groupings, 43% showed similarities in the nongraded and graded groupings, and 5% showed nongraded groupings performed more poorly than graded groupings. (Grant et al., 1995) Pavan also found that multiage students were "more likely than their peers to have positive self-concepts, high self-esteem, and good attitudes toward school." (Mattem and Yates, 1995)

One other factor contributing to happy children is the fact that retention is not associated with embarrassment and devastation. Being held in a multiage setting for an additional year does not carry with it the stigma of a single grade retention. (Privett, 1996)

Finally, as Jeanroy reports, an indication of positive school attitudes may be reflected in student attendance rates. At the Concrete Elementary School, the "average daily attendance for all students continued to climb over the first four years of the multiage program. In 1990-1991 the school had an average attendance of 87%. During the 1994-1995 school year, the attendance rate was 94%" (1996)

Multiage teachers exhibit several common qualities and possess many of the same attitudes. Grant, Johnson and Richardson summarize an ideal multiage teacher. The multiage teacher wants to teach in a multiage setting and is not made to teach in that setting. The teacher should have experience with various grade levels and be open to change. The multiage teacher needs to have a willingness to understand and appreciate whole-child instruction and developmental instruction. Lastly, the multiage educator must be ready to take risks, use common sense, collaborate with colleagues and have a great deal of energy. (1995)

Jeanroy found teachers establishing a multiage classroom experienced burnout during the initial set up. Teachers became exhausted and frustrated spending evenings and weekends designing curriculum and developing materials. However, Jeanroy enthusiastically reports that only three teachers out of 28 at the Concrete Elementary

School left during a four year time frame. Of the three who left, two retired and one chose to pursue a master's degree.

Teachers at Concrete Elementary appear to have a long-term interest in the education and welfare of children, largely because they have seen positive changes. In addition, teachers feel they have made valuable contributions to the development of a program in which they feel ownership. (Jeanroy, 1996)

Chapter Three

Research Design

This study began with an intensive search for information regarding the definitions of multiage education and its reported benefits as well as its disadvantages. Literature was collected and reviewed for the purpose of gaining an understanding of nongraded education, and the steps toward its implementation. Research of multiage education was also gathered to generate hypotheses for the purpose of comparing the multiage classroom to the graded classroom as presented in this particular study.

The objective of this study was to consider only grade three students for academic measures, while data from both grade two and grade three students was used for social and attitudinal measures. The reason for this distinction is that third grade students in both environments are expected to be equally proficient in the same curricular areas in order to be promoted to the fourth grade level. To the contrary, the second grade multiage students are not expected to be equally proficient in the same curricular areas, and therefore, their academic performance was not assessed. Both second and third grade students were evaluated for the development of social skills as well as surveyed for determining their attitudes toward school. Research indicates that the "olders" and "youngers" learn together and benefit socially from contact with one another. For this reason, it would be difficult to isolate a particular grade level for study, and attribute the results to the experience of only one grade level of students.

The academic performance of grade three students was assessed. Two groups of students were used for this study. The academic performance of the grade three multiage students (the experimental group) was compared to the academic performance of the grade three graded students (the control group). Academic performance was evaluated through the use of curriculum based test results. Informal reading inventories were also used to determine grade level equivalencies.

Research was also gathered in an attempt to evaluate the development of social skills among students in grades two and three of the experimental group as compared to the development of social skills among grade three students in the control group. This study first compared the second grade multiage students with the third grade multiage students to determine if a difference was present among grade levels within the classroom. The study then compared the experimental group to the control group to determine if a difference was present between groups. Student surveys with written responses were utilized for evaluation. Interviews of teachers and school staff were also used to gather information regarding the development of social skills of the student population studied.

Finally, attitudes toward school were considered. The attitudes of the parents of multiage and graded students were evaluated. The attitudes of the multiage and graded students themselves were evaluated. The attitudes of the teachers of multiage and graded students were evaluated.

This study first compared the second grade multiage students' parents with the third grade multiage students' parents to determine if a difference was present among grade levels within the classroom. The study then compared the experimental group to the control group to determine if a difference was present between groups. Surveys were distributed to parents of grade two and three students in the experimental group, as well as to parents of grade three students in the control group in an effort to collect data regarding parent attitudes toward the multiage program and also of the graded program.

The study then compared the second grade multiage students to the third grade multiage students to determine if a difference was present between grade levels within the classroom. The study then compared the experimental group to the control group to determine if a difference was present between groups. Written surveys were distributed to grade two and three students in the experimental group and to grade three students in the control group. Students were asked to respond to questions concerning their attitudes toward school.

This study attempted to gather information regarding teacher assessment of the effectiveness of both the multiage and graded programs, and also considered teacher attitudes toward school. The evaluations and attitudes of the grade two and three multiage teachers were compared to the evaluations and attitudes of the grade three graded teachers. This information was collected through a written response questionnaire and informal interviews.

Description of the Population

The participants in this study were students in two classrooms at the Thomas Jefferson Elementary School in the Washington Township School District. The multiage classroom (the experimental group) consisted of 33 students. When the study began, 34 students were participating. One student left the school during the course of this study. There were 16 grade two students and 17 grade three students. There were 10 second grade male students and 6 second grade female students. There were 10 third grade male students and 7 third grade female students. The graded classroom (the control group) consisted of 27 students. There were 16 male students and 11 female students. The academic performance study measured results of the grade three students in each group only because this particular study was concerned with comparing academic performance of students at a specific grade level. The studies investigating the development of social skills and the attitudes toward school, however, involved all students in both the experimental group and the control group. This is because research states that social skills

development and attitudes toward school of students participating in a multiage classroom are improved because of the "olders" and "youngers" being educated in the same environment.

The participants in this study also consisted of parents of students in the experimental group and in the control group. Thirty three parents were surveyed from the experimental group. Responses were collected from 30 parents. Fourteen surveys were returned from parents of second grade students and 16 surveys were returned from parents of third grade students. Twenty seven parents were surveyed from the control group. Responses were collected from 24 parents.

