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OVERT PROSOCIAL BEHAVIORS IN MULTIAGE AND SAME-GRADE ELEMENTARY PHYSICAL EDUCATION CLASSES

by

Terry N. Bellenfant

Dissertation submitted to the Graduate Faculty of Middle Tennessee State University in partial fulfillment of the requirements for the degree Doctor of Arts in Physical Education

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Overt Prosocial Behaviors in Multiage and Same-Grade Elementary Physical Education Classes

Terry N. Bellenfant

Approved:

Dianne A. R. Bartley, Major Professor

J. Douglas Winborn, Reader

Janice C. Hayes, Reader

Martha H. Whaley, Department Chair

Donald L. Curry
Dean, College of Graduate Studies

ABSTRACT

Overt Prosocial Behaviors In Multiage and Same-Grade Elementary Physical Education Classes

Terry N. Bellenfant

The purpose of this study was to determine if students in a multiage grouping exhibited more prosocial behaviors in physical education class than their same-grade peers. The study included approximately 137 students in kindergarten through third grade. Of the 137 subjects, half were grouped in a same-grade group configuration (kindergarten, first, second, third), and the other half were grouped in a multiage group configuration (kindergarten-first, second-third) for physical education class.

A focal-child time-sampling technique was used to conduct observations of selected overt prosocial behaviors demonstrated by student participants in the study. Overt prosocial behaviors included sharing, helping, affection, happiness, playing fair, and gesturing. Students were videotaped during physical education class for eight weeks. Three raters viewed the videotapes and recorded the number of overt prosocial behaviors observed.

Results of the study indicated that there was no practical difference in the proportion of overt prosocial behaviors exhibited by students in kindergarten, first, second, and third grade multiage when compared to their same-grade peers. The comparison of the proportion of overt prosocial behaviors demonstrated by multiage students, when analyzed in a single-grade configuration, indicated no practical difference. A comparison of the kindergarten/first grade multiage group to the second/third grade multiage group also indicated no practical difference. After comparing the proportion of overt prosocial behaviors between all males and females in the study, no practical differece was found. A further comparison of the proportion of overt prosocial behaviors between same-grade males and multiage males and same-grade females and multiage females showed no practical difference.

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CHAPTER 1

Introduction

Daniel and Terry (1995) stated that the one-room school of the past represented the beginning of organized education in the United States during the 1600s. In the one-room school, students of different ages worked in the same room. The practice of classifying and dividing students by age spread rapidly throughout the United States in the mid-1800s and is still the norm today (Gaustad, 1992). In the 1990s, educators began to once again consider the multiage environment as an alternative to same-grade programs.

Researchers have found that there are no significant differences in academic achievement among students in multiage versus same-grade classrooms (Miller, 1990; Veenman, 1995). Clear advantages for multiage grouping have been found in the areas of social and emotional development. One of the rationales for multiage grouping is that it reflects a child's society outside school where students are accustomed to associating with groups of a variety of ages (Green & Jensen, 1993; Lodish, 1992). The same-grade classroom is a departure from social and

familiar patterns that have existed for years (Green & Jensen, 1993). Natural learning that occurs between older and younger children is ignored.

Multiage grouping has been found to be favorable in the affective domain. In a review of 13 experimental studies using 21 separate measures to assess students in the affective domain, Miller (1990, cited in Miller, 1992) found that the multiage classroom was favored in 81% of the studies. Veenman (1995) and Pavan (1992a) reported similar results. In 12 of the 17 studies examined by Veenman (1995), the number of significant positive findings in noncognitive outcomes exceeded the number of studies in which no significant differences were found. In a meta-analysis of 42 studies from Canada and the United States comparing graded and nongraded schools in the area of mental health and school attitude, Pavan (1992a) found that students in a nongraded program were more likely to have positive self-concept, high self-esteem, and positive attitudes toward school.

In a review of comparative research, Miller (1991) found that multiage grouping yielded prosocial behaviors such as harmony and acceptance while graded groups

exhibited competition and aggression. Multiage grouping facilitates the development of positive social behaviors such as sharing, helping, and taking turns (Bingham, Dorta, McClaskey, & O'Keefe, 1995). Older students in a multiage class take on leadership roles and practice associated behaviors, whereas in a same-grade class children are more aggressive and often more concerned with developing friendships (Green & Jensen, 1993).

Students in a multiage environment are less likely to compare themselves to others (Bozzone, 1995). Students are in class among others who match, complement, or supplement their needs and abilities. Chase and Doan (1994) stated that there is greater social responsibility and sensitivity to others in multiage classrooms. In a multiage environment, cooperative prosocial behaviors increased and discipline problems were reduced (Gaustad, 1992).

Statement of the Problem

The purpose of this study was to determine if students in multiage grouping exhibited a greater proportion of prosocial behaviors in physical education class than their same-grade peers. Although researchers have found clear advantages for multiage grouping in relation to prosocial

behaviors in the regular classroom, little or no research has been conducted on multiage grouping as it relates to prosocial behavior in the physical education classroom. The researcher attempted to determine if multiage grouping in physical education classes positively increased the amount of prosocial behaviors demonstrated by these students as compared to their same-grade grouped peers. The results of the study will furnish elementary physical educators with current data on the effectiveness of multiage grouping in relation to prosocial behaviors in physical education classes.

Hypothesis

The expected outcome of the research question was that students in multiage grouping in physical education class would exhibit more prosocial behaviors than their same-grade peers in physical education. This hypothesis was based on prior research indicating that prosocial behaviors were more prevalent in the multiage classroom. It was anticipated that the same results would be found in the physical education classroom.

Definition of Terms

There are many synonymous or closely related terms for multiage grouping. For the purposes of this investigation, the following definitions were used:

Affective domain. Learning in the affective domain was operationally defined as behaviors indicating attitudes of awareness, interest, attention, concern, and responsibility. This domain relates to emotions, attitudes, appreciations, and values such as enjoying, respecting, and supporting.

Cognitive domain. The cognitive domain was defined operationally as learning demonstrated by the acquisition and use of knowledge. Cognitive learning is demonstrated by knowledge recall and intellectual skills.

Continuous progress. Continuous progress is defined as a process that allows students to move through the school program at their own rate without comparisons to the rates of others or consideration of the number of years in school (Institute on Education Reform, 1994).

Developmentally appropriate practice. The term developmentally appropriate practice is defined as the method of providing curriculum and instruction that

addresses the physical, social, intellectual, emotional, and artistic needs of young learners which allows them to progress through an integrated curriculum at their own pace (Institute on Education Reform, 1994). The term developmentally appropriate practice includes both age appropriateness and individual appropriateness (Hallion, 1994).

Individually Guided Education (IGE). Individually Guided Education is defined as an approach combining nongradedness, multiage grouping, and team teaching (Anderson, 1992). IGE is characterized by curriculum choices that are child-centered and free of same-grade constraints.

Mixed-age grouping. Mixed age grouping is defined as the clustering of children where the children's age range is larger than one year (Katz, 1995).

Multiage grouping. Veenman (1995) defined multiage grouping as an organizational structure in which children of different ages are grouped together for educational and pedagogical benefits. Gaustad (1997) described multiage grouping as the placement of children of different ages, abilities, and emotional maturity in the same classroom. A

multiage group of learners grows cognitively, socially, and emotionally together throughout the school day and across several years (Stone, 1998). Multiage grouping was defined operationally as the clustering of children of different ages, abilities, and maturity in the same classroom for the educational benefits provided for both the cluster and each individual child.

Multigrade grouping. Multigrade grouping is defined as an administrative device to cope with declining student enrollment or uneven class size (Veenman, 1995).

Nongraded grouping. Nongraded grouping is defined as the practice of teaching children of different ages and ability levels together, without dividing the students or the curriculum into steps labeled by grade designations (Gaustad, 1992 & Pavan, 1992a).

Open education. Open education is defined as an open instructional space or "classroom without walls" where students enjoy the freedom to move about. Learning is dedicated to self-discovery and individual choice (Webb, L. D., Metha, A., & Jordan, K. F., 1992).

Prosocial behavior. Prosocial behavior is defined as actions that are intended to aid or benefit another person

or group of people without the actor's anticipation of external rewards (Eisenberg-Berg & Mussen, 1977). Floody, (1980) defines prosocial behavior as an act that benefits another person, as opposed to other (possibly antisocial) methods of interacting. For the purposes of this study prosocial behavior was defined operationally as a physical act that expresses consideration for others. Examples of prosocial behaviors include sharing, helping, taking turns, cooperation with the teacher or other adults, cooperation with other students, responsibility for others, generosity, sympathy, and positive relationships with peers.

Same-grade grouping. Same-grade grouping is defined operationally as the clustering of students according to chronological age as they are usually found in specific grades.

Split grade program. A split grade program is defined as the combination of students of two different ages where students are taught separately in the same classroom at their traditional age level (Hallion, 1994). Also known as combined classes, split grade classes are also defined as the combination of students for administrative reasons such

as overcrowded conditions or small enrollments at one grade level (Lodish, 1992).

Delimitions

The following delimitations were applied during this investigation:

1. The study population was delimited to students at Tulip Grove Elementary in Hermitage, Tennessee.

2. Students were assigned to multiage classrooms according to the criteria established by the co-principals and multiage classroom teachers at Tulip Grove Elementary. This included parent request and a balance in the number of students in individual classes throughout the school. New students entering the multiage program were placed based on enrollment figures. Parents of new students were given the choice to remain in a multiage classroom or have the student placed in a same-grade classroom.

3. Students were assigned to same-grade classrooms according to the policies established by the Metropolitan Nashville Public School System. The co-principals gave consideration to the best possible classroom placement for each child.

4. Only students in kindergarten through third grade were selected for study.

5. Students in the multiage group at Tulip Grove Elementary participated in physical education class in a two-year grade configuration, i.e., kindergarten and first grade in the same physical education classroom and second and third grade in the same physical education classroom.

Limitations

The limitations of this study were:

1. The study was conducted in only one school setting.

2. The subjects were limited to groups established by the principals and parental request rather than randomly placed into groups.

3. Second observations were not always conducted due to lack of time during physical education class periods.

4. Classes meeting for 30-minutes were often videotaped during lesson set and introduction which lessened the amount of time they were observed actively participating in physical education class.

5. Additional training for the raters would increase the number of similar responses.

CHAPTER 2

Review of Literature

Educating students in a multiage classroom is an alternative to grouping children in different grades according to their ages. Children of different ages, abilities, and emotional maturity are found within the same classroom in a multiage environment. The implications of multiage grouping were examined in this review of literature. The review is divided into four sections: (a) definition and description of multiage grouping, (b) history and background of multiage grouping, (c) rationale for multiage grouping, and (d) implications for teaching in the multiage classroom.

