



SCHOOL of  
GRADUATE STUDIES  
EAST TENNESSEE STATE UNIVERSITY

East Tennessee State University  
**Digital Commons @ East  
Tennessee State University**

---

Electronic Theses and Dissertations

Student Works

---

5-2004

# The Relationship between the Use of Developmentally Appropriate Practice and the Inclusion of Product-Producing Art Activities in Infant Programs.

April D. Moore

*East Tennessee State University*

Follow this and additional works at: <https://dc.etsu.edu/etd>



Part of the [Curriculum and Social Inquiry Commons](#), and the [Educational Psychology Commons](#)

---

## Recommended Citation

Moore, April D., "The Relationship between the Use of Developmentally Appropriate Practice and the Inclusion of Product-Producing Art Activities in Infant Programs." (2004). *Electronic Theses and Dissertations*. Paper 866. <https://dc.etsu.edu/etd/866>

This Thesis - Open Access is brought to you for free and open access by the Student Works at Digital Commons @ East Tennessee State University. It has been accepted for inclusion in Electronic Theses and Dissertations by an authorized administrator of Digital Commons @ East Tennessee State University. For more information, please contact [digilib@etsu.edu](mailto:digilib@etsu.edu).

The Relationship Between the Use of Developmentally Appropriate Practices and the Inclusion  
of Product-Producing Art Activities in Infant Programs

---

A thesis  
presented to  
the faculty of the Department of Human Development and Learning  
East Tennessee State University

In partial fulfillment  
of the requirements for the degree  
Master of Arts in Early Childhood Education

---

by  
April D. Moore  
May 2004

---

Dr. Amy Malkus, Chair  
Dr. Rebecca Isbell  
Dr. Laurelle Phillips

Keywords: Developmentally Appropriate Practice, Infants, Art, Infant Classroom, Infant  
Program

## ABSTRACT

### The Relationship Between the Use of Developmentally Appropriate Practices and the Inclusion of Product-Producing Art Activities in Infant Programs

by

April D. Moore

Product-producing art activities (PPAA) produce visual products, disregarding developmentally appropriate practice (DAP) and the creative learning experience. Infant programs in Northeast TN were examined to determine if as PPAA levels increased DAP levels decreased, which was unfounded:  $t(2) = 1.80$ , n.s. In fact, significant differences were found between programs with high PPAA levels and DAP as indicated by scores on the *Infant/Toddler Environment Rating Scale* (Harms, Cryer, & Clifford, 1990) sub-scales: Furnishings and Displays,  $t(2) = 7.59$ ,  $p < .05$ ; Listening and Talking,  $t(2) = 6.71$ ,  $p < .05$ ; and Learning Activities,  $t(2) = 7.29$ ,  $p < .05$ . Caregivers' main reason for including PPAA was: positive sensory experience; main reason for exclusion: infant/teacher relationship is more important.

## DEDICATION

I dedicate this work to my husband, Jody Moore, and our sons, Benjamin and Brian. Thank you for making me complete. Your presence in my life gives me strength and reasons each day to do my best in all endeavors. You have my love and dedication to the health and happiness of our family, always.

## ACKNOWLEDGEMENTS

To Dr. Amy Malkus, thesis committee chairperson and major advisor, I would like to extend my gratitude. Her guidance, support, and patience have been both consistent and invaluable throughout this process. Her invaluable guidance in the development of the questionnaire used in this study and her above-and-beyond contribution in the statistical analysis of data were key to the successful completion of this work. Above all, her sense of humor and positive outlook helped me to persist in this work, despite the many delays and complications that come with working and having a family with two young children.

I want to thank my thesis committee, Dr. Rebecca Isbell and Dr. Laurelle Phillips. Their suggestions and support guided me in directions that were invaluable to the accuracy and completion of this study. Dr. Isbell's influence, specifically via her written works, has inspired me in so many ways. I have implemented her ideas and suggestions in both my home environment as a parent and family childcare provider, and in center environments, as a teacher and administrator. In every instance, the result was joy. Her professional presence in the field of early childhood education has helped to validate my decision to pursue a career in this field. Also, I want to thank Dr. Laurelle Phillips. Each time I have spoken to her concerning both my graduate coursework and thesis work, I went away with a renewed energy and focus, as a direct result of her consistent reassurance. Her sincere interest and support of this work has been deeply appreciated. Both Dr. Isbell and Dr. Phillips contributed directly to this work via suggestions and recommendations.

I want to acknowledge the directors and caregivers for contributing their time and experience while participating in this study, and for opening their classrooms for this academic pursuit, all of which speaks in a direct and positive way to their dedication to the infants they care for. I also want to thank the many caregivers and teachers of my own early childhood. I know, with unwavering certainty, that their presence in my life was key to all accomplishments thus far.

Ms. Marilyn Buchanan, Coordinator of the Tennessee Early Childhood Training Alliance site at East Tennessee State University, encouraged me to apply for graduate school, and wrote my first letter of recommendation. Thank you. Ms. Debbie Cryer, one of the authors of the

*Infant/Toddler Environment Rating Scale* (Harms et al., 1990), via an e-mail communication, contributed to the development of the hypotheses of this study. Thank you. Ms. Tiffany Bennett made a valuable contribution to this study by serving as an independent observer during the data collection process. Thank you. My parents, Connie and Charles Higgins, were the ones who opened the door to higher education, then shoved me in. Thank you. My grandmother, Marie Keever, with her poetry, stories, and songs, helped spark my interest in creativity and the arts. Thank you. My mother-in-law, Hallie Moore, has cared for my own children and also for the children in my family home childcare in order to allow me the precious time needed to attend class and to work on my thesis. Thank you. To all my family, friends, mentors, and colleagues who provided guidance and support throughout this process, I extend a heart-felt thank you.

# CONTENTS

	Page
ABSTRACT .....	2
DEDICATION.....	3
ACKNOWLEDGEMENTS.....	4
Chapter	
1. INTRODUCTION.....	10
Statement of the Problem.....	11
Research Questions .....	13
Hypotheses .....	14
Significance of the Study.....	15
Limitations of the Study .....	17
Assumptions.....	17
Definitions of Terms.....	18
Research Procedures.....	20
2. LITERATURE REVIEW .....	22
The Human Infant.....	22
Social-Emotional Development.....	22
One to Six Months of Age.....	23
Six to 12 Months of Age .....	24
Perceptual Development .....	24
One to Six Months of Age.....	25
Six to 12 Months of Age .....	25
Cognitive Development .....	26
One to Six Months of Age.....	27
Six to 12 Months of Age .....	27
Language Development .....	28

One to Six Months of Age.....	28
Six to 12 Months of Age .....	29
Sensorimotor Development.....	29
One to Six Months of Age.....	30
Six to 12 Months of Age .....	30
How Infants Learn .....	31
Exploration and Play.....	31
The Arts as Play .....	32
The Evolution of Early Childhood Programs .....	32
National Association for the Education of Young Children.....	33
Developmentally Appropriate Practices with Infants.....	33
Young and Mobile Infants.....	34
Young Infants and their Primary Caregivers .....	34
Mobile Infants and their Primary Caregivers .....	36
Effects of Attending Childcare on Infants .....	38
Characteristics of a High-Quality Program.....	41
The <i>Infant/Toddler Environment Rating Scale</i> .....	43
Concerning Art .....	43
Utilization in TN’s Star-Quality Program.....	44
The Arts in the Infant Program .....	44
Aesthetics .....	45
Creative Development .....	45
Meaningful Arts Experiences.....	46
Appropriate Arts Experiences for Young Infants.....	47
Appropriate Arts Experiences for Mobile Infants .....	48
Suggestions for Success .....	49
3. RESEARCH METHODS .....	51
Participants.....	51
Sampling Method .....	52
Instrumentation.....	52

Product-Producing Art Activity Level Questionnaire .....	53
Administration and Scoring.....	53
The <i>Infant/Toddler Environment Rating Scale</i> .....	54
Administration and Scoring.....	55
Procedures.....	56
4. RESULTS .....	58
Preliminary Analysis .....	58
Product-Producing Art Activity Level Questionnaire .....	59
<i>Infant/Toddler Environment Rating Scale</i> Interrater Reliability.....	59
Descriptive Statistics .....	60
Research Question # 1 .....	60
Primary Data Analysis.....	61
Research Question # 2 and Hypothesis # 1.....	61
Research Question # 3 .....	62
Research Sub-Question # 3a and Hypothesis # 2 .....	63
Research Sub-Question # 3b and Hypothesis # 3 .....	63
Research Sub-Question # 3c and Hypothesis # 4 .....	63
Research Sub-Question # 3d and Hypothesis # 5 .....	64
Research Sub-Question # 3e and Hypothesis # 6 .....	64
Research Sub-Question # 3f and Hypothesis # 7.....	65
Research Sub-Question # 3g and Hypothesis # 8.....	65
Qualitative Data Analysis .....	65
Research Question # 4 .....	65
5. SUMMARY .....	68
Recommendations .....	73
REFERENCES .....	74
APPENDICES .....	80
Appendix A: Product-Producing Art Activity Level Questionnaire.....	80
Appendix B: Director of Childcare Center Participation Request Letter .....	84
Appendix C: Institutional Review Board Informed Consent Document.....	86

Appendix D: Caregiver Participation Request Letter.....	89
VITA.....	91

## CHAPTER 1

### INTRODUCTION

I had little knowledge of infancy when I was first hired as an infant caregiver. I spent most of the first year learning how to give appropriate basic care. Also during that year my first child was born. Becoming a mother gave me new lenses through which to examine the infant program.

In a quest to make the program high-quality, I attempted to emulate the toddler caregiver in our childcare center, who was highly praised by parents, other caregivers in the center, and by the center's director. One key item that the toddler program included that the infant program did not was a scheduled daily teacher-directed art activity. The toddler program's art activities consisted of creating something visual, usually on paper, using paints, markers, rubber stamps, stickers, glues, and other art media. The center's director, other caregivers, and parents were enthusiastic in their support of art activities as an addition to the infant program. Artwork sent home and displayed in the infant classroom and hallway was praised. No one, including me at the time, questioned whether art activities that were primarily teacher-directed and focused on the production of a piece of artwork was an appropriate addition to the infant program.

There are numerous early childhood curriculum and activity guides that include art activities for infants (Dombro, Colker, & Dodge, 1997; Isbell & Isbell, 2003; Lansky, 1993; Mayesky, 1990; Miller, 1999). However, in my excitement at being praised for the art products the infants were creating (with much teacher direction and assistance), I lost sight of the importance of the experience itself. I took the suggestions from the early childhood curriculum and activity guides that were meant to be activities for exploration and development and turned them into teacher-directed product-producing art activities (PPAA), valuing the product over the infant's experience. After entering graduate school and beginning to learn more about early childhood development and education, I questioned the appropriateness of including PPAA in infant programs.

As a graduate student I was introduced to the National Association for the Education of Young Children (NAEYC). NAEYC, the nation's largest professional organization of early childhood educators, defines and describes principles of developmentally appropriate practice

(DAP) in early childhood programs for administrators, teachers, parents, policymakers, and others who make decisions about the care and education of young children. NAEYC states that the early childhood profession is responsible for establishing and promoting standards of high-quality, professional practice in early childhood programs. These standards must reflect shared beliefs and current knowledge about what constitutes high-quality, developmentally appropriate early childhood education in the context within which services are delivered (Bredenkamp & Copple, 1997).

Developmental appropriateness is a philosophy. It includes the thinking of theorists like Vygotsky, Piaget, Erikson, and Dewey about the process of learning in children (Galen, 1994, as cited in Cook, 2002). A developmentally appropriate program can be described as “a program that is appropriate for the child’s age and all areas of the individual child’s development, including educational, social, cognitive, and communication” (Federal Register, 1991, pp. 318-319, as cited in Cook, 2002).

The *Infant/Toddler Environment Rating Scale (ITERS)* (Harms, Cryer, & Clifford, 1990), which is based on work by NAEYC, became my guide to achieving the high-quality program I sought to create. I attempted to include everything listed in it as being found in a high-quality infant program. According to the *ITERS* (Harms et al., 1990), art is not a necessary element in infant programs. Art, as defined by the *ITERS* (Harms et al., 1990) criteria and notes for Item 19 (the only item of the scale dealing with art), specifically refers to exploration and utilization of art media (e.g., crayons, markers, and paper, etc.), offered to children 12 months old and older on a consistent basis (12-to-18-month-olds three times a week; over 18 months daily), with the option to participate (alternative activities available), designed for easy clean-up so children can help, and with caregiver’s verbal interaction with the children during the activity. These activities are designed to be developmentally appropriate.

### Statement of the Problem

The purpose of this study is to determine infant program practices and the extent to which PPAA are included in infant programs. NAEYC, via the *ITERS* (Harms et al., 1990), sets 12 months old as the suggested age for beginning art activities (i.e., activities utilizing media, such as crayons, markers, and paper, etc., that are designed to be mostly child-directed and

developmentally appropriate, where the experience is valued over the end product). This raises many questions that need to be addressed. Why is it recommended that 12 month olds have an art activity at least three times a week, but not younger infants? Are there physical, psychological, or developmental reasons for this? As part of the search for answers to these questions I e-mailed NAEYC. Debby Cryer, one of the authors of the *ITERS* (Harms et al., 1990), sent a reply. She said that while there may be nothing harmful about the experiences (of art activities), it is important to remember that infants of this age learn much about the world by tasting everything they can get their hands on. Begin art activities with children when they become less interested in eating the art material and more interested in what they can do with it in terms of using the material to create things such as scribbles, marks, and blobs. Time might be better spent with young infants on other things that are more developmentally appropriate (personal communication, October 28, 1999).

Piaget tells us that infants rely on seeing, touching, sucking, feeling, and using their senses to learn things about themselves and their environment (Piaget & Inhelder, 1969). They, like all children, understand something better by first-hand examination (Bredekamp & Copple, 1997). Cryer (personal communication, October 28, 1999) supports this in her e-mail response by saying that the most important thing to remember is that teaching infants should be very responsive, meaning that infants are allowed to explore a rich environment. It is the caregiver's job is to observe the infants to see what they are interested in and then facilitate their play by providing more things for them to use that they would enjoy or by adding language or social interactions to what they have chosen to do. Art activities with infants must be, to a great extent, teacher-directed, rather than responsive.

Cryer (personal communication, October 28, 1999) concludes her response by saying that at less than 1 year of age, art just is not so important to a great infant environment in terms of optimizing developmental progress. If everything else is at the upper end of the *ITERS* (Harms et al., 1990), then the developmental needs of the infants will be well met. But, if art takes up some of the time needed to do better on the *ITERS* (Harms et al., 1990), then attention should be redirected to areas that better meet infants' developmental needs.

Assessing the level of DAP via the *ITERS* (Harms et al., 1990) and the level of PPAA via the PPAALQ (Appendix A) in infant programs may lead to answers to key questions concerning

art in infant programs. First, do significant differences exist between infant programs with high and low levels of PPAA and DAP in infant programs? Second, does the inclusion of PPAA in infant programs take time away from other routines and activities needed to do better on the *ITERS* (Harms et al., 1990), as Cryer (personal communication, October 28, 1999) suggests? Third, what reasons do caregivers give for including or excluding PPAA in their infant programs?

### Research Questions

To determine infant program practices and the extent to which PPAA are included in infant programs, the following questions are posed:

1. What are the levels of PPAA in infant programs in Northeast TN?
2. When compared, which are more developmentally appropriate: infant programs with high levels of PPAA or infant programs with low levels of PPAA?
3. What developmentally appropriate characteristics are most and least exhibited in infant programs with high levels of PPAA and infant programs with low levels of PPAA?
  - 3a. Are there differences in the extent to which developmentally appropriate furnishings and displays for children are used in programs with high levels of PPAA and in programs with low levels of PPAA?
  - 3b. Are there differences in the extent to which developmentally appropriate personal care routines are implemented in programs with high levels of PPAA and in programs with low levels of PPAA?
  - 3c. Are there differences in the extent to which developmentally appropriate listening and talking are implemented in programs with high levels of PPAA and in programs with low levels of PPAA?
  - 3d. Are there differences in the extent to which developmentally appropriate learning activities are implemented in programs with high levels of PPAA and in programs with low levels of PPAA?

- 3e. Are there differences in the extent to which developmentally appropriate interactions occur in programs with high levels of PPAA and in programs with low levels of PPAA?
- 3f. Are there differences in the extent to which developmentally appropriate program structures are implemented in programs with high levels of PPAA and in programs with low levels of PPAA?
- 3g. Are there differences in the extent to which developmentally appropriate adult needs are met in programs with high levels of PPAA and in programs with low levels of PPAA?
- 4. What reasons do caregivers give for including or excluding PPAA from their infant programs?

### Hypotheses

According to NAEYC via the *ITERS* (Harms et al., 1990), the inclusion of art in infant programs with infants 12 months and younger is not necessary. The researcher hypothesizes that when art activities are conducted often, as Cryer (personal communication, October 28, 1999) suggested, and when the art activities are primarily product-producing art activities (ones that produce a visual product, where the product is valued over the infant's experience, and are mostly teacher directed), they are taking up critical time needed to do better in routines and activities of the program needed to score high on the *ITERS* (Harms et al., 1990). If so, then this misuse of time and effort needs to be identified so that caregivers can redirect their efforts to areas that, according to NAEYC via the *ITERS* (Harms et al., 1990), better meet infants' developmental needs.

- Ho1. It is predicted that there will be a statistically significant difference between infant programs with high and low levels of PPAA, such that programs with high levels of PPAA will show a lower overall score on the *ITERS* (Harms et al., 1990) than programs with low levels of PPAA.
- Ho2. It is predicted that there will be a statistically significant difference between infant programs with high and low levels of PPAA, such that programs with high levels of PPAA will show lower levels of developmental appropriateness in furnishings and

displays for children on the *ITERS* (Harms et al., 1990) than programs with low levels of PPAA.

