The multiage classroom

Gertrude E. Ward
Rowan University

Follow this and additional works at: https://rdw.rowan.edu/etd

Part of the Elementary and Middle and Secondary Education Administration Commons

Let us know how access to this document benefits you - share your thoughts on our feedback form.

Recommended Citation

This Thesis is brought to you for free and open access by Rowan Digital Works. It has been accepted for inclusion in Theses and Dissertations by an authorized administrator of Rowan Digital Works. For more information, please contact LibraryTheses@rowan.edu.
THE MULTIAGE CLASSROOM

by
Gertrude E. Ward

A Thesis
Submitted in partial fulfillment of the requirements of the Master of Arts Degree of The Graduate School at Rowan University April 21, 1999

Approved by

Date Approved April 29, 1999
The purpose of this study was to gain a thorough understanding of the multiage classroom and to compare the academic and social performance of students in the traditional type classroom to students in a multiage classroom. 

The subject of this study were 24 students in the traditional fifth grade classroom at the Hurffville Elementary School and the 30 multiage students in the fourth and fifth grade multiage classroom at the Thomas Jefferson School. 

The academic performance was evaluated through the use of curriculum based tests in the area of Reading and Math. Student surveys were used to compare the development of social skills among the 24 students in the graded class and the 30 students in the multiage class. Interviews of students and staff members were used to gather information regarding the development of social skills of the students being studied. 

This study found that there was a significant difference between the academic performance of the multiage students as compared to the graded students. There was no significant difference between the social skills and attitudes of the multiage students as compared to the graded students.
The purpose of this project was to study the academic and social skills of students in multiage classrooms as compared to students in single graded classrooms.

This study found that the students in the multiage classroom displayed a higher level of academic success. There was no significant difference between the social skills and attitudes of multiage students when compared to graded students.
ACKNOWLEDGEMENTS

First, I would like to thank my mentor, Mrs. Donna Fondacaro, for her time, support, and encouragement. Her diligence, dedication, and decisiveness were all examples of a top notch administrator. She is an outstanding administrator and the respect she receives from the staff is well-deserved. It is my desire that I, too, will one day earn the admiration and respect of my staff as Donna has. I was fortunate to serve my internship with her.

Next, I would like to thank my family. My husband, Bud, and our three daughters, Joelle, Jean Marie and Cindy were wonderful throughout the long process, always giving support and motivation that I could do it.

I would like to thank Dr. Theodore Johnson, my advisor for the internship, for his constant guidance and encouragement during this project.

I would also like to thank my mother, Eleanor V. Linzey, for her constant support and encouragement. My mother showed me through example that hard work and determination do pay off. She valued a good education, and as a young child I was encouraged to make the most of it. A daughter cannot ask for more than that.

Finally, I would like to dedicate this project to my older brother, Joseph F. Linzey, who passed away on December 4, 1998. He was with me as I began my internship, encouraging me every step of the way. He was my shining star, and his personal traits of hard work, determination, and strength of character are valuable lessons that I will need as an administrator. His spirit will be with me forever.
# Table of Contents

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acknowledgements</td>
<td>ii</td>
</tr>
<tr>
<td>Chapter 1 Introduction: Focus of the Study</td>
<td>1</td>
</tr>
<tr>
<td>Definitions</td>
<td>2</td>
</tr>
<tr>
<td>Limitations of the Study</td>
<td>3</td>
</tr>
<tr>
<td>Setting of the Study</td>
<td>4</td>
</tr>
<tr>
<td>Significance</td>
<td>11</td>
</tr>
<tr>
<td>Organization of the Study</td>
<td>12</td>
</tr>
<tr>
<td>Chapter 2 Review of Literature</td>
<td>14</td>
</tr>
<tr>
<td>Chapter 3 The Design of the Study</td>
<td>26</td>
</tr>
<tr>
<td>Chapter 4 Presentation of the Research Findings</td>
<td>32</td>
</tr>
<tr>
<td>Chapter 5 Conclusions, Implications and Further Study</td>
<td>36</td>
</tr>
<tr>
<td>Bibliography</td>
<td>40</td>
</tr>
<tr>
<td>Appendix A</td>
<td>43</td>
</tr>
<tr>
<td>Appendix B</td>
<td>44</td>
</tr>
<tr>
<td>Appendix C</td>
<td>45</td>
</tr>
<tr>
<td>Biographical Data</td>
<td>46</td>
</tr>
</tbody>
</table>
Introduction: Focus of the Study

Many school systems are seeking an alternative to their ever-increasing student failures and retention problems. The recent trend in education which places children ranging in age by three years or more in one class called multiage grouping is the focus of this particular study. Multiage instruction differs greatly from the traditional single-grade classroom instruction. Effective multiage teaching is more time-consuming than age-graded teaching because teachers need to focus on students' individual needs. Administrators must realize that many of the multiage teaching practices conflict profoundly with the traditional age-graded method. Miller (1994) observes that for many teachers, "unlearning powerfully held notions about how children learn is an essential part of implementing multiage practices.

The multi-age approach requires a real shift in teaching style. The teacher becomes less of a lecturer and more of a facilitator or tutor. Miller cautions that the multi-grade classrooms do present special challenges in teacher preparation and the actual carrying out of the programs. However, most multiage teachers will agree that the rewards outweigh the disadvantages. Cahill (1996).

Purpose of the Study

"The Intern wants to learn about the academic and social advantages of the multiage classroom as compared to students in the single-grade classroom."