Definition and Description of Multiage Grouping

The term multiage has become synonymous with a variety of terms. The terms continuous progress, mixed-age, nongraded, multigrade, ungraded, split, blended, and combined are often interchangeable (Katz, 1992; McClay, 1996). In the simplistic form, multiage refers to a classroom of students of various ages. The philosophy of multiage teaching is based on developmentally appropriate

practices where students of various ages, interests, and abilities work together in a mutual relationship.

In 1992, Katz attempted to differentiate some of the terms synonymous with multiage grouping. Nongraded and ungraded classes generally referred to grouping without grade-level designations and more than one year span. The primary purpose of nongraded and ungraded programs was to homogenize groups of students for instruction on a basis other than age. In this approach, children were regrouped for instruction based on the perceived readiness to learn certain skills instead of being grouped by age.

Gutierrez and Slavin (1992) described a nongraded (or ungraded) program as having students grouped according to level of academic performance instead of age. The nongraded approach was implemented at various levels such as one subject, many subjects, or students in self-contained multiage classrooms. In the nongraded plan, there was flexibility in grouping for major subjects such as reading and math across class and age lines. The resulting groups were homogeneous in terms of ability. The nongraded school

or classroom was found most frequently in the primary grades.

Combined classes were described as having more than one grade level in a classroom (Katz, 1992). The classes were also referred to as split, blended, or double year classes. The required curriculum for both grades was taught separately. Combined grade classes were typically utilized to maximize the number of teachers and classrooms needed for instruction rather than to promote the diversity, ability, and experience among students.

The continuous progress class was characterized by students remaining with classroom peers according to age, regardless of whether grade level achievement expectations were met or surpassed (Katz, 1992). The goal of the continuous progress plan was to allow students to progress according to individual rates of learning and development without requiring them to meet age-related achievement. This process was also called social promotion. Separating students from peers of the same age was eliminated.

Multiage grouping is described as a program where the age grouping of students spanned more than one year

(McClay, 1996). The goal is to optimize interaction and cooperation among students of various ages. Small, often temporary subgroups are used when students need the same kind of instruction in basic skills. Multiage grouping offers the advantage of developmental appropriateness in accordance with the National Association for the Education of Young Children (NAEYC) research and recommendations (Noland, 1990; McClay, 1996). In a multiage classroom older children are given opportunities to demonstrate positive qualities such as patience, helpfulness, and tolerance while interacting with younger students in the class. The younger students in class have older student role models to emulate.

Multiage grouping is considered a community of learners with a wide range of gifts and abilities (Noland, 1990). The concept supports flexible and heterogeneous grouping. Classes are free of traditional school structures such as ability grouping and grouping by grade levels. Students actively participate in hands-on activities, learning centers, class discussion, cooperative projects, and self-selection of materials, topics, and learning.

Instruction is organized in thematic units across content areas giving children meaningful context for concepts learned.

Veenman (1995) distinguished the difference between multigrade classes and multiage grouping. In multigrade classes, one teacher in a one room class taught students from two or more grades all at the same time. Multigrade classes were often formed for administrative and economic reasons. Multiage groupings, however, were formed primarily for the educational benefits offered to students. In the multiage classroom, students could remain with the same teacher in the same class for a number of years, usually three. Both age and grade levels were mixed within the classroom. Students were at least one year apart in age.

Hallion (1994) depicts the multiage classroom as heterogeneous and flexible. Additional components characterizing the multiage process include using developmentally appropriate practices, integrated/thematic curriculum, and hands-on activities. Consideration is given to the cognitive, physical, aesthetic, social, and emotional development of each child.

Noland (1990) stated that multiage grouping did not include grouping two or more ages together due to economic factors alone. In addition, multiage grouping was not two distinct grade level curriculums with children in the class divided by age. Multiage classrooms were free from rigid ability groupings. Consideration was given to the child's interests and strengths. Students were encouraged to seek more than one right answer to solve a problem.

In recent years, multiage programs have been based most often in the primary grades. Typical primary multiage groupings are ages 5, 6, and 7; 6, 7, 8; or 7, 8, and 9 (Stone, 1994). Groupings in upper elementary classes with age groups of 8, 9, 10 and 9, 10, 11 are becoming more prevalent.

History and Background of Multiage Grouping

Daniel and Terry (1995) stated that the one-room school represented the beginning of education in the United States during the 1600s. Teachers were scarce and sending children to school cost money. Student attendance at school was irregular due to severe weather, distance to travel, and work required at home. In the one-room school, students

of different ages worked in the same room. Students could be found reading, writing, memorizing, or reciting, all at the same time. More capable students could be found helping less capable students. Upon achievement of the required material, students could progress to the next level or group. Out of necessity, students were grouped according to ability rather than age. Ansah (1989) noted that little attention was given to the effectiveness of this type of multiage grouping. Multiage grouping was the only kind available.

In the mid-1800s, Horace Mann advocated the idea of "gradedness" after observing Prussia's progressive graded school practices. Under the guidance of Horace Mann, John Philbrick opened the Quincy Grammar School in 1848. Each teacher had a separate room. Students were not permitted to mingle so that the teacher could maintain disciplinary control. Self-contained classrooms began to become the norm.

Gaustad (1995) stated that the revolutionary idea for mass public education in the mid-1800s necessitated an efficient, economical system for large numbers of students.

Some believed that grouping by grades could enhance learning and make the teacher's job easier because teachers needed to prepare and teach only three or four lessons a day for one grade level (Ansah, 1989; Leight & Rinehart, 1992). The practice of classifying and dividing students by age spread rapidly throughout the United States.

School structure changed as a result of population increases in larger cities (Daniel & Terry, 1995). Students were separated into smaller groups and ultimately into age level grades for instruction. Teachers became better educated and were more aware of what should be taught in each grade. Detailed curricula were developed for each grade in each content area. Schools became more businesslike. In addition, schools became responsible for training students to become good, moral, and educated citizens, a role previously left to parents.

Hallion (1994) reported that the merits of early graded schools were controversial. Critics of the graded approach included philosophers, psychologists, and medical doctors such as Freiderick Froebal, John Locke, J. H. Pestalozzi, Jean Rousseau, Maria Montessori, Benjamin

Spock, Anna Freud, and John Holt (Hallion, 1994). John Dewey, known as the father of progressive education, described graded schools as "machine like." Ansah (1989) reported that critics also attacked the rigidity and lack of individualism found in a graded program.

Anderson (1992) suggested that John Dewey's Laboratory School at the University of Chicago was an early example of education integrating some aspects of the current multiage philosophy. Dewey's school advocated the use of an interest-centered curriculum with pupil-initiated activities. The school involved teachers in the planning process. Many teachers became teaching specialists. Children's work was not compared to the work of other children but instead with the progress made. The laboratory school remained at the university from 1893-1903.

Anderson (1993) related the difficulty of writing an accurate history of the multiage philosophy. There were many efforts over the years to implement nongraded instruction, each with its own label and background rules. The extent of multiage grouping success was rarely recorded. Labels such as nongraded education, open

education, team teaching, and individualized instruction were terms often used in the post-Sputnik years when there was a climate of educational reform. The first movement for nongraded instruction began after World War II. An emerging understanding of child growth and development and a corresponding expansion of the pupil population made the climate favorable for modernization. Multiage classrooms became more popular in the 1950s and continued through the early 1970s.

Miller (1991) reported that there were 196,037 one-room schools in 1918 representing 70.8% of public schools in the United States. In 1980, less than 1,000 of the one-room schools remained. In the 1960s and 1970s, open education and individualized instruction were influential curriculum and instructional models. Both models were commonly used in multiage classrooms. In particular, open education became a major instructional innovation and was energized by developmental theories of learning, a large influx of federal money, and student-centered models of instruction. Open education was characterized by an instructional space or classroom without walls where

students were free to move about (Webb, Metha, & Jordan, 1992) without restraint. Learning was often left to student choice and invited self-discovery.

In 1959, Goodlad and Anderson published The Nongraded Elementary School describing the rationale for multiage grouping and the advantages of a multiage program (Anderson, 1992). Goodlad and Anderson advocated flexible grouping, holistic teaching, and an environment in which students could progress in a variety of ways at an individual pace (Goodlad & Anderson, 1987). The Nongraded Elementary School raised questions about the method by which students were promoted, competitive marking systems, reporting of pupil progress, heterogeneous versus homogeneous groupings, student productivity, and test scores (Hallion, 1994). John Goodlad later became the Director of University Elementary School, a research school at the University of California, Los Angeles (McClay, 1996). A model multiage program was implemented at the school, and the school later gained national attention for teaching and learning in the multiage environment.

Thirty years ago the multiage concept was popular and widespread in the British Infant Schools where the English put young children in large rooms containing five, six, and seven-year-olds (Merrick, 1996). Children were involved in projects, explorations, and experiments guided by teachers and created by students. Older students acted as tutors and leaders so that the teacher was free to spend more time with individual students as well as younger students just learning to read. Students in this type of classroom had a large amount of freedom and a great deal of responsibility for their own learning.

Gutierrez and Slavin (1992) found that the nongraded organization of classes in the 1950s and early 1960s primarily involved changes in grouping patterns without necessary changes in instructional methods. Students were still overwhelmingly taught in groups, using traditional methods and curricula. Starting in the late 1960s, the nongraded plan began to encompass other concepts such as the use of individualized instruction, learning stations, learning activity packets, and other student-directed activities. Student work was often independent of the

teacher. Open schools began to develop with teachers taking joint responsibility for teaching students in different groups.

The first waves of multiage classrooms in this century were not always successful (Hallion, 1994). Hallion stated that some of the reasons were (a) poor definition and misunderstanding of the concept, (b) lack of teacher training in multiage teaching, and (c) lack of support from administrators, teachers, parents, and the community. Teachers in America found that the skills they needed in order to be effective instructors in a multiage classroom were not a part of prior education, training, and experience.

Jensen and Green (1993) reported that the primary impediment to the acceptance of multiage grouping was tradition. Graded grouping was practiced as early as the mid-1800s as a response to educational, social, political, and economic factors. A lack of community support and understanding, along with a lack of training for teachers, enabled the single grade class structure to remain firm. Although segregation of children by race, sex, ethnic, or

socioeconomic status was forbidden by law, schools continued to segregate students by age in classrooms around the country.

