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Teachers' Expressed Beliefs and Practices About Developmentally Appropriate Education of Multi-age and Single-age Classrooms

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TEACHERS' EXPRESSED BELIEFS AND PRACTICES ABOUT DEVELOPMENTALLY
APPROPRIATE EDUCATION OF MULTI-AGE AND SINGLE-AGE CLASSROOMS

A Dissertation
Presented to
the Faculty of the
Department of Educational Leadership and Policy Analysis
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In Partial Fulfillment
of the Requirements for the Degree of
Doctor of Education

by
Dale P. Lynch
May 1997
APPROVAL

This is to certify that the Graduate Committee of
DALE P. LYNCH
met on the
7th Day of March, 1997

The committee read and examined his dissertation, supervised his defense of it in an oral examination, and decided to recommend that his study be submitted to the Graduate Council, in partial fulfillment of the requirements for the degree of Doctor of Education in Educational Leadership and Policy Analysis.

Signed on behalf of the Graduate Council

Interim Dean, School of Graduate Studies
ABSTRACT

TEACHERS’ EXPRESSED BELIEFS AND PRACTICES ABOUT DEVELOPMENTALLY APPROPRIATE EDUCATION OF MULTI-AGE AND SINGLE-AGE CLASSROOMS

by

Dale P. Lynch

The purpose of this study was to determine the expressed beliefs and practices about developmental education from early childhood teachers in Tennessee’s First Educational District. A questionnaire measuring expressed beliefs and practices was administered to teachers (kindergarten through third grade) in public schools with both multi-age and single-age classrooms. The area of teaching specialization along with the number of years taught within the organization structure are paramount in the study. Teachers’ expressed beliefs concerning the amount of outside influences with planning and implementing instruction are also noted.

Educators were asked to respond to 36 likert-type items regarding their beliefs about developmentally appropriate practices. Respondents were also asked to respond to 27 likert-type items related to their instructional practices based on developmental appropriateness. Data were analyzed using an oblique factor analysis.

Findings include a difference between multi-age and single-age classroom teachers regarding developmental education.
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And lastly, thanks to my Lord and Savior, Jesus Christ, for giving me the strength and ability to complete this goal. Through Him all things are possible.
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CHAPTER 1
INTRODUCTION

Schools must change along with the society they serve. The approach of the year 2000 has catalyzed awareness of the shortcomings of current educational practices and of the need for reform to meet these new challenges (Gaustad, 1992).

Tennessee has recognized the need for school reform and has adopted a vision that will lead its schools into the next century. The vision for Tennessee schools was demonstrated by the 1992 passage of the Educational Improvement Act (EIA). This act established a milestone in Tennessee educational reform by creating a standard that all students acquire high levels of learning. The ability to give all students a chance to succeed depends upon a full understanding of learning (Guild, 1994). Goodlad (1986) suggested professionals specializing in planning tomorrow's schools are being asked to facilitate environments leading to higher levels of teaching and learning. These high levels of learning are of special significance to educational leaders at the early childhood level.

Many early childhood leaders are focusing on learning strategies when addressing the need for school reform based on current research in the cognitive and neurosciences (Caine & Caine, 1991). If effective educational decisions and practices are based on the way children learn, then understanding how children learn must be
a major emphasis in early childhood programs.

The National Association for Educating Young Children (NAEYC) and the National Association of Early Childhood Specialists in State Departments of Education (NAECS/SDE) jointly developed a position statement, Developmentally Appropriate Practices, regarding how children develop and learn with attention given to individual needs and interests (Bredekamp, 1987). The position statement addresses educational issues by introducing such instructional strategies as; student cooperation, heterogeneous grouping, hands on activities, learning centers, individualized guided learning, and meaningful assessment. These strategies are based on developmentally appropriate grouping patterns.

One grouping strategy being promoted to meet new challenges of student learning while simultaneously providing developmentally appropriate practices is an organizational pattern known as multi-age grouping (Elkind, 1987). Multi-age grouping relies on research showing how children grow and develop (Grant & Johnson, 1994). Multi-age grouping in education has been defined in various ways: heterogeneous, mixed-age, vertical, ungraded or non-graded, and family grouping (Evangelou, 1989). These titles, synonymous with multi-age grouping, address the issues of student learning based on the concept of grouping patterns. The multi-age program groups students of varying ages to better meet the individual needs of all students. The NAEYC (Bredekamp, 1987) has stated that age appropriate and individual appropriate grouping leads to greater student
success and are both vital in the multi-age program. Because children develop differently at various stages, organizational patterns in public schools have begun to change. Programs such as multi-age take into consideration the fact that children develop at different rates in the social, cognitive, emotional, and physical domains (Bredekamp, 1987). The developmentally appropriate strategies in the ungraded, multi-age programs have found their way into a number of early childhood programs across the nation. Acceptance of this concept has been widespread because children of different ages with various academic abilities have demonstrated the ability to have success in a single group setting (Anderson, 1987).

The rationale of grouping young children of various ages coincides with research based on developmentally appropriate practices. By mixing various ages and levels of students, the learning process of young children is enhanced (Stone, 1995). The benefits of mixing different ages of children have been noted by many educational reformers (Lodish, 1992).

Multi-age grouping has created a promising new climate for an old approach to education (Anderson, 1987). Early traditional philosophies, dating back to the one room school house, are blended with twentieth century strategies of developmentally appropriate learning to ensure a successful school program (Johnson & Roopnarine, 1984). Additionally, many educators have discovered the multi-age grouping system recognizes and plans for a wide range of pupil abilities, provides for differential rates of progress, and adjusts to
individual emotional and social needs (Lodish, 1992). These are some of the reasons multi-age grouping has increased steadily in recent years (Willis, 1994).

According to Miller (1989), 196,037 one-room schools were organized by heterogeneous grouping in 1918 that represented 70.8% of all public schools in the United States. Because of the limited school space, heterogeneous grouping at that time developed from necessity rather than by philosophical design (Miller, 1989). By 1980, fewer than 1,000 of these schools remained (Howard & Bardwell, 1966). The formal age-graded structure became the norm in American schools primarily because of the administrative benefits of grouping by age (Martin, 1894; Shearer, 1899; Cowen, 1931; Cubberley, 1947; Goodlad & Anderson, 1987; Tewksbury, 1967). However, the modern era has brought new ideas and questions about the formalized age-graded structure.

The past several decades have shown teachers’ and other educators’ concern not to accept the age-graded structure merely for its convenience (Cubberley, 1947). Instead, teachers are beginning to look at different strategies to help children achieve higher levels of learning. Because research indicates students may gain educational and social benefits from mixed age grouping patterns, teachers are asking questions about how children learn best, how grouping effects children, and what motivates children to learn (Augustine, Gruber, & Hanson, 1990). The multi-age grouping pattern has been growing at a fast pace because of these perceived educational and social advantages (Grant & Johnson,
Though multi-age programs are becoming increasingly popular, the way schools structure this grouping strategy appears to vary (Stone, 1995). Some schools have just two or three multi-age classrooms, while others involve the entire school (D. Bentley, personal communication, February 9, 1995). At the same time, while certain schools are expanding their multi-age programs, other multi-age programs are reducing the amount of time students spend in the multi-age classroom. Schools that were once entirely multi-age are now giving parents the option of a multi-age program or a single-age, graded classroom for their children. The question many researchers (Kessler, 1991) are now asking is if the developmentally appropriate practices found in early childhood programs of the multi-age program is different from what is found in the single-age, graded classrooms.

Even though some schools are changing the format of the multi-age program, the shift of attention from "teaching curriculum" to "teaching children" continues to be a major focus. Teachers in multi-age classrooms indicate the environment brought about because of the multi-age philosophy is what guides the children's learning. Educators in this setting indicate that more children's learning styles can be addressed (Black, 1994). Students generally have preferences in learning either auditorily, visually, or kinesthetically. By addressing the various learning styles, students reap many benefits, including higher achievement, life-long learning habits, and the development of real enjoyment (Stone, 1995).
However, the question still remains whether the multi-age teachers have a greater understanding of what promotes student learning as compared to single-age graded teachers.

The number of schools reporting measurable success in multi-age programs is significant (Stone, 1995). Teachers in these programs are praising the positive effects heterogeneous grouping has on their students. The multi-age teachers have reported a greater understanding of how children learn (Elkind, 1987). Many multi-age teachers are placed in an environment that promotes success. Parental choice for student involvement in the program, extra planning time for teachers, and collaboration with others are a few of the significant areas attributed to creating successful programs. However, the beliefs of teachers from single-age classrooms have often been overlooked. The purpose of this study was to research schools with a multi-age program, and analyze multi-age teachers’ and single-age teachers’ expressed beliefs about learning strategies as related to developmentally appropriate practices.

Statement of the Problem

Early childhood educators have recognized that developmentally appropriate teaching practices enhance student learning. The multi-age classroom is becoming an increasingly popular way to provide developmentally appropriate strategies. However, many multi-age programs seem to be growing and flourishing in some schools, while other schools are continuing with their efforts in the single-age classroom. Determining the types of instructional
programs that lead to greater knowledge of developmentally appropriate practices is an important issue that needs further research.

**Purpose of the Study**

The general objective in school reform has been to improve teaching and learning. To accomplish this task we must identify teaching strategies that enhance student learning. Research studies need to be conducted selecting teaching and program methodologies that maximize learning. Therefore, the purpose of this study was to compare the expressed beliefs and practices of early childhood educators in two different instructional programs relating to developmental education.

**Research Questions**

To ascertain the expressed beliefs concerning student learning by multi-age and single-age classroom teachers the following research questions were posed:

1. Is there a relationship between the instructional program and early childhood teachers' expressed developmental beliefs?
2. Is there a relationship between the instructional program and early childhood teachers' expressed developmental practices?
3. How are beliefs about developmental appropriateness related to teaching practices?
4. How does the amount of teacher influence affect teaching practices?

5. Is there greater consistency between beliefs and practices among teachers in multi-age classrooms than among teachers in single-age classrooms?

6. When considering demographic characteristics, which variables can be used to predict developmentally appropriate beliefs and practices?

Hypotheses

1. There will be no significant difference between multi-age and single-age teachers' beliefs about developmental appropriateness.

2. There will be no significant difference between multi-age and single-age teachers' beliefs about children's active participation.

3. There will be no significant difference between multi-age and single-age teachers' beliefs about developmentally appropriate strategies.

4. There will be no significant difference between instructional practices of teachers in multi-age or single-age classrooms related to child initiated activities.

5. There will be no significant difference of instructional practices between teachers in multi-age or single-age classrooms related to appropriate learning strategies.

6. There will be no significant difference of instructional practices between teachers in multi-age or single-age classrooms related to teacher directed activities.
7. There will be no significant difference between teachers in multi-age or single-age classrooms about developmentally appropriate instructional practices.

8. There will be no relationship between teachers' beliefs in multi-age classrooms and instructional practices regarding developmental education.

9. There will be no relationship between single-age teachers' beliefs and instructional practices regarding developmental education.

10. There will be no relationship between multi-age teachers' instructional practices and their beliefs about parental influence on instruction.

11. There will be no relationship between multi-age teachers' instructional practices and their beliefs about the school system's influence on instruction.

12. There will be no relationship between multi-age teachers' instructional practices and their beliefs about state regulations influence on instruction.

13. There will be no relationship between multi-age teachers' instructional practices and their beliefs about other teachers influence on instruction.

14. There will be no relationship between multi-age teachers' instructional practices and their beliefs about the influence they have on classroom instruction.

15. There will be no relationship between multi-age teachers' instructional practices and their beliefs about the influence the principal has on instruction.
16. There will be no relationship between single-age teachers' instructional practices and their beliefs about parental influence on instruction.

17. There will be no relationship between single-age teachers' instructional practices and their beliefs about the school system's influence on instruction.

18. There will be no relationship between single-age teachers' instructional practices and their beliefs about state regulations influence on instruction.

19. There will be no relationship between single-age teachers' instructional practices and their beliefs about other teachers influence on instruction.

20. There will be no relationship between single-age teachers' instructional practices and their beliefs about the influence they have on classroom instruction.

21. There will be no relationship between single-age teachers' instructional practices and their beliefs about the influence the principal has on instruction.

22. There will be no difference between multi-age and single-age teachers' beliefs/practices relationship.

23. There will be no relationship between early childhood teachers' instructional practices and demographic variables elicited from the survey items.

**Significance of the Study**

This study was significant in providing useful information to school leaders concerning teachers' beliefs about developmental education and their implementation of developmentally appropriate practices into the instructional
program. Schools considering implementing a new instructional program, such as multi-age, will be able to use this research study to help teachers identify pedagogy that has been deemed effective in facilitating student learning.

The multi-age grouping structure is based on current research dealing with developmentally appropriate practices as they relate to student learning. The multi-age philosophy often clashes with deeply held expectations of traditional learning (Gaustad, 1992). This research study addresses the concepts on which multi-age programs are based and reported on selected teachers' understanding of the developmentally appropriate teaching beliefs and practices.

To implement learning strategies effectively, teachers must consider how they structure their classroom, how they plan curriculum, and what their role is in the classroom (Theilheimer, 1993). These steps are an integral part of a successful instructional program. Although many of these steps are known, the success rate of providing enriching learning environments is still very different among schools (Miller, 1989). Benefits to future instructional programs will accrue by gathering research about student learning within multi-age and single-age classrooms.