1
"The purpose of this project is to study and evaluate the academic and social skills of students in multiage classrooms as compared to students in single graded classrooms. This study will culminate with a comprehensive report to inform administrators, board members, teachers, and parents of the results of this comparison study."

Definitions

Successful multiage classrooms require teachers to shift attention from teaching curriculum to teaching children (Stone, 1995). Multiage education involves placing children of different ages, abilities, and emotional maturity in the same classroom. Students are frequently regrouped for different learning activities rather than being consistently segregated by chronological age, and they often remain with the same teacher or teaching team for more than one year.

The Leadership skills that the Intern will develop during the course of this project are:

1) Apply appropriately various leadership theories
2) Apply human relation's skills in interacting effectively with others.
3) Analyze and solve problems using appropriate decision making techniques.
4) Initiate and effectively manage change as both leader and
member of a leadership team.

The integral organizational change that will occur as a result of this particular study will be an enhanced understanding and awareness of multi-age education and the academic and social advantages it successful implementation offers to students. Through this project all participants will become more knowledgeable of this most recent child-centered and developmental academic approach. During the course of this study, the Intern will attempt to assist all staff members, students, parents, administrators, board of education members, and the community at large, to gain an accurate and thorough understanding of the multi-age approach.

Limitations of the Study

The major limitations that will have a crucial effect on the outcomes of this study will be the overall attitudes of the participating staff members and the amount of support provided by the entire school community. The principal plays a key role in initiating a very supportive school culture. Expediting this type of transition requires cultured leadership and interpersonal skills. Most administrators receive little or no formal training in these skills. Those who possess them have generally learned them from experience, says Fullan (1991). Sufficient time and money are other essential ingredients that can greatly influence the results of this type of implementation. Since multiage teachers must change their instructional strategies, and classroom management systems, time will be another major limitation. This process is demanding, even for the most receptive and flexible individuals.
The participants in this study are two schools in the Washington Township School District, the Thomas Jefferson Elementary School and the Hurffville Elementary School. The teachers in the two existing multiage classrooms at the Thomas Jefferson Elementary School will work with the Intern who teaches in a single grade school. There are several teachers at the Hurffville Elementary School that have expressed an interest in initiating a multiage class.

Setting of the Study

The Community

Washington Township is a very fast growing community in Gloucester County. This suburban community is located approximately eighteen miles south of Philadelphia, PA. Washington Township is a suburban, residential and farming community. It is considered a prime community because of its ideal location between Philadelphia and Atlantic City. It is governed by an elected Mayor and a Town Council consisting of seven elected officials.

The Community has always been a diverse one. Census records tell us that families from England, Germany, Ireland, Wales, France, Russia, Bavaria, Denmark, Scotland and Switzerland (Michaels, 1985, p.22-23). Originally a part of Deptford Township, the largest township in Gloucester County, Washington Township was formed on February 17, 1836 (Historical Society of Washington Township, 1971, p.i).
Once primarily consisting of farm land, Washington Township is now covered by housing developments. The orchards and farmland, once a large part of the community, have given way to large-scale, single-family housing developments. This change has taken place as a result of rapid population growth (Witlin, 1985, p.3). Shortly after 1955, the number of residents grew greatly as several housing developments were completed. As the land was sold and the houses built, the needs of the school system became apparent. The resulting population growth had a major impact on the school system, causing it to expand at an enormous rate. More educational facilities were needed to meet the needs of the expanding community, including additional teachers, administrators and support staff. Its population has grown at an increased rate and as a result the school district had experienced difficulty in providing for the needs of the students.

The School District

The original one room schoolhouse was Old Turner's Schoolhouse. It was replaced in 1855 by a new two room schoolhouse called the Bunker Hill School (Michaels, 1971, p.9). The Old Turner School was torn down in 1922, and the students were sent to New Bunker Hill School located on Hurffville-Crosskeys Road (Michaels, 1971 p. 9-10). In 1922 all of the schools in Washington Township were closed and pupils from all over the Township were sent to the New Bunker Hill School. The New Bunker Hill School had four classrooms with two grades in each. This was the first regional school for the Township (Michaels, 1971, p.58).

In 1905 the Washington Township Board of Education purchased

The Washington Township School System has central administration personnel consisting of a Superintendent, School Business Administrator/Board Secretary, an Assistant School Business Administrator, an Assistant Superintendent for Curriculum/Instruction, a Director of Elementary Education, a Director of Secondary Education, an Assistant Superintendent for Student Personnel Services, a Supervisor of Student Personnel Services/Child Study Teams, and a School/Community Relations Coordinator (Washington Township Professional Handbook, 1998-99).

There are six elementary schools in the district. Each elementary school has a principal, a nurse, a reading specialist, a reading teacher, a speech specialist, and a guidance counselor. The three largest schools, Thomas Jefferson, Hurffville, and Wedgewood, also have vice principals. The students also have special area teachers for art, physical education, music, computers, and library. In addition, there is a program for gifted and talented students and an instructional music program in the third, fourth, and fifth grades. Several new approaches such as, looping and multiage classes have been added to the
elementary school setting.

In June of 1994 a report was prepared which reflected updated projections of enrollment as well as an assessment of the impact of further residential development in the community. A pattern of consistent growth is apparent in a review of the growth of the Washington Township Public Schools. In the ten year period from 1985/86 to 1994/95 resident student enrollment rose thirty-seven percent (Kiernan Corporation, 1994). Based on the enrollment history, projections for the years 1995/96 to 1999/2000 have been prepared. The projections indicate an increase of 552 students.