To many teachers in the 1960s and early 1970s, multiage grouping sounded suspiciously like the open classroom of that era (Cushman, 1990). The popularity of the open classroom quickly declined. Most American teacher training programs did not include theories of child development and model classrooms in which to observe and practice developmental teaching. As a result of teacher cutbacks in the recession of 1975, many innovative programs were canceled. Mixed-age programs were further hindered by a lack of bureaucratic support. Students were required to be tested according to grade level thus making the use of grade-level textbooks mandatory.

Evans and Uphoff (1993) further suggested that multiage grouping in the mid-1960s through the mid-1970s suffered a severe decline because of negative parent reactions and a mismatch between the curricular expectations and the materials provided for instruction. Using workbooks and skill-related worksheet pages did not

lend itself to the multiage approach. However, curricular materials and methods have undergone major changes since that time and more recent instructional methods and materials have supported the key elements of multiage teaching. Current teaching and instructional strategies using whole language, manipulative math, hands-on science and social studies, and literature-based reading are widely used in the multiage program. Surbeck (1992) stated that the multiage concept is "Neither a panacea nor the final answer; it is, nevertheless, a step forward on a path toward a more effective educational experience for every child" (p. 4).

In 1990, the Kentucky legislature passed the Kentucky Education Reform Act (KERA). This act mandated a complete restructuring of the Kentucky education system, including the areas of finance, governance, and curriculum. Kentucky's primary schools were required to become nongraded multiage, multi-ability primary schools by the fall of 1994. According to Daniel and Terry (1995), at least two other states had also mandated multiage programs for young learners.

Miller (1995) reported that age-graded organizational structure was based on the following three assumptions: (a) students of the same chronological age were all ready to satisfy the objectives set for them; (b) students required the same amount of time in an academic year to master predetermined content; and (c) students could master pre-designed objectives for a grade level for all curricular areas at the same rate. Students with educational needs which were different from others in the age-graded structure were often placed into special classes or schools. As a result, parallel but isolated programs came into existence.

Rationale for Multiage Grouping

Grouping by age continues to be the most common method of organizing students for instruction in the United States (Miller, 1995). Grouping by age still occurs even though evidence suggests that other forms of heterogeneous grouping such as multiage, mixed ability, and cross-age tutor programming yield better outcomes. Miller further stated that as society changes, schools needed to change, too.

One of the most commonly stated rationales for mixed-age grouping is that it reflects a child's society outside school where children are accustomed to associating with groups of a variety of ages (Lodish, 1992). Jensen and Green (1993) agreed that grouping children by age is a true departure from the social and familial patterns that have existed for generations. With this method of grouping, natural learning between older and younger children is ignored. Multiage grouping encourages and enhances learning much like that of the one-room school. The one-room school can be compared to a neighborhood (Jensen & Green, 1993). The neighborhood represents a microcosm of the community and exposes students to a variety of talents, interests, and abilities.

Daniel and Terry (1995) stated that the intent of multiage classrooms in the 1990s is to be more than just a convenience to accommodate increased or decreased class size ratio. Students of various ages and abilities work and learn in a developmentally appropriate environment that allows for success. Daniel and Terry stated:

> Children develop at different rates, at different times, and in different ways. For some, the "light bulb" comes on regarding a given concept or idea at the "regular" time. Others take longer. Our traditional system of education has been very inflexible. Each student has a set amount of time to "get it" or to fail. The multiage classroom gives students more time to develop, to grow, to get it, not unlike the one-room school of the past. (p. 8)

Multiage grouping over time provides consistency in relationships among teachers, students, and parents (McClellan and Kinsey, 1997). Cushman (1990) suggests that multiage grouping is a more humanistic approach than same-grade grouping and theorized that this type of grouping will lead to the rebirth of multiage principles.

According to Milburn (1981), the sequentially-locked curriculum found in graded classes does not allow for flexible curricular adjustments to meet individual student needs. In the multiage classroom, curricular content could be matched to individual strengths and abilities. The differences within a group of students can provide a wealth

of intellectual and social benefits (Katz, 1995). Teachers are able to capitalize on the differences in student experience, knowledge, and abilities. Students also have more time to assimilate learning in a familiar environment.

Gutierrez and Slavin (1992) stated that the primary rationale for the nongraded approach was to provide an alternative to both retention and social promotion. The nongraded approach allowed students to progress through material slowly with a high level of success rather than having to repeat unlearned content. Negative long-term effects of retention in the elementary grades have been well documented.

Gutierrez and Slavin (1992) reported finding a recent trend toward implementing developmentally appropriate practices in the early grades. Developmentally appropriate practices are instructional approaches that allow children to develop skills at an individual pace. The National Association for the Education of Young Children published a position statement in 1989 stating that each child should be viewed as unique with an individual pattern of timing and growth. Children should be allowed to move at an

individual pace, acquiring information along the way. The use of cooperative learning, integrated curriculum and instruction, and projects and learning centers were other strategies recommended in the NAEYC statement. The list of developmentally appropriate practices found in the position statement closely matched the components of a multiage program.

Academic Achievement

No significant differences in academic achievement has been found between single grade versus multiage grouping (Miller, 1990; Veenman, 1995). The data indicated that the multigrade classroom is a viable and equally effective organizational alternative to single-grade instruction (Veenman, 1995). Academic achievement in multiage groups is not affected by differences in location, rural versus suburban or socioeconomic background of the schools. Students in multiage programs do not learn more or less than students in single-grade or single-age classes.

In a meta-analysis of 57 studies comparing graded and nongraded schools, Pavan (1992b) found evidence of higher levels of achievement for students in a nongraded program

versus students in a graded program. These results differed slightly from the findings of other researchers (e.g., Miller, 1990 & Veenman, 1995). Pavan's results indicated that only 9% of students in a nongraded program scored lower in academic achievement than students in a graded program. In all other studies, performance was better (58%) or the same (33%). A nongraded environment was found to be especially beneficial for African-American boys, underachievers, and students of lower socioeconomic status in terms of academic achievement and mental health (Pavan, 1992a).

Wall (1994) stated that there were academic advantages to using the multiage approach. Students remained with the same teachers for two or three years. As a result, teachers knew what material was covered in previous years, saving pretesting and repetition of instruction. In the multiage classroom, there were more opportunities for students to work at individual levels. The advanced student worked at a higher level while the less advanced student worked at a lower level, all within the same classroom. Younger students learned from older students and older students

benefited from the reinforcement of teaching younger or less advanced students. According to McClay (1996), "There is no better way to truly learn a topic than to teach it."

Younger students are exposed to material above their grade level in the multiage classroom (Banks, 1997). They are able to see and hear what older students are learning and can gain from this exposure. Opportunities are given to participate in cooperative learning and peer tutoring. Immediate student feedback is available because there are many people in the room to answer questions and to help each another, leading to increased achievement. Multiage classes devote more attention to learning styles, interests, and abilities. As a result, students are more motivated or more willing to do good work, thereby raising the level of achievement.

Multiage classes frequently incorporate Howard Gardner's Theory of Multiple Intelligences (Banks, 1997). Gardner defined the seven intelligences as logical-mathematical, linguistic, spatial, musical, bodily-kinesthetic, intrapersonal, and interpersonal (Gardner, 1993). All seven intelligences are needed to function in

society (Brualdi, 1996). Therefore, all intelligences are equally important. Each student will have a unique set of strengths and weaknesses. While some students are gifted verbally or mathematically, others may have strengths in bodily-kinesthetic or musical intelligences. The multiage classroom is ideally suited for recognizing and developing the different abilities and talents, or intelligences, of students.

Social and Emotional Development

The case for multigrade organization was found to be especially strong in the affective domain (Miller, 1990; Nye, Cain, Zaharias, Tollett, & Fulton, 1995). Miller reviewed 13 experimental studies using 21 separate measures to assess students in the affective domain. The multigrade classroom was favored in 81% of the studies.

Veenman's (1995) synthesis of research on multiage instruction supported Miller's findings. In 12 of the 17 studies examined by Veenman, the number of positive findings in noncognitive outcomes exceeded the number of studies in which no significant differences were found. The findings indicated more positive attitudes toward school,

personal adjustment, and self-concept for students in multigrade classes. Pavan (1992a) determined that above average student attendance in a nongraded school improved chances for positive mental health and positive school attitudes, especially if the student remained in the setting for more than a year.

In a meta-analysis of 42 studies from Canada and the United States comparing graded and nongraded schools in the area of mental health and school attitude, Pavan (1992a) found that 52% of the studies indicated nongraded schools as better; 43% similar; and 4% worse than graded schools. Students in a nongraded program were more likely to have positive self-concept, high self-esteem, and positive attitudes toward school. After reviewing 17 longitudinal studies, Pavan (1992b) reported that significantly fewer nongraded students were referred for discipline in junior high school.

Bozzone (1995) stated that students in a multiage classroom recognized that other students were different, and were supposed to be different. Therefore, students were less likely to compare themselves to others or put them

down. Students perceive each other less in terms of grade level and more in terms of specific personal qualities and capabilities (Marshak, 1994). Age and achievement differences were taken into account and accepted by other students (Milburn, 1981). Banks (1997) found that even the slower, older student developed self-confidence by helping younger classmates. Emphasis in the multiage classroom was on the strengths of individual students rather than weaknesses.

Miller (1991) found in a review of comparative research that multiage grouping yielded benefits for students in the affective domain. Increased harmony and acceptance was found within multiage groups while graded groups exhibited increased competition and aggression. An investigation by McClellan and Kinsey (1997) using a teacher rating scale also found that aggressive behaviors were significantly less likely in a mixed-age classroom. Students in a multiage grouping were encouraged to take on roles of leadership and peer tutoring (Green & Jensen, 1993; McClellan & Kinsey, 1999). Children, by virtue of

age, would eventually have the opportunity to become a leader in a continuous, mixed-age setting (Stone, 1998).

Multiage grouping tended to facilitate the development of positive prosocial behaviors such as sharing, helping, and taking turns (Stone, 1998). Caring and mentoring in a multiage environment facilitates students' emotional growth and stability. Multiage groups can provide a therapeutic atmosphere for children who are socially immature (Katz, 1995). Bingham, Dorta, McClaskey, and O'Keefe (1995) found that children with special needs stood out less in a multiage program because others were also working at different levels using a variety of materials.

Multiage grouping enhanced participation in social groups (Goldman, 1991). More time was spent in group play rather than parallel play. Less mature older children played with younger classmates, while at the same time observing the behavior standards of more mature peers (Bozzone, 1995). Younger students were given opportunities to become involved in more complex pretend play than normally initiated with same-age peer groups.

A study by Way (1981) exploring the effects of multiage grouping on achievement and self-concept found that students in multiage classrooms had significantly higher mean scores on a self-concept scale in the areas of happiness and satisfaction. The researcher concluded from the study that multiage classrooms provided an atmosphere of contentment. Children may not have learned more than their same-grade peers, but learning occurred in a happier environment.