Research reviewing multi-age grouping indicates various rewards for students grouped in this manner (Theilheimer, 1993). However, little research has been conducted examining teachers' knowledge of developmentally appropriate practices as it relates to the multi-age program. By
addressing teachers’ knowledge about sound educational practices based on conclusive early childhood research it will be beneficial for schools considering implementing instructional programs to be more likely to ensure high levels of student learning.

The benefits of the multi-age classroom have been noted by many school leaders. Pratt (1986) found more benefits derived from multi-age grouping, as compared to age-separate grouping, in social skill development. Way’s (1981) research also indicates benefits for children in the area of self-concept in multi-age programs. Children who have acquired social skills and developed a good self-concept, seem to have greater pleasure in the early years of school. The social advantages found in some programs often lead to educational success for many children (Enrich, 1990).

Multi-age programs are geared more to cooperative learning rather than student competition (Elkind, 1987). Programs are organized in this manner because educational research tends to show that the cooperative style of learning is the most beneficial for students’ long-term learning (Johnson & Johnson, 1989).

The multi-age classroom is structured to meet the different learning styles of children (Bredekamp, 1987). The developmental time line is different for each child in the multi-age setting. Using the knowledge that children are at various ages and stages of learning, the multi-age philosophy states that these differences are one of the strongest attributes of the multi-age program (Wall, 1994). Through
these differences children learn from taking leadership roles and from following and watching others. Children learn from working with others that cooperation increases active listening skills, taking turns, sharing information, and reaching agreements in addition to learning content material (Fischer & McBride, 1993).

The increased cooperation fostered by multi-age groupings, establishes solid foundations for children in other segments of the school day. Practiced cooperation tends to develop happier and less pressured children. Also, cooperative learning strategies found in multi-age programs, puts the responsibility for learning on the learner (Augustine, Gruber, & Hanson, 1990). Learning to work with others is a major advantage of cooperative learning (Lewis, 1994).

Because of these perceived advantages of multi-age grouping many schools are changing their organizational structure to incorporate a multi-age program. Some schools fully integrate the multi-age philosophy by providing this type of organization in all classrooms. Other schools are implementing multi-age grouping only in certain classrooms or subject areas. Regardless of the amount of involvement in multi-age grouping, teachers in the multi-age instructional setting seem to better understand how children learn (D. Bentley, personal communication, February 9, 1993). This research study will address teachers’ knowledge and implementation of developmentally appropriate practices as related to student learning in the early childhood program.
Limitations of the Study

The study is limited to 151 teachers who work in a school system with multi-age and single-age programs. The schools were surveyed in Northeast Tennessee during the 1996-97 school year.

Assumptions

1. The instrument supplied regarding teachers' expressed beliefs and practices will provide true information.
2. The group who replied to the survey is representative of the population.

Definitions of Terms

The definition of key terms used in this study are as follows:

Multi-age program- a procedure for grouping children of more than one age or grade together that follows developmentally appropriate practices (Bredekamp, 1987)

Single-age program- a procedure for grouping children according to age similarities

Early childhood- a period of life from birth through age 8 (Bredekamp, 1987)

Primary school- a school that has at least grades K-3

Learning styles- methods and ways children learn, acknowledging that everyone learns through different experiences (Gardner, 1983)

Heterogeneous grouping- the grouping of children based on their differences (Lodish, 1992)
Cooperative learning— the concept of working together to reach a common goal (Katz, 1994)

Research Procedures

1. Reviewed related literature.
2. Developed research proposal and obtained approval from the graduate committee.
3. Obtained a list of schools that have implemented the multi-age program.
4. Developed a questionnaire by reviewing other sample questionnaires.
5. Determined content validity by piloting questionnaire with jury of experts, chosen because of their knowledge about early childhood programs.
6. Made necessary revisions.
7. Determined number of teachers in population to participate in the study.
8. Mailed the questionnaire with cover letter explaining the nature of the study, and a postage-paid self-addressed envelope.
9. Sent a follow-up letter to non-respondents.
10. Gathered, analyzed, drew conclusions, and made recommendations from the data.

Overview of the Study

Chapter two contains a review of literature related to multi-age grouping and developmentally appropriate practices. Chapter three describes the methodology that will be used in
developing the instrument for the study, collecting the data, and analyzing the data. The findings from the data gathering process will be presented in chapter four. Chapter five presents the summary, conclusions, and recommendations based on the data collected.
CHAPTER 2
REVIEW OF RELATED LITERATURE

This chapter is divided into four main sections: the foundations of multi-age grouping, the philosophies that guide the multi-age programs, the current trends and outcomes of multi-age education, and teachers’ knowledge about student learning as it relates to developmentally appropriate practices. A summary will be included to present the major findings.

Although universal and predictable sequences of human development appear to exist, a major premise of developmentally appropriate practice is that each child is unique and has an individual pattern and timing of growth, as well as individual personality, learning style, and family background (Bredekamp, 1987). The developmentally appropriate philosophy of learning has led educational leaders to rethink the normal, single-age graded structure of grouping children, and apply a grouping pattern where children are actively engaged heterogeneously in the process of learning. Bredekamp’s research has indicated that children learn most effectively through child-selected activities rather than by simply following teacher-directed activities based upon standardized group norms.

Traditionally, most classrooms have been directed by a given curriculum, not by a child’s own needs or interests (Elkind, 1987). The multi-age, non-graded classroom teachers in elementary schools have attempted to reverse this
tradition. Providing a developmentally appropriate education for primary students and understanding children's needs and interests are the foundation of the multi-age program (Stone, 1995).

Increasing multi-age research suggests children benefit cognitively and socially from heterogeneous grouping because the multi-age program accepts children not by age, grade, or placement in school, but as individuals (Harvey, 1974). Students are not pressured by group norms or achievement measures intended for group comparisons. This is one of the reasons the multi-age philosophy is emerging as a nationwide trend in early childhood and primary education (Morrow, 1992).

Great interest in the potential benefits of multi-age grouping in preschools and the early primary grades has occurred in recent years (Willis, 1993). Goodlad and Anderson (1987) state the most important reason for reorganizing to a multi-age, nongraded structure is the failure of the traditional, single-age system. Because of the growing interest and importance of quality early childhood programs there exists a need for more research regarding such programs as multi-age.

Creating effective classrooms with a multi-age philosophy requires extensive teacher preparation time (Gaustad, 1992). Teachers not only need preparation time, they also must possess adequate knowledge of child development and education strategies necessary to create a positive learning environment in the multi-age school.
(Grant & Johnson, 1994). A solid commitment to articulate the philosophy behind multi-age grouping is the cornerstone upon which successful multi-age programs are created (Surbeck, 1992). This chapter presents a review of literature and research related to student learning and the multi-age philosophy.

The Foundations of Multi-age Grouping

The multi-age, nongraded classroom has a long history in the United States, dating back to the 1800s. Not until the industrial revolution did educators begin to think of instruction in terms of the single-age, graded classroom (Miller, 1989). The graded system was brought to this country through the Quincy Grammar School. The Quincy Grammar School located in Boston Massachusetts in 1859 was the first single-age graded American school (Shearer, 1899; Tewksbury, 1967; Ignaz & Corsini, 1979). The practice of age grouping grew as the population grew and it became necessary to accommodate large numbers of students in schools. The popularity of the same-age classroom has continued primarily because of ease of administration (Howard & Bardwell, 1966).

The 20th Century brought about single-age grouping and large group instruction as primary methods of organization for instruction. According to Howard and Bardwell (1966) the single-age classroom organization was devised by the Prussians as a method of preparation for an authoritarian and militaristic society. However, the need for educational change has been evidenced for many decades. In the 1960s and 1970s, the ungraded school, open education, and
individualized instruction became driving forces in school organization and educational change. Individualization strategies and open education philosophies have blended into the multi-age program. Energized by developmental theories of learning, a large influx of federal money and student-centered models of instruction, the multigrade classroom became a major educational innovation (Miller, 1989).

The multi-grade or multi-age program, that dates back to the one room school era, provides a nongraded instructional setting with students of various academic abilities. Students are allowed to spend more time on activities that increase learning as compared to drill and practice that leads to recitation. The teacher in the multi-age classroom works with each child according to his/her individual ability level (Tewksbury, 1967). The individualization along with the nongraded component of multi-age derived from the British Infant School (Johnson & Johnson, 1989). The British program is based on informal classrooms, cooperative groups, and an individualized curriculum using children's choices.

The educational method formulated by Maria Montessori in the early 1900s was an important era in the history of early childhood education (Devries & Kohlberg, 1990). The principles of the Montessori pedagogy were forerunners to the multi-age components. A child-centered approach that promotes the special characteristics of each child helped create the success of the Montessori program. Montessori's research in cognitive development stressed that a child was quite different from an adult. The educational challenge for
teachers in this approach was to aid the child in the organization of the senses and images. The emphasis in the visual and performing arts in early childhood is critical according to Montessori. She advocated facilitating children's learning through a prepared environment in which children actively explore concrete materials, select activities of interest, and interact with peers and adults.

Much like the Montessori schools, the multi-age programs of the 1990s have been child centered. The individualized curriculum, essential to the multi-age classroom, has been significant in the success of early childhood programs. Another reform effort where emphasis has been on student centered curriculum was the Individualized Guided Education (IGE) program. IGE began in the 1960s and featured a combination of nongradedness, multi-age pupil groups, cooperative teaching, and flexible shared space (Anderson, 1987). Recent multi-age programs have taken these ideas as a basic premise for the beginning stages of multi-age grouping and incorporated them into their schools.

Research during the past three decades, focusing on child development and learning, has provided a strong foundation for multi-age education (Stone, 1995). Multi-age education in the 1990s is viewed as a classroom organizational structure in which students of different ages are placed together in a classroom without consideration of their levels of ability or achievement (Bridge, Reitsma, & Winograd, 1994). This heterogeneous grouping concept promotes improved socialization and problem solving skills,
that helps create conditions that facilitate children's healthy development (Benard, 1993). The development of children is a major theme outlining multi-age programs.

Young children do not need highly academic early childhood programs; they need programs that are developmentally appropriate (Sava, 1988). Children develop and learn at varying stages and the multi-age concept enables youngsters to work at different levels without the fear of failure (Way, 1981). One of the keys to success of all early childhood programs is the ability for teachers to understand how young children learn best. This is why multi-age programs have placed a high priority on the care and education of children noting the importance in early childhood training.

**Philosophies that Guide the Multi-age Program**

"Given the incredible stresses the family system is now experiencing, school has become a vital refuge for a growing number of children" (Benard, 1993, p. 34). A major challenge for schools is to engage children and provide enriching learning activities with parental involvement. Participation in these activities is a basic need, and when schools ignore such a basic need, they become alienating places (Glasser, 1990). Multi-age programs have addressed this need by providing a developmentally appropriate program that allows the natural curiosity of learning to motivate children. Rather than motivation by teacher approval and rewards such as stickers or special privileges, motivation for children becomes intrinsic. Early childhood programs such as
multi-age allow children of different abilities the opportunity to work together to meet their basic learning needs.

Several philosophies have helped influence the multi-age movement today. Cushman (1990) describes three different multi-age classrooms where these philosophies are present. At the center of each program is a philosophy based on the developmental learning theories of Piaget and Bruner. Classrooms incorporating the ideas of Piaget and Bruner include hands on experiences where children are encouraged to interact and learn from each other.

Piaget, a prominent child development theorist, indicated children needed concrete materials and actual experience to reconstruct or rediscover that which needed to be learned (Devries & Kohlberg, 1990). Four major stages were described in a child's cognitive development: (a) sensory motor, (b) preoperational, (c) concretely operational, and (d) formal operational. Piaget's model of continual and progressive change in the structure of behavior and thought in children has helped shape many multi-age programs today. Children in all cultures progress through these stages while actively constructing reality from their experiences with the environment (Elkind, 1987).

Bruner (1968) indicated that learning that takes place in social contexts and social interaction is necessary for children to learn academic skills. The beginning years of school are when socialization skills begin to peak. The primary years are when childrens' social/emotional focus
broadens from a focus on parents or other significant adults such as the teacher, to people nearer to him or her in age (Bredekamp, 1987).

Oberlander (1989) attributes the success of her mixed-age program for five to eight year olds to a developmentally appropriate environment for young children without rejection or separation from peers. Children progress at their own pace in this program designed to match their needs and achievement. The program includes hands-on experiences, cooperative learning, peer tutoring, and an integrated curricular approach to learning. Emphasis is placed on the pleasure in learning and enhancing children’s self confidence as they master new objectives.

Cushman (1990) describes multi-age classrooms as places of learning where children develop and move at their own rate of learning. She states that a multi-age model fosters diversity rather than uniformity among children. The diversity alleviates many of the problems and stresses associated with graded classes, especially the policy of retention and an early sense of failure that many children have experienced. Children in these classes are allowed to progress at their own pace, helping academic achievement (Miller, 1989). She also observed the effectiveness of cooperative learning and peer tutoring. Children’s social skills grew in the mixed age classes as students developed attitudes of responsibility and tolerance for the differences found in their classmates. Cushman (1990) reported that deep personal bonds form between the teacher and students in
classes that stayed together for more than one year and the bonding helped diminish academic and discipline problems.