As of the 1995-96 school year The Washington Township School District spent a total comparative cost per pupil of $7,297 which can be compared to the state average of $8,917 per pupil. As of the 1996-1997 school year, the expenditure figure of total comparative cost per pupil was $7,228, compared to the state average of $8,850 per pupil. These figures include classroom salaries and benefits, general supplies/textbooks, purchased services and other expenditures. They also include support services, salaries and benefits, administrative salaries and benefits, operations and maintenance of plant salaries and benefits, total food services costs, total extracurricular costs and total of extra "miscellaneous" costs. (New Jersey School Report Card, Hurffville School, 1996-97).

The School

Hurffville Elementary School was built in 1957 and was constructed in an "open campus" style. Each grade level was housed in a separate building with open-air walkways between each building and the office building. The
walkways were protected by an overhead covering. The building housed kindergarten through grade six originally, and, as the number of students grew, the grade levels were changed to first through sixth grade, and finally first through fifth grade. During the 1988-89 school year, renovations were made to the building, which enlarged the main office, guidance office and nurse's office. Twelve additional classrooms, a gymnasium, several small instructional rooms, and enclosed walkways were also added. This construction took place while the students were in attendance, which often presented many difficulties for the staff and students alike. This increased the size of the school to thirty-one classrooms which were needed to house the increasing school population. The school, as of 1989, was equipped to handle 682 students at twenty-five students per classroom. The community approved a fifty million-dollar bond referendum in 1995. In the summer of 1997, the Hurffville facilities were upgraded to include a refurbished library instructional area and a renovated computer room. The library is now automated and students now access the library inventory through the use of computers. Fiber optic cabling in all areas of the building for voice, data and video access has been installed. As of the 1996-97 school year, there are 801 students attending Hurffville, with thirty-two students in each fifth grade classroom and many other classrooms approaching that level. Due to overcrowding conditions in several of the buildings the schools were redistricted for the 1997-98 school year. This resulted in a significant decrease in the student population. The present enrollment for the 1998-99 school year is 646 students at twenty-four students per classroom.

At present, Hurffville School's staff includes: fifty-two teaching staff, eight
part-time teachers, fifteen staff shared with other schools, six full-time aides, four full-time aides, four custodians, nine cafeteria aides, a principal, an assistant principal, two secretaries, five kitchen workers, and twelve classroom aides. Included in these figures are a full-time art teacher, a full time physical education teacher, a full time librarian, a full time music teacher, a full and a part time guidance counselor, a reading specialist, a reading teacher, and two part time basic skills math teachers. The teaching staff of Hurffville School is actively involved in several teacher development programs to improve teaching skills. These include graduate programs of study, the Washington Township Peer Coaching program, and professional workshops in a variety of curricular areas. The Hurffville staff participates in the weekly Master Teacher sessions which is a resource intended to sharpen the professional skills of teachers and expose them to the best and most effective practices.

Hurffville hosts five first grades, with a classroom teacher and a teacher’s aide in each one, six second grade classrooms, also having classroom teachers and a teacher’s aide in each one, five third grades, six fourth grade classrooms and six fifth grade classrooms. Hurffville School has a gifted and talented program for grades three through five, which has two teachers shared by other schools. It has a computer program for grades two through five. Hurffville has an instrumental music program for grades three through five, instructed by full time teachers who are shared with other schools, and a chorus and hand bell choir for fourth and fifth graders, instructed by Hurffville’s music teacher. The school continues to grow, and it continues to meet the needs of its population.
The students at Hurffville School come mainly from middle income families who reside in one of the many single-family housing developments which are a large part of the school's sending district. These families are mainly middle class families with a diverse cultural background. The racial make-up of the students is 93.7 percent white, 2.6 percent Black, 0.6 percent Hispanic, and 3.1 percent of other racial backgrounds (Wittin, p.144).

Hurffville's Parent/teacher Organization Executive Committee serves as the site-based advisory team. The committee focus upon building concerns and supporting the school program to improve student achievement. Hurffville School is able to provide many programs to the students through the support of the Parent Teacher Organization. These include the before school Spanish program, Money Tree Banking, student store, assemblies, Field Day, fifth grade farewell activities, Book Fair, and the annual Halloween and skating parties. (New Jersey School Report Card, Hurffville School, 1996-97).

Parents are regularly involved in the educational program at Hurffville School. Guest readers, writing center assistants, guest speaker on multicultural topics, and Tech Meet coaches are examples of the important roles parents play throughout the school year. Hurffville School is most fortunate to have the active support and cooperation of the community.

Each year the students at the Hurffville School are given the IOWA Test of Basic Skills in the Spring. The scores in Reading, Math, and Language are compared individually on a spring to spring basis. The students at Hurffville School, when compared to state standards, fare very well.
Significance

The importance of this particular study is to determine why the multiage classroom is becoming an increasingly popular way to restructure our schools. Its major focus is that teachers in this type of environment must consider and treat their students as individuals. It deals with the many teaching strategies and practices that are unique to this specific type of teaching. Some of the teaching strategies that are associated with the success of the multiage classroom are:

1) Process Approach to Learning
2) Facilitator of Learning
3) An Integrated Curriculum
4) Appropriate Learning Environment
5) Cross-age Learning
6) Flexible Groupings
7) Portfolio Assessment

These strategies support the implementation of a successful and effective multiage program.