McClay (1996) suggested that one of the outcomes of multiage grouping would be future success in the workplace. Attributes of group effectiveness such as interpersonal skills, negotiation, and teamwork were some of the top skills desired by employers. In the multiage classroom, students were given daily opportunities to work together to solve problems and develop teamwork skills. Students were given early experience working with colleagues. Students were able to share ideas, give suggestions, and learn the art of compromise in order to meet common goals.

Several disadvantages to multiage grouping were reported by Lodish (1992). There was a tendency for

teachers of mixed-age groups to provide fewer challenges for older students. In some multiage classes, older students spend large amounts of time helping younger students. Scheduling time for individual students to work with special teachers is difficult. Younger students are sometimes frustrated by the perceived gap in the quality of work they are doing and the quality of work done by older students (Katz, 1995; Lodish, 1992).

Prosocial Behavior

An important function of education has been to help students become responsible and concerned members of society (Solomon, Watson, Delucchi, Schaps, & Battistich, 1998). Promoting positive social development is an important goal for many elementary school teachers. Teachers have had to assume larger roles in the prosocial development of their students due to the weakening influence of traditional socialization agents such as the family and church (Sharpe, Crider, & Vyhlidal, 1996).

Mussen and Eisenberg-Berg (1997) defined prosocial behaviors as actions designed to benefit or aid other person(s) without concern about reinforcement. Prosocial

behaviors include generosity, altruism, sympathy or concern, helping, protection, comfort, sharing, cooperation, defending, happy, affectionate, and donating (Mussen & Eisenberg-Berg, 1977; Floody, 1980; Iannotti, 1981; Radke-Yarrow, Zahn-Waxler, & Chapman, 1983; Honig, 1982; Bergin & Bergin, 1988). Lawton & Burk (1988) defined being socially competent or prosocial as knowing the rules for appropriate social behavior and applying these behaviors to social contexts.

The aggressive, withdrawn, and prosocial behaviors of children with their peers have received much empirical attention and have become the increasing focus for prevention and intervention programs (Ladd & Profilet, 1996). Hartup (1991) states that:

> Indeed, the single best childhood predictor of adult adaptation is not IQ, not school grades, and not classroom behavior, but the adequacy with which the child gets along with other children. Children who are generally disliked, who are aggressive and disruptive, who are unable to sustain close relationships with other children, and who cannot establish a place for

themselves in the peer culture are seriously "at risk." (p. 1)

Battistich and Solomon (1991) reported that prosocial children were more likely to be accepted by their peers than were antisocial children, and were significantly less lonely than average or antisocial children. Children who get along with peers and adults are more likely to be successful as well as experience satisfaction in learning and in social situations (Honig, 1982).

Prosocial Behavior and Multiage. A study by McClellan and Kinsey (1999) found that participation in a mixed age classroom had a significant positive effect on children's prosocial behavior. Teachers in the study rated children's behavior in mixed-age classes as significantly more prosocial ($p<.0001$) and significantly less aggressive ($p<.0001$). Students also rated higher in friendship behavior ($p<.01$). This pattern of increased prosocial behavior was continued in same-grade classrooms even after students left a multiage program in third grade.

The opportunities to practice prosocial behaviors make multiage grouping highly favorable (McClellan & Kinsey,

1997; Stone, 1998). Multiage grouping invites cooperation and other prosocial behaviors which may help decrease the discipline problems found in a more competitive same-grade environment (Evangelou, 1989). Older students view younger students as needing help and younger students see older students as helpers. Prosocial behaviors such as sharing, taking turns, and helping are more evident (Stone, 1998). Teachers in a multiage setting are more likely to request that students help one another than teachers in a same-grade classroom (McClellan & Kinsey, 1997).

Prosocial Behavior and Physical Education. The physical education setting is well suited for addressing prosocial skills (McHugh, 1995). An integral part of physical education and youth sports has been in the development of prosocial skills (Grineski, 1989; Sharpe, Crider, & Vyhlidal, 1996). Clear, precise examples of what constitutes prosocial behavior, and how to best teach for prosocial behavior has been found deficient in physical education literature (Siedentop, 1980). Thee study by Sharpe et al. (1996) incorporating prosocial instruction by an elementary physical education teacher in six physical

education classes found: (a) positive across-grade trends in student leadership and teacher-independent conflict resolution behaviors, (b) marked decreases over time in student off-task behavior, (c) a gradual shift from teacher to pupil- directed gymnasium organization, and (d) increased percentages of time devoted to subject matter activity. Grineski (1989) found that the cooperative goal structure of games could positively influence the prosocial behavior of young students. McHugh (1995) states that physical education is inherently social and qualitatively different from what occurs in the classroom. Classroom formalities are suspended because movement is the focus.

Implications for Teaching in the Multiage Classroom

Much has been written about teaching in a multiage setting (Jensen & Green, 1993). The implementation of multiage classes is most successful when teachers initiate the change and substantial time is spent planning and observing programs already in place. Noland (1990) states that there is no "right way" to implement multiage grouping. The key is to use effective teaching strategies

already in place to provide developmentally appropriate instruction for all students.

Anderson (1993) writes that the reason nongradedness seems more achievable in the 1990s is because there are good models available for teachers to observe. This includes teaching strategies such as pupil-peer tutoring and cooperative learning. A wider range of technological aids and teaching materials are also available to assist instruction.

Anderson (1993) states that nongraded schools should meet established criteria. Labels associated with gradedness, such as first grade and fifth grade, should be replaced with group titles. Anderson suggests that a title such as "primary unit" would be more appropriate to the concept of multiage grouping. Other changes recommended by Anderson were (a) replacing report cards with other forms of assessment to reflect continuous individual student progress, (b) grouping students with at least two heterogeneous age cohorts, and (c) assembling groups that could be dissolved and reconstituted as necessary. Teaching staff should be organized into teams to allow opportunities

for interaction and collaboration. The curriculum would be flexible, interdisciplinary, and oriented to meet the entire needs of the child. Regular graded textbooks would be used only for resources.

Chapman and Schrenko (1993) advocate the use of Howard Gardner's theory of multiple intelligences in the multiage classroom. By tapping into a child's multiple intelligences, all students would have a chance to reach full potential. Activities should be designed to enhance both strong and weak intelligences.

The role of the teacher in a multiage class has shifted dramatically in recent years (Stone, 1994; McClay, 1996). The teacher's role is to manage the environment and provide learning opportunities. Students are active participants in learning by listening and talking, exploring, questioning, seeking answers, scheduling, and initiating learning opportunities. Parents are co-educators and are equal participants in the education of the child.

Wall (1994) suggests the following techniques for effective teaching in a multiage setting. First, integrated units or themes are used throughout all areas of the

curriculum. Second, a balance of whole-class, small group, and individual student work takes place. Last, cooperative teams become the core units of the class. Each team includes one first grader, one second grader, and one third grader. Teams spend time each day working on a project or activity. Teams are rearranged as needed throughout the year.

Informing students about the multiage concept before entering a multiage program for the first time is helpful (Bozzone, 1995). Parental support is enlisted by holding an informal open house for new students in the spring. Communication with parents continues throughout the year. Parents and students need to be given the option to leave the program if there is dissatisfaction, although this is rare.

Teachers trained to teach in the multiage environment experience a greater degree of success in the multiage classroom (Daniel & Terry, 1995). Teaching in the multiage classroom is more complex (Merrick, 1996; Miller, 1991). In the multiage setting, demands on the teacher are increased and teachers need well-developed organizational skills. Six

key instructional dimensions affecting successful multiage teaching were identified by Miller (1991) from classroom research: (a) classroom organization, (b) classroom management and discipline, (c) instructional organization and curriculum, (d) instructional delivery and grouping, (e) self-directed learning, and (f) peer tutoring. Miller stated, "Clearly, the multigrade classroom is not for the timid, inexperienced, or untrained teacher" (p. 2).

Teachers in a multiage program need in-depth knowledge of child development and knowledge of a wide variety of instructional strategies to be successful (Gaustad, 1995). Gaustad also states that teachers need to be proficient in assessment, evaluation, and recording student progress. The multiage program requires sufficient time and money for necessary maintenance. Supplying the multiage classroom with a wide range of teaching materials and manipulatives can be more costly than same-grade classrooms (Merrick, 1996). Multiage teaching is a long-term process requiring staff development and workshops, developmentally appropriate instructional materials, and books and

videotapes for teachers to use as references (Gaustad, 1995).

In summary, the need for mass public education in the mid-1800s led to the development of graded education. Students were placed in classrooms according to age. The one-room school began to disappear, especially in large cities. In the 1990s, educators once again began to consider the multiage environment as an alternative to same-grade programs. Recognition of developmentally appropriate practices and the need for effective teaching strategies for students from a variety of social and economic groups led to increased interest in the multiage approach.

Multiage classrooms were found to be effective alternatives to placing students in classrooms according to age. Academically, students in a multiage classroom performed at or about the same level as their grade level peers. Clear advantages for multiage grouping were found in the areas of social and emotional development.

The promotion of positive social skills is an important goal for elementary school-age students. Children

who get along with peers are more likely to be successful as adults in social situations, and experience a greater degree of satisfaction in learning. Research indicates that students in a multiage classroom exhibit more prosocial behaviors than their same-grade peers. The pattern of increased prosocial behavior is continued even after students leave the multiage program and return to same-grade classes in the middle school grades. Additionally, the physical education setting can provide multiple opportunities for students to demonstrate prosocial behaviors.

The implementation of multiage programs was most successful when teachers were given the choice to teach in the multiage environment. Programs were more successful when teacher training and appropriate instructional materials were available. The role of the teacher was to facilitate learning. Students were active participants in the learning process.

CHAPTER 3

Method

Purpose of the Study

The purpose of this study was to determine if students in a multiage grouping in physical education classes exhibited more prosocial behaviors than their same-grade grouped peers in physical education classes. Researchers have indicated that the proportion of prosocial behaviors of children is greater in a regular multiage classroom of children versus a regular same-grade classroom. This researcher attempted to determine if this pattern of increased prosocial behaviors by students in a multiage grouping would also be found in the physical education class.