Research in child development and the learning process are two factors that have stimulated the growth of the multi-age classroom in primary schools. Columbia, Missouri’s Ridgeway Elementary School and Indianapolis, Indiana’s Key Elementary School are modern schools that have had tremendous success with the multi-age program (Lytle, 1991). Ridgeway Elementary began the multi-age program in 1972 and has been recognized as one of the top elementary schools in the nation. Ridgeway students excel academically and socially after progressing to junior and senior high (Lytle, 1991).

The Key School, another multi-age success, uses the multi-age philosophy based on Howard Gardner’s research. The Key School was founded in 1987 by a group of teachers who adopted Gardner’s philosophy of intelligence to help children build on their strengths. Teachers in the Key School provide opportunities for students to explore their seven intelligences in direct correlation with Gardner’s theory. Gardner describes intelligence as the capacity to solve problems or to fashion products valued in one or more cultural settings (Black, 1993). Gardner (1983) states that individuals have seven intelligences, and suggests that students are intelligent to some degree in each of the following areas: linguistic, musical, logical-mathematical, spatial, bodily-kinesthetic, interpersonal, and intrapersonal. Gardner also claims that schools with good learning environments allow children learning opportunities
in each of the seven intelligences.

Gardner contends schools should nurture children's interests and abilities, giving students plenty of enrichment and learning opportunities so they might discover their passion (Black, 1993). Each child is unique and the school must identify students' interests so they might better serve society and live a fulfilling and rewarding life.

Current educational research focuses on the learning process. Jane Healy's (1990) work concerning brain based learning is influencing the way schooling is conceptualized. Healy (1990) suggests that patterns are the keys to intelligence. Patterns refer to organizing and associating new information with previously developed "mental hooks" (Healy, 1990). Healy also notes that learning cannot take place until the child is ready and does so on his/her own. Effective teaching should be correlated with the developmental stages of children. Healy uses Piaget's work as a base and expands this to include her theories about the learning process. Healy states that teaching should be developmentally appropriate to achieve lasting effects.

Brain based research shows the learner's emotional state has a dramatic effect on learning (Shoemaker, 1989). This is why the multi-age characteristic of producing students who demonstrate greater enjoyment in school is important. Children achieve more success when school is pleasurable (Goodlad & Anderson, 1987). Successful multi-age programs are developed with this background in effective schools research.
Brain research also establishes and confirms that multiple complex and concrete experiences are essential for meaningful learning and teaching. According to Katz (1994), multi-age grouping provides older children with leadership opportunities and younger children with opportunities for more complex pretend play than they could initiate themselves. Therefore, these elements of mixed-age grouping compliment the research on brain based learning.

Another researcher who has reported on the learning process in early childhood education is D.R. Connell. Connell's (1987) work in the area of learning identified positive ways of grouping children. She and her colleagues grouped children in a pattern consistent with a philosophy that worked toward enhancing each child's self-image. The curriculum was developed around the children's needs and interests. Connell (1987) reports that with only these two changes, the end of year achievement scores went from one of the lowest of 24 schools to the highest. She reported that cooperation, rather than competition, was the driving force behind the success in her developmentally appropriate classroom. Implementing cooperative learning in the early childhood program has proven to be extremely beneficial in many schools. Increased acceptance of others, higher achievement, improved attitudes toward school, and enhanced self-esteem are a few of the results reported by the cooperative learning experiences that are implemented in the multi-age classroom (Augustine, Gruber, & Hanson, 1990).
Though cooperation is imperative in a multi-age classroom, it is difficult at times to achieve due to the individual differences of the children. Primary age children vary in their rate of intellectual and physical development. Children entering the first grade differ in mental age by approximately four full years (Goodlad & Anderson, 1987). If schools are to be successful, teachers must understand the developmental stages of young children, and education must be flexible in its expectations of achievement.

The National Association for the Education of Young Children (NAEYC) indicates that one index of the quality of primary education is the extent to which the curriculum and instructional methods are developmentally appropriate for children three through eight years of age (Bredekamp, 1987). The multi-age programs have been developed to provide a developmental approach by fostering heterogeneous grouping and individual instruction. The NAEYC supports schools' flexibility of grouping children while providing a quality educational program. Because of the emphasis placed on individual techniques, early childhood teachers in multi-age classrooms appear to have great knowledge of developmentally appropriate practices.

Some scholars have found that student differences enrich the learning environment. Doud and Finkelstein (1985) investigated a laboratory school that offered a multi-age classroom setting that promoted student differences. The multi-age program grouped four and five year olds with great differences, to provide a rich learning experience. Some
advantages they noted with multi-age grouping include: realizing children are unique individuals rather than "four year olds" or "kindergartners"; providing for a wide range of individual differences in mental, social, physical, and emotional development; allowing an opportunity for immature five year olds to interact with mature four year olds; erasing the stigma of retention; facilitating progress of children; and allowing teachers to work with the same children for multiple years. Having the opportunity to work with the same children for more than one year is identified as a major advantage in multi-age grouping. Working with the same children enables teachers to use the knowledge they gained about a child during the first year to plan learning experiences for the next year (Katz, Evangelou, & Hartman, 1990).

Further theoretical support of multi-age grouping is provided by Katz (1994). Katz suggests the effect of multi-age grouping on cognition developed from Brown and Palinscar's (1986) theory of cognitive conflict and Vygotsky's (1986) zone of proximal development. Cognitive conflict is not simply a descriptor of a less developed learner imitating a more developed learner, but develops out of the interaction of children with different levels of cognitive maturity. This interaction leads to the internalizing of new understandings. Vygotsky's zone of proximal development is similar because it also states the importance of achieving with help from a more knowledgeable or more skilled person. In a multi-age setting, both of
these ideas are recognized because student growth is 
stimulated by requiring children of all developmental stages 
to work together. Young children are able to assimilate and 
accommodate new information represented by the differences in 
understanding between themselves and more mature children.

Multi-age grouping offers numerous developmental 
benefits to all participants. The multi-age school 
organization invites cooperation, a whole language 
philosophy, integrated thematic teaching, learning centers, 
and other pro-social characteristics (Holmes & Morrison, 
1995). Through the interaction of learners in a less 
competitive environment, discipline problems can often be 
minimized (Katz, Evangelou, & Hartman, 1990). Factors such 
as these have prompted teachers to see many benefits in 
multi-age grouping.

Authentic learning plays a vital role in multi-age 
grouping. Authentic learning allows children to have 
learning experiences that are meaningful and different for 
each individual. Children come to the classroom with varying 
degrees of knowledge, and many believe this is where the 
multi-age concept differs from many other reform movements. 
The multi-age teacher takes the students where they are 
intellectually and socially and moves forward from that 
point.

Another significant aspect of multi-age grouping is the 
concept of nongradedness. Most schools have varying degrees 
of assessment, but the major ingredient in multi-age programs 
is nongradedness. The teachers' role is critical in this
area. Teacher observation of student behavior and work is communicated to parents without the use of grades. In a multi-age class the assessment is designed as a continuous progress model, lending itself to how children actually grow and learn. Nongraded groups have performed better or as well as graded groups on measures of academic achievement (Pavin, 1992). This presents another strong argument for the continuation and implementation of multi-age grouping.

Numerous advantages exist for multi-age organizational grouping in schools. Elkind (1987) suggests that biological and psychological times are variable while physical time is uniform. Within the same physical time period, one child may grow two inches while another child gains only a quarter of an inch of height. Likewise, within the same physical time period one child will discover decoding while another continues to struggle with letter discrimination. Age grouping based on physical time denies the fact that children are organisms and that they operate on variable biological and psychological time, not uniform physical time.

Another facet of multi-age grouping that coincides with the lifestyles of children today is the fact that increasing numbers of young children are spending larger proportions of their preschool years in settings outside of their homes (Katz, 1994). This means younger children are currently being mixed with different age groups even before they enter school. Therefore, it is significant to provide for developmental continuity for these children. Children should not have to adjust to major changes as they move from
preschool to regular school experiences (Swick, 1987). Schools need to prepare for children rather than children prepare for school. Children learn from watching and observing each other, and many are getting these experiences before they enroll in school.

The philosophies that help guide the multi-age grouping concept do not solve all of the educational problems of today. However, multi-age grouping, probably the most natural and lifelike way of organizing children for formal learning, appears to have many built-in advantages because of the developmentally appropriate strategies the teachers know and use in their classrooms.

**Current Trends and Outcomes in Early Childhood Education**

Changes in teaching methods, concern for individual differences, and concern for the social needs of children have prompted educators to see the long-term advantages of developmentally appropriate early childhood programs (Lodish, 1992). Many teachers state the advantages of a developmentally appropriate program are created because of the recent research and knowledge about child development. Such research indicates that it is very important to know as much as possible about how each student grows and develops (Elkind, 1987). The multi-age program allows the teacher an opportunity to spend two or three years with the same students in a learning community. Learning communities allow children to help each other understand concepts and build self-confidence (Morrow, 1992).
By allowing teachers the opportunity to work with children for more than one year, teachers can better see how children learn and grow. Teachers are also able to observe children of different ages and stages together. This allows them to make educational decisions based on material gathered from their observations and training. The observations are not usually isolated to one teaching professional. Because there are multiple ages of children, there almost always exists more than one teaching professional involved with the program (Grant & Johnson, 1994). Teachers can share information and learn different techniques and ideas from each other that ultimately help the children in the multi-age program (Katz, 1994).

The teachers in a multi-age classroom function as more than just directors of learning. Teachers become diagnosticians and consultants to each child, assessing the learning, listening to ideas, helping the student think through problems, and making suggestions (Enrich, 1990). Teachers and students both benefit from this new role. Students are able to work closer with others and make decisions based upon their experiences. The teacher helps guide and facilitate learning by providing numerous opportunities for growth. One of the largest challenges for teachers is to consciously stimulate cross-age interaction between students. Cross-age interaction provides advantages for all students and allows the multi-age grouping pattern to stimulate the most growth for the students (Katz, Evangelou, & Hartman, 1990). Research has shown students learn more
through student selected activities such as those found in multi-age programs using concrete experiences rather than workbook activities (Hoot, Bartkowiak, & Goupil, 1989).

By mixing the age groups in various student-selected learning activities the multi-age teacher derives order and system in guiding learners. The student's behavior also tends to be more appropriate because of student participation and the modeling of younger students with the older students. This allows the teacher more time for children rather than spending this time on the establishment and enforcement of rules (Hoot et al., 1989). Children become a part of establishing rules for their own classroom. By using a horizontal view of what is appropriate with the progression of pupils and empowering children to make choices students have more success (Goodlad & Anderson, 1987). Teachers' tendencies to teach all children the same lessons at the same time are reduced. Multi-age grouping compels educators to organize learning activities and curriculum so that individuals and small groups of children can work on different tasks together (Katz et al., 1990). These concepts benefit both the teacher and the student. This type of wide range instruction allows the novice student to learn at his/her own rate and to manage various cognitive challenges in the presence of "experts" (Brown & Reeve, 1985). Benefitting all levels of students is one of the major goals of a developmentally appropriate program and is evidenced in multi-age classrooms.
Along with the advantages of multi-age grouping, teachers must be observant not to succumb to some of the pitfalls that are present with this type of grouping. Current literature about multi-age grouping warns teachers about the dangers of overlooking older and more experienced children's needs in order to focus on the younger child's needs. Although this danger is in every class, it seems to be more prevalent in the multi-age environment (Katz, 1994). Teachers in the multi-age classroom must constantly be aware of this possibly damaging situation. All levels and ages of students need to be challenged (Whitmore, 1992). Research indicates teachers who do not attempt to meet the needs of all the students in a particular classroom tend to produce classrooms that are less developmentally appropriate. Developmentally inappropriate classrooms and inappropriate activities, such as workbook drill and practice, exhibit increased stress and less rewards for the students. Based on studies to date, it appears more certain that developmentally appropriate practices serve to reduce stress and provide strong foundational experiences for children's later development (Burts et al., 1992).

The success of multi-age grouping in relation to providing a developmentally appropriate program has proven to be successful in many school systems. The effectiveness as compared to single-age, graded classrooms is often dependent on who is being asked. However most research patterns consistently favor multi-age grouping (Pavin, 1992). Many positive results have been accomplished from the grouping
pattern previously mentioned; thus, resulting in increased multi-age programs in recent years (Willis, 1993).

**Teachers' Knowledge about Developmentally Appropriate Practices**

All educators have a belief system about how children learn that guides and influences their teaching practices. The National Association of Educating Young Children (NAEYC) and the National Association of Early Childhood Specialists from State Departments of Education (NAECS/SDE) have previously published positions (Bredekamp, 1987) that provide clear guidance about student learning. Early childhood teachers must become familiar with these teaching practices that foster high levels of learning. The NAEYC position statement addresses issues such as curriculum goals; teaching strategies; guidance of socio-emotional development; language/literacy development; cognitive, physical and aesthetic development; motivation; parent-teacher relations; assessment of children; and program entry and staffing (Bartkowiak, Hoot, & Goupil, 1992). All of these areas are vital in developing appropriate learning environments in early childhood education.