- Ho3. It is predicted that there will be a statistically significant difference between infant programs with high and low levels of PPAA, such that programs with high levels of PPAA will show lower levels of developmental appropriateness in personal care routines on the *ITERS* (Harms et al., 1990) than programs with low levels of PPAA.
- Ho4. It is predicted that there will be a statistically significant difference between infant programs with high and low levels of PPAA, such that programs with high levels of PPAA will show lower levels of developmental appropriateness in listening and talking on the *ITERS* (Harms et al., 1990) than programs with low levels of PPAA.
- Ho5. It is predicted that there will be a statistically significant difference between infant programs with high and low levels of PPAA, such that programs with high levels of PPAA will show lower levels of developmental appropriateness in learning activities on the *ITERS* (Harms et al., 1990) than programs with low levels of PPAA.
- Ho6. It is predicted that there will be a statistically significant difference between infant programs with high and low levels of PPAA, such that programs with high levels of PPAA will show lower levels of developmental appropriateness in interactions on the *ITERS* (Harms et al., 1990) than programs with low levels of PPAA.
- Ho7. It is predicted that there will be a statistically significant difference between infant programs with high and low levels of PPAA, such that programs with high levels of PPAA will show lower levels of developmental appropriateness in program structures on the *ITERS* (Harms et al., 1990) than programs with low levels of PPAA.
- Ho8. It is predicted that there will be a statistically significant difference between infant programs with high and low levels of PPAA, such that programs with high levels of PPAA will show lower levels of developmental appropriateness in meeting adult needs on the *ITERS* (Harms et al., 1990) than programs with low levels of PPAA.

#### Significance of the Study

The research proposed is important because infants themselves are important, as are infant program practices. Children's experiences during early childhood influence their later

functioning in school and can have effects on development and cognition. From infancy through about age 10, brain cells not only form most of the connections they will maintain throughout life, but during this time they retain their greatest malleability (Caine & Caine, 1991).

The first 3 years of life are critical to a child's development. Young children grow faster physically, intellectually, and emotionally from birth through 36 months than they ever will again (David and Lucile Packard Foundation [DLPF], 2001). More rapid brain development takes place during this time than at any other time of life. During this period, children are discovering who they are, how others respond to them, and if they are competent. They are also learning how to relate to others, what it means to express their feelings, and whether they are loved. Their brains are being "wired" into patterns for emotional, social, physical, and cognitive development (Dombro et al., 1997). Positive, supportive relationships are essential not only for cognitive development, but also for healthy emotional development and social attachment during the earliest years of life (Stern, 1985). The preschool years are an ideal time for development of fundamental motor skills (Gallahue, 1993), language development (McGee & Richgels, 1996), and other key foundational aspects of development that have lifelong implications (Bredekamp & Copple, 1997).

More than 11 million children in the United States are under age 3, and in 2001 nearly 5 million of them spent about 25 hours per week in the care of someone other than a parent. The use of childcare centers as a source of care for children younger than 3 nearly tripled over a 20-year span, from 8% in 1977 to 22 % in 1997. Most young children now have mothers who work. Several factors are driving this change. First, more married mothers are working to increase the income of the family. Second, there are now more children living with single mothers who must work in order to support them than ever before. Third, the strict work requirements of welfare reform are forcing mothers with very young children to work outside the home. Under federal law, all mothers on welfare should be working by their child's first birthday. In some states, mothers must return to work when their children are 3 months old. In 2000, 54% of married mothers with infants less than 12 months worked, as did 59% of single mothers (DLPF, 2001; Howes, 2000). This increase is making infant/toddler care the norm rather than the exception. At the same time, serious questions are being raised about the possible negative effects of non-parental, out-of-home care for such young children (Harms et al., 1990). Shonkoff and Phillips,

of the National Academy of Science (NAS), report that childcare for infants and toddlers in the United States varies greatly in quality. In a 2000 report, they point out that some childcare settings provide rich experiences that promote growth for young children, but too many do not offer children appropriate stimulation or stable relationships with caregivers, and some are downright unsafe. The National Institute of Child Health and Human Development (NICHD), based on observations at 600 non-maternal care settings in nine states (with friends and relatives, at family child care homes, or in centers), has estimated that 8% of settings nationwide for children under age 3 are poor, 53% are fair, 30% are good, and only 9% are excellent. In virtually all large-scale studies of childcare in the United States, approximately 20% of the settings that participate in research have been found to fall below minimal thresholds of adequate care (DLPF, 2001). Mediocre and inadequate care endangers infants' development and future prospects (Carnegie Task Force, 1994).

In order for positive change to occur, it is necessary to reflect on the nature of DAP. Professional caregivers must ask themselves if PPAA fit into a developmentally appropriate program for infants less than 12 months old. Early childhood professionals must strive to provide the best possible environment in which to care for young children, especially the youngest and most vulnerable: infants. This can be accomplished through examination of current theory and program practices (Bredekamp & Copple, 1997).

#### Limitations of the Study

1. This study is limited to infant programs in licensed childcare facilities in Northeast TN during the spring and summer of 2003.

#### Assumptions

It is assumed that the *ITERS* (Harms et al., 1990) supplies appropriate and accurate information regarding furnishings and displays, personal care routines, listening and talking, learning activities, interaction, program structure, and adult needs. The 35 items were selected to provide a comprehensive assessment of infant/toddler environments for children from birth to 30 months of age. The seven categories cover basic dimensions that are equally important in full-day and part-day programs of various types. The seventh sub-scale covers the needs of the key

teaching staff, staff support, and parents. After data collection for this study was complete, the *Infant/Toddler Environment Rating Scale Revised Edition (ITERS-R)* (Harms, Cryer, & Clifford, 2003) was released. There was no significant change in the question regarding art, which is a key issue in the problem stated for this thesis.

### Definitions of Terms

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

1. Aesthetics – an appreciation for beauty and a feeling of wonder; a sensibility that uses the imagination and the five senses (Mayesky, 2003).
2. Arts or Arts Experiences or The Arts – broad terms that encompass all experiences and activities that engage infants in the process of experiencing and responding to specific stimuli such as contrasting images of color to stimulate eye movement, speaking or singing to increase awareness of space, movement and sound, and/or utilization of musical instruments to learn motor skills (Task Force on Children’s Learning and the Arts [TFCLA], 1998).
3. Art or Art Activity – specifically refers to an activity utilizing media (e.g., crayons, markers, and paper, etc.) that is designed to be mostly child-directed, where the experience (process) is valued over the end product. These activities are designed to be developmentally appropriate.
4. Caregiver or Primary Caregiver – for the purpose of this study these terms are used interchangeably unless specifically noted, and refer to any individual directly providing for the care and education of the infants in a licensed childcare center, assigned to specific children on a continuing basis. This term includes anyone in this role, including those whose job description reads teacher, teacher aide, substitute, or volunteer, no matter what level of formal education, performing the same role. However, for the purpose of this study, only full-time paid infant caregivers who work during the morning hours between 8:00 a.m. and 12:00 p.m. will be included.
5. Continuity of Care – when the same primary caregiver cares for children over an extended period of time, with as few transitions to other caregivers as possible.

- Ideally, it is best for children to have the same primary caregiver until the age of 3 (Lally, 1995b).
6. Creativity - the ability to combine materials in new, original ways.
  7. Developmentally Appropriate Practice (DAP) – practices that are known to contribute to a child’s unique development. Programs that are comprehensive in nature in which both age-specific and individual characteristics are addressed and designed to meet the needs of the children and families served. Program planning and implementation that recognizes the integrated nature of care and education for young children and does not treat childcare and early education as separate functions.
  8. Excellent – in association with rating the quality level of an infant/toddler program using the *ITERS* (Harms et al., 1990), excellent refers to high-quality, personalized care.
  9. Good – in association with rating the quality level of an infant/toddler program using the *ITERS* (Harms et al., 1990), good applies when the basic dimensions of developmental care are met.
  10. Inadequate – in association with rating the quality level of an infant/toddler program using the *ITERS* (Harms et al., 1990), inadequate applies when the care provided does not meet custodial care needs.
  11. Infant Program – the practices and activities that occur in the infant classroom and childcare center that directly relate to infants; all areas, including, but not limited to: organization of space, interaction, activities, schedule for children, and provisions for staff and parents.
  12. Infants – for this study this term refers to children from birth through the end of the 11<sup>th</sup> month of age.
  13. *Infant/Toddler Environment Rating Scale (ITERS)* (Harms et al., 1990) – 35-item scale designed for use in infant/toddler programs serving children from birth to 30 months of age to assess organization of space, interaction, activities, schedule for children, and provisions for staff and parents. The *ITERS* (Harms et al., 1990) can be used for program improvement, self-assessment, and monitoring. The established

- reliability and validity of the scale make it particularly useful for research and program evaluation.
14. Licensed Childcare Center – a childcare center as licensed by the TN Department of Human Services.
  15. Minimal – in association with rating the quality levels of infant/toddler programs using the *ITERS* (Harms et al., 1990), minimal refers to care that meets custodial and to some small degree basic developmental needs.
  16. Mobile Infant – an infant in the second stage of infancy, when, at approximately 8 months of age, the infant becomes more mobile.
  17. National Association for the Education of Young Children (NAEYC) – the nation’s largest professional membership association for early childhood educators and others dedicated to improving the quality of programs for children birth through third grade.
  18. Primary Caregiver – a caregiver who is assigned to specific children in order to build a more secure relationship with the infant as well as the infant’s family and has primary responsibility for the care of that child throughout most of the day in the childcare setting.
  19. Product-Producing Art Activity (PPAA) – an art activity that produces a visual product, where the product is valued over the infant’s experience, and is mostly teacher-directed. The focus of PPAA’s is not on developmental appropriateness, aesthetics, the process of exploring the materials safely or the creative learning experience, but rather on the production of a piece of artwork.
  20. Product-Producing Art Activity Level Questionnaire (PPAALQ) (Appendix A) – a 10-item questionnaire developed by the researcher to assess the level of product-producing art activities in infant programs.
  21. Young Infant – a child from birth through 6 to 8 months, when infants typically gain greater mobility.

#### Research Procedures

Approval to conduct this study was requested from both the Institutional Review Board at East Tennessee State University (Appendix B), and directors and infant caregivers of licensed

childcare centers with infant programs in Northeast TN. The director of each center was contacted initially by phone. The researcher described the study and asked for permission to conduct the study with their center's infant programs. Center directors who were difficult to reach by phone and all directors who agreed to allow their center's infant programs to participate in the study were mailed letters explaining the study (Appendix B) and were asked to sign Institutional Review Board Informed Consent Documents (Appendix C) and return them to the researcher via pre-addressed, pre-stamped envelopes. When permission was granted from the center directors, the infant caregivers were contacted. The researcher described the study and asked for permission to include them in the study. As permission was granted, a letter explaining the study (Appendix D) and an Institutional Review Board Informed Consent Document (Appendix C) were mailed to each caregiver, along with the PPAALQ (Appendix A) and a pre-addressed, pre-stamped envelope in which to return a signed copy of the consent document and the completed PPAALQ (Appendix A). To help assure confidentiality, a code number was assigned to each questionnaire so that the caregiver did not have to write his or her name on it. The PPAALQ (Appendix A) scores from caregivers who worked together in the same classroom were averaged to obtain one score with which to assess the level of PPAA of the infant program within the classroom. Each program with teachers who returned completed PPAALQs (Appendix A) and signed consent forms (Appendix C) were contacted to arrange a time for the researcher to administer the *ITERS* (Harms et al., 1990). In approximately  $\frac{1}{4}$  of the programs, the researcher and a trained observer completed the *ITERS* (Harms et al., 1990) independently in order to establish interrater reliability. It took approximately 2 hours to administer the *ITERS* (Harms et al., 1990) in each infant program. The data were gathered and analyzed. Conclusions were drawn and recommendations were developed based on the results.

## CHAPTER 2

### LITERATURE REVIEW

#### The Human Infant

Early childhood education begins the moment the child is born. Neuroscientific research on infant brain development has proven that experiences during the first 3 years of life have a profound and life-long effect on development and learning (Task Force on Children's Learning and the Arts, 1998). Throughout the 1st year of life, infants grow at an extremely fast rate. By the end of the 1st year, they will have tripled in birth weight, and length can be expected to double. By the first birthday, most infants will be crawling, and may even be taking their first step (Oesterreich, 1995). Although no two infants grow at the same rate, experts agree that there are signs of typical development (Powell & Smith, 1994). It is imperative that all caregivers know the stages of development for the children they care for. These stages must serve as the basis for every decision made concerning the care of the child: design and setup of the indoor and outdoor environment; selection of classroom furnishings and materials; implementation of routines and activities; and approach to development of the relationship between the infant, teacher, and family, just to name a few. Important milestones in infant development during the 1<sup>st</sup> year are discussed here.

#### *Social-Emotional Development*

To develop well socially and emotionally, infants need nurturing human contact. Infants learn to distinguish the special properties of humans from a very early age as they experience social interactions. During early interactions, they show different emotions and develop social communication skills, such as listening. Healthy social-emotional development is enhanced by positive experience with a few significant people in the infants' lives. The ability to make facial expressions; to discriminate others' expressions, faces, and voices; to interact with others; and to develop relationships and secure attachments are some of the skills and elements necessary for positive social-emotional development (Field, 1990).

To ensure optimal social-emotional development in the infants they care for, caregivers must understand that the infant-to-teacher-to-family relationship is key (New, 1990). Young

infants must have at least one adult in their lives who they trust and feel secure with. Caregivers must respond quickly when an infant needs them, be sensitive to both the verbal and non-verbal cues given by the infant, and have a sincere interest in the infant's well being in order for trust to be established. Attachment security is linked to the caregiver's ability to be sensitive and responsive to the infant (Howes, 1989).

To facilitate optimal social-emotional development in the infants they care for, caregivers should role model the behaviors they want in children. Children will pick up many behaviors of the adults around them. If caregivers' voices are loud, children may learn to be loud. If caregivers use soft, warm touches, children will most likely learn the same (DeBord, 1997).

To help social-emotional development in infants, caregivers need to understand that through control of their own emotional expression and through control of the classroom environment, they can affect infants' emotional connections, which may be stressful or relaxed. Vivid memories are often tied to emotional reactions to particular situations. The more vivid the memory is, the stronger the imprint in the brain. The limbic system regulates emotional impulses and helps us make decisions about what to do, such as run, cry, react, whine, or turn away. If trust is nurtured, then this will become part of the child's nature. The development of trust is fundamental. Neglect or trauma during childhood could cause learning and behavioral problems later on (DeBord, 1997).

The following are examples of the social-emotional developmental achievements that occur during the 1st year of life:

### *One to Six Months of Age*

Generally, during the 1<sup>st</sup> month of life, infants display signs of joy during eye contact, and can recognize parents' voices. In the 2<sup>nd</sup> month, infants begin to smile responsively, communicate moods, study faces, show their personality more obviously, and exhibit emotion. During the 3<sup>rd</sup> month, infants typically gain the ability to stop crying when the primary caregiver comes into the room, quiet down at the sound of a soothing voice or when held, and anticipate being lifted. In general, during the 4<sup>th</sup> month of life, infants start to laugh when tickled; know the difference between parents and strangers; greet their caregiver; develop social gestures such as moving their arms as a signal to be picked up; like social interaction; cry (with tears) to

communicate pain, fear, discomfort, or loneliness; babble and coo; respond to a shaking rattle or bell; return a smile; and respond to a peek-a-boo game. In the 5<sup>th</sup> and 6<sup>th</sup> months infants develop the ability to turn their heads toward a person speaking and watch a speaking person's mouth movements (*Infant*, n. d.; Oesterreich, 1995; Powell & Smith, 1994).

### *Six to 12 Months of Age*

During the 6<sup>th</sup>, 7<sup>th</sup>, and 8<sup>th</sup> months of life infants typically start to exhibit moods with varied sounds and body movements; be shy or afraid of strangers; respond to their own names; show fear of falling off high places; spend a great deal of time watching and observing; and imitate sounds, actions, and facial expressions made by others. They show distress if a toy is taken away; squeal, laugh, babble, and smile in response; like to be tickled and touched; smile at their own reflection in the mirror; respond to the distress of others by showing distress or crying; show mild to severe anxiety at separation from their parent(s); and know familiar faces. Generally, during the 9<sup>th</sup> to 12<sup>th</sup> months, infants begin to enjoy mimicking; point to things they want; feel pride, especially when praised; want caregivers or parents to be in constant sight; and offer toys or objects to others but expect them to be returned immediately. They may become attached to a favorite toy or blanket, push away something they do not want, try to "talk" with their primary caregivers and parents, show affection to familiar adults, and understand simple commands (*Infant*, n. d.; Oesterreich, 1995; Powell & Smith, 1994).

### *Perceptual Development*

Newborns have an impressive array of perceptual skills. They can sense touch and motion, discriminate tastes and smells, and hear and see surprisingly well. The senses develop in approximately that order: tactile (touch), vestibular (motion), taste, smell, hearing, and vision. This is the same order in which sensory areas of the brain develop, and the order in which the world is experienced, first in the womb (where sensory experiences encompass all but the visual sense), and then in the outside world (Field, 1990).

To aid in the tactile development of the infants in their care, caregivers need to understand the importance of touch. In research with infants concerning touch, it was shown that gently massaging premature infants for 15 minutes, three times per day, helped them gain

weight, be more alert, and cry less. These infants were released from the hospital sooner than infants who were not massaged. Additionally, low-level lighting, skin-to-skin holding, and being near the mother's heart can improve growth and save medical costs for premature infants (Als & Gilkerson, 1995).

To assist with the visual development of infants under their supervision, caregivers need to be aware of the importance of early detection of eye problems. During the 1<sup>st</sup> months of life, as eyes develop, each neuron is attaching to 15,000 other neurons. In research of infants with cataracts it was found that if the cataracts were not removed by age 2, children were unable to see because the vision centers were not used and did not develop (DeBord, 1997).

The following are examples of the perceptual developmental accomplishments that occur during the 1<sup>st</sup> year of life. These include developments in touch, taste, smell, hearing, and vision:

#### *One to Six Months of Age*

Generally, during the 1<sup>st</sup> month, infants need skin-to-skin contact, respond to voices, like it when someone talks to them, can see things about 10 inches away, prefer to look at high contrast patterns and faces, and stare at objects but do not reach for them. During the 2<sup>nd</sup> and 3<sup>rd</sup> months, infants begin to turn toward the sound of a human voice, respond to the shaking of a rattle or bell, like detailed high-contrast images, follow a moving object or person with their eyes, turn their heads toward bright colors and lights, and recognize a bottle or the breast. In general, during the 4<sup>th</sup> month infants start to explore things by tasting them, hold both eyes in a fixed position, and follow a moving object or person with their eyes. During the 5<sup>th</sup> to 6<sup>th</sup> months infants may start trying to mimic sounds (*Infant*, n. d.; Oesterreich, 1995).