This study is being conducted in an attempt to discover if this new teaching approach is a way to increase the amount and level of student success. In the multiage approach the emphasis is on success, and instruction is being adapted to be congruent with the needs, capabilities, and motivations of the learner.
Organization of the Study

Chapter Two: Review of the Literature

Chapter Three:

Design of the Study

Description: This study involves the comparison of the academic and social performance of students in the traditional type classroom setting as compared to students in a multiage classroom.

Research Instruments: The academic performances of the grade five multiage students (the experimental group) will be compared to the academic performance of the grade five single grade students (the control group).

Samples: Academic performance will be evaluated through the use of curriculum based tests in the areas of Reading and Math.

Data Collection: Student and staff surveys will be used. Interviews of teachers and other school staff will be developed to gather information regarding the development of social skills of the students being studied.

Data Analysis: A comparison of teacher assessment of the effectiveness of both the multiage and single grade program will be conducted through the means of a written questionnaire and informal interviews.
Chapter Four:

Presentation of the Research Findings: An analysis of the collected information will be analyzed by the Intern in this chapter.

Chapter Five:

Conclusion: Presentation will be made to the Washington Township School District to inform administrators, board members, teachers, and parents of the results of this comparison study.

Implications: Grades will be averaged and compared statistically.

Further Study: Determination will then be made whether or not to implement the multiage approach in the curriculum of the Hurffville Elementary School.
Chapter 2
Review of Literature

I have collected and reviewed literature for the purpose of gaining an accurate and thorough understanding of multiage education and the steps toward its successful implementation. Multiage practices have evolved gradually over decades as research revealed more about learning and child development. Miller (1996) discusses the fact that teachers and administrators from all over the country are questioning whether multiage education is the educational fad of the moment or a lasting, productive, and sound educational practice. But to adults, whose last contact with elementary education occurred during their own childhoods, these practices can seem a sudden, radical departure from familiar ways (Gaustad, 1997).

As I initially began my study of multiage education, I was impressed with Katz’s analogy of the multiage approach. Katz (1995) stated that although humans are not usually born in litters, we seem to insist that they be educated in them. The time that children spend in groups in schools and child care centers, particularly for preschoolers, amounts to replacing families and spontaneous neighborhood groups as contexts for child-to-child interaction for large portions of children’s waking hours. More and more children are deprived of the information and models of competencies that once were available to them in natural mixed-age groups. The intention of mixed-age grouping in early childhood settings is to increase the heterogeneity of the group so as to capitalize on the differences in the experience, knowledge, and abilities of the children. I learned that Goodlad and Anderson introduced the modern notion of the
non-graded elementary school in 1959. It was their belief that age was not a good indicator of the learning ability of children. Implementation of Goodlad and Anderson’s ideas originally consisted largely of organizing children in groups by ability rather than by age. We have come to understand that the benefits of mixed-age grouping rest on the assumption that the differences within a group of children can be a source of rich intellectual and social benefits. The terms “ungraded” and “nongraded” used by Goodlad and Anderson suggest what we do not do in mixed-age settings which is separate children into grade groups by age, but they fail to describe what we try to do. That may be better conveyed by the use of the term “mixed-age grouping.” A mixed-age group of children in which the children’s age range is larger than a year sometimes two years and sometimes more is intended to optimize the educative potential of the mixture itself (Katz, 1995).

A relatively new approach that has surfaced within the last five years is multiage education. This recent trend which places children ranging in age by three years or more in one class called multiage grouping is the topic of a great deal of literature and research. Gaustad (1995) suggests that this comparatively new approach, offers promising alternatives to the traditional graded educational system. Multiage classes are becoming more popular in the United States as we move toward more child-centered and developmental approaches to education. If this type of implementation is to be successful, it must be carefully and methodically planned out. Too many educators are implementing multiage classrooms and schools with little understanding of the need for teacher readiness, parental involvement, and collaborative planning. Miller (1996) states that there is no better way to destroy a potentially sound educational practice.
Multiage classrooms are becoming an increasingly popular way to restructure schools. Its major focus is that teachers in this type of environment must consider and treat their students as individuals. It deals with the many teaching strategies and practices that are unique to this specific teaching style. Teachers choose an integrated curriculum in multiage classrooms. They apply a holistic approach, combined with the thematic choice which allow children of different ages to work together. The learner is being moved to the center of the instructional process by viewing the student as worker/client/customer/partner/participant. Students must be actively involved in constructing meaning. They simply do not retain information for which there is no structure or reason. Learning must be utility. Often this is accomplished by linking learning to the world outside of the school, or by having learning occur outside the school (Conley, 1992).

The present day interpretation of multiage education involves placing children of different ages, abilities, and emotional maturity in the same classroom. In the multiage approach children are encouraged to learn from each other as well as from the teacher, and multiage teachers often work in teams, helping and learning from each other. Students are frequently regrouped for different learning activities rather than being consistently segregated by chronological age, and they often remain with the same teacher or teaching team for more than one year. Many different labels have been applied to such classes, including “family grouping, blends, nongraded, and multiage continuous progress” (Gaustad, 1997).

These trends suggest an emerging vision of education that echoes the progressive movement in some respects. The vision builds on experiments in the late sixties and early seventies, but with unique distinctions. It represents a
statement of education's increasing value and worth to the community and the economic system, reflects the increased emphasis on students as individuals, and builds upon teachers' higher education levels and sense of professionalism, sophistication, and enhanced leadership skills. It acknowledges the new partnerships that must emerge for education to succeed in a complex postindustrial global society (Conley, 1992).