Subjects

The participants in this study were 124 students in kindergarten through third grade at Tulip Grove Elementary School. Out of 141 possible participants, only 17 were not given permission to be included in the study. Of the 124 subjects, half were grouped in a same-grade group configuration (kindergarten, first, second, third), and the

other half were grouped in a multiage group configuration (kindergarten-first, second-third). The kindergarten same-grade group included 11 males and 5 females for a total of 16 students. The multiage kindergarten group included 5 males and 9 females for a total of 14 students. The first grade same-grade group consisted of 5 males and 12 females for a total of 17 students. The first grade multiage group consisted of 6 males and 10 females for a total of 16 students. The second grade same-grade class included 10 males and 4 females for a total of 14 students. The second grade multiage class included 7 males and 10 females for a total of 17 students. In the third grade same-grade class, there were 9 males and 6 females for a total of 15 students. In the third grade multiage class, there were 7 males and 8 females for a total of 15 students. The attrition that occurred when students moved away from the school was beyond the researcher's control.

Students in same-grade kindergarten and first grade classes attended physical education class for a period of 30 minutes each class three days per week. Students in the second grade class attended physical education one day a

week for a period of 60 minutes. Students in the same-grade third grade class attended physical education class for a period of 60 minutes per period two days a week. All multiage classes attended physical education class two days per week for a period of 60 minutes each class. Two classes were present in the gymnasium or outdoor teaching space each period and there were two physical education instructors present. The regular physical education schedule was followed.

Tulip Grove Elementary in Hermitage, Tennessee had 625 students in kindergarten through fourth grade. The study included approximately the entire population of multiage students (62) and 62 same-grade students found in kindergarten through third grade. Children at Tulip Grove were from lower and middle socioeconomic backgrounds. The multiage program at Tulip Grove was in its fifth year of operation.

Sampling

The grouping of students (multiage versus same-grade) was determined at the beginning of the school year according to the school district's previously established

procedures including gender, race, and teacher recommendation. This grouping represented the make-up of the regular classroom in which the children participated throughout the school day. The researcher had no input into either the type of grouping or the student population found in any of the classes. The children in this study attended physical education class in those predetermined groups that corresponded to their regular classrooms. A total of four multiage groups and four same-grade groups were studied. This accounted for approximately the entire population of the multiage students from kindergarten through third grade. New students entering the groups to be studied after February 1, 2000 were not included in the data.

A letter was sent to the Metropolitan Nashville Public School System to request permission to conduct the study. After receiving school system approval, permission to be included in the study was obtained orally from students and in written form from parents. Permission to conduct the study was granted by the Institutional Review Board at Middle Tennessee State University.

Instruments

A focal-child time-sampling technique was used to conduct observations of selected overt prosocial behaviors demonstrated by student participants in the study. If possible, each child was observed during the class period for two 30 second intervals in a specified observation order. All prosocial behaviors observed during this time were recorded on a prosocial behavior observation checklist (see Appendix A). The 30-second observations continued for all participants within each class period. A total of 16 observations (eight weeks, two times per week) were conducted on each student during the course of the investigation if physical education class time permitted and if the class was present for instruction. The order of student observations was varied and predetermined before the start of each class. The prosocial behaviors listed on the observation checklist were adapted from the available literature (see Appendix B).

Procedure

A pilot study was conducted to determine the best possible method for data collection. Students were videotaped during the first trial for a period of one-minute. Students were videotaped for two 30-second intervals during the second trial. The researcher determined that two 30-second observations a period would give raters increased opportunities to view student prosocial interaction. The 30-second period also allowed for at least one student observation per class in the event that class length was shortened due to late arrival, fire drills, or other unexpected events. This was particularly important for classes meeting for 30-minutes rather than 60-minutes per class session.

Testing was conducted from March 1, 2000 through May 1, 2000. Participants were observed two days per week during the regularly scheduled 30-minute or 60-minute physical education class. An exception was the second grade class, which was observed only one day per week because the class met only one day during the week.

All students wore lightweight vests with specific numbers assigned to each participant. The numbers were positioned on the vests to distinguish between participants and non-participants. Student names were known only to the researcher. The numbers were used by the person videotaping to locate children in the learning area and for the raters to identify students by number while recording prosocial behaviors.

All groups were taught using the Metropolitan Nashville Public Schools physical education curriculum during the course of the investigation. Lesson content and methodology were aligned as closely as possible for each group in each period. The regular co-physical education teachers along with a student teacher taught all classes.

Overt prosocial behaviors were recorded on a prosocial behavior observation checklist by three different raters while observing videotapes of students participating in physical education class. Raters were trained by the researcher to look for six specific overt prosocial behaviors demonstrated by students during the course of each observation period. The researcher trained each rater

by discussing the descriptions of the overt prosocial behaviors to be observed and by viewing with the researcher a sample video of students participating in class. The prosocial behaviors included sharing, helping, affection, happiness, playing fair, and gesturing. Each of the three raters had prior experience working with students or teaching students in grades kindergarten through third grade.

Data Analysis

The proportion of prosocial behaviors exhibited by students in the study was examined by comparing the following: (a) the proportion of overt prosocial behaviors exhibited by students in a multiage grouping for physical education compared to the proportion of overt prosocial behaviors exhibited by students in a same-grade grouping, (b) the proportion of overt prosocial behaviors across grade levels exhibited by students in the multiage grouping, (c) the proportion of overt prosocial behaviors between a kindergarten-first multiage grouping and a second-third grade multiage grouping, (d) a comparison of the proportion of overt prosocial behaviors between males

and females, and (e) a comparison of the proportion of overt prosocial behaviors between same-grade and multiage males and same-grade and multiage females. For the purpose of analysis, the multiage group was separated into single grades so that an easy comparison could be made. The proportion of overt prosocial behaviors exhibited in each observation was obtained by dividing the number of students in each observation into the number of overt prosocial behaviors demonstrated in each observation. A session average of the proportion of overt prosocial behaviors was obtained by averaging Observation 1 and Observation 2. The resulting numbers were further averaged in order to arrive at the final average. The study groups included almost every student in each class. In each session, students in the first observation were the same as the students in the second observation.

CHAPTER 4

Results

Introduction

The purpose of this study was to determine if students in a multiage grouping in physical education classes exhibited a higher proportion of prosocial behaviors than their same-grade grouped peers. This chapter is divided into an analysis of the following areas: (a) the proportion of overt prosocial behaviors exhibited by students in a multiage grouping for physical education compared to the proportion of overt prosocial behaviors exhibited by students in a same-grade grouping, (b) the proportion of overt prosocial behaviors across grade levels exhibited by students in the multiage grouping, (c) the proportion of overt prosocial behaviors between a kindergarten-first multiage grouping compared to a second-third grade multiage grouping, (d) a comparison of the proportion of overt prosocial behaviors between males and females, and (e) a comparison of the proportion of overt prosocial behaviors between same-grade and multiage males and same-grade and multiage females. For the purpose of the analysis, the

multiage group was divided into single grade levels so that a comparison could be made.

Kindergarten Same-Grade and Kindergarten Multiage

The average percentage of overt prosocial behaviors demonstrated by kindergarten same-grade students and kindergarten multiage students was determined over the course of 14 videotaped class periods (sessions) for a total of 28 observations for each group. Although kindergarten multiage students participated in physical education class in a kindergarten-first multiage grouping, this analysis only included multiage students designated as kindergartners.

The proportion of overt prosocial behaviors exhibited in each observation was obtained by dividing the number of students in each observation into the number of overt prosocial behaviors demonstrated in each observation. A session average of the proportion of overt prosocial behaviors was obtained by averaging Observation 1 and Observation 2. The resulting numbers were further averaged in order to arrive at the final average. The final average of overt prosocial behaviors of the same-grade group was compared to that of the multiage group. Comparisons of the

final average percent of overt prosocial behaviors continued for each grade level.

The data revealed that the final average of overt prosocial behaviors exhibited by same-grade kindergarten students was 30%. The final average of overt prosocial behaviors exhibited by multiage kindergarten students was 33% (see Table 1). Although the percentage was higher for multiage kindergarten students, no practical significance was observed.

First Grade Same-Grade and First Grade Multiage

The proportion of students exhibiting overt prosocial behaviors in first grade same-grade and first grade multiage was determined over the course of 14 videotaped class periods (sessions) for approximately 28 observations for each group. Although first grade multiage students participated in physical education class in a kindergarten-first multiage grouping, this analysis only included multiage students designated as first graders.

The data revealed that the final average of overt prosocial behaviors exhibited by same-grade first grade students was 34% (see Table 2). The final average of overt prosocial behaviors exhibited by multiage first grade

Table 1

Percentage of Kindergarten Students Exhibiting Prosocial Behaviors in the Same-Grade and Multiage Groups

	Same-Grade			Multiage		
Session	Obs. 1	Obs. 2	Session Average	Obs. 1	Obs. 2	Session Average
1	54%	57%	56%	46%	36%	41%
2	25	16	21	40	20	30
3	31	28	30	25	33	29
4	21	19	20	22	5	14
5	27	49	38	50	53	52
6	31	75	53	28	22	25
7	0	11	6	28	11	20
8	28	37	33	21	24	23
9	10	13	12	45	40	43
10	27	28	28	50	52	51
11	29	47	38	52	25	39
12	38	35	37	31	43	37
13	22	44	33	33	37	35
14	7	13	10	15	23	19
Final Average			30%			33%

Note. Obs. = Observation

Table 2

Percentage of First Grade Students Exhibiting Prosocial Behaviors in the Same-Grade and Multiage Groups

	Same-Grade			Multiage		
Session	Obs.[a] 1	Obs 2	Session Average	Obs. 1	Obs. 2	Session Average
1	43%	81%	62%	51%	60%	56%
2	78	57	68	14	21	18
3	33	[b]--	33	29	29	29
4	18	15	17	21	21	21
5	29	43	36	21	48	35
6	56	83	70	56	61	59
7	18	8	13	24	44	34
8	15	19	17	27	56	42
9	3	9	6	58	33	46
10	58	25	42	32	29	31
11	38	20	29	36	50	43
12	51	28	40	45	33	39
13	24	55	40	7	48	28
14	7	10	9	15	19	17
Final Average			34%			36%

Note. [a]Obs. = Observation. [b]Dash indicates class was not observed two times during a session.

students was 36%. Although the final average was higher for the first grade multiage group, no practical significance was observed between the two groups.

Second Grade Same-Grade and Second Grade Multiage

The proportion of students exhibiting overt prosocial behaviors in second grade same-grade and second grade multiage was determined over the course of 8 videotaped class periods for a total of 16 observations in each group. Although second grade multiage students participated in physical education class in a second-third multiage grouping, this analysis only included multiage students designated as second graders.

The data revealed that the final average of overt prosocial behaviors exhibited by same-grade second grade students was 42% (see Table 3). The final average of overt prosocial behaviors exhibited by multiage second grade students was 33%. Although the percentage was higher for the same-grade second grade no practical significance was observed between the two groups.