NAEYC's position statement expresses the importance of children learning language and literacy through a variety of experiences involving play, listening, reading stories, and other informal communications as compared to emphasizing letter recognition and alphabet-oriented skill development. This is done more readily through individual instruction rather than through whole group instruction. Individual
instruction versus whole group instruction requires teachers to plan accordingly. Because of the attempts to meet the needs of all students, experts agree that the individual teaching style requires more preparation time (Gaustad, 1992). Many multi-age teachers believe their program of instruction addresses the issue of needed preparation. This is an important factor in assessing the success of student learning in the multi-age classroom as compared to a single-age classroom. Teachers who spend more time in preparation are rewarded by the positive results from the time spent. These positive results ensure a school climate that has the power to increase student learning in the lives of children by devoting quality time to developing appropriate teaching practices (Benard, 1993).

Traditionally, teachers have believed instruction should focus on memorizing surface knowledge with a linear approach. Current literature now indicates that children have their own rhythms, aptitudes, prior experiences, and physical states, and it is important they are allowed to develop skills in a manner and pace that is natural (Seaberg, 1990). For learning to be meaningful, children must believe school activities are relevant to personal experiences. Relevant learning humanizes the curriculum. Children are stimulated through teachers who initiate learning and are able to strike a chord with their motivations and interests. When a child is engaged in an experience or activity, learning occurs in many domains (Elkind, 1987).
The multi-age program was developed to recognize the importance of children's interests in planning curriculum. The multi-age purists agree with NAEYC's position on curriculum that states involving the students, parents, community and educators establishes a program that promotes the highest levels of learning (Cushman, 1990). School is not about teachers donating ideas to students, it is about students learning on their own and being guided by teachers (Sizer, 1989). The multi-age teacher becomes a facilitator of learning, rather than just the giver of knowledge (Stone, 1996). Early childhood teachers must facilitate the child's growth in all areas to meet individual developmental needs and interests. For this to occur, time must be set up for teachers to work collaboratively and strengthen their own skills by listening to others. This planning time is paramount in the multi-age program. By allowing teachers time to work together, professional growth occurs in a very naturalistic manner. For teachers to remain vital, engaged, and committed to teaching, they must have time for dialogue and reflection away from daily demands of the classroom (Boles & Troen, 1992). This has never been more important than in today's early childhood classrooms. Teachers, themselves, are at times the best resource for professional change and growth (Reedy, 1990). Opportunities provided throughout the workday to discuss teaching has proven to be very energizing for multi-age teachers, and the multi-age program is geared for this planning process (Scherer, 1992).
For education to be successful, whether it takes place in a single-age, graded classroom, a multi-age classroom, or another instructional program, most teachers claim they must have adequate time for planning with their peers. When there is insufficient developmental time for teachers, teachers begin to become overburdened with the entire educational process. Gaustad (1992) states that inadequate planning leads to teacher burnout and ultimately changes in professions. An extremely important strategy, though one often overlooked in reform efforts, is improving opportunities for teachers' collaboration (Boles & Troen, 1992). Multi-age teachers believe this is one component that must not be overlooked. Multi-age programs are designed to ensure proper teacher planning and collaborative time with other teachers. Data are beginning to show that teachers with more preparation time and a greater understanding about child development are more likely to carry out appropriate practices in their classrooms (Mitchell & Modigliani, 1989). The question of whether equalization of planning time among single-age, graded classroom teachers and multi-age teachers would be measurable still remains. Regardless of the instructional program, determining the benefits of a developmental education is an area rich in opportunities for more in-depth research.

Along with adequate planning time, a positive learning environment must include teachers who have adequate knowledge of child development and educational strategies that support children’s learning styles (Surbeck, 1992). No matter how
well a teacher understands child development, curriculum, and current methodologies; knowledge of children is essential to creating a positive learning environment. Knowing and understanding children and their individual learning styles takes a significant amount of time. Multi-age teachers have the opportunity to work with the students for more than one year, allowing greater potential for understanding the learners. Teachers are challenged and encouraged by talking with other teachers about what is happening in their own classroom. By collaborating with other teachers, effective techniques can be implemented that might be missing from their own style of teaching. Teachers working together can create their own staff development programs thus supporting their maturation in thinking and classroom behaviors (Fenstermacher & Berliner, 1983).

Multi-age grouping is seen as different from other reform movements by many researchers because of the fact that multi-age grouping helps create a climate for continuous learning on the part of both teachers and students (Enrich, 1990). Teachers become action researchers (Keedy, 1990) attempting to learn more about their educational environment to create more successful opportunities for their students. Instead of focusing on skills training for teachers, the new staff development for multi-age teachers emphasizes collegial interaction, reflecting on their competence, posing questions about their work, and advocating new programs (Lambert, 1989). All of these components are essential for teachers' professional growth.
Experiences children have in early childhood programs depend more upon "good" teaching rather than upon the age characteristics of the participants (Katz, 1988). As in all aspects of good practice, a skilled and sensitive teacher's judgment makes the difference between a mediocre educational experience for a child and educational excellence (Theilheimer, 1993). Educational excellence in early childhood programs has been demonstrated to be individual and developmentally appropriate. Determining factors leading to quality instruction of a developmental program are a significant part of this research study.

Summary

The review of literature provides a background of information about the foundation, philosophy, current trends of multi-age programs, and teachers' knowledge about developmentally appropriate instructional strategies. Though the single-age, graded structure still dominates public school organization today, many schools are moving away from this type of organization and moving toward an approach that relates more closely to a developmentally appropriate practice of learning. Multi-age grouping, a developmentally appropriate program, is one approach that has provided many benefits for children. However, as with all new instructional strategies, additional research is imperative. According to Isenberg (1988) it is important to study teacher beliefs and practices as they relate to teaching and learning to change teaching practice. Because of the importance of
this issue there is a need for more research regarding learning and how it relates to the multi-age classroom.
CHAPTER 3
METHODS AND PROCEDURES

This chapter contains a description of the study, the methods and procedures used to collect the data, and the selection of subjects used in the study. Additionally, it provides a description of the instrument used, and a summary of the statistical analysis of the data.

Description of the Study

Descriptive data were collected to test hypotheses relative to developmentally appropriate beliefs and practices among multi-age and single-age programs. The study was a causal-comparative study aimed at the discovery of possible causes and effects of a behavior pattern within a particular group (Borg & Gall, 1989). The purpose of the study was to compare the beliefs and practices from multi-age and single-age teachers in Tennessee's First Educational District about developmentally appropriate education. The results of the research will be generalized according to selected schools in the First District.

Data were analyzed descriptively and a correlation coefficient was used to determine significant relationships in responses between teachers in multi-age and single-age classrooms. Additionally, the data were analyzed for a comparison of beliefs and actual classroom practices between teachers in both programs.
A review of related literature was necessary to formulate a thorough background for the study. Research was accomplished by using Internet, ERIC, Magellan, and INFO TRAC computer searches at East Tennessee State University. In addition, the Dissertation Abstracts International, Education Index, and the Current Index to Journals in Education at East Tennessee State University were referenced.

Population

The population for this study consisted of early childhood teachers (K-3) in multi-age and single-age classrooms in Northeast Tennessee. A list of these educators was obtained from the Directory of Public Schools in Northeast Tennessee and the First Tennessee Regional Office of the State Department of Education. The population included male and female teachers from 35 schools in the First Educational District with both multi-age and single-age programs. The total population of K-3 teachers was 235. Basic assumptions were made about the population based on current literature. It was assumed that multi-age programs were organized based on the multi-age philosophy.

Instrumentation

A survey instrument in the questionnaire format was used to provide data for the study. Teachers' Beliefs and Practices Instrument developed by Charlesworth, Burts, Buchanan, Fleege, and Madison (1992) was the instrument used. Permission was granted for the use of the instrument (Appendix A). The initial development of the instrument was
intended for kindergarten teachers. Later research and development produced the instrument used in this study. Items were constructed corresponding to the NAEYC guidelines for children ages 0-8.

The questionnaire includes items that yield demographic information from participants concerning their educational experience and training as well as the influence each respondent believes he/she has in the classroom about specifications. The questionnaire consisted of two sections, both scored by a Likert scale ranging from 1 to 5. Section one contains 36 items relating to developmentally appropriate beliefs. Section two contains 27 items relating to developmentally appropriate practices. The items were given a score between 1 and 5. A rating of 5 indicates the strongest belief or practice in developmental education. A score of 1 represents a developmentally inappropriate response.

A number of early childhood researchers have used and are continuing to use the Teachers' Beliefs and Practices Instrument (Appendix B). A panel of experts with extensive early childhood experience examined the document in an effort to increase the survey's validity. Each expert chosen was asked to validate the instrument by responding to its clarity, completeness, and accuracy for kindergarten through third grade teachers. Additionally, these experts were asked to suggest other relevant information for the questionnaire.

The subscale reliability of the instrument was assessed by Cronbach’s alpha. High levels of internal consistency.
were obtained for beliefs and practices. The reliability coefficient for beliefs of developmental appropriateness was .94 and .90 for practices of developmental appropriateness.

**Procedures**

Respondents received the survey instrument and a cover letter containing a brief explanation of the study. The instructional supervisor and/or school principal were contacted prior to distribution of the survey. Surveys were either mailed directly to the school principal or hand delivered by the researcher. Respondents were asked to anonymously complete and return the survey to the school principal. Once all surveys were completed, they were sent forwarded to the researcher.

Two weeks after distribution of the survey, those principals from schools who had not responded were telephoned again by the researcher and asked to remind the teachers of the importance of the study.

**Data Analysis**

Descriptive and inferential statistics were used to analyze the data in this study. Demographic information was collected from the respondents and the statistical package for Social Sciences (SPSS/PC+) was used for computer compilation. The researcher examined demographic information such as experience, educational background, grade and organizational structure of the classroom, as well as early childhood training.
After surveys were returned and analyses begun, the first process was to recode negatively phrased items on the questionnaire. The next statistical process was to calculate frequencies from the questionnaire. Each subscale, beliefs and practices, was totaled to give the respondent a total score for each section. After examination of frequencies, an orthogonal factor analysis (varimax rotation) was conducted to assess factorial validity (Rummel, 1970) of the instrument. The varimax rotation was used with the resulting factors being uncorrelated. This orthogonal factor analysis was used to explore relationships between teachers' perceptions of their own beliefs and practices. The pattern of factor loadings were consistent with the scoring of items, except that belief statement number 29 was loading negatively (rather than positively as it was scored) and needed to be recoded to increase the reliability of the instrument.

To increase the ability to select proper factors an oblique factor analysis was calculated using SPSS. When using the oblique rotation, it must be assumed the resulting factors are uncorrelated (Gorsuch, 1983). Oblique rotation delineates a pattern and structure matrix for primary and reference axes, thus resulting in a preferable statistical procedure for this study (Rummel, 1970). The factor analysis for the belief subscale noted two strong factors, Active Child Participation and Developmentally Appropriate Teaching Strategies. The factor analysis for the practice subscale noted three strong factors, Child Initiated Activities, Appropriate Learning Strategies, and Teacher Directed
Activities.

As a result of the oblique rotation, factor scores of use in subsequent analyses were created by assigning factor scores for each person on each factor. Correlational analysis was used to explore relationships between multi-age and single-age teachers in regard to developmentally appropriate beliefs and instructional practices.

Summary

Chapter 3 presents the methodology and procedures used in this study. The compilation of information gained from Chapter 3 research was used to develop a step-by-step plan providing the framework for the study.

The population included teachers of multi-age and single-age classrooms in the First Educational District of Tennessee. Results of the research will be found in Chapter 4.
CHAPTER 4

RESULTS

Presentation of Data and Analysis of Findings

Data collected from this study were obtained from questionnaires sent to early childhood teachers in selected multi-age or single-age classrooms of Tennessee's First Educational District during the 1996-97 school year. The purpose of the study was to compare the beliefs and practices about developmental education of early childhood teachers. The questionnaire consisted of demographic questions, 36 attitudinal statements related to beliefs and 27 statements related to instructional practices.

The independent variables used in this study were instructional programs, classroom influence, highest degree, years of experience, and years in the organizational structure. Five dependent variables were created from the oblique factor analysis. The oblique factor analysis produced two strong belief factors and three strong practice factors. Subscale reliability was assessed by Cronbach's alpha. High levels of internal consistency were obtained from the two subscales (beliefs, .94 & practices, .90). Two other dependent variables were global scores for developmentally appropriate beliefs and practices created by summing the scores for the belief subscale and following the same process for the practice subscale.

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Presentation of Demographic Data

The questionnaire was returned by 151 early childhood educators, representing 65% of the total population. Of the 235 teachers in the population, 42% were in multi-age classrooms and 58% were in single-age classrooms. The return rate was enhanced due to the researcher's personal contact with the principals and/or instructional supervisors.

Demographic information of the respondents included highest degree earned, area of specialization, years of experience, classroom organizational structure, and years taught in the organizational structure. Full demographic data are presented in Tables 1-5.

TABLE 1

<table>
<thead>
<tr>
<th>Degree</th>
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<tbody>
<tr>
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<td>42.4</td>
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<tr>
<td>BA</td>
<td>26</td>
<td>17.2</td>
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</tr>
<tr>
<td>TOTAL</td>
<td>150</td>
<td>99.3</td>
</tr>
</tbody>
</table>

Note: Missing value is excluded from the table.