#### *Six to 12 Months of Age*

During the 6<sup>th</sup> to 9<sup>th</sup> months, infants typically begin to make two-syllabled sounds. They gain the ability to focus their eyes on small objects and reach for them, and establish their true eye color. In general, during the 10<sup>th</sup> to 12<sup>th</sup> months, infants respond to music with body motion and begin to look for objects they watched fall out of sight (*Infant*, n. d.; Oesterreich, 1995; Powell & Smith, 1994).

### *Cognitive Development*

Life experiences shape the infant's developing brain as it sends out signals to connect the "wiring" to form the person the infant will become. These connections between cells are called synapses. A connection (synapse) is made depending on the stimuli or signals the brain gets from the setting. The brain defines who we are, and it is influenced by what we do. With proper stimulation, the synapses become stronger. Electrical chemicals are sent out that make the connections stronger and more permanent (DeBord, 1997).

To promote cognitive development for the infants in their charge, caregivers should give consistent loving care. If children are raised in a loving setting, they will learn to love. Children who are ignored or not nurtured will not fully develop all areas of their brains (DeBord, 1997).

To advance the cognitive development of the infants they nurture, caregivers should look for teachable moments. Every day offers windows of learning for children. When dressing a child, caregivers should name items, colors, and count. When possible, caregivers should name things that are the same, different, bigger, smaller, hot, and cold. When outside, they should point out things like trees, cars, bugs, and signs (DeBord, 1997).

To encourage cognitive development in the infants in their programs, caregivers should use music. Through exposure to complex musical sounds, such as Mozart, children will develop the same areas of the brain required for math and spatial reasoning (DeBord, 1997).

The power of the brain is interconnected. During the early years, children learn symbols to understand meanings. For example, outstretched arms may mean an older infant wants "up," or hugs may be a symbol of love and security. Over time, these key elements found in the emotional centers of the brain begin to organize responses to things that happen. Over time, life experiences combine to form an understanding of abstract concepts, such as justice, pride, forgiveness, anger, and security. Adults play a critical role in the lives of children. Helping children organize their world takes time, patience, and warmth. These efforts form the building blocks to positive human interaction (DeBord, 1997).

The following are examples of the cognitive developmental achievements that occur during the 1<sup>st</sup> year of life:

### *One Month to Six Months of Age*

Generally, during the 1<sup>st</sup> month, infants are alert 1 out of every 10 hours, begin to trust their caregivers, exhibit behavior that is mostly reflexive, and will cry if under-stimulated or over-stimulated. In the 2<sup>nd</sup> month, infants start to make associations, such as “crying gets a need met”; protest if needs aren’t met; and seek visual stimulation. During the 3<sup>rd</sup> month, infants typically learn cause and effect and discover their hands and feet. In general, during the 4<sup>th</sup> to 6<sup>th</sup> months, infants begin to form mental images of what to expect when giving a cue; are aware that people and things have labels (dada); explore objects with their mouths; play with their fingers, hands, and toes; react to the sound of voices, rattles, or bells; turn their heads toward bright colors and lights; and recognize a bottle or the breast. Generally, during these months, infants show interest in colors and display expressions of decision-making (*Infant*, n. d.; Powell & Smith, 1994).

### *Six to 12 Months of Age*

During the 6<sup>th</sup> to 9<sup>th</sup> months, infants begin to study objects; concentrate on one toy at a time; analyze what to do with their toys; understand the nesting of objects; cry in different ways to say that they are hurt, wet, hungry, or lonely; and make noises to voice displeasure or satisfaction. They gain the ability to recognize and look for familiar voices and sounds; search for toys hidden under a blanket, basket, or container (object permanence); explore objects by touching, shaking, banging, and mouthing; enjoy dropping objects over the edge of a chair or crib; open their mouths for spoons; and imitate familiar actions adults perform. Generally, during the 9<sup>th</sup> to 12<sup>th</sup> months, infants start to understand phrases such as “come here”; want to explore things by touching everything; and build, stack, and disassemble. They “dance” or bounce to music, show interest in picture books, pay attention to conversations, clap hands and wave bye if prompted, and like to place objects inside one another (DeBord, 1997; *Infant*, n. d.; Oesterreich, 1995; Powell & Smith, 1994).

## *Language Development*

From the day they are born, infants begin trying to figure out the code that sets humans apart from other beings: speech. Learning to speak is one of the marvels of human development (Miller, 1999).

Understanding language and expressing language (speaking) are two different processes. Understanding is a sensory perception process, sometimes called “receptive language.” Children understand many words before they begin to use them in speech. Speaking is a motor process that requires getting the muscles of the tongue and mouth to function together just right to produce the desired sound. This is often referred to as “expressive language” (Miller, 1999).

Studies show that newborns are able to distinguish their mothers’ voices. They will stop random movements when they hear an interesting sound, as though they are allowing themselves to concentrate better. Soon infants respond by making eye contact or moving their mouths when a parent or caregiver talks to them face to face (Miller, 1999).

Language develops in the context of social interactions (Field, 1990). Children all over the world acquire language at approximately the same period of the life span and in similar ways (Fernald, 1992). But immense individual difference exists in the rate and pattern of language acquisition (Fenson et al., 1994, as cited in Bredekamp & Copple, 1997). Children acquire the language or languages of the culture in which they live (Kuhl, 1994). It is easier for children to learn two languages than it is for adults. For example, children whose parents speak Spanish and English create two maps and strengthen their use of both languages when both these areas of the brain are used in childhood (DeBord, 1997).

To support hearing and speech development in the infants they care for, caregivers should know that repetition forms connections. Caregivers need to talk to infants by describing what they are doing, naming items, and showing facial expressions (DeBord, 1997).

The following are examples of the developmental achievements in language that occur during the 1<sup>st</sup> year of life:

### *One to Six Months of Age*

Typically in the 1<sup>st</sup> and 2<sup>nd</sup> month of life infants begin to gurgle, coo, and squeal. Generally, in the 3<sup>rd</sup> month, infants begin to make extended vowel sounds; start to laugh; have

different cries for different needs; make cooing and gurgling sounds; and communicate hunger, fear, and discomfort through crying or facial expressions. In the 4<sup>th</sup> to 6<sup>th</sup> months, infants typically begin to change the shape of their mouths to change sounds (*Infant*, n. d.; Powell & Smith, 1994; Oesterreich, 1995).

#### *Six to 12 Months of Age*

During the 6<sup>th</sup> to 9<sup>th</sup> months, infants become able to babble expressively, as if talking; babble, making almost singsong sounds; laugh and squeal with delight; scream if annoyed; make longer and more varied sounds; and experiment with different volumes and pitches of sound. Generally, during the 9<sup>th</sup> to 12<sup>th</sup> months, infants begin to say simple words such as “dog” or “hot”, understand “no”, say “dada” and “ma-ma” or equivalent, and copy sounds adults make (*Infant*, n. d.; Powell & Smith, 1994; Oesterreich, 1995).

#### *Sensorimotor Development*

Sensorimotor development is probably the most noticeable and observable process in infancy. Motor milestones, such as sitting up, manipulating objects, crawling, and walking, are obvious and distinctive. Motor development occurs at a rapid pace. In about a year the infant goes from helplessness to being able to walk alone. Because each milestone is reached on schedule, motor development is considered a biological maturational process. Aside from its importance for mobility, independent locomotion, and manipulation of objects, motor development is critical for facilitating perceptual, cognitive, and social-emotional development (Field, 1990).

For optimal sensorimotor development, infants need to move their small and large muscles. Caregivers should expose infants to a safe variety of physical activities as they grow. All areas should be considered, including climbing, splashing, slow and fast movement, hard and soft areas, and different textures (DeBord, 1997). Thoughtful consideration should be taken when designing both the indoor and outdoor infant areas to make sure that there is a balance between all elements to enhance infant development, including small and large muscles (Lally & Stewart, 1990).

The following are examples of the sensorimotor developmental achievements that occur during the 1<sup>st</sup> year of life:

### *One to Six Months of Age*

In the 1<sup>st</sup> month, infants' arm and leg movements are reflexes, and their heads flop if not supported. In general, during the 1<sup>st</sup> to 2<sup>nd</sup> months, infants relax and twitch their muscles less, develop the ability to lift their heads 45 degrees, start to unfold their hands, briefly hold a rattle, and track movement. Generally, during the 2<sup>nd</sup> and 3<sup>rd</sup> months, infants gain the ability to stretch their limbs all the way out, roll from back to side, hold their heads up to search, play with their hands, hold a rattle longer, swipe with their arms, briefly bear weight on their legs, lift their heads when held at an adult's shoulder, turn their head from side to side when lying on their stomachs, hold their hands open or loosely fist, and wiggle and kick with their arms and legs. During the 4<sup>th</sup> month, infants typically start to roll front to side, lift their heads 90 degrees, sit with their arms propped, reach for objects, sleep about 6 hours before waking during the night, average 14-17 hours of sleep daily, lift their heads and chests when lying on their stomachs, grasp a rattle or finger, and sit with support. Generally, during the 5<sup>th</sup> to 6<sup>th</sup> months, infants become able to roll over from front to back, grab their toes, wiggle forward on the floor, reach with a good aim, and transfer objects from hand to hand (*Infant*, n. d.; Oesterreich, 1995; Powell & Smith, 1994).

### *Six to 12 Months of Age*

Typically, during the 6<sup>th</sup> to 8<sup>th</sup> months, infants start to sit unsupported, roll over both ways, stand if leaning on other objects, point at objects, pick up small objects with their thumbs and fingers, reach accurately, and feed themselves. Also, they may get up on all fours and rock back and forth, but might not move forward; grow their first teeth; drool, mouth, and chew on objects; need at least three to four feedings per day; reach for cups or spoons when being fed; drink from cups with help; and close their mouths firmly or turn their heads when no longer hungry. Six to eight-month-olds begin to sleep 11-13 hours at night, although this varies greatly; need 2-3 naps during the day; develop a rhythm for feeding, eliminating, sleeping, and being awake; have hair growth that starts to cover their head; reach for and grasp objects; play with

their toes; and help hold the bottle during feeding. They start to explore by mouthing and banging objects, shake a rattle, pull up to a sitting position on their own if you grasp their hands, and bounce when held in a standing position (DeBord, 1997; *Infant*, n. d.; Oesterreich, 1995).

Generally, during the 9<sup>th</sup> to 12<sup>th</sup> months, infants master crawling, can stand when supported, climb on furniture, and walk with help. They need three meals a day with two snacks in between, enjoy drinking from a cup, begin to eat finger foods, continue to explore everything by mouth, enjoy opening and closing cabinet doors, crawl well, pull themselves to a standing position, and stand alone holding onto furniture for support. Infants this age begin to grasp small objects by using their thumbs and index or forefingers, use their first finger to poke or point, put small blocks in and take them out of a container, knock two blocks together, sit well without support, stand alone momentarily, and cooperate with dressing by offering a foot or an arm (*Infant*, n. d.; Oesterreich, 1995).

### *How Infants Learn*

Infants learn to do practically everything that is typically human during the first 2 years of life. Most learn to stand and walk erect, to use tools, and to talk. Learning is defined as a change of behavior resulting from experience and practice (Field, 1990).

### *Exploration and Play*

Infants learn by and large from exploration and play. Through exploration and play the infant experiences the world and comes to know and predict it. In the first few months most exploration of the infants' environment is done through the ears, eyes, and nose. Later, infants become capable of reaching for, grasping, and manipulating objects. At this time virtually everything is explored by mouth. By approximately 8 months of age, infants are capable of locomotion and begin active exploration and interaction with the environment (Field, 1990).

During exploration, infants show an intent, concentrated facial expression of interest. When responding to something new, infants will repeat the activity they are performing several times, as if to inquire what the object does. Only when the object becomes familiar does play begin. During play, infants typically have a relaxed or contented facial expression. They engage in a variety of activities to explore what can be done with the object. At this point, learning takes

on the look of creativity (i.e., the ability to combine materials in new, original ways), and infants express great glee, as if having recognized their mastery of the activity (Hutt, 1970; Sullivan & Lewis, 1988).

*The arts as play.* A close look at what constitutes the best kind of experiences for infant quickly leads to the arts. The arts is a broad term that encompass all experiences and activities that engage infants in the process of experiencing and responding to specific stimuli such as contrasting images of color to stimulate eye movement, speaking or singing to increase awareness of space, movement and sound, and utilization of musical instruments to learn motor skills (TFCLA, 1998).

From an infant's first lullaby, developmentally appropriate arts experiences are critical. For all children, at all ability levels, the arts play a central role in cognitive, motor, language, and social-emotional development. The arts motivate and engage children in learning, stimulate memory and facilitate understanding, enhance symbolic communication, promote relationships, and provide an avenue for building competence. The arts are natural for young children. Child development specialists note that play is the business of young children. Play is the way children promote and enhance their development. The arts are the most natural vehicle for play (TFCLA, 1998).

### The Evolution of Early Childhood Programs

Early childhood programs have experienced several important changes in recent years. In response to the growing demand for out-of-home childcare and in recognition of the importance of educational experiences during the early years (NCES, 1983), the number of childcare programs continues to increase. For example, in the late 1980s, Head Start embarked on the largest expansion in its history, with significant new services for families with infants and toddlers. This was, in part, due to welfare reform, which led to increased demand for childcare services for even the youngest children from low-income families. Due to this, as well as other sociological changes, children are now enrolled in programs at younger ages, many from infancy (Bredekamp & Copple, 1997; DLPF, 2001; Howes, 2000).

The context in which early childhood programs operate today is in part characterized by discussions about what sort of practice is most likely to contribute to young children's

development and learning. It is also characterized by ongoing debates about how best to teach young children and prepare them to be ready to learn when they enter kindergarten (i.e., school readiness). One of the most important contributions of NAEYC's 1987 position statement on developmentally appropriate practice was that it created an opportunity for increased conversation about early childhood practices, both within and outside the field (Bredekamp, 1984; Bredekamp & Copple, 1997).

#### National Association for the Education of Young Children

The National Association for the Education of Young Children (NAEYC) is the nation's largest professional organization of early childhood educators and others dedicated to improving the quality of programs for children birth through third grade. NAEYC published its position statements on developmentally appropriate practice in 1986 in *Developmentally Appropriate Practice in Early Childhood Programs* (Bredekamp, 1986), which has since become the "Bible" for many early childhood educators. This position statement was revised in 1997 (Bredekamp & Copple, 1997). The primary purpose of the position statement is to provide guidance to program personnel seeking accreditation by NAEYC's National Academy of Early Childhood Programs. The accreditation criteria call for "developmentally appropriate" activities, materials, and expectations (Bredekamp, 1984). The position statement says that people in the coming decades will need fully developed literacy and numerical skills, which are key goals of the educational process. In science, social studies (which includes history and geography), music and the visual arts, physical education and health, children need to acquire a body of knowledge and skills (Bredekamp & Copple, 1997; Bredekamp & Rosegrant, 1995).

#### *Developmentally Appropriate Practices with Infants*

Children's experiences during early childhood influence their later functioning in school and also can have effects throughout life. For example, current research demonstrates the early and lasting effects of children's environments and experiences on brain development and cognition. From infancy through about age 10, brain cells not only form most of the connections they will maintain throughout life, but during this time they retain their greatest malleability (Caine & Caine, 1991). As increasing numbers of infants are cared for in locations other than

their homes, awareness of the low quality and often inappropriate care given to this age group has grown (Cost, Quality, & Child Outcomes Study Team, 1995). Mediocre and inadequate care endangers infants' development and future prospects (Carnegie Task Force, 1994). Therefore, it is necessary to reflect on the nature of developmentally appropriate practice in this age range (Bredekamp & Copple, 1997).

### *Young and Mobile Infants*

In order to describe developmentally appropriate practices with infants, two stages of infancy will be described. Characterized by mobility and age range, a young infant's age range is from birth through age 6 to 8 months, and a mobile infant's age begins at approximately 8 months. For each age period a description is given for what can generally be expected of the infant and what is the appropriate response of the caregiver. The overlap in ages signifies the importance of individual differences among infants' rates of development. The competent caregiver will need to provide diverse experiences, environments, and interactions for infants as they grow. All infants need a caregiver's help as they grow and learn about identity, exploration, and security. The type of help needed will change during the different stages of infancy. Developmentally appropriate practices with infants require the ability to adapt a pattern of care to meet infants' changing needs (Lally, 1995a).

*Young infants and their primary caregivers.* Security is the number one need of young infants age birth through 6 to 8 months old. Young infants develop a sense of a safe, interesting, and orderly world where they are understood and their actions bring pleasure to themselves and others through responsive interactions with parents and a few other special caregivers. Feeling secure encourages infants to try new things and explore. These feelings about security become part of the child's identity (Lally, 1995a; Powell & Smith, 1994). It is of the utmost importance for infants in childcare settings to have only one primary caregiver, with two at the most, whenever possible. In order for the relationship to be nurturing and trust-building, the adult-to-infant-ratio should be 1:3 and the group size should be no more than 8 in a classroom. These ratio and group size recommendations allow for a level of responsiveness from the primary

caregiver to the child that is considered optimal for development of secure relationships (Poole, 2003).

Every young infant is unique. Young infants differ in their biological rhythms, the way they use their senses to learn about their environment, and in their responses to stimuli. The primary caregiver's job is to learn the young infant's individual eating and sleeping rhythms, how he or she approaches new people and things, and how he or she prefers to be held for comforting, sleeping, or feeding. Primary caregivers should hold and cuddle infants when feeding them. Even infants who hold their own bottles need to be held and have the caregiver's undivided attention. Being held and cuddled frequently is extremely important in the development of an infant's sense of self-worth and security. Holding and cuddling an infant is also a great stress releaser for an adult (Oesterreich, 1995). Young infants are learning what to expect as the adult learns their needs and responses. Young infants are similar in their need for good health and safety, in their need for warm, loving relationships, and in their need for responsive care for their individual differences (Lally, 1995a).

The young infant's day centers on the basic care routines of sleeping, eating, dressing, and diapering. Caregivers should respect an infant's natural schedule. Most infants will settle into a regular routine for eating, sleeping, and elimination (Oesterreich, 1995). Routines are vital times that offer opportunities for visual and tactile learning and one-to-one interactions.

Young infants use movements, sounds, and facial expressions to communicate their needs and feelings. Infants only a few months old show enjoyment and involvement through arm and leg movements, smiling, laughing, and looking. They like to look and listen, and can follow mother's, father's, and a primary caregiver's voice. Young infants take pleasure in hearing language. They develop distinct types of cries to express their various needs. Long before they speak with words, they coo, then babble, and then imitate sounds of the adult speech around them (Lally, 1995a; McGee & Richgels, 1996). Caregivers should react to infant's efforts of verbal expression with eye contact, smiles, and positive verbal responses (Oesterreich, 1995). Young infants look intently at the light and dark contours of the human face and can discriminate between an accurate drawing of a human face and one in which the main features are out of place. Caregivers should expose infants to bright colors and a variety of objects to look at.