Participants in this study also included school faculty members. Data was gathered from the two multiage classroom teachers and the two graded classroom teachers. Data was also gathered from two cafeteria/playground aides.

Description of the Instruments

The academic performance of the experimental group and the control group was assessed through curriculum based test results. The students' numerical scores on each D.C. Heath Math Chapter Test for the 1996-1997 school year were averaged for the experimental group and the control group, then compared. Informal reading inventories were also given to a sample of participants of each group to help determine academic performance in the area of reading.

To determine the level of development of the participants' social skills, student questionnaires were distributed to students in both groups. The questionnaires were based on a survey designed by the Lake George Elementary School as well as the "Self-Administered Student Profile." The questionnaire consists of 22 questions requiring a yes or no response, and two additional open-ended response opportunities. The complete survey has been included in Appendix A. The surveys were collected in a confidential manner, however, students were asked to identify their race, gender and grade level on the survey itself. This study used written and oral interviews of cafeteria/playground aides to

help determine the degree to which students in each group had developed a sense of community, as well as gather information regarding the social behavior of both groups of students while in an unstructured environment. The complete survey has been included in Appendix B. In conclusion, this study consulted discipline records of the school administrators to determine the percentage of students in each group who visited the principal's or vice-principal's office during the school year for disciplinary reasons.

To determine the attitudes parents possess in relation to the effectiveness of their child's education this school year, surveys were distributed to parents of students in each group. The surveys were based on the Lake George Parent Survey. There were 18 questions which required a numerical response. The rating scale ranged from 1 (strongly disagree) to 5 (strongly agree). There were two additional open-ended response questions, along with an opportunity for parents to address any issue they felt important regarding their child's education. The complete survey has been included in Appendix C. The surveys were collected in a confidential manner. Returned surveys were labeled with the race, gender and grade level of the student whose parent completed the survey.

To determine the attitudes students possess in relation to their experiences at school this year, questionnaires were distributed to both groups of students. The questionnaires were based on a survey designed by the Lake George Elementary School as well as the "Self-Administered Student Profile." The questionnaire consists of 27 questions requiring a yes or no response, and two additional open-ended response opportunities. The complete survey has been included in Appendix D. The surveys were collected in a confidential manner, however, the students were asked to identify their race, gender and grade level on the survey itself.

The attitudes teachers possess in relation to their experiences in the multiage setting or graded setting, as well as their assessment of the effectiveness of each program was evaluated through written response questionnaires and discussion. A complete list of discussion questions has been included in Appendix E.

Relationship of the Instruments to the Null Hypothesis

This study utilized curriculum based math test results to assess the academic performance of the experimental group and the control group. Each group was instructed in six chapters of the district text. After completion of each chapter, students were then tested using the 1992 D.C. Heath "standardized-format" assessment. The chapter tests were computer scored, and the class scores were averaged for each group.

The tests are considered to have content validity. "In other words, an assessment is made of the overlap of the curriculum and objectives of the instructional program with the content of the test items and the level of their difficulty." (Smith and Glass, 1987) "The tests are designed for large-group, small-group, and individual administration, and may be used for both diagnostic and mastery purposes." (D.C. Heath and Company, 1992) The results of the tests are intended to be used as only one measure of a student's math ability, and may aid in planning and focusing instruction.

The D.C. Heath math chapter tests also appear to have moderate reliability. The test has internal consistency, as a number of items on each test measure a student's performance on a single skill. Because the chapter tests are intended to measure a student's understanding of curricular material, and are not used for placement of students, nor are they an isolated determinant of a math grade, the reliability is acceptable.

Academic performance was also evaluated through the use of an informal reading inventory [IRI]. A sample of participants from both the experimental group and the control group were given an IRI to help determine their academic performance in the area of reading.

An informal reading inventory is the evaluation instrument that reveals first-hand information about students' coping strategies as they read the kind of text used in the classroom. Such specific information as how students cope with material at the various levels of instruction, the strategies the reader uses to recognize words, and

most important, the strategies used to understand the meaning of the text is the kind of information revealed through IRI analyses. (Woods and Moe, 1989)

This study was particularly interested in determining the instructional reading level of participating students. To gather this information, narrative style text, such as that found in basal readers and literature books, as well as expository text, such as that found in Science or Social Studies books, was used.

The IRI utilized, which was analytical in nature, was validated through "the use of readability formulas and computer analyses of the text." (Woods and Moe, 1989) The IRI was also determined to be reliable. Reliability results presented in table form in the manual show the readability among forms at grade level to be consistent, as are the number of words used in each passage and the vocabulary diversity among the expository forms. Woods and Moe contend

that the information from the tables along with nonquantitative considerations support the conviction that the grade levels assigned to the narrative and expository passages are valid, and that among the three narrative forms there is consistency within the grade levels. (1989)

Extensive field testing, computer analyses and revisions over a two year period were undertaken to ensure an accurate assessment of grade level reading.

This study used student surveys to assess the development of social skills among the participants in the experimental group and the control group. The survey used, although original in design, was based upon survey questions used by the Lake George Elementary School in the principal's attempt to evaluate the development of social skills among the school's multiage students. The questions were also based upon the "Self-Administered Student Profile." Survey questions concerned student perceptions of relationships with peers and school faculty members, as well as gathered information from

students regarding their problem solving skills. The student responses to the survey questions helped determine the degree to which their social skills have developed.

This study also used another form of assessing the development of the multiage students' and the graded students' social skills. A survey was distributed to the cafeteria/playground aides. This particular survey consisted of questions regarding the students' recess behavior. Because research cites that discipline referrals should decrease with the implementation of a multiage program, the survey asked the cafeteria/playground aides to respond to questions regarding the students' decision making skills, self-confidence and sources of behavior problems. A final question asked the aides to relate the students' behavioral issues, whether positive or negative, to their classroom environment. A comparison of the responses of the aide supervising the experimental group to the aide supervising the control group helped determine the effect multiage education has had on discipline problems.