As shown in Table 1, the highest percentage of teachers in this research study had a bachelor's degree. These teachers represented more than half of the population. The remaining respondents reported having a master's of education degree or a master's of science degree.
The majority of teachers responded to the questionnaire by stating their area of specialization was elementary education. This number represents 76.8% of the population. The next highest percentage of respondents reported having a specialization in early childhood education. Less than five percent of the teachers responding had special education expertise or teaching endorsements in other areas.

TABLE 2

AREA OF SPECIALIZATION

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<tr>
<th>Specialization</th>
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<th>(%)</th>
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<tr>
<td>Elementary Education</td>
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<td>76.8</td>
</tr>
<tr>
<td>Early Childhood</td>
<td>27</td>
<td>17.9</td>
</tr>
<tr>
<td>Special Education</td>
<td>2</td>
<td>1.3</td>
</tr>
<tr>
<td>Other</td>
<td>5</td>
<td>3.3</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>150</td>
<td>99.3</td>
</tr>
</tbody>
</table>

Note: Missing value is excluded from the table.

TABLE 3

YEARS OF EXPERIENCE

<table>
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<th>Years of experience</th>
<th>frequency(f)</th>
<th>percentage(%)</th>
</tr>
</thead>
<tbody>
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<td>0-5</td>
<td>40</td>
<td>26.5</td>
</tr>
<tr>
<td>6-10</td>
<td>43</td>
<td>28.4</td>
</tr>
<tr>
<td>11-15</td>
<td>27</td>
<td>17.8</td>
</tr>
<tr>
<td>16-20</td>
<td>20</td>
<td>13.3</td>
</tr>
<tr>
<td>21-25</td>
<td>8</td>
<td>5.3</td>
</tr>
<tr>
<td>26-30</td>
<td>11</td>
<td>7.3</td>
</tr>
<tr>
<td>31-35</td>
<td>2</td>
<td>1.3</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>151</strong></td>
<td><strong>100</strong></td>
</tr>
</tbody>
</table>
Table 3 presents the number of years of teaching experience. The majority of teachers had fewer than 10 years (54.9%) of experience. Twenty-eight percent had between six and 10 years of experience. Thirty percent of the teachers reported having between 11 and 20 years of experience.

**TABLE 4**

<table>
<thead>
<tr>
<th>CLASSROOM ORGANIZATIONAL STRUCTURE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Organizational structure</td>
</tr>
<tr>
<td>(f) (%)</td>
</tr>
<tr>
<td>kindergarten</td>
</tr>
<tr>
<td>1st grade</td>
</tr>
<tr>
<td>2nd grade</td>
</tr>
<tr>
<td>3rd grade</td>
</tr>
<tr>
<td>kindergarten/1st</td>
</tr>
<tr>
<td>kindergarten/1st/2nd</td>
</tr>
<tr>
<td>1st/2nd grades</td>
</tr>
<tr>
<td>1st/2nd/3rd grades</td>
</tr>
<tr>
<td>2nd/3rd grades</td>
</tr>
<tr>
<td>Total</td>
</tr>
</tbody>
</table>

Table 4 represents the classroom organizational structure of the teachers participating in the early childhood survey. Eighty-eight (58.3%) teachers reported being in a single-age classroom. Sixty-three (41.7%) teachers reported teaching in a multi-age classroom. The largest number of teachers responding to the survey were kindergarten teachers (20.5%). Seventeen teachers (11.3%) were in the first grade classroom. Eighteen (11.9%) and 22 (14.6%) teachers respectively, taught in 2nd and 3rd grades.
The multi-age teachers had five different combinations of classroom age organization. The largest number of teachers reported having a first, second, and third grade combination (15.9%). The next largest number of multi-age teachers had a second and third grade combination of students (8.6%). The kindergarten and first grade teachers represented 7.9% of the population, while 4.6% represented both the kindergarten, first, and second combination along with teachers in the first and second combination.

### Table 5

**YEARS TAUGHT IN THE ORGANIZATIONAL STRUCTURE**

<table>
<thead>
<tr>
<th>Number of Years</th>
<th>(f)</th>
<th>(%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-5</td>
<td>75</td>
<td>49.5</td>
</tr>
<tr>
<td>6-10</td>
<td>47</td>
<td>31.2</td>
</tr>
<tr>
<td>11-15</td>
<td>9</td>
<td>6.0</td>
</tr>
<tr>
<td>16-20</td>
<td>9</td>
<td>6.0</td>
</tr>
<tr>
<td>21-25</td>
<td>8</td>
<td>5.3</td>
</tr>
<tr>
<td>26-30</td>
<td>3</td>
<td>2.0</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>151</td>
<td>100</td>
</tr>
</tbody>
</table>

Of the total population almost half of the respondents (49.5%) reported being in the same organizational structure for less than five years. Thirty-one percent (31.2%) reported being in the same organizational structure for 6 to 10 years. Twelve percent reported teaching in their current organizational structure between 11 and 20 years. Only seven percent of the teachers reported being in their current structure for more than 20 years.
Information was gathered concerning the longest amount of uninterrupted time teachers had with their children. The results are found in Table 6.

<table>
<thead>
<tr>
<th>Time</th>
<th>frequency(f)</th>
<th>percentage(%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>15 min.</td>
<td>2</td>
<td>1.3</td>
</tr>
<tr>
<td>30 min.</td>
<td>18</td>
<td>11.9</td>
</tr>
<tr>
<td>40 min.</td>
<td>1</td>
<td>.7</td>
</tr>
<tr>
<td>45 min.</td>
<td>26</td>
<td>17.2</td>
</tr>
<tr>
<td>60 min.</td>
<td>76</td>
<td>50.3</td>
</tr>
<tr>
<td>75 min.</td>
<td>1</td>
<td>.7</td>
</tr>
<tr>
<td>90 min.</td>
<td>15</td>
<td>10.8</td>
</tr>
<tr>
<td>Total</td>
<td>139</td>
<td>92.9</td>
</tr>
</tbody>
</table>

Note: missing values were excluded from the table.

The largest block of time teachers reported having without interruptions was 60 minutes (50.3%). The next largest amount of uninterrupted time noted by teachers was 45 minutes (17.2%). The majority of the other respondents reported having less than 45 minutes without interruptions.

Table 7 indicates the amount of influence teachers believe occurs in their individual classroom with planning and implementing instruction. Teachers were asked to respond to this question by placing percentages next to the influence sources. The percentages summed should equal 100%. The results are found in Table 7.
### TABLE 7

PERCEIVED SOURCES OF INFLUENCE WITH PLANNING AND IMPLEMENTING INSTRUCTION

<table>
<thead>
<tr>
<th>% of Influence</th>
<th>(f)</th>
<th>(%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Parents:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>0-20%</td>
<td>138</td>
<td>93.9</td>
</tr>
<tr>
<td>21-40%</td>
<td>9</td>
<td>6.2</td>
</tr>
<tr>
<td>41-60%</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>61-80%</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>81-100%</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>School System:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>0-20%</td>
<td>124</td>
<td>76.2</td>
</tr>
<tr>
<td>21-40%</td>
<td>21</td>
<td>14.3</td>
</tr>
<tr>
<td>41-60%</td>
<td>1</td>
<td>.7</td>
</tr>
<tr>
<td>61-80%</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>81-100%</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>State Regulations:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>0-20%</td>
<td>112</td>
<td>76.2</td>
</tr>
<tr>
<td>21-40%</td>
<td>20</td>
<td>13.7</td>
</tr>
<tr>
<td>41-60%</td>
<td>11</td>
<td>7.4</td>
</tr>
<tr>
<td>61-80%</td>
<td>4</td>
<td>2.7</td>
</tr>
<tr>
<td>81-100%</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Other Teachers:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>0-20%</td>
<td>142</td>
<td>96.6</td>
</tr>
<tr>
<td>21-40%</td>
<td>4</td>
<td>2.8</td>
</tr>
<tr>
<td>41-60%</td>
<td>1</td>
<td>.7</td>
</tr>
<tr>
<td>61-80%</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>81-100%</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Teacher (yourself):</td>
<td></td>
<td></td>
</tr>
<tr>
<td>0-20%</td>
<td>39</td>
<td>26.5</td>
</tr>
<tr>
<td>21-40%</td>
<td>43</td>
<td>29.2</td>
</tr>
<tr>
<td>41-60%</td>
<td>35</td>
<td>23.9</td>
</tr>
<tr>
<td>61-80%</td>
<td>22</td>
<td>14.9</td>
</tr>
<tr>
<td>81-100%</td>
<td>8</td>
<td>5.5</td>
</tr>
<tr>
<td>Principal:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>0-20%</td>
<td>135</td>
<td>91.8</td>
</tr>
<tr>
<td>21-40%</td>
<td>12</td>
<td>8.2</td>
</tr>
<tr>
<td>41-60%</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>61-80%</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>81-100%</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

**Note:** Missing values were excluded from the table.
As shown in Table 7, 93% percent of teachers reported they believed parents have a 20% or less amount of influence within the classroom. Eight percent of the teachers responded by stating parents have between a 21% and 40% degree of influence with planning and implementing instruction in the classroom.

Table 7 also indicates the amount of influence teachers believed the school system has with planning and implementing instruction. Seventy-six percent of the teachers responding stated they believed the school system's influence on instruction is 20% or less. Fourteen percent of teachers responded by stating they believe school system's influence on classroom instruction was between 21% and 40%. Less than one percent of the respondents (.7%) stated school system's influence with instruction is more than 40%.

The respondents reported the amount of influence state regulations have with instruction was very similar to the influence the school system has within the classroom. The discrepancies between the groups occurred with the percentages over 40%. Seven percent of the teachers reported an influence between 41% and 60%. Three percent of the teachers believed the degree of influence was between 61% and 80%.

As shown in Table 7 almost 97% of the teachers responded by stating they believed other teachers had a 20% or less amount of influence with planning and implementing instruction in the classroom. The next largest percentage of influence teachers reported with regard to influence in
instruction was between 11% and 20%. Less than 5% of the teachers stated they believed other teachers had greater than a 20% amount of influence with planning and implementing instruction.

The amount of influence teachers indicated they believe they personally have on the planning and implementation of instruction varied. Thirty-nine respondents (26.5%) indicated the impact of personal influence with planning and instruction between 0% and 20%. Forty-three teachers (29.2%) responded by stating the degree of personal influence was between 21% and 40%. Thirty-five (23.9%) teachers reported the influence was between 41% and 60%. The remaining thirty (20.4%) respondents indicated they believed the degree of influence they had with planning and implementing instruction in the classroom was greater than 60%.

Table 7 also represents the degree teachers believe principals impact the planning and implementation of instruction in the early childhood classroom. Over 91% of the respondents stated principals have a 20% or less degree of influence within the classroom. The remaining respondents (8.2%) reported principals' degree of influence was between 21% and 40%.

In summary, the source with the greatest range of responses was the influence the teachers indicated they believed they personally had within the classroom. The average degree of influence teachers reported they believed they had in their own classroom among was almost 42%.
Table 8 represents the frequencies and percentages from respondents based on the belief portion of the questionnaire. The individual’s responses for items were summed for a total score.

**TABLE 8**

**FREQUENCIES AND PERCENTAGES BASED ON DEVELOPMENTALLY APPROPRIATE BELIEFS**

<table>
<thead>
<tr>
<th>Belief value range (36-180)</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>96-106</td>
<td>16</td>
<td>10.9</td>
</tr>
<tr>
<td>107-116</td>
<td>11</td>
<td>7.6</td>
</tr>
<tr>
<td>117-126</td>
<td>27</td>
<td>16.4</td>
</tr>
<tr>
<td>127-136</td>
<td>29</td>
<td>19.8</td>
</tr>
<tr>
<td>137-146</td>
<td>27</td>
<td>18.3</td>
</tr>
<tr>
<td>147-156</td>
<td>25</td>
<td>17.0</td>
</tr>
<tr>
<td>157-170</td>
<td>12</td>
<td>8.3</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>147</strong></td>
<td><strong>98.3</strong></td>
</tr>
</tbody>
</table>

Group mean = 132

Note: missing values were excluded from the table.

As shown in Table 8 the group mean was 132, with the lowest score of beliefs, 96, and the highest score, 170. The majority (19.8%) of the teachers responding had a belief score between 127 and 136.

Table 9 represents the frequencies and percentages based on teachers’ responses about developmentally appropriate practices. Complete data are presented in Table 9.
Table 9

Frequencies and Percentages Based on Developmentally Appropriate Practices

<table>
<thead>
<tr>
<th>Practices value range (27-135)</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>54-64</td>
<td>5</td>
<td>3.6</td>
</tr>
<tr>
<td>65-75</td>
<td>28</td>
<td>17.3</td>
</tr>
<tr>
<td>76-85</td>
<td>29</td>
<td>20.9</td>
</tr>
<tr>
<td>86-95</td>
<td>35</td>
<td>27.2</td>
</tr>
<tr>
<td>96-105</td>
<td>19</td>
<td>13.6</td>
</tr>
<tr>
<td>106-116</td>
<td>17</td>
<td>12.1</td>
</tr>
<tr>
<td>117-125</td>
<td>9</td>
<td>6.5</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>142</strong></td>
<td><strong>268.6</strong></td>
</tr>
</tbody>
</table>

Group mean = 89.6

Note: Missing values were excluded from the table.

