This is to certify that the
thesis entitled

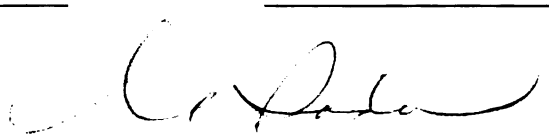
PARENT BEHAVIOR CHANGE IN DEVELOPING LITERACY SKILLS IN YOUNG CHILDREN

presented by

MEAGAN KATHERINE SHEDD

has been accepted towards fulfillment
of the requirements for the

M.S. degree in FAMILY AND CHILD ECOLOGY



Major Professor's Signature

5/10/05

Date

# PARENT BEHAVIOR CHANGE IN DEVELOPING LITERACY SKILLS IN YOUNG CHILDREN

By

Meagan Katherine Shedd

A THESIS

Submitted to
Michigan State University
in partial fulfillment of the requirements
for the degree of

MASTERS OF SCIENCE

Department of Family and Child Ecology

2005

# ABSTRACT

## PARENT BEHAVIOR CHANGE IN DEVELOPING LITERACY SKILLS IN YOUNG CHILDREN

By

Meagan Katherine Shedd

This study examined the effect of different levels of parent participation in a program designed to enhance children's developing literacy skills. The study used a pre-test, post-test quasi-experimental design. One hundred and three parents were recruited from eight counties in Michigan through Michigan State University Extension programming.

It was hypothesized that participants in the intervention groups would demonstrate greater changes in behavior than participants in the control groups. It was further hypothesized that greater levels of intervention would elicit greater changes in parent behaviors than lower levels of intervention. Finally, the study examined specific parent behaviors to determine if behaviors related to emergent literacy development changed equally.

To test the hypotheses, a series of T-tests and multivariate analyses of variance were used. The analysis did not support the hypothesis that intervention groups would show greater changes in behavior than the control group, or change in behaviors would differ based on the dosage of intervention. The analysis did support the hypothesis that specific parent behaviors would change significantly as a result of participation in an experimental literacy program. Results are discussed, as well as implications for field use and future research.

ACKNOWLEDGEMENTS

Immense gratitude is extended to a number of people who provided support, guidance, insight and encouragement during this project. First and foremost, the faculty at Michigan State University deserves many thanks for providing a foundation of knowledge for this project. My advisor and committee chair, Dr. Anne Soderman, provided valuable advice and much needed encouragement throughout the entire process, and without her I would never have finished. Many thanks are also extended to committee members Dr. Karen Shirer and Dr. Holly Brophy-Herb for thoughtful comments, suggestions and encouragement.

I am deeply indebted to my colleagues at Michigan State University Extension who assisted in the field research: Jane Hart, Janet Wolfe, Sue Elwell, Marie Harju, Laura Anderson, Jan Seitz, Janice McGee, Denise Trayser, Shannon Lindquist, Ruth Miller, Holly Tiret, Tanya Grunwell, Rachel Myers, Becky Thompson, Merijo Young, Deanna East, Amy Paquette, Gail Innis, Sharon Cash and Lisa Sheline. Their incredible work and dedication to the families they work with enabled this project, and continues to grow through their support of families with young children.

Sincere thanks also to Dr. Dawn Koger for her review of text, suggestions and comments related to field research, and never ending support. Thanks are also extended to Dawn for her invaluable assistance with data analysis, insight

into the peer review process, early child development expertise and collaboration in the development of the Parent Reading Survey.

Above all, without the support and encouragement of my family, none of this would be possible. I am grateful to my children for their participation in our "home lab," for teaching me patience and honing my multi-tasking skills. My passion in emergent literacy was born with them.

TABLE OF CONTENTS

LIST OF TABLES

## LIST OF FIGURES

# CHAPTER ONE

# INTRODUCTION

## Introduction

Early literacy skills have long been identified as a strong indicator of later school success (Whitehurst & Lonigan, 2001). First Lady Laura Bush noted in her remarks in July of 2001 at the White House Summit on Early Childhood Cognitive Development, "We all have the duty to call attention to the science and seriousness of early childhood cognitive development—because the [years] between birth and age five are the foundation upon which successful lives are built" (Bush, 2001, p. 3). With well-developed language and early literacy skills, all children can enter school ready to learn.