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. In the multiage program teachers work together to create developmentally appropriate learning experiences for students. The multiage program acknowledges that children develop and learn at different rates. These rates do not always correspond to grade levels and grade level expectations. Research on social benefits indicates that children very early associate different expectations with different age groups.

Multiage teachers must be very knowledgeable and proficient in child development, divergent learning experiences, in assessing, evaluating, and recording student progress using qualitative methods. Teacher leadership is a crucial dimension in this new vision. Teachers are serving in new decision-making roles, and are taking more control over the conditions of instruction in schools. The roles are highly varied, often being specific to the school and the unique strengths and interests present among faculty (Devaney, 1987). To meet the varied needs of multiage students, teachers need indepth knowledge of child development and learning and a larger repertoire of instructional
strategies than most single-grade teachers posses. They must be able to
design open-ended, divergent learning experiences accessible to students
functioning at different levels. They must know when and how to use
homogeneous and heterogeneous grouping and how to design cooperative
group tasks. They must be proficient in assessing, evaluating, and recording
student progress using qualitative methods such as portfolios and anecdotal
reports (Gaustad, 1995). The critical judgment and common sense of teachers
are the essential ingredients in successful implementation.

Team teaching is usually combined with the multiage approach, so it is
essential that teachers know how to plan and work cooperatively with their
colleagues. Successful multiage classrooms require teachers to shift attention
from teaching curriculum to teaching children. According to Miller (1996),
teachers in effective multiage classrooms must attend to these six crucial 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. Research indicates that
mixed-age groups can provide a therapeutic environment for children who are
socially immature. Younger children will less quickly rebuff an older immature
child than the child’s same-age mates. Younger children will allow an older
child to be unsophisticated longer than will his or her age peers (Katz, 1990).

It is also important that teachers explain the multiage practices that they
use in their classrooms to the parents of their students and other members of
the school community. The principal plays a key role in creating this supportive
school culture. The principal must provide teachers with opportunities to learn
multiage teaching methods, monitor the progress of implementation, and give
teachers praise, feedback, and suggestions. He or she should be adept at
facilitating positive, cooperative interactions among teaching team members
demonstrating the various multiage methods.

The multiage approach requires a real shift in teaching style. The
teacher becomes less of a lecturer and more of a facilitator. Miller cautions that
the multiage classrooms do present special challenges in teacher preparation
and the actual carrying out of the programs. However, most multiage teachers
will agree that the rewards outweigh the disadvantages (Cahill, G. 1996).

It is important to me, as a future administrator, to understand the
important role that administrators must play in the development and
implementation of this new instructional approach. Administrators must realize
that many of the multiage teaching practices conflict profoundly with the
traditional age-graded method. Miller (1996) observes that for many teachers,
"unlearning powerfully held notions about how children learn" is an essential
part of implementing multiage practices. This process is demanding, even for
the most receptive and flexible individuals. The most essential ingredients in
successful implementation of this type of program is the critical judgment and
common sense of the teachers. Teachers should have opportunities to observe
competent models demonstrating the various multiage methods.

Administrators facilitate the development of vision and direction,
orchestrate the change process, allocate resources in ways that help realize the
vision, and create new opportunities for teacher and community leadership to
emerge. These administrators see themselves as one node in a network that
extends beyond the school itself. They seek to help direct the flow of energy
throughout the network (Conley, 1991). The principal plays a key role in
initiating a very supportive school culture. Expediting this type of transition
requires cultured leadership and interpersonal skills. Most administrators
receive little or no formal training in these skills. Those who possess them have generally learned them from experience, says Fullan (1993). Administrators should understand the principles underlying multiage organization and developmentally appropriate instructional practices. In planning for implementation, however, knowledge about the change process may be even more valuable. Innovations often fail because policymakers give teachers insufficient time, training, and psychological support. Effectively implementing a single innovation requires several years, and multiage teaching involves multiple, complex innovations (Gaustad, 1995). Sufficient time and money are essential ingredients in creating and maintaining the multiage classroom. Administrators must accept the challenge of communicating to the public that educational quality cannot exist without adequate financial support, and enlist their aid.

Don Jeanroy (1996), an elementary school principal, documents the results of implementing a multiage educational approach in his school, the Concrete Elementary School, in Washington State. This particular school was seeking an alternative to their ever-increasing student retention problem. Prior to this implementation, 30 to 35 students were retained each year. They had been considering, over a two-year period, a variety of options, including transitional grade levels, rotating reading and math groups, and a “no-fail” policy. After much research and visiting several schools, Don Jeanroy, the principal, asked the district superintendent and school board to support the implementation of a multiage program at his elementary school.

Only four years after implementing the program, the results had been very favorable. The problem of student retention has not been entirely eliminated, but since the transition to the multiage program only two to three
students are considered for retention a year. Jeanroy noted that over the next four years, students showed a steady improvement in their test scores, daily average attendance climbed, and there had been a significant decrease in the number of major discipline problems.

The first change that must be made is the change in the methods of instruction. "It's what we do with the groups of children that makes a difference" (Gaustad 1995). The teachers most definitely need opportunities to learn multiage skills and practices before the classroom organization can be changed.