Third Grade Same-Grade and Third Grade Multiage

The proportion of students exhibiting overt prosocial behaviors in third grade same-grade and third grade

Table 3

Percentage of Second Grade Students Exhibiting Prosocial Behaviors in the Same-Grade and Multiage Groups

	Same-Grade			Multiage		
Session	Obs. 1	Obs. 2	Session Average	Obs. 1	Obs. 2	Session Average
1	38%	36%	37%	54%	71%	63%
2	62	57	60	55	48	52
3	59	39	49	33	33	33
4	49	83	66	27	50	39
5	31	54	43	14	4	9
6	33	24	29	19	31	25
7	39	35	37	29	34	32
8	14	14	14	12	13	13
Final Average			42%			33%

Note. Obs. = Observation.

multiage was determined over the course of 13 videotaped class periods for a total of approximately 26 observations for each group. Although third grade multiage students participated in physical education class in a second-third multiage grouping, this analysis only included multiage students designated as third graders.

The data revealed that the final average of overt prosocial behaviors exhibited by same-grade third grade students was 41% (see Table 4). The final average of overt prosocial behaviors exhibited by multiage third grade students was 31%. Although the same-grade third grade class exhibited a higher percentage of over prosocial behaviors, no practical significance was found between the two groups.

Comparison of Multiage Students

A comparison of the proportion of overt prosocial behaviors was performed for each single-grade within the multiage groupings. The intent was to determine if there was a difference in the proportion of prosocial behaviors among the groups. The final average of overt prosocial behaviors exhibited by the kindergarten multiage group was 33% (see Table 5). The final average of overt prosocial behaviors exhibited by the first grade multiage group was

Table 4

Percentage of Third Grade Students Exhibiting Prosocial Behaviors in the Same-Grade and Multiage Groups

	Same-Grade			Multiage		
Session	[a]Obs. 1	Obs. 2	Session Average	Obs. 1	Obs. 2	Session Average
1	57%	56%	57%	58%	67%	63%
2	50	38	44	55	48	52
3	50	48	49	25	46	36
4	45	36	41	31	[b]--	31
5	67	25	46	43	39	41
6	35	38	37	16	19	18
7	29	24	27	36	7	22
8	35	47	41	15	33	24
9	31	20	26	51	19	35
10	50	39	45	48	0	24
11	49	26	38	26	4	15
12	33	29	31	12	24	18
13	69	44	57	31	26	29
Final Average			41%			31%

Note. Obs. = [a]Observation. [b]Dash indicates class was not observed two times during a session.

Table 5

Percentage of Kindergarten Multiage Students Exhibiting Overt Prosocial Behaviors

Session	Observation 1	Observation 2	Session Average
1	46%	36%	41%
2	40	20	30
3	25	33	29
4	22	5	14
5	50	53	52
6	28	22	25
7	28	11	20
8	21	24	23
9	45	40	43
10	50	52	51
11	52	25	39
12	31	43	37
13	33	37	35
14	15	23	19
Final Average			33%

Note. The final average represents the average percentage of overt prosocial behaviors exhibited by multiage kindergarten classes.

34% (see Table 6). The final average of overt prosocial behaviors exhibited by the second grade multiage group was 35% (see Table 7). The final average of overt prosocial behaviors exhibited by the third grade multiage group was 31% (see Table 8). All four groups were compared using a total of 14 sessions (approximately 28 observations). Although second grade multiage had a higher proportion of overt prosocial behaviors, there was no observed practical significance between any of the four groups.

Comparison of Kindergarten-First Grade Multiage to Second-Third Grade Multiage

A comparison of the proportion of overt prosocial behaviors demonstrated by students was examine obtained for the kindergarten-first grade multiage group and the second-third grade multiage group. The intent was to determine if there was a difference in the proportion of prosocial behaviors exhibited by each type of grouping. The final average of overt prosocial behaviors exhibited by the kindergarten-first grade multiage group was 34% (see Table 9). The final average of overt prosocial behaviors exhibited by the second-third grade multiage group was 33%. The results indicated that in 14 class periods the

Table 6

Percentage of First Grade Multiage Students Exhibiting Overt Prosocial Behaviors

Session	Observation 1	Observation 2	Session Average
1	5%	60%	33%
2	14	21	18
3	29	29	29
4	21	21	21
5	21	48	35
6	56	61	59
7	24	44	34
8	27	56	42
9	58	33	46
10	32	29	31
11	36	50	43
12	45	33	39
13	7	48	28
14	15	19	17
Final Average			34%

Note. The final average represents the average percentage of overt prosocial behaviors exhibited by multiage first grade classes.

Table 7

Percentage of Second Grade Multiage Students Exhibiting Overt Prosocial Behaviors

Session	Observation 1	Observation 2	Session Average
1	54%	71%	63%
2	55	48	52
3	42	46	44
4	33	33	33
5	31	[a]--	31
6	27	50	39
7	43	39	41
8	14	4	9
9	38	45	42
10	19	35	27
11	31	21	26
12	29	34	32
13	37	43	40
14	12	13	13
[b]Final Average			35%

Note. [a]Dash indicates that second observation was not made. [b]The final average represents the average percentage of overt prosocial behaviors exhibited by multiage second grade classes.

Table 8

Percentage of Third Grade Multiage Students Exhibiting Overt Prosocial Behaviors

Session	Observation 1	Observation 2	Average Percent
1	58%	67%	63%
2	55	48	52
3	25	46	36
4	31	[a]--	31
5	59	0	30
6	43	39	41
7	16	19	18
8	36	7	22
9	15	33	24
10	51	19	35
11	48	0	24
12	26	4	15
13	12	24	18
14	31	26	29
[b]Final Average			31%

Note. [a]Dash indicates that second observation was not made. [b]The final average represents the average percentage of overt prosocial behaviors exhibited by multiage third grade.

Table 9

Comparison of Overt Prosocial Behaviors Exhibited by Kindergarten-First Grade Multiage Classes and Second-Third Grade Multiage Classes

Session	K-1 Multiage	2-3 Multiage
1	37%	63%
2	24	52
3	29	40
4	18	32
5	44	31
6	42	40
7	27	30
8	33	16
9	45	33
10	41	31
11	41	25
12	38	24
13	32	29
14	18	21
Final Average	34%	33%

Note. The final average represents the average percentage of overt prosocial behaviors exhibited by kindergarten-first multiage classes and second-third multiage classes.

kindergarten-first grade mulitage group had a higher percentage of overt prosocial behaviors. However, there was no practical significance observed between the two groups.

Comparison Between Males and Females

The proportion of overt prosocial behaviors between male and female students was determined by dividing the total number of times students were observed into the final number of overt prosocial behaviors exhibited by each gender. Female students were found to demonstrate overt prosocial behaviors in 37% of the 174 total observations. Male students were found to demonstrate overt prosocial behaviors in 32% of the 174 total observations. There was no practical significance observed between the proportion of prosocial behaviors demonstrated by the two groups.

Comparison Between Same-Grade and Multiage Males and Same-Grade and Multiage Females

The proportion of overt prosocial behaviors between same-grade and multiage males and same-grade and multiage females was obtained by dividing the total number of times students were observed in each group into the number of prosocial behaviors exhibited by the group. Same-grade male students were found to have exhibited overt prosocial

behaviors in 31% of the 107 total observations. Multiage male students were found to have exhibited overt prosocial behaviors in 29% of the 96 total observations. Male students in the same-grade group demonstrated a higher percentage of overt prosocial behaviors but no practical significance was observed between the two groups. The difference in the total number of observations between the same-grade group males and females and multiage group males and females was due to the occasional absence of the multiage group during a videotaping session.

Multiage female students were found to have exhibited overt prosocial behaviors in 37% of the 96 total observations. Same-grade female students were found to have exhibited overt prosocial behaviors in 36% of the 107 total observations. Multiage female students were found to have a higher proportion of overt prosocial behaviors but the difference was of no practical significance.

CHAPTER 5

Discussion

The purpose of this study was to determine if students in a multiage grouping exhibited a higher proportion of overt prosocial behaviors than their same-grade grouped peers in physical education classes. The analysis included the comparison of (a) the proportion of overt prosocial behaviors exhibited by students in a multiage grouping for physical education to the proportion of overt prosocial behaviors exhibited by students in a same-grade grouping, (b) the proportion of overt prosocial behaviors exhibited by multiage students across grade levels, (c) the proportion of overt prosocial behaviors between a kindergarten-first multiage grouping to a second-third grade multiage grouping, (d) the proportion of overt prosocial behaviors between males and females, and (e) the proportion of overt prosocial behaviors between same-grade and multiage males and same-grade and multiage females. For the purpose of the analysis, the multiage group was separated into single grades so that an easier comparison could be made. Percentages of prosocial behaviors observed

were then averaged for each session. The final average was determined and used to compare the groupings listed above.

Researchers found that there were no significant differences in academic achievement among students in multiage versus same-grade classrooms (Miller, 1990; Veenman, 1995). Clear advantages for multiage grouping were found, however, in the area of prosocial development (Miller, 1991; Gaustad, 1992; Bingham, Dorta, McClaskey, & O'Keefe, 1995). The researcher attempted to determine if students in a multiage grouping in physical education class demonstrated a higher proportion of prosocial behaviors when compared to their same-grade peers.

An analysis was conducted to determine if there were differences in the proportions of prosocial behaviors demonstrated by students in kindergarten, first, second, and third grade same-grade groups to that of students in kindergarten, first, second, and third multiage groups. Although multiage students attended physical education class in kindergarten/first and second/third grade configurations, for the purpose of this particular analysis multiage students were separated into single-grades when the comparisons were performed. The researcher wanted to

determine which grade level of the multiage group displayed the greatest proportion of prosocial behaviors.

An analysis of the proportion of overt prosocial behaviors demonstrated by students across grade levels in the multiage classes was then performed. For the purpose of this analysis, the multiage group was separated by grade level in order to determine which grade level of the multiage group was most prosocial. Additional analyses performed included the difference in overt prosocial behaviors exhibited by students between the two multiage configurations (K-1 and 2-3), the comparison of the proportion of overt prosocial behaviors between all males and females, and the comparison of the proportion of overt prosocial behaviors between same-grade and multiage males and same-grade and multiage females.

Based on prior research, the expected outcome of the research question was that students in the multiage grouping in physical education class would exhibit more prosocial behaviors than their same-grade peers. The researcher anticipated that a greater proportion of prosocial behaviors in physical education class by multiage students would agree with research indicating an increased

proportion of prosocial behaviors exhibited by students in the regular multiage classroom. Prosocial behaviors observed in the study included sharing, helping, affection, happiness, playing fair, gesturing. However, in this study no significant differences were observed.