As indicated in Table 9 the largest group of the population (27.2%) scored between 86 and 95. The lowest score on the practices section of the questionnaire was 54, with the highest score, 125.

Factor Analyses of the Instrument

To assess the factorial validity of the questionnaire measures, an oblique factor analysis was conducted and the results are shown in Tables 10 and 11.
### TABLE 10

**OBLIQUE FACTOR ANALYSIS OF BELIEFS USING PATTERN MATRIX**

<table>
<thead>
<tr>
<th>Item</th>
<th>Factor 1</th>
<th>Factor 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>B13</td>
<td>.76192</td>
<td></td>
</tr>
<tr>
<td>B26</td>
<td>.74956</td>
<td></td>
</tr>
<tr>
<td>B10</td>
<td>.73535</td>
<td></td>
</tr>
<tr>
<td>B14</td>
<td>.71538</td>
<td></td>
</tr>
<tr>
<td>B24</td>
<td>.71457</td>
<td></td>
</tr>
<tr>
<td>B11</td>
<td>.70470</td>
<td></td>
</tr>
<tr>
<td>B28</td>
<td>.70107</td>
<td></td>
</tr>
<tr>
<td>B27</td>
<td>.69100</td>
<td></td>
</tr>
<tr>
<td>B23</td>
<td>.69048</td>
<td></td>
</tr>
<tr>
<td>B18</td>
<td>.68425</td>
<td></td>
</tr>
<tr>
<td>B21</td>
<td>.68277</td>
<td></td>
</tr>
<tr>
<td>B32</td>
<td>.67533</td>
<td></td>
</tr>
<tr>
<td>B35</td>
<td>.66650</td>
<td></td>
</tr>
<tr>
<td>B36</td>
<td>.66036</td>
<td></td>
</tr>
<tr>
<td>B6</td>
<td>.64249</td>
<td></td>
</tr>
<tr>
<td>B33</td>
<td>.63774</td>
<td></td>
</tr>
<tr>
<td>B22</td>
<td>.63141</td>
<td></td>
</tr>
<tr>
<td>B34</td>
<td>.63064</td>
<td></td>
</tr>
<tr>
<td>B12</td>
<td>.53071</td>
<td></td>
</tr>
<tr>
<td>B30</td>
<td>.52909</td>
<td></td>
</tr>
<tr>
<td>B9</td>
<td></td>
<td>.76666</td>
</tr>
<tr>
<td>B15</td>
<td></td>
<td>.73604</td>
</tr>
<tr>
<td>B4</td>
<td></td>
<td>.73596</td>
</tr>
<tr>
<td>B19</td>
<td></td>
<td>.67668</td>
</tr>
<tr>
<td>B17</td>
<td></td>
<td>.66787</td>
</tr>
<tr>
<td>B25</td>
<td></td>
<td>.64749</td>
</tr>
<tr>
<td>B29</td>
<td></td>
<td>.63029</td>
</tr>
<tr>
<td>B20</td>
<td></td>
<td>.59777</td>
</tr>
<tr>
<td>B16</td>
<td></td>
<td>.55577</td>
</tr>
</tbody>
</table>

**Note:** Only factor pattern matrix coefficients > .50 are listed in the table.

Table 10 presents oblique factor scores using a pattern matrix for beliefs. Factors were selected by the skree plot criterion. The .50 level was chosen for selection within the factors.

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TABLE 11

OBLIQUE FACTOR ANALYSIS OF PRACTICES USING PATTERN MATRIX

<table>
<thead>
<tr>
<th>Item</th>
<th>Factor 1</th>
<th>Factor 2</th>
<th>Factor 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>P6</td>
<td>.78239</td>
<td></td>
<td></td>
</tr>
<tr>
<td>P1</td>
<td>.70292</td>
<td></td>
<td></td>
</tr>
<tr>
<td>P17</td>
<td>.69711</td>
<td></td>
<td></td>
</tr>
<tr>
<td>P4</td>
<td>.66083</td>
<td></td>
<td></td>
</tr>
<tr>
<td>P3</td>
<td>.65304</td>
<td></td>
<td></td>
</tr>
<tr>
<td>P10</td>
<td>.62787</td>
<td></td>
<td></td>
</tr>
<tr>
<td>P2</td>
<td>.58536</td>
<td></td>
<td></td>
</tr>
<tr>
<td>P16</td>
<td></td>
<td>.83682</td>
<td></td>
</tr>
<tr>
<td>P12</td>
<td></td>
<td>.79561</td>
<td></td>
</tr>
<tr>
<td>P21</td>
<td></td>
<td>.76250</td>
<td></td>
</tr>
<tr>
<td>P14</td>
<td></td>
<td>.58284</td>
<td></td>
</tr>
<tr>
<td>P22</td>
<td></td>
<td></td>
<td>.85454</td>
</tr>
<tr>
<td>P19</td>
<td></td>
<td></td>
<td>.57580</td>
</tr>
</tbody>
</table>

Note: only factor pattern matrix coefficients >.50 are listed in the table

Table 11 presents oblique factor scores using a pattern matrix for practices. Factors were selected by the skree plot criterion. The .50 level was chosen for selection of items within the factors.

Six research questions guided the study of multi-age and single-age teachers’ beliefs and practices about developmental education. Twenty three null hypotheses were tested and these were based on responses to questions on the beliefs and practices sections of the Teacher’s Beliefs and Practices Questionnaire.

Research Question 1

Is there a relationship between the instructional program and early childhood teachers’ expressed developmental beliefs?
Teacher beliefs were measured by using factor scores for the beliefs subscale. Two strong factors displayed through the oblique rotation were Active Child Participation and Developmentally Appropriate Teaching Strategies. An overall score on the total Beliefs Developmentally Appropriate subscale was also assessed. The t-test for independent means was used to address question 1 and null hypotheses 1-3.

H_01. There will be no significant difference between multi-age and single-age teachers' beliefs about overall developmental appropriateness.

H_02. There will be no significant difference between multi-age and single-age teachers' beliefs about children's active participation.

H_03. There will be no significant difference between multi-age and single-age teachers' beliefs about developmentally appropriate strategies. Results of the analyses are shown in Table 12.

**TABLE 12**

RESULTS OF t-TESTS FOR HYPOTHESES 1-3: DIFFERENCES OF BELIEFS ABOUT DEVELOPMENTAL APPROPRIATENESS, ACTIVE CHILD PARTICIPATION, AND DEVELOPMENTALLY APPROPRIATE TEACHING STRATEGIES

<table>
<thead>
<tr>
<th></th>
<th>Multi-age</th>
<th>Single-age</th>
<th>Homogeneity of Variance</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>M</td>
<td>M</td>
<td>F</td>
<td>p</td>
<td>t*</td>
</tr>
<tr>
<td>H_01</td>
<td>139.88</td>
<td>126.90</td>
<td>1.25</td>
<td>.351</td>
<td>4.71</td>
</tr>
<tr>
<td>H_02</td>
<td>.1217</td>
<td>-.0888</td>
<td>1.29</td>
<td>.295</td>
<td>1.22</td>
</tr>
<tr>
<td>H_03</td>
<td>.4790</td>
<td>-.3494</td>
<td>1.60</td>
<td>.046</td>
<td>5.00</td>
</tr>
</tbody>
</table>

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A pooled variance test for hypothesis one was used because the variances were equal and a t-test for independent means was used to test the hypothesis. The two-tailed probability was .0005; therefore, the null for hypothesis one was rejected. There was a significant difference between the multi-age and single-age teachers' beliefs about developmental appropriateness. Multi-age teachers' beliefs were more congruent with developmental appropriateness.

A pooled variance test was also used for hypothesis two because the variances were equal. A t-test for independent means was used to test the hypothesis. The two-tailed probability was .226; therefore, the null for hypothesis two was retained. There was no significant difference between multi-age and single-age teachers' beliefs about child participation.

A separate variance test was used for hypothesis three because the variances were not equal. A t-test for independent means was used to test hypothesis three. The two-tailed probability was .0005; therefore, the null hypothesis was rejected. There was a significant difference between beliefs regarding developmentally appropriate teaching strategies among teachers in multi-age and single-age classrooms. Single-age teachers' survey answers were not consistent with developmentally appropriate responses, while multi-age teachers responses were more developmentally appropriate answers.
Research Question 2

Is there a relationship between the instructional program and early childhood teachers' expressed developmental practices?

Teacher instructional practices were measured by using factor scores for the practice subscale. Three strong factors, Child Initiated Activities, Appropriate Learning Strategies, and Teacher Directed Activities, were displayed through the oblique factor analysis. The summation on the practice subscale was also assessed. The t-test for independent means was used to address question 2 and null hypotheses 4-7.

H₀4. There will be no significant difference between multi-age and single-age teachers' instructional practices related to child initiated activities.

H₀5. There will be no significant difference between multi-age and single-age teachers' instructional practices related to inappropriate learning strategies.

H₀6. There will be no significant difference between multi-age and single-age teachers' instructional practices related to Teacher Directed Activities.

H₀7. There will be no significant difference between multi-age and single-age teachers' overall use of developmentally appropriate instructional practices. Results of the analyses are listed in Table 13.
TABLE 13
RESULTS OF t-TESTS FOR HYPOTHESIS 4-7: DIFFERENCES OF INSTRUCTIONAL PRACTICES REGARDING CHILD INITIATED ACTIVITIES, INAPPROPRIATE LEARNING STRATEGIES, TEACHER DIRECTED ACTIVITIES, AND DEVELOPMENTALLY APPROPRIATE INSTRUCTIONAL PRACTICES

<table>
<thead>
<tr>
<th></th>
<th>Multi-age</th>
<th>Single-age</th>
<th>Homogeneity of Variance</th>
</tr>
</thead>
<tbody>
<tr>
<td>H04</td>
<td>.1897</td>
<td>-.1417</td>
<td>2.12</td>
</tr>
<tr>
<td>H05</td>
<td>.4619</td>
<td>-.3450</td>
<td>1.58</td>
</tr>
<tr>
<td>H06</td>
<td>.2686</td>
<td>-.2005</td>
<td>1.01</td>
</tr>
<tr>
<td>H07</td>
<td>.9786</td>
<td>.8338</td>
<td>1.18</td>
</tr>
</tbody>
</table>

A separate variance test for hypothesis four was used since the variances were not equal. A t-test for independent means was used to test the hypothesis. The two-tailed probability was .048; therefore, the null for hypothesis four was rejected. Multi-age teachers’ practices regarding child initiated activities are more developmentally appropriate.

A pooled variance test for hypothesis five was used since the variances were equal. A t-test for independent means was used to test the hypothesis. The two-tailed probability was .0005; therefore, the null for hypothesis five was rejected. There was a significant difference between multi-age and single-age teachers’ practices regarding Appropriate Learning Strategies. The responses given by the multi-age teachers were more developmentally
appropriate.

A pooled variance test for hypothesis six was used because the variances were equal. A t-test for independent means was used to test the hypothesis. The two-tailed probability was .008; therefore, the null for hypothesis six was rejected. There was a significant difference between multi-age and single-age teachers' practices regarding teacher directed activities.

A pooled variance test for hypothesis seven was used since the variances were equal. A t-test for independent means was used to test the hypothesis. The two-tailed probability was .0005; therefore, the null for hypothesis seven was rejected. There was a significant difference between multi-age and single-age teachers regarding developmentally appropriate practices.

Research Question 3

How are beliefs about developmental appropriateness related teaching practices?

Multi-age and single-age teachers' instructional practices based on developmental beliefs are measured in this research study using Pearson's Product Moment Correlation Coefficient. The sum of responses on the beliefs subscale of the questionnaire and how it impacts the multi-age and single-age teachers' practice is tested in hypotheses 8 and 9.

Ho8. There will be no relationship between multi-age teachers' beliefs and instructional practices regarding developmental education.
H₀9. There will be no relationship between single-age teachers’ beliefs and instructional practices regarding developmental education. Results of the analyses are listed in Table 14.

**TABLE 14**


<table>
<thead>
<tr>
<th></th>
<th>Pearson’s r</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>multi-age teachers</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>n</td>
<td>59</td>
<td>.8614</td>
</tr>
<tr>
<td><strong>single-age teachers</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>n</td>
<td>77</td>
<td>.8166</td>
</tr>
</tbody>
</table>

Table 14 indicates a positive and strong correlation (.86) between multi-age teachers’ developmental beliefs and their instructional practices. The higher the beliefs score, the higher the developmentally appropriate practice. Table 19 also indicates a positive and strong correlation (.81) between single-age teachers’ developmental beliefs and their instructional practices. The higher the beliefs score, the higher the developmentally appropriate practices.

**Research Question 4**

How does the amount of teacher influence affect teaching practices?

The correlation between multi-age and single-age teachers’ practice and the influence outside sources have
with planning and implementing instruction is measured by hypotheses 10-21.

\textbf{H}o\textsubscript{10}. There will be no relationship between multi-age teachers' instructional practice and their beliefs about parental influence on instruction.