A final assessment of social skills development utilized in this study was an investigation of discipline referrals as recorded by the principal and vice-principal of the school. This study was particularly interested in examining the detentions issued to students participating in the experimental group and the control group for the current school year. This assessment was suggested by the research which reported multiage students having fewer discipline problems because of the cooperative nature of the program, thus encouraging a high level of development of social skills.

Attitudes of parents were assessed in this study. Parents of students in both the experimental group and control group received a questionnaire. Parents were asked to answer each of 18 questions with a 1 (strongly disagree) to 5 (strongly agree) rating. Although the survey was designed for this study, the questions were based upon the Lake George Elementary School Parent Survey.

A survey was used to assess the attitudes students in the experimental group and the control group have about school. The survey used, although original in design,

was based upon survey questions used by the Lake George Elementary School in the principal's attempt to evaluate the attitudes toward school of the multiage students. The questions were also based upon the "Self-Administered Student Profile." Survey questions concerned the students' perceptions of the school environment, the faculty and their peers, as well as gathered information from the multiage students and graded students regarding their general feelings about attending their respective classrooms. The student responses to the survey questions helped determine the attitudes students possess about school.

The teachers' attitudes toward school were also assessed through an interview and/or survey. Teachers involved in both the experimental group and the control group were interviewed or surveyed and asked to respond orally or in writing to questions regarding their classroom instructional strategies, their management systems, their rapport with colleagues and parents and the overall goals of their educational programs. The questions to which teachers were asked to respond were suggested by the research. Multiage research found that multiage educators and graded educators would express differences in their attitudes about school when asked questions of this nature.

Procedure

This study began with researching the literature on multiage education and gathering information concerning parents, students and teachers involved in such programs. After research was completed, instruments were chosen or designed to measure academic performance and development of social skills of the students and attitudes toward school of parents, students and teachers.

The 1992 D.C. Heath "standardized-format" chapter tests were given to all grade three students in both the experimental group and the control group. After the completion of six chapter tests, each group's scores were averaged for each test and compared using an independent, two-tailed t-test. Results were used to determine if a significant difference was present between groups in the area of mathematical performance.

A random sample of ten third grade students from the experimental group and ten third grade students from the control group was chosen and an IRI was administered to those students. To ensure an accurate assessment of instructional reading ability, the names of all Basic Skills Instruction students were removed from the population as were the names of the In-Class Support and Special Needs children before the sample of students was drawn from the class lists from each group. When the IRI was given, one Level 3 narrative passage was included as were two Level 3 expository passages from the areas of Science (the qualities of matter) and Social Studies (the reason for the Declaration of Independence). After testing all students, the inventories were scored to establish the instructional reading levels of the participating students. Results of the scoring were used to determine the number of students at the third grade instructional level in both the experimental group and the control group. Such information helped to determine if a significant difference was present in the academic performance of students participating in each classroom environment in the area of reading.

Students in grades two and three of the experimental group and students in grade three of the control group were asked to complete a written survey regarding social skills and attitudes. The experimental group was surveyed as a class without the teachers present, but with both instructional aides in the room. The control group was also surveyed as a class with both teachers present. Questions were read aloud to the students in each group to allow all students an opportunity to respond and also to ensure questions were comprehended and interpreted in the manner in which they were intended. The yes/no responses to the survey questions were tallied and an independent two-tailed t-test was used to first compare results within the experimental group, and then to compare results between the experimental group and the control group. Results of the scoring were used to determine if a significant difference existed between groups in the areas of social skills development and attitudes toward school.

A survey was distributed to the cafeteria/playground aides who supervise the experimental group and the control group. Written responses were compared, and results were reported. Discipline referrals were also examined, and the study reported the percentage of children from each classroom environment who received a disciplinary detention as a result of their referral. Both measures helped to determine if a significant difference was present between groups in the area of social skills development.

Parents of the grade two and grade three multiage students as well as parents of the grade three graded students received a survey which was sent home via the students. Complete surveys were confidentially collected from the parents, and responses were averaged for each question. An independent two-tailed t-test was chosen to first compare results within the experimental group, and then to compare results between the experimental group and the control group. Results of the scoring were used to determine if a significant difference existed between groups in the area of attitudes of parents regarding their child's education.

Teachers of students in both the experimental group and the control group were asked to respond to questions about their educational programs. Responses were compared and results reported.

Chapter Four

Presentation and Statistical Analysis of the Data

This study has attempted to investigate the curricular outcomes of a multiage classroom as compared to the curricular outcomes of a graded classroom. The areas of academic performance and social skills development of the students were considered. Also researched were the attitudes of parents, students and teachers regarding the multiage and graded programs. Several hypotheses were generated and tested throughout this study.

This study has gathered information about the academic performance of students participating in a multiage classroom and in a graded classroom. Using the class averages for each of six 1992 D.C. Heath "standardized-format" chapter tests, students in grade three of the multiage group (the experimental group) and students in grade three of the graded group (the control group) were compared in the area of mathematical performance. The chart below displays the data collected.

<u>GROUP</u>	<u>CHAPTER NUMBER AND AVERAGE</u>					
	(1)	(2)	(3)	(4)	(5)	(6)
EXPERIMENTAL	95.8	98.0	98.9	96.1	98.0	96.0
CONTROL	96.8	92.1	94.6	94.1	94.4	90.3

Using an alpha level of .05, the difference between groups was found to be significant in the area of mathematical performance. The class averages for the multiage students were significantly higher than the class averages for the graded students.

This study also gathered information about the reading performance of students participating in a multiage classroom and in a graded classroom. An analysis of the informal reading inventories administered to a sample of each group's population demonstrated the reading levels of students participating in the experimental group and the control group. The following charts display the data collected. The number of students reading at each of three levels using three different passages is shown.