Grouping by age is still the most popular method of organizing students for instruction even though research suggests that placing students in a multiage grouping yields better results in regard to the affective domain (Miller, 1990; Nye, Cain, Zaharias, Tollett, & Fulton, 1995). Stone (1998) stated that multiage grouping in the regular classroom facilitates the development of positive prosocial behaviors. The results of this study comparing the prosocial behaviors of same-grade and multiage students in physical education class did not support the research stated above indicating that multiage students were more prosocial.

Second and third grade multiage age students exhibited a proportion of overt prosocial behaviors that was less than their same-grade peers. However, the results were of no practical significance. Lessons taught during the study incorporated the same skills or themes but were presented

in a different manner according to the developmental level of the group of students. The question of whether the difference in presentation of the theme or skill in any way contributed to the proportion of overt prosocial behaviors demonstrated by the second and third grade multiage students as compared to their same-grade peers is not important since there was no significant difference in the observed overt prosocial behaviors.

The study did not take into account any prior instruction and training in prosocial behaviors given by the classroom teacher. The amount of emphasis placed on prosocial behaviors by the classroom teacher was also not taken into consideration. Sharpe, Crider, and Vyhlidal (1997) stated that teachers have to assume a larger role in prosocial development. The classroom teachers in this study may have been trained to fill that need and thus promoted prosocial behaviors in all students. The possibility exists that the students in the second and third grade classes spent more time in the regular classroom learning how to be prosocial than students in the second and third grade multiage groups. There is also a possibility that

individual students in the second and third grades may naturally be more prosocial than their multiage peers.

Consideration should be given to the presentation of the lesson content. Content was presented slightly different for some groups due to the difference in the developmental level of each group. The possibility exists that the method of presentation of the lesson content for one group could allow for more student interaction and thus more opportunities for prosocial behaviors. However, this was not observed in the analysis of the data.

The researcher observed that the focus of the lesson often determined the amount of prosocial behaviors demonstrated by students both in the multiage grouping and the same-grade grouping. Again, this did not result in observed differences between the groups. McHugh (1995) stated that physical education is inherently social and different from what happens in the classroom. This could be a reason why the results yielded no observed practical significance. The physical education teachers may have also promoted prosocial behaviors in all students regardless of the type of grouping.

Conclusion

In conclusion, the researcher found that the proportion of overt prosocial behaviors in physical education class was greater for multiage students in kindergarten and first grade but the results indicated no practical difference between any of the groups. In second and third grade, same-grade students exhibited a higher proportion of prosocial behaviors but again no practical significance was observed in these groups. The results of the study did not support the hypothesis that multiage students in physical education class would significantly exhibit an increased proportion of prosocial behaviors.

The proportion of overt prosocial behaviors demonstrated by multiage students separated into a single-grade configuration was greatest for students in second grade multiage. The proportion of overt prosocial behaviors was lowest for the multiage third grade. However, the proportions of overt prosocial behaviors in each of the multiage grade levels were closely aligned and as a result no practical significance was observed. After comparing the kindergarten-first grade multiage group to the second-third grade multiage group, the researcher found that the

kindergarten-first multiage group demonstrated a higher proportion of prosocial behaviors but once again the results did not indicate any practical significance.

Female students demonstrated a higher proportion of overt prosocial behaviors when compared to their male classmates. The results, however, did not indicate practical significance due to the closely related resulting percentages of prosocial behaviors between the two groups. The researcher observed during the course of the study that male students often engaged in more aggressive displays of prosocial behavior. In many instances, the poking, pushing, or slapping were actually a forms of affection. Because the videotaped sessions did not include audio, the raters may have misinterpreted these types of displays as non-prosocial rather than prosocial.

Although male students in the same-grade grouping appeared to be more overtly prosocial than the males in multiage grouping, no practical significance was indicated. The same was found to be true among females. The multiage females demonstrated a higher proportion of overt prosocial behaviors, however, this difference was of no practical significance. The possibility exists that the classroom or

physical education teachers set the standard for prosocial behaviors rather than the type of grouping in which the students were placed.

The researcher observed throughout the study that the content of the lesson affected the number of overt prosocial behaviors demonstrated by the students. Lessons that included working in small groups and traveling to various centers incorporated more opportunities for prosocial behavior than lessons that required students to work individually such as a gymnastic skill on a mat. This may also account for the difference in the proportion of prosocial behaviors demonstrated by students and observed by the raters during the videotaped sessions.

The possibility also exists that the children in the grade levels studied had not reached a maturation level where prosocial behaviors would be demonstrated consistently or to a higher degree. The difference in the maturity level of older students such as fourth, fifth, or sixth grades might yield a significant difference in the proportion of prosocial behaviors observed. In general, the researcher found much less research on prosocial behaviors among older students in a multiage grouping. Multiage

grouping was found to occur more frequently in the primary grades.

Recommendations

Based on the findings of this study, the following recommendations are made to facilitate further research:

1. A follow-up study should be conducted to determine the impact of the lesson content on prosocial behaviors during physical education class.

2. A similar study should be conducted to compare the proportion of prosocial behaviors found in additional grade levels such as fourth, fifth, and sixth grades.

3. A similar study should be conducted to compare the proportion of prosocial behaviors between male and female students in multiage groupings.

4. A study should be conducted to compare the proportion of positive prosocial behaviors among students and negative uncooperative behaviors among students in same-grade and multiage groups.

5. A study to investigate innovative programs or curricula to improve prosocial behaviors should be conducted.

6. A study should be conducted on the impact of prosocial instruction during physical education class for both multiage and same-grade students.

APPENDICES

APPENDIX A

OVERT PROSOCIAL

BEHAVIOR CHECKLIST

Appendix A

Overt Prosocial Behavior Checklist

Date: ______________ Class: ________________ Lesson Focus: ______________________________

Student Number	Shares	Helpful	Affectionate	Happy	Plays Fair	Gestures				Shares	Helpful	Affectionate	Happy	Plays Fair	Gestures	

APPENDIX B

DESCRIPTIONS OF OVERT

PROSOCIAL BEHAVIORS

Descriptions of Overt Prosocial Behaviors

The following prosocial behavior descriptions were taken from previous research and literature.

Overt Prosocial Behaviors	Description
Shares	Offers to share equipment or space
Helpful	Offers to help others voluntarily
Affectionate	Spontaneously gives a hug, puts arm around someone, pats someone on the back
Happy	Smiles at others, shows enthusiasm
Plays fairly	Follows game or activity rules, doesn't cheat, good sport, takes turns
Uses positive gestures	High fives, thumbs up, or clapping, etc.

APPENDIX C

METROPOLITAN NASHVILLE PUBLIC SCHOOLS

RESEARCH PROPOSAL

AND

RESPONSE FROM DIRECTOR

OF RESEARCH AND EVALUATION

RESEARCH PROPOSAL

Comparison of Overt Prosocial Behaviors Between Multiage and Same-Grade Elementary Physical Education Students

SUBMITTED TO: Metropolitan Public Schools
Nashville, Tennessee

Attention: Dr. Bob Crouch, Director
Research and Evaluation

SUBMITTED BY: Terry N. Bellenfant, Doctoral Student
Middle Tennessee State University
Department of Health, Physical Education, Recreation, and Safety
4533 Woodside Circle
Old Hickory, TN 37138-1910
Telephone: (615) 847-3997

INTRODUCTION: The one-room school of the past represented the beginning of organized education in the United States during the 1600s. In the one-room school, students of different ages worked in the same room. By the mid-1800s the practice of classifying and dividing students by age spread rapidly throughout the United States. Grouping by age continues to be the most frequent method of organizing students for instruction even though evidence suggests that other forms of grouping, such as multiage grouping, provide better outcomes. Multiage grouping tends to facilitate the development of positive social behaviors such as sharing, helping, and taking turns. In a multiage environment, cooperative prosocial behaviors increase and discipline problems are reduced.

PURPOSE: The purpose of the study will be to determine if students in multiage groupings in elementary physical education classes exhibit more prosocial behaviors than their same-grade grouped peers in elementary physical education classes. Researchers have indicated that the incidence of prosocial behaviors is greater in an elementary multiage classroom than in a same-grade elementary classroom. The researcher will attempt to determine if this pattern of increased prosocial behaviors by students in a multiage grouping will also be found in elementary physical education.

SAMPLE: The grouping of students (multiage or same-grade) is determined at the beginning of the school year according to previously established school procedures. This grouping will represent the make-up of the regular classroom in which the children participate throughout the school day. The researcher will have no input into either the type of grouping or the student population found in any of the classes. The children in this study will attend physical education instruction in these predetermined groups that correspond to the regular classroom. A total of four multiage groups (K/1, 2/3) and four same-grade groups (K, 1, 2, 3) will be studied. New students entering the

groups to be studied after February 1, 2000 will not be included in the data. The study will be conducted at Tulip Grove Elementary in Hermitage, Tennessee. Approximately 200 students will be involved in the study.

INSTRUMENT: A focal-child time-sampling technique will be used to conduct observations of overt prosocial behaviors demonstrated by student participants in the study. Each child will be videotaped during the class period for two 30-second intervals in a specified observation order. The 30-second intervals will continue for all participants within each class period. A total of 16 observations (eight weeks, two times per week) will be conducted on each student during the course of the investigation. The order of student observations will be predetermined before the start of each class. Overt prosocial behaviors will be recorded on a prosocial behavior observation checklist by three different raters. The overt prosocial behaviors listed on the observation checklist will be adapted from available literature.

PROCEDURE: Parental and student consent will be obtained prior to the beginning of the study. Participants will be videotaped two days per week during the regularly scheduled 30-minute or 60-minute physical education class. All groups will be taught using the Metropolitan Nashville Public Schools Physical Education Curriculum during the course of the investigation. Lesson content and methodology will be aligned as closely as possible for each group in each period. The person videotaping will attempt to stay on the periphery of the learning area during the period of data collection and will refrain from interacting with children unless needed for behavior management or safety. The class will be taught by the regular physical education teachers. A student teacher will be in the gym to monitor and assist. Students will not be exposed to any interventions or treatments. Upon completion of the videotaping of students, three raters will view the videotapes and document overt prosocial behaviors exhibited by students.

SCHEDULE: The collection of data will begin on March 1, 2000 and conclude on May 1, 2000.

REPORTING THE RESULTS: The results of this study will be reported in a formal research report (dissertation) and in other published literature. Copies of this report will be provided to the Research and Evaluation Director of the Metropolitan Schools, principals and teachers in the participating school, and any other interested parties.