\textbf{H}o\textsubscript{11}. There will be no relationship between multi-age teachers' instructional practice and their beliefs about the school system's influence on instruction.

\textbf{H}o\textsubscript{12}. There will be no relationship between multi-age teachers' instructional practice and their beliefs about state regulations influence on instruction.

\textbf{H}o\textsubscript{13}. There will be no relationship between multi-age teachers' instructional practice and their beliefs about other teachers' influence on instruction.

\textbf{H}o\textsubscript{14}. There will be no relationship between multi-age teachers' instructional practice and their beliefs about the influence they have on classroom instruction.

\textbf{H}o\textsubscript{15}. There will be no relationship between multi-age teachers' instructional practice and their beliefs about the influence the principal has on instruction.

Results of the analyses are listed in Table 15.
Table 15 shows little correlation (.0053) between the degree of parental influence and teachers' instructional practice. The null hypothesis for hypothesis 10 was retained because the probability .968 was not statistically significant.

Results for hypothesis 11 are shown in Table 15. Table 15 shows a negative correlation between the school system's influence and developmentally appropriate practice. The correlation coefficient is moderately low and in a negative direction. This indicates when teachers state the amount of influence by a school system increases, the developmentally appropriate practice decreases. The null hypothesis was rejected. There was a significant relationship between the school systems' influence and teachers' instructional
practice.

Table 15 also shows a negative correlation between the amount of influence multi-age teachers imply state regulations have with planning and implementing instruction and developmentally appropriate practice. The correlation coefficient is moderate and in a negative direction. This indicates that when teachers state they believe the amount of influence state regulations imposes upon classroom instruction increases, the developmentally appropriate practice decreases. Null hypothesis 12 was rejected. There was a significant relationship between multi-age teachers' expressed beliefs about the influence of state regulations and instructional practices.

Table 15 indicates a weak correlation between teachers' practice and the influence they state other teachers have with planning and implementing instruction. Null hypothesis 13 was retained because the probability (.319) was not statistically significant.

Table 15 shows a moderate correlation between teachers' practice and the degree of influence they indicate they have with instruction. Null hypothesis 14 was rejected. There was a significant relationship between teachers' practice and the influence they believe they have with instruction.

Results for hypothesis 15 are found in Table 15. Table 15 shows a low, negative correlation between teachers' practice and the degree of influence they stated they believe the principal has with instruction. The null hypothesis was
retained. There was not a significant relationship between teachers' practice and the influence they believe the principal has with planning and implementing instruction.

Ho16. There will be no relationship between single-age teachers' instructional practice and their beliefs about parental influence on instruction.

Ho17. There will be no relationship between single-age teachers' instructional practice and their beliefs about the school system's influence on instruction.

Ho18. There will be no relationship between single-age teachers' instructional practice and their beliefs about state regulations' influence on instruction.

Ho19. There will be no relationship between single-age teachers' instructional practice and their beliefs about other teachers influence on instruction.

Ho20. There will be no relationship between single-age teachers' instructional practice and their beliefs about the influence they have on classroom instruction.

Ho21. There will be no relationship between single-age teachers' instructional practice and their beliefs about the influence the principal has on instruction.

The results of the analyses are shown in Table 16.
Table 16 provides information for hypotheses 16-21. Table 16 indicates a positive, but weak, correlation between practice and the amount of influence parents have with instruction. Null hypothesis 16 was retained because there was not a statistically significant relationship between practice and parental influence.

Table 16 indicates a negative correlation between practice and the amount of influence the school system has with instruction. This indicates that as the school system’s influence increases, the developmentally appropriate practice decreases. Null hypothesis 17 was rejected. There was a statistically significant relationship between practice and the school system’s influence.
The null for hypothesis 18 in Table 16 was retained because there was not a statistically significant relationship between teachers' practice and the influence by state regulations. The correlation was low and in a negative direction.

Table 16 indicates a positive correlation between practice and the amount of influence the school system has with instruction. Null hypothesis 19 was retained because there was not a statistically significant relationship between practice and the amount of influence other teachers have with planning and implementing instruction.

Table 16 indicates a positive correlation between practice and the amount of influence the teacher believes he/she has with instruction. Null hypothesis 20 was retained because there was not a statistically significant relationship between practice and the amount of influence the teacher states he/she has with instruction.

Table 16 indicates a positive correlation between practice and the amount of influence the teacher believes the principal has with instruction. The null for hypothesis 21 was retained because there was not a statistically significant relationship between practice and the amount of influence the teacher believes the principal has with instruction.

Research Question 5

Is there greater consistency between beliefs and practices among teachers in multi-age classrooms than among
teachers in single-age classrooms?

This research question helped guide the study between teacher beliefs and instructional practices. Hypothesis 22 was tested to determine the relationship between multi-age and single-age teachers' responses.

H022. There will be no difference between multi-age and single-age teachers' beliefs/practices relationship. A z-test for two independent correlation coefficients was used to compare the Pearson Correlations generated for each group. The results of the analysis are shown in Table 17.

<table>
<thead>
<tr>
<th>coefficients</th>
<th>multi-age</th>
<th>.8614</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>single-age</td>
<td>.8166</td>
</tr>
<tr>
<td>z</td>
<td></td>
<td>-.8594</td>
</tr>
</tbody>
</table>

Table 17 shows there is no statistically significant difference between the two correlation coefficients of beliefs and practices for multi-age teachers and beliefs and practices for single-age teachers. The critical value of 1.96 was used for the two tailed test of significance at the .05 level; therefore, the null hypothesis was retained.
**Research Question 6**

What demographic characteristics can be used to predict developmentally appropriate beliefs and practices?

A multiple regression was used to test hypothesis 23.

$H_{0}23$. There will be no relationship between early childhood teachers' instructional practices and demographic variables elicited from the survey items. The results of the analysis are shown in Table 18.

<table>
<thead>
<tr>
<th>Variables</th>
<th>Significance of $t$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Degree</td>
<td>.3588</td>
</tr>
<tr>
<td>Years in the organization</td>
<td>.1404</td>
</tr>
<tr>
<td>Years teaching</td>
<td>.3995</td>
</tr>
</tbody>
</table>

**TABLE 18**

MULTIPLE REGRESSION FOR BELIEFS AND INSTRUCTIONAL PRACTICE WITH DEMOGRAPHIC VARIABLES (table continues)

**Beliefs**

<table>
<thead>
<tr>
<th>Variables</th>
<th>Significance of $t$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Degree</td>
<td>.3588</td>
</tr>
<tr>
<td>Years in the organization</td>
<td>.1404</td>
</tr>
<tr>
<td>Years teaching</td>
<td>.3995</td>
</tr>
</tbody>
</table>

**Practices**

<table>
<thead>
<tr>
<th>Variables</th>
<th>Significance of $T$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Degree</td>
<td>.1522</td>
</tr>
<tr>
<td>Years in the organization</td>
<td>.1194</td>
</tr>
<tr>
<td>Years teaching</td>
<td>.4962</td>
</tr>
</tbody>
</table>

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Table 18 shows that less than 3% of variance is explained for beliefs by these variables combined, and less than a 5% of variance is explained for practices. The F value for both beliefs and practices is greater than alpha (.05); therefore, the null hypothesis was retained.

Summary

Frequencies and percentages were used in describing the demographic data of the respondents. Multi-age teachers' responses regarding instructional influences in the classroom indicated a negative correlation between instructional practices and both school system influence and state regulations.

A significant difference of developmentally appropriate practices between multi-age and single-age teachers was identified. Teachers in multi-age programs tend to use more developmentally appropriate teaching strategies than teachers in single-age classrooms.
CHAPTER 5
SUMMARY, FINDINGS, CONCLUSIONS, AND RECOMMENDATIONS

Summary
The purpose of this study was to compare the beliefs and practices of early childhood educators in multi-age and single-age classrooms. Results were collected during the 1996-97 school year.

The survey, Teachers' Beliefs and Practices (Appendix B), was used to gather data. Descriptive and inferential statistics were used to analyze the data. The instrument was divided into three sections. Section one included demographic information on the respondents including highest degree earned, major area of specialization, organizational structure, years taught in the organizational structure, total years of teaching experience, and the longest amount of uninterrupted instructional time. Section two of the survey instrument included 36 items related to teachers' beliefs about developmentally appropriate practices. Section three included 27 survey items related to actual classroom practices.

Findings

Research Question 1
The first research question was: Is there a relationship between the instructional program and early childhood teachers’ expressed developmental beliefs? The results indicated there was a significant difference between
multi-age and single-age teachers' beliefs about developmental education. The t-test for independent means revealed multi-age teachers' beliefs were more congruent with concepts surrounding developmental appropriateness.

A t-test for independent means was also used to determine if there was a significant difference between the two teacher groups concerning the beliefs about child participation. The results indicated the difference between the two groups was not significant at the .05 level.

Developmentally inappropriate teaching beliefs were also addressed through research question 1. The t-test indicated a significant difference between multi-age and single-age teachers. The single-age teachers' beliefs were more congruent with inappropriate teaching strategies.

Research Question 2

The second research question was: Is there a relationship between the instructional program and early childhood teachers' expressed developmental practices? The results indicated there was a significant difference between multi-age and single-age teachers' instructional practices regarding learning strategies in the classroom. The mean of the multi-age teachers' responses was .46 while the mean of the single-age teachers' was -.34. Multi-age teachers' instructional practice was more congruent with developmentally appropriate practices. Another t-test for independent means revealed there was not a significant difference in the two teacher groups' practice as it related to child initiated activities. However, a statistically
significant difference was evidenced concerning teacher
directed activities. Single-age teachers participated in
more teacher-directed activities, while the multi-age
teachers classroom activities emphasized the importance of
children's interest.

**Research Question 3**

The third research question was: How are beliefs about
developmental appropriateness related to teaching practices?
The results of the null hypotheses for the multi-age and
single-age teachers indicated a significant relationship
between beliefs and practices for both teacher groups. When
the beliefs were more congruent with developmental education
the instructional practices were also more developmentally
appropriate. This indicates there was consistency between
the beliefs teachers hold and their actual practice.

**Research Question 4**

The fourth research question was: How does the amount
of teacher influence affect teaching practices?
A series of correlation analyses were conducted on both
teacher groups determining how outside instructional
influences effected teaching practices. Multi-age teachers’
responses indicated a negative correlation between the school
system’s influence and developmental instructional practices.
When multi-age teachers’ believed the school system was
contributing more to classroom instruction the teacher’s
developmentally appropriate practices decreased. The same
inference can be made for the influence by state regulations
and multi-age teachers. As state regulations impact classroom instruction developmentally appropriate teaching practices decline.

The strongest positive correlation between multi-age teachers and their instructional practice was found between the influence they have with instruction and classroom practices. Multi-age teachers who believe his or her own instructional influence is high report a higher level of appropriate practice.

The single-age teachers' responses indicated the strongest relationship existed between the school system's instructional influence and practice. This relationship was in a negative direction. As the school system's influence increased in the classroom, the developmentally appropriate practices decreased.

**Research Question 5**

The fifth research question was: Is there greater consistency between beliefs and practices among teachers in multi-age classrooms than among teachers in single-age classrooms? The results of the z-test (Hinkle, Wiersma, & Jurs, 1979) for two independent correlation coefficients indicated there was not a statistically significant difference between multi-age teachers' beliefs and practices and single-age teachers' beliefs and practices.

**Research Question 6**

Based on demographic characteristics what can be used to predict developmentally appropriate beliefs and practices?
Results from the multiple regression analysis indicated less than three percent of variance in beliefs, and less than a five percent of variance in practices is explained by all of the demographic variables combined. Therefore, the demographic variables do not significantly affect teacher beliefs or practices.

Conclusions

This study has added to the understanding about beliefs and instructional practices of early childhood teachers in multi-age and single-age classrooms. Through the administration of a reliable and valid survey instrument and the application of statistical analysis, conclusions can be drawn about teachers' stated beliefs and practices in multi-age and single-age classrooms regarding developmentally appropriate approaches to teaching.

The amount of teaching experience or the educational degree has no impact on instructional practices. However, teachers' stated beliefs were found to be consistent with teaching practices. Therefore, when hiring new personnel, it is imperative to screen applicants regarding their knowledge level, as well as, their belief structure about developmental education.

Teachers in multi-age classrooms were found to have a higher belief system about developmentally appropriate practices as compared to teachers in single-age classrooms. Though both groups of teachers' developmental practices increased as their beliefs were more developmentally appropriate, the multi-age teachers use more developmentally
appropriate teaching strategies than single-age classroom teachers. Teachers in multi-age classrooms not only stated they believe, but also, use less teacher directed activities and more child initiated activities.

The degree of difference between teacher groups concerning the influence outside sources have with planning and implementing instruction was noted. Teachers in multi-age classrooms noted state regulations negatively impacting their instruction. When the perceived amount of outside influenced increased their developmental practices decreased. Teachers in single-age classrooms responses indicated the strongest correlations exist between the school system and instructional practices. As the school system’s influence increases, the single-age teachers’ developmentally appropriate practice decreases.

The results from both groups indicated a great need to support teacher empowerment with regards to planning and implementing instruction. Empowerment seems to be a strong element in supporting developmentally appropriate practices. When teachers believe they have control over the instruction in their classroom, their teaching becomes more developmentally appropriate.