Pictures, moving objects, and brightly colored or contrasting color toys attract infants (Lally, 1995a; Oesterreich, 1995).

Young infants learn through movement. As they move their body parts and by touching and being touched, infants learn how their bodies feel and move. They need many opportunities to sample a variety of motor and sensory experiences. Young infants depend on adults to carry them to, or present them with, an interesting activity or object before they can creep or crawl. Caregivers should place infants in new places and new positions so that they can see their world from different angles (Oesterreich, 1995). In time, young infants discover that they can affect their environment through actions of their own. Through repeated actions, young infants build up physical strength and motor skills. They use their emerging physical skills and their senses to learn about the people and objects around them. They engage their senses by putting things in their mouths and by touching different textures. However, too much stimulation can be overwhelming. A well-organized environment, where objects are placed on low shelves and where there are a variety of visual, tactile, and physically challenging choices to capture the infant's attention encourages curiosity and exploration and lets each infant engage the world at his or her own pace (Lally, 1995a).

If treated with developmentally appropriate care, young infants learn that their needs will be met and are understood. Infants learn that their new experiences and skills most often bring pleasure. These early experiences affect a child's approach to learning far into the future (Lally, 1995a).

*Mobile infants and their primary caregivers.* Exploration defines the second stage of infancy, when, at approximately 8 months of age, the infant becomes more mobile. Mobile infants are curious and on the move. They seem to get into everything in their pursuit to learn more about the world. Primary caregivers can provide encouragement and support to mobile infants by gesturing to them, by talking with them, and by making eye contact with them. Mobile infants will develop feelings of competence and confidence under a warm and watchful eye. At this stage, infants need trusted adults as a secure base of support as they practice independence (Lally, 1995a).

Mobility allows infants to move to what or whom they want and opens a world full of inviting experiences. The independence to move safely is crucial for infants who are beginning to crawl or walk. In addition to being responsive, primary caregivers must baby-proof everything to make the infant's environment as safe as possible. They should store toxic substances up high. Safety latches should be put on cabinets and covers placed on electrical outlets. Crib mattresses must be lowered so older infants can't fall over the rail. Sharp corners of tables or shelves that infants might bump into should be covered (Oesterreich, 1995). Mobile infants need affectionate, attentive adults to create a setting that is safe in which to explore and learn.

Mobile infants' new understandings and abilities have a strong effect on relationships between them and their primary caregivers. Mobile infants can now move to and from their caregiver or toys on their own. As they play, they sustain their feelings of security by keeping the caregiver in sight (Lally, 1995a).

Mobile infants are fascinated with the adults around them. They attempt to imitate adult actions and language. By this stage, infants already know a great deal about language and communication. During this stage they begin to understand the meaning of words. In response to infants' first speech, caregivers should slow their own speech and pronounce words clearly. By expanding, repeating, and labeling, caregivers increase infants' vocabularies and promote their sense of themselves as successful communicators (Lally, 1995a).

It is during the mobile stage that infants develop object permanence and will seek an object that is out of sight. They make use of these new cognitive, social, emotional, and physical abilities and the connections among them to discriminate between familiar and unfamiliar people. Almost all infants during this period show some degree of stranger anxiety, or fear around unfamiliar people. Infants at this age can be upset and fearful when a trusted adult leaves their sight. These strong emotions reflect new social, emotional, and cognitive understanding. Mobile infants recognize that they are separate people from their parents and caregivers. They express their strong emotional ties to the adults they love, and they are extremely aware of their vulnerability when their loved ones are gone (Lally, 1995a).

During the mobile stage, friendships begin to emerge due to the infant's curiosity about other children. Infants in this stage need assistance when interacting with each other. A mobile

infant will pull other's clothes and hair with interest, and require a caregiver's guidance (Lally, 1995a).

A good primary caregiver should make sure that balance is maintained in the levels of intensity of play for the mobile infant. Mobile infants are very easily stimulated. A developmentally appropriate environment should support the infant's interest in routines, new mobility, imitation of the behaviors of adults and older children, and the capacity to engage in a wider range of activities. During play mobile infants can be totally absorbed. Physical activity and learning are intricately linked (Lally, 1995a).

Mobile infants develop small-muscle skills as they pull, push, grasp, drop, throw, and mouth objects. They develop their large muscles as they creep, crawl, cruise, walk holding onto furniture, climb, and descend. Structures such as tunnels and low platforms invite the infants to pull up, take steps, climb up steps or risers, and crawl into partially enclosed spaces to gain new perspectives on the world. Mobile infants learn fundamental rules of cause and effect and the use of objects as tools for specific purposes, sequence, classification, and spatial relationships through their physical skills and exploration of objects (Lally, 1995a).

Both young and mobile infants benefit from a positive relationship with their primary caregiver. Caregivers, through their relationships with children and their families, and through the classroom environments and programs they create, can have a great and lasting impact on the children they care for. It is important to look at the effects of out-of-home care on infants.

#### Effects of Attending Childcare on Infants

While the data on childcare experiences seem to be mixed (Ziglar & Hall, 1988), indications are growing stronger that high-quality childcare produces long-term positive effects on child development (Campbell & Ramey, 1995; Gelb & Bishop, 1992; Lee, Brooks-Gunn, & Schuur, 1988), despite claims to the contrary. Belsky (1987) claimed that entry into childcare in the first year of life is a single risk factor for the development of insecure-avoidant attachment in infancy, and heightened aggressiveness, non-compliance, and withdrawal in the preschool and early years. This suggests that infant childcare may produce negative effects in two significant areas: attachment to the mother and preschool social adjustment. There are several major problems with Belsky's claim. First, Belsky based his claim on data from low-quality childcare

centers. Second, some of the results, (a) compliance on the part of preschoolers with infant childcare experience, and (b) assertiveness, are not necessarily negative. Also, the measurements of attachments were made in a situation that involved unnatural leave-takings and reappearances for brief periods by the mother and a stranger (Field, 1990; Rutter, 1981). For a child cared for exclusively by the mother, avoidance upon the mother's return may be a pathological response to a rejecting mother. However, for children in childcare, ignoring the mother upon reunion may be an adaptive response to repeated daily separations from the mother. There is also no reason to expect faulty attachment when children are cared for by other adults and in the company of their peers (Oppenheim, Sagi, & Lamb, 1988; Tronick, Winn, & Morelli, 1990).

Belsky (1987) also claimed that infants experiencing childcare in the first year are harmfully affected in the area of early social interactions with peers and adults. This claim is based on negative effects found in a limited number of studies. For example, in one study preschool children who had participated in infant childcare were found to be more verbally and physically aggressive with adults and peers, less tolerant of frustration, and less cooperative with adults (Schwartz, Strickland, & Krolick, 1974). Temper tantrums and decreased compliance have been noted in infants who had received outside care in their 1<sup>st</sup> year of life (Rubenstein, Howes, & Boyle, 1981). In another study, less compliance, less persistence in dealing with difficult problems, and more negative affect were noted in infants, but the effects did not persist beyond 2 years of age (Farber & Egeland, 1982).

In contrast, other studies have shown positive outcomes for infants attending childcare during their 1<sup>st</sup> year (Phillips, McCartney, Scarr, & Howes, 1987). For example, in one study children who entered childcare as infants and had consistent care (i.e., few changes in caregivers) engaged in high levels of play with objects (Howes, 1988a). In another study, school-age children with extensive childcare experience did less hitting, kicking, and pushing (Haskins, 1985). Children who attended childcare at an early age (between 2 and 20 months of age) laughed and touched others more often (Schwartz, Krolick, & Strickland, 1973). The data on childcare experiences seem to be mixed (Ziglar & Hall, 1988).

Some apparent reasons for the inconsistent data are that childcare centers vary in quality, infants often have inconsistent childcare, and many of the infants studied come from low-income families. One study compared infants who received quality childcare with those who were denied

the same childcare because they were on a waiting list. The study compared preschool children who had received varying amounts of infant childcare. Whether childcare began before 6 months of age or after 6 months did not have any effects on attachment to the mother or on play and socialization skills as measured by playground observations and on teacher and parent behavior ratings. However, children who experienced more childcare (more hours per week over more months), were more sociable; they engaged in less watching, solitary play, and comfort-seeking behavior; and they showed more cooperative play, positive affect, peer interaction, and positive verbal interaction. This study indicated that continuous infant childcare in quality care centers does not negatively affect attachment behavior (Field, Masi, Goldstein, Perry, & Parl, 1988).

Belsky (1986) claimed that spending more than 20 hours a week in non-maternal care during the 1<sup>st</sup> year of life is a high risk factor. This was contradicted in a study in 1988 (Field et al.), in which children who had received 40 hours of infant childcare per week were more, not less, sociable at the preschool stage than children who attended childcare a couple of hours per week. Because childcare involves extensive experience with other children and adults, it is considered a socializing experience. Indeed, by the end of grade school the children with more childcare experience in quality childcare centers were more affectionate, assertive, and popular and less aggressive with peers. Also, they were more likely to be assigned to the gifted programs, and their math grades were high (Field, 1990). The critical factors are continuity and quality of care. The children who benefited from childcare attended infant childcare continuously in high-quality model programs (Barglow, 1987).

High-quality, developmentally appropriate early childhood programs produce both short- and long-term positive effects on children's cognitive and social development (Barnett, 1995; Barnett & Escobar, 1987; Field, 1990; Lazar, 1983). Research on the long-term effects of early childhood programs indicates that children who attend high-quality childcare programs, even at very young ages, demonstrate positive outcomes, and children who attend poor-quality programs show negative effects (Burchinal, Robert, Nabo, & Bryant, 1996). Children who experience high-quality, stable childcare (i.e., continuity of care with a primary caregiver) engage in more complex play (Johnson, Christie, & Yawkey, 1999), demonstrate more secure attachments to adults and other children, and score high on measures of thinking ability and language development. High-quality childcare can predict academic success, adjustment to school, and

reduce behavioral problems for children in first grade (Howes, 1988b). Again, the critical factors are continuity and quality of care (Barglow, 1987). In recognition of these facts, many early childhood educators and policymakers have looked to Reggio Emilia, Italy, the site of one of the most renowned examples of high-quality infant/toddler childcare. The Reggio program challenges notions of adverse effects of non-parental care for very young children and shows the positive impact of responsive care (New, 1990).

### *Characteristics of a High-Quality Program*

High-quality programs share certain characteristics that meet the standards of the profession. These standards describe seven key indicators that identify an early childhood program of high-quality, with age appropriateness, individual appropriateness, and cultural and social appropriateness as key elements (Bredenkamp & Copple, 1997). Seven characteristics evident in high-quality programs are discussed here.

First, a high-quality program is based on accepted theories of child development. In each stage of life, children take on special developmental tasks and challenges related to their social, emotional, physical, and cognitive development. For infants, development occurs in all of these areas as they use their senses to gain a sense of security and identity and to explore the people and objects in their world. The key to meeting the developmental needs of infants can be found in the responsive relationships infants build with the important adults in their lives. This is why it is important to have small-sized groups and low adult-to-child ratios. For the same reason, it is also important for each infant to have a primary caregiver, and, if possible, for that person to remain that child's primary caregiver until the age of 3 (Koralek, Colker, & Dodge, 1995).

Second, a high-quality program is individualized to meet the needs of each child. Caregivers use knowledge of child development to tell them what is age appropriate. Interaction and observation is used to define what each child's particular characteristics and needs are. The information gathered from working with children and talking with their families enables caregivers to make the program individually appropriate for each child. This is done by making changes to the environment, planning activities, and developing strategies that build on the intimate knowledge of each child's temperament, interests, culture, emerging capabilities, and preferred learning styles (Koralek et al, 1995).

Third, in a high-quality program, each family's culture is respected, and family members are encouraged to participate in the program. Parents and early childhood professionals are partners in promoting children's growth and development (Koralek et al., 1995). In programs for infants, it is almost impossible to serve children without also serving their families (Raikes, 1996).

Fourth, in a high-quality program, the physical environment is safe, healthy, and contains a variety of toys and materials that are both stimulating and familiar. A high-quality early childhood program provides an environment where children can be safe and healthy and free to move around, explore, and experiment. Infant environments also need to be warm and engaging, so that children and families feel welcome and comfortable. To create this type of environment one must continually check indoors and out to remove hazards and prevent children from injuring themselves and others. Hygienic procedures for diapering, toileting, hand washing, food service, and management of illness must be followed. The indoor and outdoor environments are arranged to promote active exploration that include attractively displayed and accessible play materials and toys that reflect the children's culture, interests, and skill levels (Koralek et al., 1995).

Fifth, in a high-quality program, children select activities and materials that interest them, and they learn by being actively involved. During their earliest years, children are learning to trust the world, to actively explore their environment, and to do things for themselves. The more children are allowed to follow their own interests, the more they learn from experience and the greater the chances that they will continue to be successful learners throughout their lives (Koralek et al., 1995).

Sixth, in a high-quality program, adults show respect for children and interact with them in caring ways. Children's healthy development depends on being cared for by adults who will respond immediately and appropriately to their needs and communications. This means not just talking with children in a soothing voice but responding to a child's needs to be held, rocked, and comforted. It also means being a sensitive and responsive communicator, both verbally and non-verbally (Koralek et al., 1995).

Seventh, staff and providers in a high-quality program have specialized training in child development and appropriate programming. High-quality programs are planned, implemented,

and continually revised by trained professionals who have the knowledge and skills to oversee a program that is developmentally appropriate. This training comes in many forms: through college courses, by obtaining a Child Development Associate (CDA) credential, by attending workshops and seminars, by being part of a network of colleagues such as a local or national childcare professional organization, and from using a developmentally appropriate curriculum (Koralek et al., 1995).

### *The Infant/Toddler Environment Rating Scale*

In 1990 NAEYC published the *Infant/Toddler Environment Rating Scale* (Harms et al., 1990), to give an overall picture of the quality of group care provided for children from birth to 30 months of age. The *ITERS* (Harms et al., 1990) supplies appropriate and accurate information regarding furnishings and displays, personal care routines, listening and talking, learning activities, interaction, program structure, and adult needs. The 35 items selected provide a comprehensive assessment of infant/toddler environments for children from birth to 30 months of age to assess organization of space, interaction, activities, schedule for children, and provisions for staff and parents. The 7 categories cover basic dimensions that are equally important in full-day and part-day programs of various types. The seventh sub-scale covers the needs of the key teaching staff, staff support, and parents. The *ITERS* (Harms et al., 1990) can be used for program improvement, monitoring, and self-assessment. The established reliability and validity of the scale make it particularly useful for research and program evaluation.

### *Concerning Art*

Item 19 of the *ITERS* (Harms et al., 1990) is the only item that directly concerns art. The instructions for item 19 state that if all children in the group are less than 12 months of age, then scoring for this item can be omitted. To obtain a rating of 7, which is listed as excellent, children from 12-18 months of age must be offered some art material daily. Other criteria are that clean up needs to be easy so the children can help, and that the caregiver should talk to the child about his or her artwork (Bredekamp & Copple, 1997). The *ITERS-R* (Harm et al., 2003) states that if art materials are used with infants younger than 12 months of age the art materials must be non-toxic and safe for use by young children, and that access to materials be based on children's

abilities (for example, crayons and watercolor markers for the youngest children, paints and play dough added for older toddlers and 2-year-olds). After data collection for this study was complete, the *ITERS-R* (Harms et al, 2003.) was released. There was no significant change in the question regarding art.

### *Utilization in TN's Star-Quality Program*

In 2000 and 2001, TN launched a broad program to improve childcare and to give parents more information about the quality of care their children receive. The Star-Quality Child Care Program is part of this broad program. A voluntary program, Star-Quality recognizes childcare providers who meet a high standard of quality. Once qualified for this program, a provider can receive one, two, or three stars to place on the license and display in the center or home. Each star shows that the provider meets increasingly higher standards. The *ITERS-R* (Harms et al., 2003) is one part of a seven-part evaluation used to assess infant/toddler programs participating in the Star-Quality Child Care Program. At the initiation of data collection for this study, specific information concerning infant programs' overall *ITERS* (Harms et al., 1990; the original version in use at the time) scores and sub-scale scores were not available, and only approximately one fourth of the licensed childcare centers with infant programs in Northeast TN had received star ratings (TN Department of Human Services, n.d.).

### *The Arts in the Infant Program*

Most children experience art long before they are able to grasp a crayon or paintbrush. Watching brightly colored mobiles or looking intently at the pattern in an adult's blouse is the beginning of art experiences for infants. As they raise their heads to see a picture, they learn about shapes, colors, and patterns. Infants learn more about art as they are able to be active in their environment, making things change around them. For example, playing with blocks involves infants' feelings, abilities, and skills of observations, which are all part of infants' emerging art skills. If encouraged, art becomes another language for children, a way for them to express their ideas and feelings (Dombro et al., 1997; Mayesky, 1990; Miller, 1999; TFCLA, 1998).

### *Aesthetics*

Mayesky (2002) defines aesthetics as an appreciation for beauty, a feel of wonder, and a sensibility that uses the imagination as well as the five senses. Aesthetic experiences emphasize doing things for the pure joy of doing them, without the need for any practical purpose or reason. In an infant program, the purpose of aesthetics is to help develop rich life experiences for each child. It does not matter if the experience is useful for anything else. There does not have to be a product. Doing something just for the sake of the experience is enough.

The ability to experience aesthetics is a fundamental human characteristic. Infants, who take in the world with their whole bodies, are especially open and ready for aesthetic experiences. The experience itself, for them, is not separated from thinking. A child's aesthetic sense exists long before the ability to create (Mayesky, 2000).

### *Creative Development*

“Pre-creative” activities are the foundation of creativity, and begin in the first year of life. In order for children to want to express themselves creatively, they must first feel that someone thinks they are interesting and that their ideas have value. This is communicated through appreciative gazes, interested looks, smiles, a nod or applause. This is communicated when primary caregivers try to understand and interpret infants' various grunts, gestures, and facial expressions. This is communicated when praise is given to infants for accomplishments. Any sincere, positive expression of approval communicates to a child that he or she is interesting and valued (Miller, 1999). These positive affirmations are critical to the development of a secure infant/caregiver relationship, which serves as a basis for all future learning experiences.