Bank (1998) stresses the major concepts of the multiage classroom. He emphasizes the important actuality that just putting children in mixed-age classes, does not make a multiage classroom. The multiage philosophy consists of the belief that all children can learn, but they learn at different rates. Children are placed in multiage classrooms and allowed to make continuous progress. Multiage classrooms have a lot of motivating activities, with attention to learning styles, multiple intelligences, and interests, as well as abilities. When children are motivated, they will do their very best and are proud of their efforts. They then tend to be more willing to work, thereby raising their level of achievement. Younger students are exposed to material above grade level as they see and hear what the older students are doing.

Parents are often concerned that older children in a multiage setting will not benefit as much as younger children. Research shows, however, that when older students teach information and skills to their younger classmates, their academic performance, and even IQ scores, dramatically improve. The research of Arthur Whimbey (in his program T.A.P.S: Talking About Problem Solving) showed that when students were routinely given the opportunity to
teach someone else, their scores on IQ assessments improved as much as eighteen points. Every method of grouping children has risks. One concern with mixed-age grouping is ensuring that younger children are not overwhelmed by older or more competent ones. Teachers have an important role to play in maximizing the potential benefits of the age mixture by encouraging children to turn to each other for explanations, directions, and comfort (Katz, 1995). In order to meet the specific developmental levels of students in this type of educational setting, changes need to be considered in school organization, curriculum, instructional strategies, and assessment.

Learning tasks in a multiage classroom are given according to the correct developmental levels of the students. In this way children are more likely to feel successful, and have fewer failures. Achieving success raises students self-esteem. The increase of “immediate feedback” also helps to increase student achievement. Students are exposed to varied and motivating activities, cooperative learning, and peer tutoring. When children are motivated, they tend to do their very best. They also tend to be more willing to work, thereby raising their level of achievement.

Classroom environments with single-age groups seem to create enormous normative pressures on the children and the teacher to expect all the children to possess the same knowledge and skills. There is a tendency in a homogeneous age group to penalize the children who fail to meet normative expectations. There is no evidence to show that a group of children who are all within a twelve-month age range can be expected to learn the same things, in the same way, on the same day, at the same time. The wide range of knowledge and skills that exist among children within a single-age group suggests that whole-group instruction, if overused, may not best serve
children's learning (Katz, 1995).

Multiage classrooms do not have tracking, or long term ability grouping. Grouping is short term and very flexible. Students work with other students of all ability levels, and don't feel labeled as slow learners. Less emphasis is placed on competition in the multiage classroom than in the single grade classroom. Emphasis is placed on the "strengths" of individuals, rather than weaknesses. All students are made to feel that they are important and valued for their efforts.

My investigation of the multiage classroom led me to the examination of the first multiage classroom in the state of Washington in September of 1995. After a great deal of preparation, three regular education teachers launched a new multiage program in the Chimacum Intermediate School in Washington State (Luchow,L.,Miller,J.,1998). These teachers read, researched, attended multiage workshops, and visited other schools prior to the preparation stage. A significant change of this nature in the educational culture of a school requires cultured leadership and interpersonal skills. Changes in organization, curriculum, instructional strategies, and assessment all need to be considered, in order to meet the developmental needs of students.

Professor Barbara Pavan reviewed 64 research studies on multiage schools. Pavan found that fifty-eight percent of those students in multiage classes performed better than their peers on measures of academic achievement. Thirty-three percent performed as well as their peers, and only nine percent did worse than their peers.

Pavan also found that students in multiage settings were more likely than their peers to have positive self-concepts, high self-esteem, and good attitudes toward school. Her review of the research also indicated that benefits to
students increased the longer they were in a multiage setting, and that
"underachieving" students also benefit from being in multiage classrooms.
(This research summary can be found in the October 1992 issue of Educational
Leadership, pp. 22-24.)

In another study done in the 1960s, underachieving high school students
who acted as reading tutors for younger students, improved their reading
scores by an equivalent of two years, in just six months' time. (From the
Nov. 1994 edition of Educational Leadership, p. 58.)

To help ensure stable development for each student, the multiage
program calls for children to remain with the same teacher or groups of
teachers for two or three years. This way, lasting bonds can develop and the
children will experience the warmth and caring of a family relationship.
Teachers will know each child well and be able to tailor instructional activities to
the child. Thompson (1997) states that the multiage setting forces her to look at
her class as individuals not a high group or a low group of learners. They are
of different ages and abilities, therefore she must factor that into everything she
does.

Effective multiage teaching is more time-consuming than age-graded
teaching. Daily preparation time, weekly team planning, monthly in-service,
curriculum development time, and occasional staff development time are
essential on a regular basis.

Research indicates that heterogeneous grouping promotes cognitive and
social growth, reduces antisocial behavior, and facilitates the use of research-
based developmentally appropriate instructional practices such as active
learning and integrated curriculum. Educational research indicates that
students benefit both academically and emotionally from being placed in
multiage classrooms. The wider range of ages and abilities in a multiage classroom discourages misleading age-graded expectations and helps teachers focus on students' individual learning needs.
Chapter 3
The Design of the Study

General Description

The recent trend in education which places children ranging in age by three years or more called multiage grouping is the topic of this study. Mixed-age or multiage classes are becoming more popular in both the United States and Canada, as we move toward more child-centered and developmental approaches to education (Lodish, 1992). Literature was collected and reviewed for the purpose of gaining an accurate and thorough understanding of this nongraded approach, and the steps toward its successful implementation. Research of multiage education was also gathered to generate hypothesis for the purpose of comparing the multiage classroom to the graded classroom as presented in this particular study.