EXPERIMENTAL GROUP

<u>PASSAGE</u>	<u>READING LEVEL</u>	<u>#.AT LEVEL</u>
NARRATIVE	INDEPENDENT	0
	INSTRUCTIONAL	9
	FRUSTRATIONAL	1
EXPOSITORY (SCIENCE)	INDEPENDENT	4
	INSTRUCTIONAL	6
	FRUSTRATIONAL	0
EXPOSITORY (SOC. STUDIES)	INDEPENDENT	0
	INSTRUCTIONAL	10
	FRUSTRATIONAL	0

CONTROL GROUP

<u>PASSAGE</u>	<u>READING LEVEL</u>	<u># AT LEVEL</u>
NARRATIVE	INDEPENDENT	0
	INSTRUCTIONAL	7
	FRUSTRATIONAL	3
EXPOSITORY (SCIENCE)	INDEPENDENT	6
	INSTRUCTIONAL	2
	FRUSTRATIONAL	2
EXPOSITORY (SOC. STUDIES)	INDEPENDENT	1
	INSTRUCTIONAL	5
	FRUSTRATIONAL	4

The data shows that 90% of the third grade multiage students are reading at grade level or above when reading a narrative passage. One hundred percent of the multiage students are reading at grade level or above in the area of Science, and 100% of the multiage students are reading at grade level in the area of Social Studies. This data compares to 70% of the graded third grade students reading at grade level or above when reading a narrative passage. Eighty percent of the graded students are reading at grade level or above in the area of Science, and 60% are reading at grade level or above in the area of Social Studies.

Using an alpha level of .05, the differences between groups were found to be significant in the area of reading ability. The multiage students were performing significantly higher than the graded students.

Students in both the experimental group and the control group were assessed in the area of development of social skills. Results from student surveys found that at an alpha level of .05, there was no significant difference within the experimental group nor

was there a significant difference between the experimental group and the control group in the area of social skills development.

When examining the discipline records of the principal and vice-principal, this study found that two out of 27 (7%) of the students in the graded classroom received detentions during the 1996-1997 school year for disorderly behavior or school safety violations. One student served a single detention, while the other student was reprimanded on two separate occasions, serving a detention each time. There were no students in the multiage classroom who received detentions for any disciplinary reason.

Finally, when analyzing the results of the surveys completed by the cafeteria/playground aides, this study found that the aide supervising the multiage classroom found the students to be well behaved and have only minor behavior problems. Similarly, the aide supervising the graded classroom found the students to be well behaved and have only minor behavior problems. The difference between groups, however, appeared to be in the type of behavior problem. Multiage students have had disagreements stemming from personality conflicts, while graded students were reported to exhibit more aggressive behaviors, such as pushing, shoving and hitting, thus resulting in discipline referrals.

This study has also attempted to collect information about the attitudes parents possess regarding their child's education. Parents of the multiage students and the graded students were surveyed. Results of the parent surveys found that at an alpha level of .05, there was no significant difference within the experimental group, nor was there a significant difference between the experimental group and the control group. Parents in both classroom environments reported that they were pleased with the education provided by the school.

The students were also asked to complete a survey about their attitudes toward school. Using an alpha level of .05, this study found that there was no significant difference within the experimental group, nor was there a significant difference between

the experimental group and the control group. Generally, all multiage students and graded students had positive attitudes about school. Student comments gave evidence that most students, regardless of classroom environment, were happy with their teachers and peers, and were excited about school.

An interview with the multiage classroom teachers was used to collect information about the preparation for and the goals of the program and the process used to select the students for the program. Also, responses to the interview questions helped determine the attitudes the teachers' possessed regarding their classroom situation.

The two multiage teachers taught in neighboring classrooms for five years. One of the teachers worked in a grades two and three self-contained special education classroom, while the other teacher worked in a grade three regular education classroom. Their interest in multiage education led them to a workshop in Atlanta, Georgia sponsored by the Society for Developmental Education. After Atlanta, they attended several smaller workshops, gained knowledge from professional reading and became participants in a multiage list serve. They estimated that although their interest in multiage education had begun many years ago, the actual preparation for the current program took about six months. With federal funding available and the basic design of the program in place, the teachers began a student selection process. Initially, the first and second grade teachers recommended students. Next, parents were asked to volunteer their children for the program. The response was overwhelming, with 70 children and their families expressing a desire to participate. The 70 candidates were divided into second and third grade students, then into gender subcategories. The multiage teachers asked the students' current teachers to rate the children as to their ability levels. The original 70 candidates, already separated by grade level and gender, were again classified by ability. From the original 70 students, the 34 student multiage classroom was chosen. Grade level and gender were equally represented. In addition, 1/3 of the students were special needs students, 1/3 were low average/average students and 1/3 average/above average students. The teachers

commented that the special needs students were required to participate as per their Individual Education Plans, however, there were to be no more than 10 special needs children in the classroom.

The multiage teachers hold this belief:

We believe children learn through interaction with their environment and with others. In our multiage classroom we expect the children to make choices, to learn in many different ways, to learn through cooperation and by constructing their own knowledge. We believe our role as teachers/adults is to value each child as an individual with his/her very own developmental time-line. Understanding, accepting and appreciating each child's uniqueness is essential. (Aronovitch and Rickenbach, 1996)

Developmental education is the foundation of the multiage classroom. Children work in pairs, in groups and independently. Students' developmental needs are considered by offering activities ranging from echo reading to tailoring the amount of paperwork to the individual's needs.

The multiage students are grouped heterogeneously and homogeneously. Skill groups and cooperative learning groups are used daily. The students work with separate grade level curriculum for Math and Spelling. Reading and Language Arts, however, follow a third grade curriculum, and students are encouraged to participate at their own level of development. Science and Social Studies are taught to all students using a thematic approach. Trade books are read in "Literature Groups," and students share their findings with their classmates. The teachers feel the multiage curriculum they have written is flexible, especially because they are not locked into using a specific text or basal reader. A teacher generated curriculum coupled with the freedom to choose materials attributes to the developmental approach that they have implemented.