Terry N. Bellenfant
(Signature)

Diane Bartley
(Researcher Advisor (if any))

Enclosures:

1) Complete approved dissertation proposal
2) Measuring instruments to be used
3) Copy of the parental consent letter and the oral script for obtaining student permission

METROPOLITAN NASHVILLE PUBLIC SCHOOLS

Robert C.Crouch, C.M.S.W., PhD.
Director of Research and Evaluation

February 9, 2000

Terry Bellenfant
4533 Woodside Circle
Old Hickory, TN 37138-1910

RE: Approved Research Proposal--
Comparison of Overt Prosocial Behaviors Between Multiage and Same-Grade Elementary Physical Education Students

Dear Ms. Bellenfant:

Having reviewed your referenced proposal, this is to advise you of our approval of your carrying out this project.

An approval letter has been sent to Ms. Franklin, principal of Tulip Grove, you may now contact her to set up your schedule.

We wish you success in your study.

Sincerely,

Robert C. Crouch, C.M.S.W., Ph.D., Director
Department of Research and Evaluation

RCC:rh

5 [ApResLet.Sam]

Room C412 ♦ 2601 Bransford Avenue ♦ Nashville, Tennessee 37204 ♦ Phone (615) 259-8430 ♦ Fax (615) 259-8492

APPENDIX D

APPROVAL FROM PRINCIPALS

OF TULIP GROVE ELEMENTARY

TO CONDUCT STUDY

Tulip Grove Elementary

441 Tyler Drive
Hermitage, Tennessee 37076
(615) 885-8944

Penny Franklin
Co-Principal

Shirley Johnson
Co-Principal

February 17, 2000

Dr. Nancy Bertrand
IRB Representative
P. O. Box 69
Middle Tennessee State University
Murfreesboro, TN 37132

Dear Dr. Bertrand and IRB:

Terry Bellenfant has our approval to conduct research for her doctoral dissertation in the area of physical education. The disseration title is Comparison of Overt Prosocial Behaviors Between Multiage and Same-Grade Elementary Physical Education Students. We understand that Mrs. Bellenfant will videotape students for the purpose of coding prosocial behaviors. Parental and student permission will be obtained before the study begins.

Sincerely yours,

Shirley Johnson
Penny Franklin

cc: Dr. Dianne Bartley

APPENDIX E

PERMISSION TO CONDUCT RESEARCH

FROM MTSU INSTITUTIONAL REVIEW BOARD

Elementary and Special Education Department

P O Box 69
Middle Tennessee State University
Murfreesboro, Tennessee 37132
(615) 898-2680

To: Terry Bellenfant

From: Nancy Bertrand
IRB Representative

Re: "Comparison of Overt Prosocial Behavior Between Multiage and Same Grade Elementary Physical Education Students"

Date: March 7, 2000

The above named human subjects research proposal has been re-reviewed and approved. This approval is for one year only. Should the project extend beyond one year or should you desire to change the research protocol in any way, you must submit a memo describing the proposed changes or reasons for extensions to your college's IRB representative for review.

Best of luck in the successful completion of your research.

cc: Dr. Dianne Bartley

APPENDIX F

LETTER TO PARENTS

AND

PARENTAL CONSENT FORM

Tulip Grove Elementary
Physical Education

Terry N. Bellenfant
Education Specialist

441 Tyler Drive Physical
Hermitage, TN 37076

February 21, 2000

Dear Parent(s):

I am requesting your consent to conduct research for my doctoral dissertation in the area of physical education. I would like to videotape your child during his/her regularly scheduled physical education classes during the period of March 1, 2000 through May 1, 2000. The purpose of the study is to determine if there are any differences in prosocial behaviors between students in multiage physical education classes and students in same-grade physical education classes. Same-grade classes are those in which students are placed in a classroom according to their age.

Student names will not be used during the course of the research. Students will be assigned numbers for identification purposes. These numbers will be used to locate a child in the learning area during the videotaping process and for collecting the data for analysis. When not in use, the data collection instrument (a checklist) and videotapes will be kept in a locked file cabinet. Students will not be harmed in any way or subject to any type of experimental treatment. We will simply make observations from the videotapes as they participate in their regular physical education class. The videotapes will be erased at the conclusion of the study. Your child will also be asked to give his/her consent for this study. They may stop participation in the study at any time upon request. Participation in this study does not compromise school services. Failure to participate in the study will not result in any punishment or loss of privileges for students.

I am excited about this research and the information it will provide. Multiage grouping and same-grade grouping both have their proponents. It will be interesting to observe the differences between the two during physical education instruction. Thanks for your response. Feel free to contact me at any time for additional information (885-8944). Please give your response, either yes or no, by returning the permission slip attached to this letter by Friday, February 18, 2000. Thanks for your consideration in this matter.

Sincerely yours,

Terry N. Bellenfant

Terry N. Bellenfant
Tulip Grove Elementary

Parental Consent Form

February 21, 2000

I give my permission for my child to be videotaped during his/her regular physical education class so that Mrs. Bellenfant can conduct research for her doctoral dissertation. I understand that my child will not be given any experimental treatment and will not be harmed in any way. I also understand that my child will be assigned a number for identification purposes and that his/her name will not be used during the course of the study or in any published results.

Student's Name: _____

Student's Classroom Teacher: _____

Parent's Name (please print): _____

Parent Signature: _____

Date: _____

APPENDIX G

SCRIPT OF ORAL PERMISSION

FROM STUDENTS

Script of Oral Permission From Students

I am going to do some research for my doctoral dissertation at Middle Tennessee State University. A dissertation is a really big research paper! I would like your permission to videotape you while you work in physical education class. I will begin videotaping your class starting in March and ending in May. I am going to see if there are any differences between students in multiage classes and students in same-grade classes. Same-grade classes are those where students are placed in the class according to their age. Your lessons will be just like they always are. You don't have to do anything different or special. If you don't want to be a part of this research, you can write your name on a piece of paper. Fold it so that no one else can see it but me. You can stop being part of the research at any time. Just let me know. You won't be punished or have to "sit out" if you choose not to participate. I really appreciate your help in being a part of this research. I hope we learn some things to help other students and physical education teachers. Does anyone have any questions? I'll be glad to answer them for you.

APPENDIX H

LETTER TO TEACHERS

Tulip Grove Physical Education

441 Tyler Drive
Hermitage, Tennessee 37076

February 21, 2000

Dear Teacher:

I will be conducting the study for my dissertation beginning March 1, 2000 and concluding on May 1, 2000. Your class will be a part of this study titled "The Comparison of Prosocial Behaviors Between Multiage and Same-Grade Students in Elementary Physical Education." All students in the gym will be wearing vests. Students who have been given permission to be a part of the study will wear a vest with a number assigned specifically to that child. There are some things that will facilitate the study that I am requesting from you:

- Please be on time for class. This is especially important for our 30-minute classes.
- If possible, place the vests on students before coming to physical education. We may have to make adjustments in how we do this as we go along. I'll try to send the vests to your classroom as soon as possible. We are sharing vests and I'm not sure how I'll do this yet. All students in the gym will be wearing vests even if they are not part of the study.
- Students need to come in ABC order or by the number they are assigned. I'll get those numbers to you soon. (Numbers will be assigned in ABC order.) Please don't use line leaders or door holders, etc. This will mess up the number system. I know this will be upsetting for students because leaders are so important to them. Maybe the both of us can explain why this needs to occur.
- If a student is absent, just send that particular vest to P.E. and I'll take care of it.
- I must have parental permission to do the study. Please encourage students to bring back the form as soon as possible.
- Try not to schedule field trips during your P.E. time. I know this might be impossible, but hopefully you can try. This is especially critical for students I only see one to two days per week.

I would like to thank you advance for your help. I know this is a big inconvenience for you. You are wonderful!

Sincerely yours,

Terry Bellenfant

Terry Bellenfant
Physical Education Specialist

APPENDIX I

STUDY GROUPS CALENDAR

OF DAYS AND TIMES

Study Groups

March 1 – May 1, 2000

Teacher	Grade	Time	Days
Bridges	K	10:00-10:30	M, W
Henderson	K/1 MA	9:00-10:00	M, W
Erickson	K/1 MA	9:00-10:00	M, W
Ford	1st	8:00-8:30	T, W
Cocke	2/3 MA	9:00-10:00	T, Th
McCabe	2/3 MA	9:00-10:00	T, Th
Ransburgh	3rd	1:30-2:30	W
		11:00-12:00	F
Gentry	2nd	1:30-2:30	T

APPENDIX J

STUDY WORKSHEET

Date	Rater	Class	Grade	# of Students		Prosocial Stud.		% Prosocial		Gender Obs. 1		Gender Obs. 2		Prosocial Obs. 1		Prosocial Obs. 2		%		%	
				Obs. 1	Obs. 2	Obs. 1	Obs. 2	Obs. 1	Obs. 2	M	F	M	F	M	F	M	F	M	F	M	F
3-1	1	Ford	1	14	7	6	5	43	71	11	3	2	5	1	3	2	3	9	60	100	60
"	2	Ford	1	14	7	6	6	43	86	11	3	2	5	1	5	2	4	9	60	100	80
"	3	Ford	1	14	7	6	6	43	86	11	3	2	5	1	5	2	4	9	60	100	80
3-1	1	Henderson	K/1	13	13	4	5	31	38	4	9	4	9	2	2	2	3	50	22	50	33
"	2	Henderson	K/1	13	13	7	6	54	46	4	9	4	9	3	4	3	3	75	44	75	33
"	3	Henderson	K/1	13	13	6	4	46	40	4	9	4	9	1	5	1	3	30	63	25	50
3-1	1	Erickson	K/1	13	10	5	4	38	40	5	8	4	6	2	3	1	3	40	38	25	50
"	2	Erickson	K/1	13	10	7	5	54	50	5	8	4	6	2	5	1	4	40	38	25	50
"	3	Erickson	K/1	13	10	6	4	46	40	5	8	4	6	1	5	1	3	20	63	25	50
3-1	1	Bridges	K	13	7	6	4	46	57	9	4	4	3	5	1	4	3	56	25	100	100
"	2	Bridges	K	13	7	7	4	54	57	9	4	4	3	6	1	1	3	67	25	25	100
"	3	Bridges	K	13	7	8	4	62	57	9	4	4	3	6	2	3	1	67	50	75	33
3-1	1	Ransburgh	13	13	13	8	6	62	46	8	5	8	5	4	4	2	50	80	50	40	
"	2	Ransburgh	13	13	8	9	62	69	8	5	8	5	4	4	6	3	50	80	75	60	
"	3	Ransburgh	13	13	6	7	46	54	8	5	8	5	2	4	5	2	25	80	63	40	

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