This study began with an intensive search for information regarding the definitions of multiage education and its benefits as well as its disadvantages. This study involves the comparison of the academic and social performance of students in the traditional type classroom as compared to students in a multiage classroom. Is the multiage approach the answer to eliminating student failure?

The objective of this study was to consider only grade five students for academic and social measures. The reasoning behind this study is that fifth grade students in both types of academic environments are expected to be equally proficient in the same curriculum areas in order to be promoted to the sixth grade level. Students in both educational settings are evaluated for both academic and social development.
Development and Design

The academic performance of the fifth grade students was assessed. Two groups of students were used for this study. The academic performance of the grade five multiage students (the experimental group) was compared to the academic performance of the grade five graded students (the control group). Academic performance was evaluated through the use of curriculum based tests in the areas of reading and math.

Research was also developed in an attempt to evaluate the development of social skills among students in the multiaged class which consists of 16 fourth grade students and 14 fifth grade students as compared to the development of social skills among the 24 grade five students in the graded class (the control group). Student surveys with written responses were utilized for this specific evaluation. Interviews of teachers and other school staff members were developed to gather information regarding the development of social skills of the students being studied.

In this study the Intern attempted to identify the quantitative differences between a multiage classroom and a graded classroom in a group comparison of both the academic and social skills of fifth grade students. 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 multiage teachers were compared to the evaluations and attitudes of the grade fives graded teachers. This information was collected through a written response questionnaire and informal interviews.
Sampling Techniques

The participants in this study are students in the multiage classroom at the Thomas Jefferson Elementary School in the Washington Township School District and students in the graded fifth grade class at the Hurffville Elementary School, also in the Washington Township School District. The multiage classroom (the experimental group) consists of 30 students. There are 16 grade four students and 14 grade five students. There are 6 fifth grade male students and 8 fifth grade female students. There are 5 special education students in the multiage class. The graded classroom (the control group) consists of 24 fifth grade students. The class consists of 10 fifth grade male students and 14 fifth grade female students. The academic performance study measured the performance level of all the grade five students in the areas of reading and Math.

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

Data Collection

The academic performance of the experimental group and the control group was assessed through curriculum based test results. The students' numerical scores on the D.C. Heath Math Chapter test for chapters one through six were averaged for the experimental group and the control group, then compared. The students' numerical scores on the Silver Burdett & Ginn Unit...
Skills Test for Unit One and Two were averaged for the experimental group and the control group, and were also compared. 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 and no response, and two additional open response opportunities. The survey will be collected confidentially, however, students were asked to identify their race and gender. The survey has been included in appendix A.

The attitude 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 interviews. A complete list of the interview questions has been included in appendix B.

Data Analysis

This study utilized curriculum based math and reading 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 math textbook and two units of the district's reading textbook. After completion of each math chapter, students were tested using the 1992 D.C. Heath "standarized-format" assessment for math. After completion of each unit in reading, students were tested using the 1992 Silver Burdett & Ginn "standarized-format" assessment for reading. The unit 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 the 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 and reading ability, and may aid the teacher in planning instruction.

The D.C. Heath math chapter tests and the Silver Burdett & Ginn Unit tests also appear to have moderate reliability. The tests both have internal consistency, as a number of items on each test measure a student’s performance on a single skill. Because the chapter and unit tests are intended to measure a student’s understanding of curriculum material, and are not used for placement of students, nor are they an isolated determinant of the math or reading grade, the reliability is acceptable.

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. The survey has been included in appendix C.

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. 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.
This study has attempted to investigate the curricular outcomes of a fourth and fifth grade multiage classroom as compared to the curricular outcomes of a fifth grade class in a regular graded classroom. The areas of academic performance and social skill development of the students were considered. The attitudes of students, teachers, and cafeteria/playground aides were researched 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 four 1992 D.C. Heath "standarized-format" chapter tests, students in grade five of the multiage group (the experimental group) and students in grade five of the graded group (the control group) were compared in the area of mathematical performance. Chart 1 displays the data collected.

**Chart 1**

**Mean Scores of Math Chapter Tests**

<table>
<thead>
<tr>
<th>GROUP</th>
<th>CHAPTER NUMBER AND AVERAGE</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(1)</td>
</tr>
<tr>
<td>EXPERIMENTAL</td>
<td>93.0</td>
</tr>
<tr>
<td>CONTROL</td>
<td>88.3</td>
</tr>
</tbody>
</table>
Using an alpha level of .05, the difference between groups was found to be significant in the area of mathematics 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 the multiage classroom and in the regular fifth grade classroom. The class averages for the unit one and two tests in the 1992 Silver Burdett & Ginn "standarized-format" assessment were utilized. Chart 2 displays the data collected.

Chart 2

**MEAN Scores of the Reading Unit Tests**

<table>
<thead>
<tr>
<th>GROUP</th>
<th>UNIT AND AVERAGE</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(1)</td>
</tr>
<tr>
<td></td>
<td>(2)</td>
</tr>
<tr>
<td>EXPERIMENTAL</td>
<td>93.0</td>
</tr>
<tr>
<td></td>
<td>94.0</td>
</tr>
<tr>
<td>CONTROL</td>
<td>90.0</td>
</tr>
<tr>
<td></td>
<td>89.4</td>
</tr>
</tbody>
</table>

Using an alpha level of .05, the difference between groups was 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 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.