Art is an important part of creativity, but the issue and concept of creativity is much broader. Creativity is sometimes defined as the ability to combine materials in new, original ways (Miller, 1999); flexible thinking; a special type of problem solving; the generation of a useful or appropriate product; and the production of novel thoughts, solutions, and/or products based on experience and knowledge (Hendrick, 1986, as cited in Isbell & Raines, 2003). In relation to infants, Miller's (1999) version seems to fit best. When given freedom and a room full of safe objects such as empty boxes, plastic containers of various shapes and sizes, scarves, egg crates, things to put into containers and dump out again, things that nest, and things that fit

together, young children will endlessly combine. They seem to be on a compulsive quest to find out what fits in what, what kind of noise something makes when banged against the floor, and what sort of object gets stuck where. In this environment, a child turns into a creative scientist (Miller, 1999). Mayesky (1990) supports this by defining art, blocks, dramatic play, and music as creative activities for infants.

Infants need to crawl in, out, and under things to gain a sense of directionality. Then, as toddlers, they enjoy making objects such as balls, wheel toys, and blocks go where they want them to go. Later, they learn to make the marks on paper go where they want them to go (Miller, 1999).

Newborns stare at their hands that seem to appear in space above them. Later, they realize that they are causing the movement they see in front of them. Next they learn to reach and grab, then to let go. Eventually they gain the ability to aim at objects. In time, the child learns to hold onto a crayon and exert downward pressure while moving it across a paper. Art activities of all types offer good fine motor practice (Miller, 1999).

### *Meaningful Arts Experiences*

The Task Force on Children's Learning and the Arts: Birth to Age Eight (1998) suggests that meaningful arts activities for infants should draw from the best and simplest elements of the visual and performing arts. Infants' arts activities must be language-rich and centered around one-on-one interactions with a significant adult. They should reflect the infants' environment and every day life, and develop these experiences into different art forms. They should be embellished with encouraging language from adults and be a source of sensory stimulation. Meaningful arts activities with infants will provide a balance of sensory stimulation (e.g., sounds, movement, etc.) that is sensitive to cues and signals of the child. They reinforce early language and literacy skills as adults connect language to activities. They include adult imitation and repetition in response to a child's interests.

Through arts education, very young children can experience nontraditional modes of learning that develop intrapersonal, interpersonal, spatial, kinesthetic, and logic abilities, skills, and knowledge, as well as traditional modes of learning that develop mathematical and linguistic

abilities, skills, and knowledge. Because children learn in multiple ways, activities should reflect these multiple ways of knowing and doing (TFCLA, 1998).

### *Appropriate Arts Experiences for Young Infants*

For newborn infants, from birth to 3 months old, an *arts experience* (i.e., all experiences and activities that engage infants in the process of experiencing and responding to specific stimuli) can be something as simple as looking at contrasting images (e.g., black and white or colored objects) to stimulate eye movement and auditory development. Other examples of arts experiences are: (a) when a caregiver responds to the cues of an infant with an animated voice and facial expressions, (b) the playing of soothing music that facilitates an increased awareness of sound, and (c) a hanging mobile that promotes infants' understanding of space and movement. When infants are awake, they can be nurtured through sights, sounds, and gentle touches. Holding, cradling, and hugging infants nurture and develop their sense of touch and space. Through these types of arts experiences, infants discover that they can change what they see, hear, and touch (TFCLA, 1998).

Primary caregivers can initiate and facilitate these types of arts experiences in many ways. To initiate the experiences, they should allow infants to hear soothing music, birds singing, water babbling, and other soft sounds. Mobiles need to be hung within a foot of the infants' eye line. Infants should be spoken to, read to, and sang to. Caregivers need to watch for infants' cues and signals in response to music and objects. A cue may come in the form of a smile or a reach. Responses to infants' cues need to be gentle and supportive (TFCLA, 1998).

Infants ages 3 to 8 months old need the previous experiences and are also ready for more advanced experiences. Build infants' vocal skills through stories and songs utilizing face-to-face interactions with eye contact, which will encourage infants to respond vocally. This individual attention can be accomplished by incorporating a nursery rhyme into a diaper changing or feeding routine, or a lullaby into a naptime routine. Primary caregivers can encourage recognition of new aspects in the environment by touching objects then naming them. Use caution when deciding whether or not to show children how to use an object. Piaget says that by teaching a child anything, you take his or her chances of discovering it away forever (Mangione, 1988). Instead, place rattles or appropriate toys with textures and sounds in the infants' fists. Use

appropriate soft and colorful materials for babies to touch (e.g., blankets or toys). Stimulate their innate sense of discovery by developing a stimulating, developmentally appropriate environment within their visual and physical reach (TFCLA, 1998).

Mayesky (1990) suggests crayons and paper as materials for small muscle activities with infants as young as 5 months old. Mayesky recommends that art activities for infants from birth to 5 months old be centered on feeling and looking. They should be given different textured materials to feel; large pictures of people's faces, a variety of other colorful pictures cut from magazines, and colorful mobiles to look at. Dombro et al. (1997) report that when a caregiver talks about the feel of a soft blanket or the bright color of a stuffed animal, he or she confirms the importance of the infant's experiences. Caregivers should provide some materials specifically meant to extend the range of sensory experiences of the infants they care for such as cloth and other types of materials that have distinct textures; and various types of nontoxic papers for crumpling, tearing, and shredding.

#### *Appropriate Arts Experiences for Mobile Infants*

Crawlers and walkers are able to see and begin to know how things work. They experiment with their world and use their senses to understand everything by touching, seeing, hearing, etc. They also need extra attention and supervision due to their new mobility to ensure their safety. They need someone to talk to them about what they see and hear when exploring their expanding world (TFCLA, 1998).

For mobile infants there are many arts experiences that promote learning for primary caregivers and infants to do together. During this stage of infancy, caregivers should move with the infants they care for to different play areas to see nature, people, and images. They should talk to the infants about what they see. Music should be played, and infants' feet, legs, and hands can be guided to move with the beat. Together caregivers and infants can explore shapes and colors of objects. They can talk about what is around them and make up songs to go with what they see and hear. Pictures in the classroom should be hung at the child's eye level, and caregivers should name, describe, and point to items in the pictures. When reading to and telling stories to infants, caregivers should use character voices and gestures. Opportunities should be

provided for safe explorations of appropriate media in visual arts, such as finger painting with water and drawing with crayons (TFCLA, 1998).

Art activities for infants from six months to nine months old should be centered on looking and movement. With infants of this age, art activities include playing peek-a-boo by covering your face with a brightly colored paper; looking at moving pictures; looking at books containing colors, animals, shapes and people; looking at his or her own fingers and hands; and watching a brightly colored ribbon attached to his or her wrist (Mayesky, 1990). For infants 10 months of age and older, Miller (1999) suggests scribbling with fat crayons, chalk, markers, and large pencils; and painting with paint in roll-on deodorant bottles. Mayesky (1990) suggest that scribbling, tearing paper, and exploring play dough are appropriate art activities for infants from the ages of 9-12 months old.

Mobile infants can begin to explore and experiment with finger and water paints with hands or brushes on paper, table surfaces, trays, oilcloth or vinyl, walls, sidewalks, blacktops, and tree trucks. Mobile infants can draw with large crayons, chalk, water-based markers, soap crayons, and scribble wafers on a variety of papers in various shapes and sizes, wrinkled and smooth, dry and wet. Chalk can be used on blackboards, sidewalks, and blacktops outdoors. They can draw on construction paper, oatmeal paper, and sandpaper. Mobile infants can mold with doughs that are oily and easily squeezed, such as homemade doughs made with edible materials.

*Suggestions for success.* Art activities with very young children must possess specific qualities in order to be both appropriate and successful. These qualities are discussed here.

1. Well-conceived art activities are balanced between child and adult-initiated activities, reflective and active activities, indoor and outdoor activities, and group and individual activities (TFCLA, 1998).
2. Children need to be able to discover the activity and choose to do it out of curiosity. Children need to make their own choices and see their choices acted upon. On rare occasions when no one is spontaneously attracted to the activity, you may want to “invite” one or two children to participate, but allow them to refuse if they want.

Usually, any new material will attract interest. Other children will be drawn to it when they see their friends involved. (Miller, 1999; TFCLA, 1998)

3. The activities need to be stimulating and contain quality materials for children to use, including a selection of books and arts materials (TFCLA, 1998).
4. One adult needs to stay with or near the activity to supervise and prevent children from putting the art materials in their mouths.
5. Arts activities should be conducted with one individual or with a very small group of no more than four children. A large group can be overwhelming to both the children and the teacher (Miller, 1999).
6. Children's clothing should be protected during messy activities with smocks and rolled up sleeves.
7. Children should not be rushed. It's more important for a child to relax and enjoy the process (Miller, 1999).
8. Children should be allowed to repeat the activity. When children finish a painting, ask them if they would like to do another. Repetition allows for deepened understanding. Children need time to repeat and practice new skills (Miller, 1999; TFCLA, 1998).
9. The intended process must be variable. If the child thinks of something else to do with the material that is not destructive, allow it. Focus on children's experiences and the process of learning the arts rather than on isolated tasks or performance goals. Encourage expression and imagination. Be flexible in structure, allow for improvisation and encourage spontaneity (Miller, 1999; TFCLA, 1998).
10. Everything should be ready and on hand ahead of time. Leaving a child waiting can spoil the activity (Miller, 1999).

## CHAPTER 3

### RESEARCH METHODS

The purpose of this chapter is to describe the study participants, the method of selecting infant programs and infant caregivers, the research design, instrumentation, data collection, and data analysis.

#### Participants

Participants consisted of infant caregivers and their infant programs in licensed childcare centers in Northeast TN. Centers in Northeast TN were chosen so that the researcher could travel to each infant program to administer the *ITERS* (Harms et al., 1990). The Northeast TN counties included in the study were Carter County, Sullivan County, and Washington County. According to the list of licensed childcare centers obtained from the Department of Human Services at the initiation of this study, there were 68 licensed childcare centers that accept infants in these counties, with a total of 71 programs. The majority of the centers' caregivers consisted of white, working class women. The majority of the parents and students were from white, working and middle class households. The smallest childcare center had a maximum enrollment of 15 children, and the largest had a maximum enrollment of 157 children.

The director of each childcare center was contacted by phone. The researcher described the study and asked for permission to conduct the study with their center's infant program. Center directors who were difficult to reach by phone and all directors who agreed to allow their infant programs to participate in the study were sent a letter of explanation about the study (Appendix B) and an Institutional Review Board Informed Consent Document (Appendix C) to sign. When written permission was granted from the directors, the infant caregivers at participating centers were contacted. The researcher described the study and asked for permission to include them in the study. Infant caregivers were sent a caregiver letter of explanation about the study (Appendix D). All participating caregivers were asked to read and sign the Institutional Review Board Informed Consent Document (Appendix C), and all infant caregivers who agreed to participate in the study were asked to complete a PPAALQ (Appendix

A). To help assure confidentiality, a code number was assigned to each questionnaire so that the caregiver did have to write his or her name on the questionnaire.

Scores from each caregiver's PPAALQ (Appendix A) from the same infant classroom were averaged to obtain one overall score for each program. All infant caregivers who completed and returned the PPAALQ (Appendix A) were contacted to arrange appointments for administering the *ITERS* (Harms et al., 1990).

### Sampling Method

This study used purposeful sampling. The aim of purposeful sampling is to establish that the sampling procedure is not biased. Purposeful sampling is designed to achieve an in-depth understanding of selected individuals, not to achieve population validity (Babbie, 1995). The logic and power of purposeful sampling lies in selecting information-rich cases for studying in depth. Information-rich cases are those from which one can learn a great deal about issues of central importance to the purpose of the research, thus the term purposeful sampling. In contrast, quantitative methods typically depend on larger samples selected randomly in many cases. The logic and power of probability sampling depends on selecting a truly random and statistically representative sample that will permit confident generalization from the sample to a larger generation (Jang, n.d.). Probability sampling techniques – involving random sampling – allow a researcher to make relatively few observations and generalize from those observations to a much wider population. Random selection is a precise, scientific procedure: there is nothing haphazard about it (Babbie, 1995).

A purposeful sampling method was used in selecting the initial group of infant programs for possible participation in this study. Infant programs in licensed childcare centers were chosen for this study in order to increase the size of the infant groups to be studied. Infant programs in Northeast TN were chosen so that the researcher could travel to each program to administer the *ITERS* (Harms et al., 1990).

### Instrumentation

Two instruments were used for data collection in this study. First, the Product-Producing Art Activity Level Questionnaire (PPAALQ) (Appendix A), developed by the researcher, was

used to assess the degree to which PPAA was included or excluded in infant programs and to help determine the reasons for including or excluding PPAA in infant programs. Second, the *Infant/Toddler Environment Rating Scale (ITERS)* (Harms et al., 1990) was used to assess the DAP of each participating infant program.

#### *Product-Producing Art Activity Level Questionnaire*

The PPAALQ (Appendix A) is a 10-item instrument that measures the level of PPAA in infant programs. The PPAALQ (Appendix A) was developed by the researcher to assess the degree to which PPAA is included or excluded in infant programs and to help determine the reasons for including or excluding PPAA in infant programs. The questionnaire consists of a combination of frequency questions to determine the level of PPAA, and one qualitative question to determine caregiver's reasons for including or excluding PPAA in infant programs. The researcher used her experience as an infant program teacher, along with early childhood teaching and program manuals that include art activities for infants (Dombro et al., 1997; Lansky, 1993; Mayesky, 1990; Miller, 1999), the *ITERS* (Harms et al., 1990), and invaluable guidance from the major advisor, when designing the PPAALQ (Appendix A).

#### *Administration and Scoring*

Caregivers were presented with the PPAALQ (Appendix A) upon their written agreement to participate in the study. The researcher was available to answer any questions concerning the PPAALQ (Appendix A). Written instructions and definitions of terms were included to aid in understanding and clarification. A code number was assigned to each questionnaire so that the caregiver did not have to write his or her name on the questionnaire. There was no time limit set for completion of the PPAALQ (Appendix A), but the researcher estimated that it would take approximately 5 to 10 minutes to complete. Upon completion, caregivers returned the questionnaire to the researcher directly via pre-addressed, pre-stamped envelopes.

The PPAALQ (Appendix A) consists of 10 questions. Question 1 is a frequency question, with a score range of 0 to 4, with 0 indicating the lowest level of PPAA and 4 indicating the highest level of PPAA. Questions 2, 3, and 5 are cumulative checklists where the more items checked, the higher the score, and therefore the more PPAA. For Questions 2 and 5,

each item checked = 1 point, with the exception of 1 item in Question 1, where if the answer “none” is checked, and 1 item in Question 5 where if the answer “no infants in my care participate in art activities that produce artwork” is checked, then the score = 0 points, with 0 indicating the lowest level of PPAA and 4 indicating the highest level of PPAA. The scoring for Question 3 is as follows: no items checked = 0 points, 1-3 items checked = 1 point, 4-6 items checked = 2 points, 7-9 items checked = 3 points, and 10 or more items checked = 4 points, with 0 indicating the lowest level of PPAA and 4 indicating the highest level of PPAA. Question 4 asks the caregiver to assign percentages of time spent on activities. The only answer that earns points is the “Art” answer. Points are given according to the following scale: 0% = 0 points, 1% - 25 % = 1 point, 26% - 50% = 2 points, 50% - 75% = 3 points, 76% - 100% = 4 points, with 0 indicating the lowest level of PPAA and 4 indicating the highest level of PPAA. Questions 6 and 9 are “yes” or “no” questions, in which the answer “yes” = 1 point, and the answer “no” = 0 points, with 0 indicating the lowest level of PPAA and 1 indicating the highest level of PPAA. Question 7 asks the participating caregiver to choose which scenario is the most like them. The top choice contains a stronger level of PPAA than the bottom. Scoring for this item occurs in Question 8. Question 8 asks the caregiver to indicate whether their answer in Question 7 is really like them or somewhat like them, and the scoring is as follows: top answer is really like them = 4 points, top answer is somewhat like them = 3 points, bottom answer is somewhat like them = 2 points, bottom answer is really like them = 1 point. Question 10 is an open-ended question that was not assigned points. It was designed to elicit qualitative data that were used to determine the caregiver’s reasons for the inclusion of PPAA or the exclusion of PPAA. On the PPAALQ (Appendix A) there is a possible minimum score of 0 points and maximum score of 25 points, with 0 indicating the lowest level of PPAA and 25 indicating the highest level of PPAA. The scores from each caregiver’s PPAALQ (Appendix A) from the same infant classroom were averaged to obtain one score for each infant program.

### *The Infant/Toddler Environment Rating Scale*

The researcher assessed the DAP of each participating infant program via the *ITERS* (Harms et al., 1990). The *ITERS* (Harms et al., 1990) draws on research evidence, professional values, and practical knowledge in order to define quality. The *ITERS* (Harms et al., 1990) is an

adaptation of the *Early Childhood Environment Rating Scale (ECERS)* (Harms & Clifford, 1980) and the *Family Day Care Rating Scale (FDCRS)* (Harms & Clifford, 1990).

### *Administration and Scoring*

While similar in format to the other two scales, the *ITERS* (Harms et al., 1990) content was developed specifically for infant/toddler group care. The *ITERS* (Harms et al., 1990) consists of 35 items for the assessment of the quality of center-based childcare for children from birth up to 30 months of age. The 35 items are organized into seven categories: 5 items in Furnishings and Displays for Children, 9 items in Personal Care Routines, 2 items in Listening and Talking, 8 items in Learning Activities, 3 items in Interaction, 4 items in Program Structure, and 4 items in Adult Needs. Each item is presented as a 7-point scale, with descriptors for 1 (*inadequate*), 3 (minimal), 5 (good), and 7 (*excellent*). The descriptor inadequate applies when the care provided does not even meet custodial care needs. The term minimal refers to care that meets custodial and, to some small degree, basic developmental needs. The descriptor good applies when the basic dimensions of developmental care are met. The word excellent refers to high-quality, personalized care. The *inadequate* (1) and minimal (3) ratings usually focus on provisions of basic materials and on health and safety precautions. The good (5) and *excellent* (7) ratings require positive interaction, planning, and personalized care, as well as good materials.

The *ITERS* (Harms et al., 1990) is based on a broad definition of the childcare environment including organization of space, interaction, activities, and schedule for children, and provisions for staff and parents. The 35 items of the *ITERS* (Harms et al., 1990), when taken together, give a comprehensive picture of the quality of care provided in one room or for one group of children. After data collection for this study was complete, the *Infant Toddler Environment Rating Scale Revised Edition (ITERS-R)* (Harms et al., 2003) was released. There was no significant change in the question regarding art, which is key in the problem stated for this thesis.