The evaluation procedures used in the multiage classroom do not reflect those traditionally used. Students are graded against themselves and the standards set for them at their grade level. The teachers use portfolios, published tests, teacher-made tests and anecdotal records to assess the students' accomplishments. It is mandated that the district-wide report card be issued to all students. For this reason, and also to prevent distinguishing one grade level from another, both the second grade students and the third grade students are given the report card designed for third grade students. Letter grades are assigned for subject areas as opposed to a scale ranging from "needs improvement" to "excellent." The scale format is the report card normally issued to second-grade students.

The teachers noted that cooperative learning techniques are part of instruction, as are activities to encourage the development of social skills. For example, students work in mixed groups where levels are not distinguished. In addition, students sit at the lunch table as a class, not as grade levels, and play together both in structured activities and by their own choice without regard to grade level. Conflict resolution and peer mediation are used to solve the problems that may occur among classmates.

The teachers noted that they have seen positive effects as a result of the children being educated together. The less mature children have become more mature more quickly as they model the appropriate behaviors of classmates. There also appears to be a lack of differences between the second grade students and the third grade students as the school year is coming to a close. The second grade students appear to be developing social skills much like the third grade students.

Discipline problems are minimal because of peer expectations and positive peer pressure. Students know their responsibilities. They are responsible for themselves and for the other students in their classroom community.

The teachers did comment that while much is done in the classroom to encourage the development of social skills, there are limits imposed by district mandates. Students are educated by grade level for special areas such as Art, Physical Education,

Music, Library and Computer. Also, the Iowa Tests of Basic Skills were required to be administered to students by grade level rather than as a whole class. The teachers hope that this "multigrade" approach will eventually be eliminated.

The faculty of the school has been supportive of the program as reported by the multiage teachers. After worrying at first about the acceptance of their program, they have been pleased with the warm reception from their colleagues. They also reported an outstanding rapport with parents. They are actively involved in the education of their children by being invited into the classroom as readers, speakers and guests.

The multiage teachers often teach together, but also teach individually and with their two classroom aides. They take a hands-on approach to education, and are concerned with the process of learning, not just the finished product.

Starting this Multiage program has involved an incredible amount of time and energy. However, what we see occurring day to day keeps us energized and coming back for more. We have a family here. A community of people, helping each other to learn, looking out for one another, caring about what happens in the classroom, as well as outside of it. This is what validates our belief in inclusive education through Multiage. This is what it's all about! (Aronovitch and Rickenbach, 1996)

The graded teachers working together share the same teaching experience as the multiage teachers. One teacher is a regular education teacher, while the other is an In-Class Support special education teacher. The two teachers did not choose to team teach, but instead were assigned as partners. The partnership has been a successful one.

Although the graded teachers did not have the opportunity to choose the students who would participate in their graded classroom, there were nine special needs students assigned as per their Individual Education Plans.

The graded teachers and the multiage teachers share the belief in the need for developmental education. Students in the graded classroom are encouraged to work in pairs, groups or independently to achieve success. Because of the nature of the In-Class Support program, modifications in assignments are acknowledged as a means to meet the child's developmental needs.

Most grouping in the graded classroom is heterogeneous, but flexible grouping is implemented especially in the area of Math. Unlike the multiage classroom, the graded classroom must adhere to the third grade curriculum only, and students must meet third grade standards. The curriculum is not as flexible, nor is it thematically organized. To meet curricular requirements, specific texts and basal readers are used.

Evaluation procedures in the graded classroom mimic those used in the multiage classroom with the exception of portfolio assessment. Writing portfolios are used, but not for the purpose of evaluation. The third grade report card is issued to all graded students.

Strides have been made in the area of social skills development. While two grade levels are not working together, special needs students and regular education students are. The graded teachers noted that peer expectations appear to help those special needs students exhibit appropriate behaviors. A minimal amount of conflict resolution is used in the graded classroom, but more often a behavior modification system is used more successfully.

The graded teachers reported a positive rapport with colleagues and parents. Parents, as in the multiage classroom, are invited to participate in their child's education as guests in the classroom. Also, through assignment books and phone conferences, parents are kept aware of student progress.

While the graded teachers are not able to take ownership of the graded program, they do report that much time has been needed to organize team-teaching and to modify the curriculum to meet the needs of all students. They look at the children in the

room as individuals with diverse life experiences. Much energy is devoted to creating a classroom environment where each child feels safe and happy, and is encouraged to succeed academically and socially.

Perhaps the greatest similarities between the multiage teachers and the graded teachers are the desire to encourage all students to succeed at their own level, the use of flexible grouping and the rapport with parents. The differences between the teachers are few, but do exist. This study has found many of the attitudes expressed by the multiage teachers are shared by the graded teachers.

Acceptance or Rejection of the Hypotheses

The general hypothesis of this study was that there would be no significant difference between the curricular outcomes in a multiage setting as compared to the curricular outcomes in a graded, or traditional setting. Several specific hypotheses were generated and tested throughout the study.

The first hypothesis stated that there would be no significant difference in the academic performance of students participating in a multiage classroom as compared to the academic performance of students in a graded classroom. Considering the subject areas of Math and Reading, this study found that the hypothesis must be rejected. A significant difference was found. The academic performance of students participating in a multiage classroom was greater than that of students participating in a graded classroom.

The second hypothesis stated that there would be no significant difference in the development of social skills among students participating in a multiage classroom as compared to the development of social skills among students in a graded classroom. This study found that this hypothesis must be accepted. A significant difference was not found.

The third hypothesis stated that there would be no significant difference in the attitudes toward school among parents of students participating in a multiage classroom as compared to the attitudes toward school among parents of students participating in a

graded classroom. This study found that this hypothesis must be accepted. A significant difference was not found.

The fourth hypothesis stated that there would be no significant difference in the attitudes toward school among students participating in a multiage classroom as compared to the attitudes toward school among students participating in a graded classroom. This study found that this hypothesis must be accepted. A significant difference was not found.