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 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. Grouping in the graded classroom is heterogeneous, but flexible grouping is implemented especially in the area of Math.

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. The aide supervising the graded classroom found the students to be well behaved and have only minor behavior problems. The difference between the two 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 demonstrate more aggressive behaviors, such as pushing, shoving, and hitting, thus resulting in discipline referrals.

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. The comments that most of the students made, regardless of classroom environment, were that they were happy with their teachers and peers, and were excited about school.

The teachers' attitudes toward school were also assessed through a survey. Teachers involved in both the experimental group and the control group were interviewed or surveyed and asked to respond 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.

The greatest similarities between the multiage teachers and the graded teachers are the desire to encourage all students to succeed at their own level and flexible grouping. 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.
Chapter 5
Conclusions

This study attempted to investigate the definitions and purposes of multiage education, and collected information regarding the preparation for such a program. Too many school districts are implementing multiage classrooms with little understanding of the need for teacher readiness, parental involvement, and collaborative planning. Miller (1996) states that there is no better way to destroy a potentially sound educational practice.

Through this study the intern attempted to discover if multiage education would result in improved academic performance and social skills development among the participating students. The positive effect on student and teacher attitudes toward school was also investigated.

In this study, the intern 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. A key factor in multiage classrooms' success is the use of a process approach to education. This finding coincides with the research findings of Professor Barbara Pavan on multiage schools. Pavan found that fifty-eight per-cent of those students in multiage classes performed better than their peers on measures of academic achievement. This approach emphasizes teaching children, rather than curriculum. 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 multiage teachers as compared to the attitudes toward school of the graded teachers. This result differs from the research of Pavan who found that students in multiage settings were more likely than their peers to have positive self-concepts, high self-esteem, and good attitudes toward school.

Implications

There's no one right way to organize a multiage classroom. There are key elements you need to know when you want to accommodate the diverse developmental range of children. Just putting children in mixed-age classes, does not make a multiage classroom. Multiage education involves a belief in a philosophy that all children can learn, but they learn at different rates. Therefore, they should be placed in multiage classrooms and allowed to make continuous progress, without fear of failure. A multiage classroom is not effective if the children are predominantly isolated in same-age groups or even same-ability groups. Changes in organization, curriculum, instructional strategies, and assessment all need to be considered, in order to meet these developmental levels.

Multiage education recognizes the many changes in our society, including the reality of both parents working outside the home and of many single-parent or blended families. To help insure stable development for the child, this type of program calls for children to remain with the same teacher or group of teachers for two or three years. In this way, lasting bonds can develop and the children will experience the warmth and caring of a family relationship.
Multiage teachers will better know each child and be able to tailor instructional activities to the child.

Further Study

This particular study has provided the intern with a vast degree of experience and new insight into the educational change process. Through this study the intern has come to discover that organizations must be changed gradually. The intern has come to realize, through this study, that the important elements of this type of change is the preparation and research phase. Several teachers at the Hurffville Elementary School have expressed interest in creating a multiage classroom. Effectively implementing this type of change requires several years. Facilitating this transition requires sophisticated leadership and interpersonal skills. As a future transformational leader, I realize the importance of participative decision-making when considering this type of transition. It is best to build solid knowledge and skills in one particular area, then gradually move into other curriculum areas and add additional strategies. Where to begin, is much less important than beginning well. Thematic teaching, hands-on math, cooperative learning, assessment using portfolios, or any other developmentally appropriate approach can be a good place to start. Most of these strategies work equally well with single-age and multiage groups, and ultimately connect and overlap. Teachers of different grade levels should introduce multiage grouping by mingling their students for occasional projects. Grant and Johnson (1994) suggest Looping, in which a teacher stays with a group of same-age children for two years, as a natural step toward teaching children of mixed ages.
As a future administrator, the intern knows that administrators play a key role in creating a supportive school culture for this type of change. In order for this type of change to be successful, administrators should understand the principles underlying multiage organization and developmentally appropriate instructional practices. Innovations like this often fail because teachers are given insufficient time, training, and psychological support (Hord and others 1987).

At the present time the Washington Township School has two multiage classrooms in the Thomas Jefferson Elementary School which has been in existence for the last four years. During the past school year, the school district has also introduced two looping classrooms, one in the Wedgewood Elementary School and one in the Bells Elementary School. The Washington Township was also considering implementing a multiage classroom at the Hurffville Elementary School for the 1999/2000 school year. Unfortunately, due to budget problems this plan has to be delayed at the time.
BIBLIOGRAPHY


41


Appendix A

Student Survey
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 you 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

Teacher Interview Questions
Teacher 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.
Appendix C

Staff Surveys
Dear ______________________________

I am in the process of writing a research paper. I am comparing the multiage class to a traditional fifth 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 writing to find out if you would be able to take a few minutes to complete the questions below about the multiage class or the graded fifth grade class, whichever you supervise, and add any comments you feel may be helpful. I would greatly appreciate your efforts!

Thanks!
Trudy Ward

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 a brief descriptive.
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? ________________________________
   ________________________________
   ________________________________
   ________________________________
<table>
<thead>
<tr>
<th><strong>BIOGRAPHICAL DATA</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Name</strong></td>
</tr>
<tr>
<td><strong>High School</strong></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td><strong>Undergraduate</strong></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td><strong>Graduate</strong></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td><strong>Present Occupation</strong></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
</tbody>
</table>