**Recommendations**

As a result of this study the following recommendations are offered:

The *Teacher’s Beliefs and Practices Survey* appears to be an instrument that can be used for research and inservice guidance to identify early childhood teachers’ stated beliefs
and practices regarding developmental appropriateness. Further research is needed to determine why differences exist between teachers in varying organizational structures and how teachers arrive at their beliefs.

Since teachers' beliefs seem to be a good predictor of instructional practices, the need to mold and shape teachers' philosophies congruent with developmental education is imperative. Teachers' responses to developmentally inappropriate teaching strategies also seem to be a good predictor of what is really going on inside the classroom.

The need to empower teachers is very important in creating developmentally appropriate classrooms. Teachers in both multi-age and single-age classrooms have more appropriate instruction when they believe they strongly impact what happens in the classroom. The instruction for both groups also declines when outside sources, such as state regulations and school system policies influence instruction.

Early childhood education has improved immensely over the last several decades. A quality program should employ a curriculum based on principles of child development. The early childhood teacher must have a strong developmental belief system to directly impact instruction in the classroom. The gap between beliefs and practices revealed in this study suggested teacher beliefs directly influence teacher practice. Therefore, the importance in shaping and preparing teachers' belief systems is a vital task in helping children succeed in tomorrow's world.
REFERENCES
References


Connell, D.R. (1987). *The first 30 years were the fairest: Notes from the kindergarten and ungraded primary.* *Young Children, 42* (5), 30-39.


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Virginia Education Association and Appalachia Educational Laboratory. *Teaching Combined Grade Classes: Real Problems and Promising Practices*.


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September 23, 1996

Dr. R. Charlesworth
Child and Family Studies
Weber State University
Ogden, UT 84408-1301

Dear Dr. Charlesworth:

This letter serves as a follow-up to my recent conversations with Dr. Terry Buchanan and yourself regarding the Teachers Beliefs and Practices Instrument. I am requesting permission to use this instrument in my research study, A Comparison of Beliefs Between Multi-age and Single-Age Graded Classroom Teachers.

I want to thank you for all of your help and encouragement that you have already so graciously shown. I am asking that you please endorse the consent below, and return in the self-addressed envelope. I need this documentation to include in my study.

Again, thank you for your help and advice that you gave on the telephone, in addition to the materials that were sent. I truly appreciate the tremendous professional courtesy you have shown me.

Sincerely,

Dale P. Lynch
Assistant Superintendent

CONSENT FORM

Permission is granted for Dale P. Lynch to use the Teachers Beliefs and Practices Instrument.

Rosalind Charlesworth
Signature

Rosalind Charlesworth

9/30/96
Date
APPENDIX B

TEACHER’S BELIEFS AND PRACTICES SURVEY INSTRUMENT
Early Childhood Education
Teacher Beliefs & Practices Survey

Demographic Information:
1. What is the name of your school? ______________________________________


3. Year of graduation with highest degree

4. Major/Area(s) of Specialization (Circle one of the following)
1. Elementary Ed 2. Early Childhood Ed
3. Special Ed 4. Other_________

5. Minor/Area of Specialization (Circle one of the following)
1. Elementary Ed 2. Early Childhood Ed
3. Special Ed 4. Other_________

6. How many years have you taught? _______ years

7. What is the organizational structure of your classroom? (Circle one of the following)
K 1st 3rd Multi-age, please specify grades
1st 2nd

8. How many years have you taught in this organizational structure? _______ years

9. How many children are in your class? _______ boys _______ girls

10. Please check the longest block of uninterrupted time you have in your class for meaningful instructions or activities. _ 15 minutes ___ 30 minutes ___ 45 minutes ___ 1 hour

For the following questions, please think about early childhood classrooms in general and your class in particular.

1. Please list a percentage (%) according to the amount of influence you believe each has on the way you plan and implement instruction, after considering children's needs. The percentages (%) should total 100%.

   parents
   school system policy
   state regulations
   other teachers
   teacher (yourself)
   principal

   TOTAL= 100%
Recognizing that some things in your program are required of you by external sources, what are your own personal beliefs about early childhood programs? Please circle the number that most nearly represents your beliefs about each item's importance for early childhood programs.

(1 = Not at all important; 5 = Extremely important)

<table>
<thead>
<tr>
<th>Item</th>
<th>Not at all Important</th>
<th>Not very Important</th>
<th>Fairly Important</th>
<th>Very Important</th>
<th>Extremely Important</th>
</tr>
</thead>
<tbody>
<tr>
<td>2. As an evaluation technique standardized group tests are</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>3. As an evaluation technique, teacher observation is</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>4. As an evaluation technique, performance on worksheets and workbooks is</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>5. It is ____ for activities to be responsive to individual differences in interest.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>6. It is ____ for activities to be responsive to individual differences in development.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>7. It is ____ that each curriculum area be taught as separate subjects at separate times.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>8. It is ____ for children to select many of their own activities.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>9. Instruction in letter and word recognition is ____ in my classroom.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>10. It is ____ for the teacher to provide a variety of learning areas with concrete materials (writing center, science center, math center, etc.).</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>11. It is ____ for children to create their own learning activities (e.g., cut their own shapes; perform their own steps in an experiment; or plan their own drama, art, or writing activities)</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td>Not at all important</td>
<td>Not very important</td>
<td>Fairly important</td>
<td>Very important</td>
<td>Extremely important</td>
</tr>
<tr>
<td>---</td>
<td>---------------------</td>
<td>--------------------</td>
<td>------------------</td>
<td>---------------</td>
<td>---------------------</td>
</tr>
<tr>
<td>12.</td>
<td>It is ____ for children to sit and listen or to work silently at their seats for extended periods of time.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>13.</td>
<td>It is ____ for children to learn by actively exploring relevant and interesting materials.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>14.</td>
<td>It is ____ to learn by interacting and working cooperatively with other children.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>15.</td>
<td>Workbooks and/or ditto sheets are ____ in my classroom.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>16.</td>
<td>Competition between children or groups of children is a ____ way to motivate children to learn.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>17.</td>
<td>In terms of effectiveness, it is ____ for the teacher to lecture to the class and to make sure everyone participates in the same activity.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>18.</td>
<td>In terms of effectiveness, it is ____ for the teacher to move among groups and individuals, offering suggestions, asking questions, and facilitating children's involvement with materials and activities.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>19.</td>
<td>It is ____ for teachers to use treats, stickers, and/or stars to encourage appropriate behavior.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>20.</td>
<td>It is ____ for teachers to use punishments and/or reprimands to encourage appropriate behavior.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>21.</td>
<td>It is ____ for children to help establish rules for their classroom.</td>
<td>1</td>
<td>2</td>
<td>3</td>
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</tr>
<tr>
<td></td>
<td>Not at all Important</td>
<td>Not very Important</td>
<td>Fairly Important</td>
<td>Very Important</td>
<td>Extremely Important</td>
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<tr>
<td>22. Before a change of activities occurs in a classroom it is ____ for teachers to prepare children for the change.</td>
<td>1</td>
<td>2</td>
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</tr>
<tr>
<td>23. It is ____ for children to write, or attempt to write, their own stories.</td>
<td>1</td>
<td>2</td>
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</tr>
<tr>
<td>24. It is ____ for children to have stories read to them daily individually and/or on a group basis.</td>
<td>1</td>
<td>2</td>
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<td>4</td>
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</tr>
<tr>
<td>25. Emphasis on grammar and penmanship is ____ to my writing program.</td>
<td>1</td>
<td>2</td>
<td>3</td>
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<td>5</td>
</tr>
<tr>
<td>26. It is ____ to participate in art, music, dance, and drama (favorite stories).</td>
<td>1</td>
<td>2</td>
<td>3</td>
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<td>5</td>
</tr>
<tr>
<td>27. It is ____ for children to talk informally with adults in class.</td>
<td>1</td>
<td>2</td>
<td>3</td>
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<td>5</td>
</tr>
<tr>
<td>28. It is ____ to provide many daily opportunities for developing social skills with peers in the classroom.</td>
<td>1</td>
<td>2</td>
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<td>5</td>
</tr>
<tr>
<td>29. It is ____ for children to be good readers.</td>
<td>1</td>
<td>2</td>
<td>3</td>
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<td>5</td>
</tr>
<tr>
<td>30. It is ____ that outdoor activities are planned daily.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>31. Parent input is ____ to my curriculum.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>32. It is ____ for strategies like setting limits, problem solving, and redirection to be used to help guide children's behavior.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
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<tr>
<td>33. It is ____ that teachers have special training in early childhood education.</td>
<td>1</td>
<td>2</td>
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</tr>
</tbody>
</table>
### Instructional Activities Survey

For the following questions, please think about **how often** children in your classroom do the following activities.

**How often do children in your class:**

1. **build constructions with purchased and/or recycled materials**
   - Almost Never (less than monthly)
   - Rarely (monthly)
   - Sometimes (weekly)
   - Regularly (2-4 times a week)
   - Very Often (daily)
   
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<tr>
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<th>2</th>
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<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. build</td>
<td>1</td>
<td>2</td>
<td>3</td>
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</tbody>
</table>

2. **select centers (reading, math, science, writing, etc.)**
   
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<tbody>
<tr>
<td>2. select</td>
<td>1</td>
<td>2</td>
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3. **participate in dramatic activity**

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<tbody>
<tr>
<td>3. participate</td>
<td>1</td>
<td>2</td>
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4. **listen to recordings of children's literature**

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<tbody>
<tr>
<td>4. listen</td>
<td>1</td>
<td>2</td>
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</table>

5. **do creative writing (combining symbols/invented spelling and drawing, and conventional spelling)**

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<tbody>
<tr>
<td>5. do creative</td>
<td>1</td>
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6. **play with games and puzzles**

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<tr>
<td>6. play</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
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<tr>
<td>Activity</td>
<td>Almost Never (less than monthly)</td>
<td>Rarely (monthly)</td>
<td>Sometimes (weekly)</td>
<td>Regularly (2-4 times a week)</td>
<td>Very Often (daily)</td>
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<tr>
<td>7. explore life science materials such as animals and plants, and/or</td>
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<td>2</td>
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<td>5</td>
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<tr>
<td>physical materials such as wheels and gears</td>
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<td>8. sing and/or listen to music</td>
<td>1</td>
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<tr>
<td>9. move creatively as a planned activity</td>
<td>1</td>
<td>2</td>
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<tr>
<td>10. color and cut freely (only self-drawn shapes or no shapes)</td>
<td>1</td>
<td>2</td>
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<tr>
<td>11. use manipulatives (like pegboards, puzzles, Legos, Unifix Cubes,</td>
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<td>tangrams, geoboards, base 10 blocks, and/or Cuisenaire Rods)</td>
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<tr>
<td>12. do phonics activities</td>
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<td>2</td>
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<td>4</td>
<td>5</td>
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<tr>
<td>13. read in ability groups</td>
<td>1</td>
<td>2</td>
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<td>4</td>
<td>5</td>
</tr>
<tr>
<td>14. circle, underline, and/or mark items on worksheets</td>
<td>1</td>
<td>2</td>
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<td>5</td>
</tr>
<tr>
<td>15. participate in rote counting</td>
<td>1</td>
<td>2</td>
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<td>4</td>
<td>5</td>
</tr>
<tr>
<td>16. participate in whole class teacher directed instruction</td>
<td>1</td>
<td>2</td>
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<td>5</td>
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<tr>
<td>17. coordinate their own activities in centers</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>18. receive tangible reinforcers for appropriate behavior and/or</td>
<td>1</td>
<td>2</td>
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<tr>
<td>performance</td>
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<tr>
<td>19. lose special privileges (trips, recess, free time, parties, etc.)</td>
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<td>2</td>
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<tr>
<td>for misbehavior</td>
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<td>20. take tests</td>
<td>1</td>
<td>2</td>
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</tr>
<tr>
<td>21. receive social reinforcers (verbal praise, approval, attention,</td>
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<td>2</td>
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<tr>
<td>etc.) for appropriate behavior and/or performance</td>
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<td>22. get placed in time-out (such as isolation sitting on a chair, in a</td>
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<td>corner, or being sent outside of the room)</td>
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<tr>
<td>23. participate in specifically planned outdoor activities</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>
24. participate in multicultural and nonexist activities
    | Almost Never (less than monthly) | Rarely (monthly) | Sometimes (weekly) | Regularly (2-4 times a week) | Very Often (daily) |
    | 1 | 2 | 3 | 4 | 5 |

25. do health and safety activities
    | 1 | 2 | 3 | 4 | 5 |

26. draw, paint, work with clay, and use other art media
    | 1 | 2 | 3 | 4 | 5 |

27. solve math problems that are incorporated with other subject areas
    | 1 | 2 | 3 | 4 | 5 |

Thank you for your participation in this survey! Please return your completed survey to the school principal.

Dale P. Lynch,
Assistant Superintendent,
Elizabethton City Schools
VITA

DALE P. LYNCH

Personal Data: Place of Birth: Knoxville, Tennessee Marital Status: Married


Professional Memberships: Phi Delta Kappa Association for Supervision and Curriculum Development Upper East Tennessee Supervisors' Study Council Tennessee Association for Adult and Continuing Education