The final hypothesis stated that there would be no significant difference in the attitudes toward school among teachers participating in a multiage classroom as compared to the attitudes toward school among teachers participating in a graded classroom.

Considering the responses to the interviews of both the multiage teachers and the graded teachers, this study found that too few differences were present to conclude that teacher attitudes were significantly different. The hypothesis must be accepted.

Trends

A trend that occurred was in the area of social skills development. The second grade multiage students were first compared to the third grade multiage students to determine if a significant difference was present within the multiage group. Although a significant difference was not found, it should be noted that the second grade students did score lower than their third grade peers when asked if they felt their classmates were more intelligent or more physically talented than they. This may be attributed to the combination of "olders" and "youngers" in one classroom, witnessing one another's development.

Chapter Five

Summary of the Problem and Hypothesis

This study attempted to find if multiage education would result in improved academic performance and social skills development among the participating students and also have a positive effect on parent, student and teacher attitudes toward school. This study attempted to investigate the definitions and purposes of multiage education, and collected information regarding the preparation for such a program and the criteria used for selecting students to participate.

This study hypothesized that there would be no significant differences between the curricular outcomes in a multiage setting as compared to the curricular outcomes in a graded setting. Specific hypotheses considered the areas of academic performance, social skills development and the attitudes toward school of parents, students and teachers.

Summary of the Method of Study

This study interviewed the multiage teachers at the Thomas Jefferson Elementary School to gain information about the goals of the multiage program, to learn about the preparation needed to implement the program, and to find how students are selected to participate in the multiage classroom.

The academic performance of students was assessed through curriculum based Math tests and informal reading inventories. Math chapter tests were administered to students in grade three of both the multiage environment and the graded environment. Grades were averaged and compared statistically. Informal reading inventories were

administered to a sample of the grade three students in both the multiage environment and the graded environment. The inventories were scored to determine each student's reading level and compared statistically.

The development of social skills among students in the multiage classroom and students in the graded classroom was assessed through student surveys, cafeteria/playground aide surveys and discipline referrals. Responses to the student surveys were compared within the multiage group and then between the multiage group and the graded group. Results were statistically analyzed and reported. Results of the cafeteria/playground aide surveys were reported as were the percentages of students receiving discipline referrals.

The attitudes toward school of students in the multiage classroom and students in the graded classroom were also assessed through a survey. Responses to the parent and student surveys were compared within the multiage group and then between the multiage group and the graded group. Results of both surveys were statistically analyzed and reported. The attitudes of teachers in the multiage classroom and in the graded classroom were assessed through an interview. Responses were reported, and similarities and differences noted.

Conclusions

This study found that there was a significant difference between the academic performance of the multiage students as compared to the academic performance of the graded students. There was no significant difference between the social skills development of multiage students as compared to the social skills development of the graded students. There was no significant difference between the attitudes toward school of the multiage students as compared to the attitudes toward school of the graded students. There was no significant difference between the attitudes toward school of the parents of multiage students as compared to the attitudes toward school of the parents of graded students.

There was no significant difference between the attitudes toward school of the multiage teachers as compared to the attitudes toward school of the graded teachers.

Recommendations for Future Study

This study attempted to investigate the curricular outcomes of a multiage program before the entire program was completed. It would be beneficial to assess the academic performance and social skills development of students and the attitudes of parents, students and teachers after the completion of the two year program. At that time, the multiage curriculum would have been covered in its entirety, and the current second grade students would have completed the two year cycle. Also, standardized test results would be available for comparison.

It may also be beneficial to include second grade graded students in a study to compare the academic performance, social skills development and attitudes toward school of the multiage "youngsters" to their graded counterparts. This study targeted grade three students, and therefore investigated the "olders" of the multiage community. It may prove valuable to multiage educators and administrators to examine the impact multiage education has on the "youngsters" of the group.

While a significant difference in social skills development was not present within the multiage group, the second grade multiage students seemed to be more cognizant of their developmental delays. This awareness may be positive in that the students accept that their classmates may be working at a quicker pace than they are. To the contrary, this realization may have a negative impact, and result in decreased self-esteem and self-confidence. Further study is recommended to investigate this concern.

Further study of race and gender is also recommended. Research suggests that "a nongraded environment is particularly beneficial for [African-Americans], boys, underachievers, and students of lower socioeconomic status in terms of their academic performance and mental health." (Grant et al., 1995) The percentage of black male students in the multiage environment is 6%, and there are no black female students. The

percentage of black male students in the graded environment is 15% and there are no black female students. This small sample would make it difficult to establish conclusions with a high degree of reliability.

An additional study could include a larger population of parents, students and teachers. A second multiage classroom is being proposed for the next school year. If this program should come into existence, it would involve students in grades four and five. A study of this program along with a continuation of the original study would include an increased number of participants. This study could also be extended to investigate the multiage students over a period of time. Perhaps their success in future grade levels where multiage education is not offered could be evaluated.

Another recommendation is to compare the multiage environment to a true graded classroom or to a classroom where the teacher takes a traditional approach to education. The graded classroom in this study is an In-Class Support environment. One third of the students are students with special needs. For this reason, the graded classroom may be unlike other graded classrooms in that it offers many approaches to learning to accommodate the needs of all students. In addition, the teachers in the graded classroom take a constructivist approach to education. The use of multiple modalities coupled with a constructivist approach to education is the foundation for multiage education. In many aspects, the graded classroom and the multiage classroom in this study were similar in instructional strategies. Further study might consider a different graded classroom setting.

A final recommendation for further study would be to look at the ability levels of students participating in each classroom environment and also consider the teacher to student ratio prior to collecting data. The graded classroom in this study is made up of 27 students. Nine are special needs students which is 33% of the class. In addition, there are two Basic Skills Instruction students. All of these students contribute to the results for each tested hypothesis. The teacher to student ratio is approximately 13:1. There are 17 third grade students in the multiage classroom in this study of which five are special needs

students. This is 30% of the class. All of these students contribute to the results for each tested hypothesis. The teacher to student ratio is approximately 8:1. Ability level and teacher to student ratio could have implications on the success of the participants.