Several studies of the psychometric properties of the *ITERS* (Harms et al., 1990) were conducted in 1988. Three measures of reliability were assessed: interrater reliability, test-retest reliability, and internal consistency. Three separate validity studies were undertaken, including one measure of criterion validity and two measures of content validity. The Spearman's

correlation coefficient for interrater reliability on the overall scale was .84, and the subcoefficients ranged from .58 to .89. The Spearman's correlation coefficient for test-retest reliability on the overall scale was .79, and ranged from .58 to .76 for the individual categories. For the measure of internal consistency, the Cronbach's alpha score on the overall scale was .83. Sub-scale scores varied substantially. Criterion validity assessment resulted in an overall agreement rate of 83% between the expert evaluations and the *ITERS* (Harms et al., 1990) scores.

An item-by-item comparison of the *ITERS* (Harms et al., 1990) with seven other widely used instruments for assessing the quality of infant/toddler programs was conducted as one measure of content validity. Overall, an average of 82% of the *ITERS* (Harms et al., 1990) items were included in the other instruments, and an average of 75% of the items on the other instruments were covered in the *ITERS* (Harms et al., 1990). These findings suggest that the *ITERS* (Harms et al., 1990) provides a valid measure of the quality of infant/toddler environments and addresses some information not covered by other instruments.

For the second measure of content validity, five nationally recognized experts rated the importance of each *ITERS* (Harms et al., 1990) item for the provision of high-quality programs for infants and toddlers, using a 1 (low) to 5 (high) scale. The overall mean rating was 4.3, with individual item means ranging from 3.0-5.0. The scores on 86% of the ratings were 4 or 5.

### Procedures

Approval to conduct this study was requested from both the Institutional Review Board at East Tennessee State University, and directors and infant caregivers of licensed childcare centers with infant programs in Northeast TN. The director of each center was contacted initially by phone. The researcher described the study and asked for permission to conduct the study with their center's infant program. Center directors who were difficult to reach by phone and all directors who agreed to allow their infant programs to participate in the study were sent a letter explaining the study (Appendix B) and an Institutional Review Board Informed Consent Document (Appendix C) to read and sign.

When written permission was granted from the center directors, the infant caregivers were contacted. The researcher described the study and asked for permission to include them in the study. When permission was granted, infant caregivers were sent letters of explanation

(Appendix D) and asked to read and sign the Institutional Review Board Informed Consent Document (Appendix C) and to complete and return the PPAALQ (Appendix A).

To help assure confidentiality, a code number was assigned to each questionnaire so that the caregiver did not have to write his or her name on the questionnaire. The scores from each caregiver's PPAALQ (Appendix A) from the same classroom were averaged to obtain one score for each program. This score was used as an indicator of a high or low level of PPAA, with 0 being the lowest possible score and an indicator of a low level of PPAA, and 25 being the highest possible score and an indicator of a high level of PPAA.

All programs with director permission, caregivers who completed and returned the PPAALQ (Appendix A), and who agreed to the *ITERS* (Harms et al., 1990) evaluation were included in the study. The researcher went to the infant programs to administer the *ITERS* (Harms et al., 1990). In about one fourth of the programs ( $n = 3$ ), the researcher and a trained observer completed the *ITERS* (Harms et al., 1990) independently in order to establish interrater reliability

It took approximately 2 hours to administer the *ITERS* (Harms et al., 1990) in each infant program. The researcher observed the practices and activities that occurred in the infant program and childcare center that directly related to infants in all areas, including but not limited to the following: furnishings and displays, personal care routines, listening and talking, learning activities, interaction, program structure, and adult needs. Observations were scored according to the *ITERS* (Harms et al., 1990) for each of the seven categories and for the overall total score.

## CHAPTER 4

### RESULTS

The purpose of this study was to determine if there were significant differences between infant programs with high and low levels of PPAA and DAP in licensed childcare centers in Northeast TN. By assessing the level of PPAA via the PPAALQ (Appendix A), and the level of DAP via the *ITERS* (Harms et al., 1990), answers to key questions concerning art in infant programs were sought. First, do significant differences exist between infant programs with high and low levels of PPAA and DAP? Second, does the inclusion of PPAA in infant programs take time away from other routines and activities needed to do better on the *ITERS* (Harms et al., 1990), as Cryer (personal communication, October 28, 1999) suggests? Third, what reasons do caregivers give for including or excluding PPAA in their infant programs? Descriptive statistics and *t*-tests were used to analyze the quantitative data in the study. Program scores on all *ITERS* (Harms et al., 1990) sub-scales and the *ITERS* (Harms et al., 1990) overall scores were compared using *t*-tests to determine if there were significant differences between programs identified as high or low in levels of PPAA (i.e., programs that fell 1 standard deviation above and below the mean PPAALQ score). From the qualitative data collected from the PPAALQ (Appendix A), a rank order list of reasons given by caregivers for including or excluding PPAA was compiled.

Four main research questions and seven sub-questions guided this study. Eight hypotheses were tested.

#### Preliminary Analysis

All licensed childcare centers serving infants in Northeast TN ( $N = 68$ ) were contacted for participation in the study. Several centers contained more than infant classroom, which increased the possible number of participating programs ( $N = 71$ ). All programs with directors' and caregivers' approval to participate, and with caregivers who returned a completed PPAALQ (Appendix A) and agreed to the *ITERS* (Harms et al., 1990) evaluation, were included in the study ( $n = 14$ ).

### *Product-Producing Art Activity Level Questionnaire*

Participating infant caregivers ( $n = 23$ ) completed the 10-item PPAALQ (Appendix A). Scores on the PPAALQ (Appendix A) were tabulated. Scores from each caregiver's PPAALQ (Appendix A) from the same infant were averaged to obtain one score for the infant program in each classroom. The possible range of scores on the PPAALQ (Appendix A) was 0 to 25. The actual range in this study went from the lowest received score (1) to the highest received score (15).

### *Infant/Toddler Environment Rating Scale Interrater Reliability*

Two observers (the researcher and a trained assistant) independently scored the *ITERS* (Harms et al., 1990) in approximately one fourth ( $n = 3$ ) of the participating programs for the purpose of obtaining interrater reliability data. The percentage agreement between observers ranged from 49% to 71%, with an average agreement across the three programs of 61%. However, because averages for the total *ITERS* (Harms et al., 1990) score and *ITERS* (Harms et al., 1990) sub-scales were used in the overall analysis, when one examines the means for the *ITERS* (Harms et al., 1990) total and *ITERS* (Harms et al., 1990) sub-scales, one can see that there were actually minimal difference between the two observers (see Table 1).

Table 1

*Mean Scores to Show Interrater Reliability*

ITERS & ITERS Sub-scales	Program 1		Program 2		Program 3	
	01	02	01	02	01	02
ITERS Overall Average	6.39	6.39	6.47	6.88	6.09	6.88
Furnishings and Displays for Children	6.00	6.60	7.00	7.00	7.00	6.80
Personal Care Routines	6.44	6.00	6.78	6.67	6.67	6.78
Listening and Talking	6.50	6.50	7.00	6.50	7.00	6.50
Learning Activities	6.50	6.67	6.38	7.00	5.50	7.00
Interactions	6.50	6.50	4.33	7.00	4.67	6.67
Program Structures	6.33	6.33	6.00	7.00	5.33	7.00
Adult Needs	6.50	6.50	7.00	7.00	6.00	7.00

*Note.* Observer one is indicated by 01 and observer two is indicated by 02.

Descriptive Statistics

Research Question 1 was answered utilizing descriptive statistics. The mean, median, and range of PPAALQ (Appendix A) scores for infant programs were calculated to answer the following research question:

*Research Question # 1*

What are the levels of PPAA in infant programs in Northeast TN? Of the initial 71 sites contacted, 14 participated in the study. Of the 14 participating programs, all indicated some level of PPAA (range of 1 to 15). The mean score on the PPAALQ (Appendix A) was 10.11, and the median was 10.50. Using the mean score and the *SD* of 3.69, it was determined that two programs had scores 1 standard deviation above the mean (14.5, 15). These were categorized as having high levels of PPAA. Additionally, two programs had scores 1 standard deviation below the mean (1, 6), and were categorized as having low levels of PPAA. These 4 programs (2 high, 2 low) were used in all subsequent data analyses. The remaining programs (moderate levels of PPAA) were dropped from the analyses.

## Primary Data Analysis

To answer research Questions 2 and 3 (including all sub-questions) and their corresponding hypotheses, a series of independent t-tests were conducted.

### *Research Question # 2 and Hypothesis # 1*

When compared, which are more developmentally appropriate, infant programs with high levels of PPAA or infant programs with low levels of PPAA?

*H<sub>01</sub>*. It is predicted that there will be a statistically significant difference between infant programs with high and low levels of PPAA, such that programs with high levels of PPAA will show lower overall *ITERS* (Harms et al., 1990) ratings than programs with low levels of PPAA.

This hypothesis was not supported,  $t(2) = 1.80$ , n.s. (For a more detailed description of the mean *ITERS* [Harms et al., 1990] score for high and low PPAA groups see Table 2).

Table 2

*Mean and Standard Deviation for High and Low Product-Producing Art Activity Programs*

ITERS and ITERS Sub-scales	Low PPAA (n = 2)		High PPAA (n = 2)	
	M	SD	M	SD
ITERS Overall	4.62	1.25	6.23	0.19
Furnishings and Displays for Children*	4.30	0.14	6.70	0.42
Personal Care Routines	5.00	2.83	6.44	0.31
Listening and Talking*	3.00	0.71	6.75	0.35
Learning Activities*	3.63	0.35	5.61	0.15
Interaction	5.83	1.65	5.67	1.00
Program Structures	5.00	1.41	6.17	1.18
Adult Needs	5.75	1.77	6.50	0.71

*Note.* \* indicates a significant difference in mean scores between the two groups ( $p < .05$ )

### *Research Question # 3*

What developmentally appropriate characteristics are most and least exhibited in infant programs with high levels of PPAA and infant programs with low levels of PPAA? In the infant programs categorized as high PPAA, the highest rated *ITERS* (Harms et al., 1990) sub-scales were Listening and Talking ( $M = 6.75$ ,  $SD = .35$ ), and Furnishings and Displays for Children ( $M = 6.70$ ,  $SD = .42$ ); the lowest rated were Interaction ( $M = 5.67$ ,  $SD = 1$ ), and Learning Activities ( $M = 5.61$ ,  $SD = .15$ ). In the infant programs categorized as low PPAA, the highest rated *ITERS* (Harms et al., 1990) sub-scales were Interaction ( $M = 5.83$ ,  $SD = 1.65$ ) and Adult Needs ( $M = 5.75$ ,  $SD = 1.77$ ); the lowest rated were Listening and Talking ( $M = 3.00$ ,  $SD = .71$ ) and Learning Activities ( $M = 3.63$ ,  $SD = .35$ ). (See Table 2 for a more detailed description.)

In order to answer all sub-questions of Research Question #3, each of the seven *ITERS* (Harms et al., 1990) sub-scales is examined here.

*Research Sub-Question # 3a and Hypothesis # 2*

Are there differences in the extent to which developmentally appropriate furnishings and displays for children are used in programs with high levels of PPAA and in programs with low levels of PPAA?

*Ho2.* It is predicted that there will be a statistically significant difference between infant programs with high and low levels of PPAA, such that programs with high levels of PPAA will show lower levels of developmental appropriateness in furnishings and displays for children on the *ITERS* (Harms et al., 1990) than programs with low levels of PPAA.

This hypothesis was not supported. In fact, a significant difference was found,  $t(2) = 7.59, p < .05$ , but not in the expected direction. Programs with high levels of PPAA showed higher levels of developmental appropriateness in this area, and programs with low levels of PPAA showed lower levels of developmental appropriateness in this area. (See Table 2 for a more detailed description.)

*Research Sub-Question # 3b and Hypothesis # 3*

Are there differences in the extent to which developmentally appropriate personal care routines are implemented in programs with high levels of PPAA and in programs with low levels of PPAA?

*Ho3.* It is predicted that there will be a statistically significant difference between infant programs with high and low levels of PPAA, such that programs with high levels of PPAA will show lower levels of developmental appropriateness in personal care routines on the *ITERS* (Harms et al., 1990) than programs with low levels of PPAA. This hypothesis was not supported,  $t(2) = .72$ , n.s. (see Table 2).

*Research Sub-Question # 3c and Hypothesis # 4*

Are there differences in the extent to which developmentally appropriate listening and talking are implemented in programs with high levels of PPAA and in programs with low levels of PPAA?

*Ho4.* It is predicted that there will be a statistically significant difference between infant programs with high and low levels of PPAA, such that programs with high levels of PPAA will

show lower levels of developmental appropriateness in listening and talking on the *ITERS* (Harms et al., 1990) than programs with low levels of PPAA.

This hypothesis was not supported. In fact, a significant difference was found,  $t(2) = 6.71, p < .05$ , but not in the expected direction. Programs with high levels of PPAA showed higher levels of developmental appropriateness in this area, and programs with low levels of PPAA showed lower levels of developmental appropriateness in this area. (See Table 2 for a more detailed description.)

#### *Research Sub-Question # 3d and Hypothesis # 5*

Are there differences in the extent to which developmentally appropriate learning activities are implemented in programs with high levels of PPAA and in programs with low levels of PPAA?

*Ho5.* It is predicted that there will be a statistically significant difference between infant programs with high and low levels of PPAA, such that programs with high levels of PPAA will show lower levels of developmental appropriateness in learning activities on the *ITERS* (Harms et al., 1990) than programs with low levels of PPAA.

This hypothesis was not supported. In fact, a significant difference was found,  $t(2) = 7.29, p < .05$ , but not in the expected direction. Programs with high levels of PPAA showed higher levels of developmental appropriateness in this area, and programs with low levels of PPAA showed lower levels of developmental appropriateness in this area, (see Table 2 for a more detailed description.)

#### *Research Sub-Question # 3e and Hypothesis # 6*

Are there differences in the extent to which developmentally appropriate interactions occur in programs with high levels of PPAA in the infant program and in programs with low levels of PPAA?

*Ho6.* It is predicted that there will be a statistically significant difference between infant programs with high and low levels of PPAA, such that programs with high levels of PPAA will show lower levels of developmental appropriateness in interactions on the *ITERS* (Harms et al.,

1990) than programs with low levels of PPAA. This hypothesis was not supported,  $t(2) = .11$ , n.s., (see Table 2).

*Research Sub-Question # 3f and Hypothesis # 7*

Are there differences in the extent to which developmentally appropriate program structures are implemented in programs with high levels of PPAA in the infant program and in programs with low levels of PPAA?

*Ho7.* It is predicted that there will be a statistically significant difference between infant programs with high and low levels of PPAA, such that programs with high levels of PPAA will show lower levels of developmental appropriateness in program structures on the *ITERS* (Harms et al., 1990) than programs with low levels of PPAA. This hypothesis was not supported,  $t(2) = 90$ , n.s., (see Table 2).

*Research Sub-Question # 3g and Hypothesis # 8*

Are there differences in the extent to which developmentally appropriate adult needs are met in infant programs with high levels of PPAA and in infant programs with low levels of PPAA?

*Ho8.* It is predicted that there will be a statistically significant difference between infant programs with high and low levels of PPAA, such that programs with high levels of PPAA will show lower levels of developmental appropriateness in meeting adult needs on the *ITERS* (Harms et al., 1990) than programs with low levels of PPAA. This hypothesis was not supported,  $t(2) = .56$ , n.s., (see Table 2).

### Qualitative Data Analysis

Research Questions 4 and 5 were answered by narrative analysis. The PPAALQ (Appendix A) responses to Question 10 were searched for similarities, patterns, and meaning.

*Research Question # 4*

What reasons do caregivers give for including or excluding PPAA from their infant programs? Question 10 of the PPAALQ (Appendix A) asked, "In as much detail as possible,

please tell why you answered yes or no to Question 9,” which asked, “Do you think it is important to include product-producing art activities in an infant program?” One aspect that was clear upon initial reading of the narrative responses was that many of the caregivers qualified their “yes” or “no” answer given on Question 9 with a “however”. On Question nine, 11 caregivers answered yes, 10 answered no, and 2 were non-responsive. Upon analysis, only 6 narrative answers fully supported the yes answer to Question 10, and only 7 fully supported the no answer. Eight narrative answers gave both positive and negative aspects of utilization of PPAA in infant programs, therefore the development of the answers “yes, however”, and “no, however”, were necessary.

When analyzing the narrative data on Question 10, the researcher looked for similarities in caregivers’ reasons as to why they thought it was or was not important to include product-producing art activities in their infant programs. All reasons stated ( $N = 87$ ) were written on individual index cards, and marked with the answer it supported, either yes ( $n = 15$ ), yes, however ( $n = 21$ ), no, however ( $n = 7$ ), or no ( $n = 44$ ). Reasons were ranked according to the answer supported and the number of similar responses given.

For reliability purposes, both the researcher and the major advisor met to discuss the level of specificity by which to sort the reasons. The level of specificity for this study was mid-range (e.g., promotes creative thinking, promotes creativity and self expression were placed in the same category). Thus, specificity was not so broad as to group all types of expression together, but was not so narrow as to require a different category for each specific type of expression (e.g., promotes creative thinking, allows for creativity). No formal restrictions were put on the number or content of the categories that reasons would be placed into. Following the researcher’s initial sort of the data, the researcher labeled each category. Then, the researcher and the major advisor met to confer. Movement of cards between categories occurred, and some categories were combined, until the researcher and the major advisor arrived at a master list of 20 categories into which they felt all of the reasons could be placed. Therefore, agreement between coders was 100%. Once reasons had been sorted into categories, a list of frequencies and percentages for these reasons was generated (see Table 3).

Table 3

*Frequency and Percentage of Reasons Given for Inclusion or Exclusion of Product-Producing Art Activities*

Answers	<i>f</i>	<i>P</i>	Categories of Reasons
Yes	5	5.75	Positive sensory experience
	4	4.60	Promotes creativity and self expression
	3	3.45	Infants learn new skills
	2	2.30	Develops self-esteem
	1	1.15	Documents child's progression
Yes, however	8	9.20	Art materials compromise infants' health and safety
	6	6.70	Ratio, time, and mess make it difficult
	5	5.75	Not developmentally appropriate for young children
	2	2.30	Basic care and developmental needs are more important
No, however	6	6.70	Age appropriate for older infants
	1	1.15	Parents enjoy receiving artwork
No	13	14.92	Infant/Teacher relationship development more important
	8	9.20	Other routines and activities more important
	6	6.70	Art materials compromise infants' health and safety
	3	3.45	Other art forms used
	3	3.45	Not developmentally appropriate for young infants
	3	3.45	Basic care and developmental needs are more important
	3	3.45	Infants have negative responses
	3	3.45	Process over product
	2	2.30	Ratio and time make it difficult

*Note.* Frequency indicates the number of times throughout all of the narrative answers that a reason was stated. In some narratives, more than one reason was stated that fell into a single category; in some narratives, reasons were stated that supported more than one answer.

## CHAPTER 5

### SUMMARY

This study had its beginnings based on the researcher's personal experience as an infant teacher, and subsequent introduction to early childhood education and developmentally appropriate practice theory and research in graduate school. Hypotheses were created based on an e-mail communication from Debbie Cryer, one of the authors of the *ITERS* (Harms et al., 1990), in which Cryer suggested that art with infants was not as important as other routines and activities in an infant program, and that art activities may be taking away time needed to do better on the *ITERS* (Harms et al., 1990). Three key questions concerning art in infant programs were developed. First, do significant differences exist between infant programs with high and low levels of PPAA and DAP? Second, does the inclusion of PPAA in infant programs take time away from other routines and activities needed to do better on the *ITERS* (Harms et al., 1990), as Cryer (personal communication, October 28, 1999) suggests? Third, what reasons do caregivers give for including or not including PPAA in their infant programs?

There was no specific research concerning product-producing art activities with infants in childcare and its effects on DAP. There were, however, numerous early childhood texts and teaching guides (Dombro et al., 1997; Isbell & Isbell, 2003; Lansky, 1993; Mayesky, 1990; Miller, 1999; TFCLA, 1998) that gave suggestions and reasoning for incorporating arts experiences into infant programs. NAEYC, via the *ITERS* (Harms et al., 1990), sets the suggested age for beginning art activities at 12 months old. This raised many questions. Why is it recommended that 12-month-olds have an art activity at least three times a week, but not younger infants? Are there physical, psychological, or developmental reasons for this? As part of the search for answers to these questions literature was reviewed in the following areas: infant development during the first year of life, how infants learn through exploration and play, art as a form of play, the evolution of early childhood programs in the U. S., DAP with young and mobile infants and their primary caregivers, characteristics of high-quality infant programs, the *ITERS* (Harms et al., 1990), art in infant programs, aesthetics, creative development, and appropriate arts experiences for young and mobile infants. The literature indicated that for young infants, developmentally appropriate arts experiences were ones that stimulated the senses of the

child, such as looking at colors and shapes, hearing music, and feeling the touch of a caregiver and texture of cloth. For older infants these sense-stimulating arts experiences applied, along with beginning to explore other art media, such as finger paints, crayons, and markers.

This study used participants who worked full time during the morning hours as infant caregivers and their infant programs in licensed childcare centers in Carter, Sullivan, and Washington Counties in Northeast TN. There were 68 licensed childcare centers that accept infants in these counties, with a total of 71 infant programs. The majority of the centers' caregivers consisted of white, working-class women. The majority of the parents and students were from white, working and middle-class households. Permission for the study was granted from the ETSU Institutional Review Board, center directors and infant caregivers (Appendix C). Participating caregivers completed a PPAALQ (Appendix A) that assessed the level of PPAA in their program. Each participating program was evaluated according to the *ITERS* (Harms et al., 1990).

Of the 14 participating infant programs, two programs fell 1 *SD* above the mean PPAALQ (Appendix A) score of 10.11 and two programs fell 1 *SD* below. These four programs were analyzed using *t*-tests to determine if there were differences in overall *ITERS* (Harms et al., 1990) ratings and ratings on the seven *ITERS* (Harms et al., 1990) sub-scales between high level PPAA and low level PPAA programs. Despite the small sample size, a trend was identified, and in three of the seven sub-scales of the *ITERS* (Harms et al., 1990) (i.e., Furnishings and Displays, Listening and Talking, and Learning Activities), significant differences were found. An examination of the means indicated that when levels of PPAA increased, so did levels of DAP. This was the opposite of what was predicted; therefore, none of the hypotheses were supported. However, it is important to note that significant differences were found for three of the seven sub-scales, and a similar trend was evident in another three of the seven sub-scales, and for the overall *ITERS* (Harms et al., 1990) score. In other words, for all but one sub-scale (Interaction), the trend indicated that as levels of PPAA increased, DAP (as rated by the *ITERS*) (Harms et al., 1990) increased. This was also true for the overall *ITERS* (Harms et al., 1990) score. It is likely that the small sample size kept these differences from reaching significance on all but three of the sub-scales. The lack of significance on some of the sub-scales and the overall score should not negate the importance of this apparent trend.

There are several possible reasons that this occurred. First, there may be similarities across the three categories with significant results, the PPAALQ (Appendix A), and the *ITERS* (Harms et al., 1990) art question. Second, caregivers who choose to go above and beyond the basic care requirements for infants (e.g., diapering, feeding, napping routines) to incorporate product-producing art activities may be caregivers who are knowledgeable and skilled enough to ensure that DAP are occurring in all areas of the program. Third, there was a design flaw in the PPAALQ (Appendix A).

To address the first issue, there may be similarities across the three categories in which significant differences were found, the PPAALQ (Appendix A), and the *ITERS* (Harms et al., 1990) art question, from which the criteria served as a basis for the design of some of the questions on the PPAALQ (Appendix A). When criteria for each item in the three categories are examined, there are similarities across the three categories themselves, specifically concerning display of photos and pictures; talking with children about displayed photos, pictures, and artwork; utilization of a variety of eye-hand materials; utilization of materials that require adult-supervision; caregiver assistance in skill development; caregiver talking to children about their activities; and use of materials to develop fine motor skills. All of these criteria fall under the descriptors good and excellent, which are indicators of high DAP. It should also be noted that the *ITERS* (Harms et al., 1990) art item falls under the sub-scale of Learning Activities, which is one of the three sub-scales that yielded significant results. When these criteria are compared to the questions on the PPAALQ (Appendix A), similarities are also found.

Second, caregivers who choose to go above and beyond the basic care requirements for infants (e.g., diapering, feeding, napping routines) to incorporate product-producing art activities may also be the type of caregivers who are knowledgeable and skilled enough to ensure that DAP are occurring in all areas of the program. Because this study did not take into account caregiver's education level or infant/toddler caregiving experience, this is only a theory. However, it stands to reason that the more experienced and educated caregivers are would positively affect the level of DAP in their infant programs. And, since the trend indicated by this study is that when levels of PPAALQ (Appendix A) rise levels of DAP also rise, it could be suggested that caregiver quality is a possible reason for this trend.

The third and most likely reason for the significant differences between high and low PPAA programs in the categories of Listening and Talking, Furnishings and Displays, and Learning Activities is that there is a flaw in the design of the PPAALQ (Appendix A). Specifically, it needs to be more focused on the product-producing aspect and less focused on the art activities aspect. It could be that the questionnaire is a stronger indicator of the occurrence of art activities when the scores received fall within the mid-level range of possible scores received. In other words, it may be that only when a program reaches a score greater than 15 that it can be categorized as having high PPAALQ (Appendix A), and any score equal to or less than 15 is an indicator of arts, not specifically PPAA. To sum up, it is unclear whether the programs that scored high on the PPAALQ (Appendix A) were engaged in art that was or was not developmentally appropriate.

When considering the findings of the narrative data, the following issues became evident:

1. Caregivers are lacking in knowledge on how to integrate arts experiences into their infant programs in appropriate ways that will support the areas such as fine motor, nurturing, one-on-one interaction, talking with infants, building and enhancing the infant/teacher relationship, utilization of infant-safe art materials, and age-appropriate art activities designed for success instead of negative responses from infants. This speaks to a lack of knowledge concerning infant development, which is fundamental and necessary information for infant caregivers. Their knowledge of infant development should be the basis for how they approach all aspects of infant care. Further education is needed in this area in order to increase the level of DAP, and thus, if the trends revealed in this study are accurate and the researcher's theory concerning the nature of the PPAALQ (Appendix A) is also true, increase the occurrence of arts experiences and art activities in infant programs.
2. Many caregivers differentiated between young and older infants, specifically noting 6 months as an age to begin introducing art activities. This concurs with the literature review as a good time to begin introducing art media such as crayons, finger paints, and markers, as the infant moves from being non-mobile to mobile, around 6 to 8 months of age.

3. Negative attitudes toward the *ITERS* (Harms et al., 1990) were stated, as well as toward licensing rules and regulations. The attitude of “them” against “us” seemed to prevail. The researcher suggests that goals need to be set, and steps established to begin to dispel the image of regulating agencies as negative and instead focus on their positive effects on the childcare system as a whole, and on individual sites that provide a higher quality of care via licensing agency recommendations and assistance.
4. Caregivers are stretched to the limit doing the basic care and resent being told to introduce activities that they suspect at a minimum may not be beneficial, and at a maximum may endanger the health and safety of their children. This is an issue of education as well as an issue of caregiver personality. Less educated caregivers may not know how to implement infant-safe art activities. Ideally, they need one-on-one training or mentoring to occur within their classroom, demonstrating ways to implement developmentally appropriate art activities for infants. Resistance to art may also be a personality issue. Some people just do not like to do art, do not consider themselves creative, or do not like messy activities. These are temperament and personality trait issues that a competent caregiver should recognize and strive to accomplish balance within the program despite his or her own personal feelings. Because there are many different ways of learning (Gardner, 1983), early childhood educators must strive to create infant classroom environments and programs that support and allow for learning to occur in all ways that children learn.
5. Many caregivers preferred to use music and pictures as the primary forms of arts experiences in their infant programs instead of product-producing art activities. These forms of arts experiences are supported in the literature review (TFCLA, 1998) as developmentally appropriate for both young and mobile infants, although it is recommended that for mobile infants other art media such as finger paints and crayons should begin to be introduced.

6. The caregivers who expressed interest in using art activities also expressed concern for safety. This is an indicator of the need for training in the areas of infant development and creativity and the arts.

### Recommendations

There are two main recommendations derived from this study. One is the need for further research in this area. Another is for increased infant teacher training concerning infant development and incorporating the arts into infant programs.

This study was limited in size due to the need for the researcher to be able to travel to the sites to administer the *ITERS* (Harms et al., 1990) and due to the attitude of programs at the time of implementation of the study. The state of TN had begun its Star-Quality program shortly before data collection for this study began, and many directors and caregivers expressed concern and negative attitudes about having observers in the classroom utilizing the *ITERS* (Harms et al., 1990) shortly before or after an evaluation by the state. These factors can be taken into consideration and possibly controlled for in a future study. A larger study may turn the trends indicated here into statistically significant data that can be generalized to all infant programs.

It is clear from the data collected that infant teachers need further training in infant development and in ways to integrate arts experiences into their infant programs. The indication that basic knowledge on infant development is lacking is of great concern. This information is vital to the establishment of proper infant care techniques, secure infant/caregiver relationships, and the general health and well-being of infants in childcare. As part of this training in infant development, arts education can be woven in. For example, as caregivers are learning about fine motor development, they can learn about arts activities that support this development. Because correct implementation is key as to whether arts experiences and art activities are DAP or not, future research in the area of DAP and the arts in infant programs could incorporate the training aspect into the study.

## REFERENCES

- Als, H., & Gilkerson, L. (1995). Developmentally supportive care in the neonatal intensive care unit. *Zero to Three, 15*: 6-10.
- Babbie, E. (1995). *The practice of social research* (7<sup>th</sup> ed.). Belmont, CA: Wadsworth.
- Barglow, P. (1987). Some further comments about infant daycare research. *Zero to Three, 7*: 26-28.
- Barnett, W. S. (1995). Long-term effects of early childhood programs on cognitive and school outcomes. *The Future of Children, 5*: 25-50.
- Barnett, W. S., & Escobar, C. M. (1987). The economics of early educational intervention: A review. *Review of Educational Research, 57*, 387-414.
- Belsky, J. (1986). Infant daycare: A cause for concern? *Zero to Three, 6*: 107.
- Belsky, J. (1987). Is day care bad for babies? *Time*, June 22, p. 63.
- Bredenkamp, S. (1986). *Developmentally-appropriate practice in early childhood programs* (Rev. ed.) Washington, DC: National Association for the Education of Young Children.
- Bredenkamp, S. (Ed.). (1984). *Accreditation criteria and procedures of the national academy of early childhood programs*. Washington, DC: National Association for the Education of Young Children.
- Bredenkamp, S., & Copple, C. (Eds.). (1997). *Developmentally appropriate practice in early childhood programs* (Rev. ed.). Washington, DC: National Association for the Education of Young Children.
- Bredenkamp, S. & Rosegrant, T. (1995). *Reaching potentials: Transforming early childhood curriculum and assessment*. Washington, DC: National Association for the Education of Young Children.
- Burchinal, M., Robert, J., Nabo, L., & Bryant, D. (1996). Quality of center child care and infant cognitive and language development. *Child Development, 67*: 606-20.
- Caine, R., & Caine, G. (1991). *Making connections: Teaching and the human brain*. New York: Addison-Wesley.
- Campbell, F., & Ramey, C. (1995). Cognitive and school outcomes for high-risk African-American students at middle adolescence: Positive effects of early intervention. *American Educational Research Journal, 32*: 743-72.

- Carnegie Task Force on Meeting the Needs of Young Children, (1994). *Starting points: Meeting the needs of our youngest children*. New York: Carnegie Corporation of New York.
- Cook, T. M. (2002). *The relationship between teacher certification and the use of developmentally-appropriate practices in kindergarten classrooms in northeast TN*. Retrieved September 6, 2002 from East TN State University, Charles C. Sherrod Library Web site: <http://etd-submit.etsu.edu/etd/theses/available/etd-0328102-145450/unrestricted/cookt042302a.pdt>
- Cost, Quality, & Child Outcomes Study Team, (1995). *Cost, quality, and child outcomes in child care centers, public report*, (2<sup>nd</sup> ed.). Denver: Economics Department, University of Colorado at Denver.
- David & Lucile Packard Foundation, (2001). *The future of children: Caring for infants and toddlers*. Retrieved January 23, 2003 from <http://www.futureofchildren.org>
- DeBord, K. (1997). *Brain development* [Extension Publication] [Electronic version]. Raleigh, NC: North Carolina Cooperative Extension Service.
- Dombro, A. L., Colker, L. J., & Dodge, D. T. (1997). *The creative curriculum for infants & toddlers*. Washington DC: Teaching Strategies.
- Farber, E. A., & Egeland, B. (1982). Developmental consequences of out-of-home care for infants in a low income population. Pp. 102-125 in E. Zigler and E. Gordon, (eds). *Day care. Scientific and social policy issues*. Boston, MA: Auburn House Publishing Co.
- Fernald, A. (1992). Human maternal vocalizations to infants as biologically relevant signals: An evolutionary perspective. In *The adapted mind: Evolutionary psychology and the generation of culture*, eds. J. H. Barkow, L. Cosmides, & J. Tooby, 391-428. New York: Oxford University Press.
- Field, T. (1990). *Infancy*. Cambridge, MA: Harvard University Press.
- Field, T., Masi, W., Goldstein, S., Perry, S., & Parl, S. (1988). Infant daycare facilitates preschool social behavior. *Childhood Research Quarterly*, 3: 341-359.
- Gallahue, D. (1993). Motor development and movement skill acquisition in early childhood education. In *Handbook of research on the education of young children* (ed) B. Spodek, (pp. 24-41). New York: Macmillan.

- Gardner, H. (1983). *Frames of mind: The theory of multiple intelligences*. New York: Basic Books.
- Gelb, S. A., & Bishop, K. D. (1992). Contested terrain: Early childhood education in the United States. In G. A. Woodill, J. Bernhard & L. Prochner (Eds.), *International handbook of early childhood education*. (pp. 503-528). New York: Garland.
- Harms, T., & Clifford, R. (1980). *The early childhood environment rating scale*. New York: Teachers College Press.
- Harms, T., & Clifford, R. (1990). *The family day care rating scale*. New York Teachers College Press.
- Harms, T., Cryer, D., & Clifford, R. M. (1990). *Infant/toddler environment rating scale*. New York: Teachers College Press.
- Harms, T., Cryer, D., & Clifford, R. M. (2003). *Infant/toddler environment rating scale* (Rev. ed.). New York: Teachers College Press.
- Haskins, R. (1985). Public school aggression among children with varying day-care experience. *Child Development, 56*: 689-703.
- Howes, C. (1988a). Peer interaction of young children. *Monographs of the Society for Research in Child Development, 53*: 217-222.
- Howes, C. (1988b). Relations between early child care and schooling. *Developmental Psychology, 24*: 53-57.
- Howes, C. (1989). Research in review: Infant child care. *Young Children, 44*: 24-28.
- Howes, C. (2000). *Infant child care*. Retrieved January 23, 2004, from [http://www.kidsource.com/kidsource/content/infant\\_care.html](http://www.kidsource.com/kidsource/content/infant_care.html)
- Hutt, C. (1970). Curiosity in young children. *Science Journal, 6*: 69-71.
- Infant development – baby stages by month*. (n.d.). Retrieved August 29, 2002 from <http://www.envisagedesign.com/ohbaby/develop.html#1mo>
- Isbell, R., & Isbell, C., (2003) *The complete learning spaces book for infants and toddlers*. Beltsville, MS: Gryphon House.
- Isbell, R., & Raines, S., (2003) *Creativity and the Arts with Young Children*. Albany, NY: Delmar-Thomson Learning.