References

- Aronovitch, L., & Rickenbach, D. (1996). Our community of learners.
- Cahill, G. (1996). Multi-grade classrooms: an old design for today's schools [On-line].
- Gaustad, J. (1995). Implementing the multiage classroom [On-line].
- Grant, J. (1996). Teaching in a 2-year looping or multiage classroom: practical strategies that work [Brochure]. Peterborough, NH: The Society for Developmental Education.
- Grant, J., Johnson, B., & Richardson, I. (1995). Multiage q & a: 101 practical answers to your most pressing questions. Peterborough, NH: Crystal Springs Books.
- Heath mathematics connections: basic assessments level 3. (1992). Lexington, MA: D.C. Heath and Company.
- Jeanroy, D. (1996). The results of multiage grouping an elementary principal documents the outcomes of meeting students' developmental needs. The School Administrator, 53, 18-19.
- Lake George Elementary School. (1995). Multiage ungraded continuous progress school: the Lake George model. Lake George, NY.
- Lolli, E. (n.d.). The World of Multiage.
- Mattern, H. and Yates, R. (1995). Second and third grade multiage education program [On-line].
- Miller, B. (1994). Children at the center: implementing the multiage classroom [On-line].
- Miller, B. (1996). A basic understanding of multiage grouping teacher readiness, planning, and parent involvement required for successful practice. The School Administrator, 53, 12-17.

The mixed age primary: what and why. (1991). Tempe, AZ: The Center for the Expansion of Language and Thinking.

Multiage, nongraded primary program. (1996). [On-line].

National Multiage Institute. (1995). Learn how to implement a successful multiage program in the primary grades [On-line].

The Prichard Committee for Academic Excellence. (1996, September). Primary your way. Lexington, KY.

The Prichard Committee for Academic Excellence. (1996, December). Frequently asked questions about primary planning. Lexington, KY.

Privett, N.B. (1996) Without fear of failure: the attributes of an ungraded primary school Kentucky's pacesetter program of flexible grouping makes childhood a journey, not a race. The School Administrator, 53, 6-11.

Smith, M.L., & Glass, G. (1987). Characteristics of measurement procedures in research and evaluation. In Research and Evaluation in Education and the Social Sciences (pp. 98-121). Englewood Cliffs, NJ: Simon and Schuster.

Tapper, J. (1996). One page explanation of multiage education [On-line].

Woods, M.L., and Moe, A.J. (1989). Analytical reading inventory (4th ed.). New York: Macmillan.

Appendix A

Please check either yes or no to answer each question.

- | | yes | no | |
|-----|-----|-----|---|
| 1. | ___ | ___ | Do you follow the rules at school? |
| 2. | ___ | ___ | Do you have many friends at school? |
| 3. | ___ | ___ | At school are you taught to be kind, thoughtful and cooperative? |
| 4. | ___ | ___ | Do you usually get along with other students? |
| 5. | ___ | ___ | At school are you taught to be polite? |
| 6. | ___ | ___ | Do you think a new student would make friends easily in your class? |
| 7. | ___ | ___ | In your class do you get a chance to make some decisions together? |
| 8. | ___ | ___ | Do students in your class usually pay attention to school rules? |
| 9. | ___ | ___ | Are your teachers friendly? |
| 10. | ___ | ___ | Do your teachers unfairly punish the whole class? |
| 11. | ___ | ___ | Do you get embarrassed easily at school? |
| 12. | ___ | ___ | Do you have more trouble playing sports on a team than other kids your age? |
| 13. | ___ | ___ | Do you run slower than most kids your age? |
| 14. | ___ | ___ | Do other kids seem to be smarter than you? |
| 15. | ___ | ___ | Do you worry about a lot of things at school? |

16. ___ ___ Are you as popular as other kids?
17. ___ ___ Do you get called more bad names than other kids?
18. ___ ___ Do you like to play alone at school?
19. ___ ___ Do you lose friends pretty easily?
20. ___ ___ Do you think it's hard to make new friends?
21. ___ ___ Is it hard for you to find someone to sit with at lunch?
22. ___ ___ Do you know how to find help to solve a problem on the playground at lunch?

Please list what you LIKE about school this year.

Please list what you DISLIKE about school this year.

Appendix B

Dear _____

I am in the process of writing my thesis. I am comparing the multiage class to a traditional third grade class. The research states that by observing cafeteria and playground times, one can learn a great deal about the relationships students develop during the school year, and also notice a lot about behavior outside of a regular structured classroom. I am hoping that you can help me by offering your impressions of student relationships and behaviors. I am only concerned with the multiage class and my third grade class for this project. I am writing to find out if you would be able to take a few minutes to complete the questions below about the multiage class or my third grade class, whichever you supervise, and add any comments you feel may be helpful. I would greatly appreciate your efforts!

Thanks!
Cheryl B.

Please respond with a yes or no answer.

1. I notice that the students who are under my supervision are good leaders as well as followers, and are able to work cooperatively. _____
2. The students under my supervision are good decision makers and problem solvers. _____
3. I see my students as being self-confident and independent. _____
4. I see my students learning positive behaviors from their classmates. _____
5. The students I supervise have few behavior problems. _____

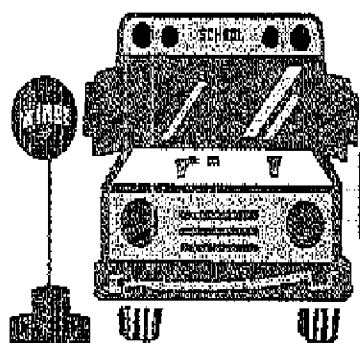
Please write in a brief description.

6. When a behavior problem exists, the most frequent cause of the problem is:

Extra Information:

7. Would you please comment on your feelings about the class you supervise? Are there any positive or negative issues you feel are a result of their classroom environment this year?