- Jang, N. (n.d.). *Dimensions of apparel product development success & failure and impact of apparel designers' creativity and information sources on apparel product success and failure*. Retrieved September 30, 2002, from <http://www.missouri.edu/~njl38/researchdesign.htm>
- Johnson, J. E., Christie, J. F., & Yawkey, T. D., (1999). *Play and early childhood development* (2<sup>nd</sup> ed.). New York: Addison Wesley Longman.
- Koralek, D. G., Colker, L. J., & Dodge, D. T. (1995). *The what, why, and how of high-quality early childhood programs: a guide for on-site supervision* (Rev. Ed.). Washington, DC: National Association for the Education of Young Children.
- Kuhl, P. (1994). Learning and representation in speech and language. *Current Opinion in Neurobiology*, 4: 812-22.
- Lally, R. (1995a). *Caring for infants and toddlers in groups: Developmentally appropriate practice*. Washington, DC: National Center for Clinical Infant Programs.
- Lally, R. (1995b). The impact of child care policies and practices on infant/toddler identity formation. *Young Children*, 51: 58-67.
- Lally, R., & Stewart, J. (1990). *Infant/toddler caregiving: A guide to setting up environments*. Sacramento, CA: California Department of Education, Far West Laboratory for Educational Research and Development.
- Lansky, V. (1993). *Games babies play from birth to twelve months*. Mineetoka, MN: Quality Books.
- Lazar, I. (1983). Discussions and implications of the findings. In Consortium for Longitudinal Studies (Ed.), *As the twig is bent...Lasting effects of preschool programs* (pp. 461-66). Hillsdale, NJ: Lawrence Erlbaum Associates.
- Lee, V. E., Brooks-Gunn, J., & Schuur, E. (1988). Does Head Start work? A 1-year follow-up comparison of disadvantaged children attending Head Start, no preschool, and other preschool programs. *Developmental Psychology*, 24: 210-22.
- Mangione, P. L. (1988). *Respectfully yours: Magda Gerber's approach to professional infant/toddler care*. Sacramento, CA: The Program for Infant/Toddler Caregivers, WestEd.

- Mayesky, M. (2002). *Creative activities for young children* (7<sup>th</sup> ed.). Albany, NY: Delmar-Thomson Learning.
- Mayesky, M. E. (1990). *Creative activities for infants, toddlers, and twos*. Fearon Teacher Aids.
- McGee, L. M., & Richgels, D. J. (1996). *Literacy's beginnings: Supporting young readers and writers* (2<sup>nd</sup> ed.). Needham Heights, MA: Allyn & Bacon.
- Miller, K. (1999). *Simple steps: Developmental activities for infants, toddlers, and two-year-olds*. Beltsville, MD: Gryphon House.
- NCES (National Center for Education Statistics). (1993). *The condition of education*. Washington, DC: United States Department of Education.
- New, R. (1990). Excellent early education: A city in Italy has it. *Young Children*, 6: 4-10.
- Oesterreich, L. (1995). Ages & stages – newborn to 1 year [Electronic Version]. In L. Oesterreich, B. Holt, & S. Karas, *Iowa family child care handbook* [Pm 1541] (pp. 192-196). Ames, IA: Iowa State University Extension.
- Oppenheim, D., Sagi, A., & Lamb, M. E. (1988). Infant-adult attachments on the Kibbutz and their relation to socio-emotional development four years later. *Developmental Psychology*, 24: 427-433.
- Phillips, D., McCartney, K., Scarr, S., & Howes, C. (1987). Selective review of infant daycare research: A cause for concern? *Zero to three*, 7: 18-21.
- Piaget, J., & Inhelder, B. (1969). *The psychology of the child*. New York: Free Press.
- Poole, J. (2003). *Creating small groups*. Sacramento, CA: The Program for Infant/Toddler Caregivers, WestEd.
- Powell, J. & Smith, C. A. (1994). The 1<sup>st</sup> year [Electronic version]. In *Developmental milestones: A guide for parents*. Manhattan, KS: Kansas State University Cooperative Extension Service.
- Raikes, H. (1996). A secure base for babies: Applying attachment concepts to the infant care setting. *Young Children*, 51: 59-67.
- Rubenstein, J., Howes, C., & Boyle, P. (1981). A two year follow-up of infants in community-based day care. *Journal of Child Psychology and Psychiatry*, 22: 209-218.
- Rutter, M. (1981). *Maternal deprivation reassessed* (2<sup>nd</sup> ed.). Middlesex, England: Penguin Books.

- Schwartz, J. C., Krolick, G., & Strickland, R.G. (1973). Effects of early day care experience on adjustment to a new environment. *American Journal of Orthopsychiatry*, 43: 340-348.
- Schwartz, J. C., Strickland, R. G., & Krolick, G. (1974). Infant day care: Behavioral effects at preschool age. *Developmental Psychology*, 10: 502-506.
- Stern, D. (1985). *The psychological world of the human infant*. New York: Basic.
- Sullivan, M. W. & Lewis, M. (1988). Facial expressions during learning in 1-year-old-infants. *Infant Behavior and Development*, 11: 369-373.
- Task Force on Children's Learning and the Arts: Birth to Age Eight, (1998). *Young children and the arts: Making creative connections*. Washington, DC: Arts Education Partnership.
- Tennessee Department of Human Services, (n.d.). Childcare Providers Map, Retrieved February 24, 2004 from <http://www.tennesseeanytime.org>
- Tronick, E., Winn, S. W., & Morelli, G. (1990). The childholding patterns of the Efe (Pygmies) of Zaire. In T. Field & T. B. Brazelton, (eds.), *Advances in touch*. New Brunswick, NJ: Johnson & Johnson.
- Zigler, E., & Hall, N. W. (1988). Daycare and its effects on children: An overview for pediatric health professionals. *Developmental and Behavioral Pediatrics*, 9: 38-46.

APPENDICES

APPENDIX A

Subject ID # \_\_\_\_\_

PRODUCT-PRODUCING ART ACTIVITY LEVEL QUESTIONNAIRE

Instructions

Please read carefully the definitions below then answer each question by checking the answer(s) that best describe your infant classroom/program. All questions pertain to infants from birth through 11 months of age. A code number has been assigned to protect your confidentiality.

Definitions

Please use the following definitions when answering each question:

Art Activity – activity that includes the use of art materials such as crayons, paints and markers.

Art Materials – items such as crayons, paints, markers, pencils, and chalks.

Artwork – piece of art produced during an art activity (usually displayed or sent home).

Infants – children ages birth through the end of the 11 month of life.

Product-Producing Art Activity – an art activity that has as a primary goal the creation of a visual product such as a painting or drawing.

Questions – Please answer all questions to the best of your ability.

1. How many pieces of artwork created by infants are currently displayed in your classroom and/or childcare center? Check one.

0

1-5

6-10

11-15

16 or more

2. If you do display infant artwork, where is it displayed? Please check all that apply. Do not answer this question if you answered NONE for Question 1.

Low, 2 feet or low in the room or other areas (e.g., hallway, bathroom)

\_\_\_ Midlevel, between 2 to 4 feet in height in the room or other areas of the center

\_\_\_ High, over 4 feet in height in the room or other areas of the center

3. What art materials are provided for use by infants in your care? Check all that apply:

\_\_\_ Crayons

\_\_\_ Paper

\_\_\_ Play dough

\_\_\_ Markers

\_\_\_ Dittos (preprinted coloring sheets)

\_\_\_ Coloring books

\_\_\_ Pudding and/or other edible materials

\_\_\_ Pencils

\_\_\_ Water paints

\_\_\_ Chalk

\_\_\_ Finger paints

\_\_\_ Other, list \_\_\_\_\_

\_\_\_ No art materials are provided for use by infants in my care

4. Please indicate the percentage of time spent in an average week on each learning activity.

Percentages should total 100%. Care-related activities (e.g., feeding, diapering, naptime, etc.) are not included:

\_\_\_ % Eye hand coordination (such as grasping toys, busy boxes, nested cups, and textured toys)

\_\_\_ % Active physical play (such as on an outdoor pad or blanket or with small push toys)

\_\_\_ % Art (such as with crayons, markers, brushes, finger paints, and play dough)

\_\_\_ % Music & Movement (such as with a record/tape player, music boxes, musical toys, and instruments)

\_\_\_ % Blocks (such as soft blocks, light-weight plastic blocks of different sizes and shapes, and containers to fill)

\_\_\_ % Pretend Play (such as with dolls, soft animals, pots and pans, telephones, puppets, and an unbreakable mirror)

\_\_\_ % Other, please describe \_\_\_\_\_

5. What age groups participate in art activities that produce artwork? Check all that apply:
- \_\_\_ No infants in my care participate in art activities that produce artwork
  - \_\_\_ Birth through the end of the 2<sup>nd</sup> month
  - \_\_\_ 3<sup>rd</sup> month through the end of the 5<sup>th</sup> month
  - \_\_\_ 6<sup>th</sup> month through the end of the 8<sup>th</sup> month
  - \_\_\_ 9<sup>th</sup> through the end of the 11<sup>th</sup> month
6. Do you think it is important to include art activities in an infant program?
- \_\_\_ Yes
  - \_\_\_ No
7. If art activities are never a part of your infant program, move on to Question #9. If art activities are a part of your infant program, please circle the description below that closest resembles are activities that you do in your infant program.

Some teachers guide their infants through art activities step by step during a designated time for art. For example, the teacher might be right beside the infants or have the infants sit on his/her lap; help the infants hold the crayon, marker, or paint brush that the teacher has given them; and guide the infants' hands to make sure that the marks stay on the paper. Art materials are stored out of reach of infants at all times. The purpose of the activity is to create artwork to be displayed in the classroom or childcare center or to send home with the infants.

Other teachers closely supervise art activities, but let the infants do most of the work themselves. For example, the teacher might be close by while the infants choose a crayon, marker, or paint brush, let the infants make their own marks on a very large piece of paper taped to the wall or floor. Non-toxic art materials are placed low on a table or shelf, and infants are allowed to use them while closely supervised. Infants are allowed to discover the art materials or be invited to use them by the teacher, but are not required to make a piece of artwork.



## APPENDIX B

### DIRECTOR OF CHILDCARE CENTER PERMISSION REQUEST LETTER

Ms./Mr. Name of Person

Name of Childcare Center

Address

City, TN Zip Code

Month Day, 2003

Dear Ms./Mr. Last Name:

I am a graduate student in Early Childhood Education in the Department of Human Development and Learning at East Tennessee State University. I am currently working on my Master's thesis, and I am interested in determining if a relationship exists between the use of developmentally appropriate practice and the inclusion of art activities in infant programs.

As a former infant classroom teacher, I realize how busy your staff must be, but with your permission, I would like to invite the infant caregivers in your center to participate in my research study. If you consent for your center to participate, full-time infant caregivers will be asked to complete a brief questionnaire that assesses the level of art activities in the infant program. This questionnaire will take about 5-10 minutes to complete and can be done outside of work or during work, if time permits. Additionally, your center may be chosen, at random, for a follow-up visit (scheduled at a time and date convenient to you). During this follow-up visit, I would observe your center's infant program using the *Infant/Toddler Environment Rating Scale (ITERS)* (Harms et al., 1990). The observation would take about 2 hours and would not interfere with any of the center's normal routines. All information gathered from the questionnaires or the *ITERS* (Harms et al., 1990) would be kept confidential.

I hope that your center will choose to participate in this valuable research project. As a thank you for participating, I plan on sharing the results of my research with you. Additionally, if your center is chosen for a follow-up visit, I will share the results of the *ITERS* (Harms et al.) evaluation with you and your infant caregivers. This information should be useful in helping evaluate the overall quality of the infant environment.

If you have any questions or need additional information, please feel free to contact me by phone at 423-926-7737 or at 502-9293, or by e-mail at [amoore7828@aol.com](mailto:amoore7828@aol.com). I look forward to hearing from you soon. Thank you for your consideration.

In appreciation,

April Moore, Graduate Student

## APPENDIX C

### INSTITUTIONAL REVIEW BOARD INFORMED CONSENT DOCUMENT

As an infant caregiver, I am asking for your participation in this research (please see attached letter). This Informed Consent Form will explain the research project to you. Please read this material carefully and then decide if you wish to participate. There is no pressure for you to take part in this research.

**PRINCIPLE INVESTIGATOR:** April Denise Moore

**TITLE OF PROJECT:** The Relationship between the Use of Developmentally Appropriate Practice and the Inclusion of Product-Producing Art Activities in Infant Programs

**PURPOSE:** The purpose of this research study is to determine if there is a relationship between the use of developmentally appropriate practice and the inclusion of product-producing art activities (i.e., an art activity that produces a visual product) in infant programs.

**DURATION:** You will be asked to complete a brief survey that should take about 5-10 minutes. In addition, your program may be chosen for a follow-up visit. During the follow-up visit, I would observe your classroom for about 2 hours. This observation should not interfere with any of your normal routines.

**PROCEDURES:** You will complete a 9-item written survey (Product-Producing Art Activity Level Questionnaire) at work or at home. This survey should take about 5-10 minutes.

Additionally, if your program is chosen for a follow-up visit, I will schedule a 2-hour observation of your classroom/center at a time and date convenient for you. I will use the Infant/Toddler Environment Rating Scale (ITERS) (Harms et al., 1990, 1990) to assess the infant program. This observation should in no way interfere with your normal daily routines.

**POSSIBLE RISKS/DISCOMFORTS:** No risks are associated with this research, although some caregivers may find it uncomfortable to be observed.

**POSSIBLE BENEFITS/COMPENSATION:** Upon request, I will provide the infant caregiver with the ITERS (Harms et al., 1990) score for their infant program. Upon request, I will review and explain the scoring process and the score received with the infant caregiver. For center directors, even though I cannot provide you with the results of the ITERS (Harms et al., 1990, 1990), it will benefit your infant program to go through the process. Caregivers who request a

review of the scoring will gain knowledge about developmentally appropriate practice and will receive information about the characteristics expected in high-quality infant/toddler programs as set by the National Association for the Education of Young Children. In general, the information gained from this study will add to the body of knowledge about developmentally appropriate practice in infant programs.

**CONTACT FOR QUESTIONS:** If you have any questions about your rights as a research participant, please call April Moore at 423-926-7737, or Dr. Amy Malkus at 423-439-7856, or the IRB at 423-439-6134.

**CONFIDENTIALITY:** Every attempt will be made to see that my study results are kept confidential. A copy of the records from this study will be stored in a locked filing cabinet in the home office of the researcher for at least 10 years after the end of this research. The results of this study may be published and/or presented at meetings without naming me as a subject. Although your rights and privacy will be maintained, the Secretary of the Department of Health and Human Services, the East TN State University Campus IRB (or ETSU/V.A. Medical Center Institutional Review Board, the Food and Drug Administration), and the study related personnel from the ETSU Department of Human Development and Learning have access to the study records. My records will be kept completely confidential according to current legal requirements. They will not be revealed unless required by law, or as noted above.

**COMPENSATION FOR MEDICAL TREATMENT:** East TN State University (ETSU) will pay the cost of emergency first aid for any injury which may happen as a result of your being in this study. They will not pay for any other medical treatment. Claims against ETSU or any of its agents or employees may be submitted to the TN Claims Commission. These claims will be settled to the extent allowable as provided under TCA Section 9-8-307. For more information about claims call the Chairman of the Institutional Review Board of ETSU at 423/439-6134.

**VOLUNTARY PARTICIPATION:** The nature, demands, risks, and benefits of the project have been explained to me as well as are known and available. I understand what my participation involves. Furthermore, I understand that I am free to ask questions and withdraw from the project at any time, without penalty. I have read, or have had read to me, and fully understand the consent form. I sign it freely and voluntarily. A signed copy will be given to me. Your study

record will be maintained in strictest confidence according to current legal requirements and will not be revealed unless required by law or as noted above.

\_\_\_\_\_  
Signature of Infant Caregiver (Participant)

\_\_\_\_\_  
Date

\_\_\_\_\_  
April D. Moore, Primary Investigator

\_\_\_\_\_  
Date

APPENDIX D  
CAREGIVER PARTICIPATION REQUEST LETTER

Ms./Mr. Name of Person  
Name of Childcare Center  
Address  
City, TN Zip Code

Month Day, 2003

Dear Ms./Mr. Last Name:

I am a graduate student in Early Childhood Education in the Department of Human Development and Learning at East TN State University. I am currently working on my Master's thesis, and I am interested in determining if a relationship exists between the use of developmentally appropriate practice and the inclusion of art activities in infant programs.

As a former infant classroom teacher, I realize how busy you must be, but I would like to invite you to participate in my research study. If you agree, you will be asked to complete a brief questionnaire that assesses the level of art activities in the infant program. This questionnaire will take about 5-10 minutes to complete and can be done outside of work or during work, if time permits. Additionally, your infant program may be chosen, at random, for a follow-up visit (scheduled at a time and date convenient for you). During this follow-up visit, I would observe your program using the *Infant/Toddler Environment Rating Scale (ITERS)* (Harms et al., 1990). The observation would take about 2 hours and would not interfere with any of your normal routines. All information gathered from the questionnaires or the *ITERS* (Harms et al., 1990) would be kept confidential.

I hope that you will choose to participate in this valuable research project. As a thank you for participating, I plan on sharing the results of my research with you. Additionally, if your

program is chosen for a follow-up visit, I will share the results of the *ITERS* (Harms et al., 1990) evaluation with you. This information should be useful in helping you evaluate the infant environment and curriculum and can be used to help you in your planning and your professional growth.

If you have any questions or need additional information, please feel free to contact me by phone at 423-926-7737 or at 423-610-5740, or by e-mail at [amoore7828@aol.com](mailto:amoore7828@aol.com). I look forward to hearing from you soon. Thank you for your consideration.

In appreciation,

April Moore, Graduate Student

VITA  
APRIL D. MOORE

Personal Data:                   Date of Birth: February 13, 1972  
                                      Place of Birth: Johnson City, TN  
                                      Marital Status: Married  
                                      Parental Status: Mother of two sons

Education:                       Public Schools, Erwin, TN  
                                      East Tennessee State University, Johnson City, TN;  
  Psychology, B.S., 1996  
                                      East Tennessee State University, Johnson City, TN;  
  Early Childhood Education, M.A., 2004

Professional Experience:       Child Development Technician, Watauga Mental Health,  
  Johnson City, TN, 1994-1996  
                                      Education Director, Boys & Girls Club, Kingsport, TN, 1996  
                                      Lead Infant Teacher, HospiTots Childcare, Johnson City,  
  TN, 1996-1999  
                                      Family Home Childcare Provider, Child's Play Childcare,  
  Johnson City, TN, 2000-2001  
                                      Private Childcare Provider, Johnson City, TN, 2001-2003  
                                      Early Head Start Manager, Douglas Cherokee Head Start/Early  
  Head Start, Morristown, TN, 2003-present  
                                      Program for Infant/Toddler Caregivers Trainer,  
  National Certification, 2004-present

Professional Presentations:   East Tennessee State University, Johnson City, TN  
                                      Douglas Cherokee HS/EHS, Morristown, TN

Professional Organizations:   Appalachian Association for the Education of Young Children  
                                      National Association for the Education of Young Children  
                                      TN Early Childhood Training Alliance Board Member  
                                      East Tennessee State University Early Childhood PreK-4  
  Program Advisory Board Member