Appendix C



Parent Survey

Dear Parents,

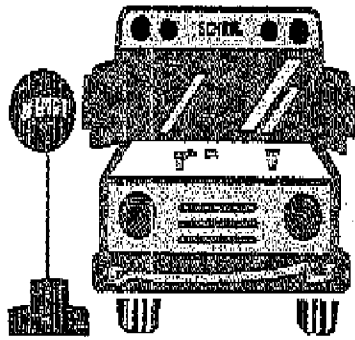
In an effort to gather information about the Multiage Program, I would very much appreciate your honest responses to the attached survey. Please be aware that because the survey is intended to be confidential, you need not include your name. I would like completed surveys to be returned by Friday, February 28, 1997.

I also plan to meet with your children to collect their responses to written surveys, as well as conduct some informal interviews.

I would like to thank you in advance for your cooperation. Your information will help complete my research toward my Master's Degree. Please be aware that you will be receiving a formal survey, distributed by the district, at a later date. That survey will assist the school district in the evaluation of the Multiage Program.

Sincerely,

Cheryl Buff



Parent Survey

Dear Parents,

In an effort to gather information about the third grade program, I would very much appreciate your honest responses to the attached survey. Please be aware that because the survey is intended to be confidential, you need not include your name. I would like completed surveys to be returned by Friday, February 28, 1997.

I also plan to meet with your children to collect their responses to written surveys, as well as conduct some informal interviews.

I would like to thank you in advance for your cooperation. Your information will complete my research toward my Master's Degree.

Sincerely,

Cheryl Buff

Directions: Please use the number system defined below to respond to the list of questions. Each question needs a number rating of 1 to 5. Please do not assign more than one number to each question.

1 = Strongly Disagree

2 = Disagree

3 = No Opinion

4 = Agree

5 = Strongly Agree

Please circle your child's grade level: grade 2 grade 3

1. My child is currently receiving a quality education. _____
2. The teacher(s) is/are doing a good job educating my child in the basic skills of reading, writing, and math. _____
3. The teacher(s) is/are doing a good job educating my child in the areas of science and social studies. _____
4. The teacher(s) is/are doing a good job encouraging my child to be a thinker and problem solver. _____
5. My child has an opportunity to be creative in the classroom. _____
6. There is an effort on the part of the teacher(s) to encourage students to be kind, thoughtful and cooperative. _____
7. My child's relationship with other children is positive as a result of his/her education. _____
8. My child feels comfortable attending school. _____
9. As a parent, I feel comfortable and welcome when visiting the school. _____
10. My child's teacher(s) is/are concerned about my child as an individual. _____

11. I feel that adequate communication exists in keeping me informed of my child's progress. _____
12. The principal is responsive to questions and concerns of parents. _____
13. It is easy to make appointments to meet with the principal. _____
14. School rules and regulations affecting students in the school are reasonable. _____
15. The system of discipline used by my child's teacher(s) is effective. _____
16. The amount of homework my child receives is adequate for his/her level of ability. _____
17. I am concerned about my child's education during the next school year. _____
18. I am anxious about the relationship my child will have with his/her teacher during the next school year. _____

Please take a moment to respond to the following questions.

19. What do you like most about your child's education during this school year?

20. What improvements do you feel are necessary in your child's education during this school year?

If there is a topic that has not been addressed, or if you would like to expand upon any given response, your comments are appreciated. Thank you for time.

Appendix D

- | | yes | no | |
|-----|-----|-----|--|
| 1. | ___ | ___ | Do you try your best at school? |
| 2. | ___ | ___ | Do you like coming to school each day? |
| 3. | ___ | ___ | At school do you feel nervous or rushed? |
| 4. | ___ | ___ | At school do other people care about you? |
| 5. | ___ | ___ | Is the principal of the school friendly toward you? |
| 6. | ___ | ___ | Do you think the custodians at the school do a good job? |
| 7. | ___ | ___ | In your class do students obey the teacher? |
| 8. | ___ | ___ | If you had a problem, is there an adult in the school you could talk to? |
| 9. | ___ | ___ | Are your teachers' instructions and directions clear? |
| 10. | ___ | ___ | Are you busy most of the time in your class? |
| 11. | ___ | ___ | Do your teachers treat you fairly? |
| 12. | ___ | ___ | Do your teachers make school interesting for you? |
| 13. | ___ | ___ | Do you learn a lot from your teachers? |
| 14. | ___ | ___ | Is homework useful to you? |
| 15. | ___ | ___ | Do your teachers usually tell you when they are pleased with your work? |
| 16. | ___ | ___ | Are your teachers interested in the things you do outside of school? |

17. ___ ___ Do your teachers listen when you have something to say?
18. ___ ___ Are you afraid to tell your teachers when you don't understand something?
19. ___ ___ Do you lose friends pretty easily?
20. ___ ___ Is your homework checked regularly?
21. ___ ___ Do your teachers favor some children over others?
22. ___ ___ When you do something wrong, do your teachers correct you without hurting your feelings?
23. ___ ___ When you take a test, do you finish after most of the other kids?
24. ___ ___ Do your teachers give you enough time to think?
25. ___ ___ Does it take you longer to finish your homework than other kids?
26. ___ ___ Do you read more slowly than your classmates?
27. ___ ___ Do you do badly on tests even when you study?

Please list what you feel BEST about at school.

Please list what you feel WORST about at school.

Appendix E

Interview Questions

1. Do you feel you use developmentally appropriate strategies to teach curriculum within your classroom? Explain.
2. What, if any, grouping practices do you implement in your classroom?
3. Explain the methods of assessment used in your classroom.
4. Do you use cooperative learning techniques in your instruction? Please cite examples of your cooperative learning activities.
5. How would you describe the development of social skills among your students? Do you plan classroom activities to encourage the development of social skills?
6. How would you describe the rapport you have with colleagues? with parents of your students?
7. Briefly describe your classroom organization. For example, management/discipline, curriculum, instructional delivery, student learning.