## Statement of the Problem

Despite the importance of early literacy skills, the U.S. Department of Education cites one in five children as entering kindergarten without fundamental print familiarity skills, and one in three children as unable to recognize letters of the alphabet at a proficient level (West, Denton & Germino-Hausken, 2000). As children learn to read, one in three experiences difficulties that are significant, with difficulties continuing as children progress through school (Whitehurst & Lonigan, 2001). Once children are established in grammar school, researchers suggest that one in five school-aged children in the United States continues to have difficulty reading (Zill, Collins, West & Germino-Hausken, 1995). Research further postulates that children who are poor readers in first grade have a .88 probability of remaining so at the end of fourth grade (Juel, 1988). Moreover, ten

to fifteen percent of children considered to have serious reading difficulty in grammar school will eventually drop out of high school (Whitehurst & Lonigan, 2001).

In Michigan, an alarming number of children do not have strong literacy skills. A recent assessment of fourth-graders documented that 43.2% scored unsatisfactorily on the reading portions of the Michigan Educational Assessment Program (MEAP) tests (Michigan Department of Education, 2003). Additionally, 44.3% of fifth grade students were found not yet proficient in the writing skills portion of the MEAP tests (Michigan Department of Education, 2003). Both results demonstrate an increase in unsatisfactory scores compared to previous years.

One third of American children are entering schools with low levels of skills, increasing the chance of learning difficulties in the early grades (West, Denton & Germino-Hausken, 2000). There is strong evidence that demonstrates the need for integrated early literacy programs to ensure future success in school for young children, especially for the children at risk for school failure. While not all children with reading difficulties have an obvious risk factor, there are "large social class differences in children's exposure to experiences that might support the development of literacy skills" (Storch & Whitehurst, 2001, p. 54). Studies have found several other socioeconomic risk factors to be associated with problems in learning after children start school. These factors include mothers with less than a high school education, unmarried mothers, and only one parent living in the home (Bennett, Weigel & Martin, 2002; Snow & Tabors, 1996; West,

Denton & Germino-Hausken, 2000; Zill, Collins, West & Germino-Hausken, 1995).

Emergent literacy, or the development of early literacy skills prior to formal schooling, begins with informal and adult led activities at home and at school. According to the International Reading Association (IRA) and the National Association for the Education of Young Children (NAEYC), increased exposure to print, and the opportunities to build understandings of alphabetic principle, linguistic awareness and phonemic awareness are cornerstones of early literacy development (NAEYC, 1995). Early childhood educators play a pivotal roll in the development of early literacy skills as preschools are under greater pressure to adequately prepare students for kindergarten, especially in programs targeted at lower income audiences (Marcon, 2002).

At home, emergent literacy begins with parents simply talking and reading to children. Although parents are vital to the development of literacy skills, many are unsure how to help their children become ready to read. Successful development of literacy in children is dependent upon helping parents learn how to incorporate enjoyable and purposeful activities that engage a child in learning basic literacy skills and model appropriate literacy behaviors (Snow & Tabors, 1996).

Universal school readiness is achievable when the inequities of early life experiences and socioeconomic risk factors are addressed so that all children have access to opportunities that promote school success (NAEYC, 1995). Both early care providers and parents need the knowledge and skills necessary to

intentionally engage children in language and literacy activities. Strong partnerships between community, school and home, are critical to support the most vulnerable families and foster language and literacy skill development with long-term implications for success.

Purpose and Importance of the Study

The purpose of the study was to assess the effect of participation in a program to enhance developing literacy skills in young children on parent behaviors. This study examined whether parent behaviors related to developing emerging literacy skills changed based on participation in an intervention group in a parent education program, as well as the effect on parent behavior at different levels of participation. Further, the study examined if specific behaviors changed with equal levels of significance as a result of participation in the program.

A program developed by Michigan State University Extension Children, Youth and Family Programs called Pyramids Between the Pages for the Young Child was designed to increase self-efficacy in parents regarding the development of emergent literacy in young children. Originally developed as a nutrition education program, the program also placed emphasis on increasing the efficacy of parents in developing emergent literacy skills by demonstrating appropriate behaviors to parents during intervention sessions.

Four levels of participation were developed. One group participated in four home visits and received printed parent information, a second group participated in four home visits only, a third group received printed parent

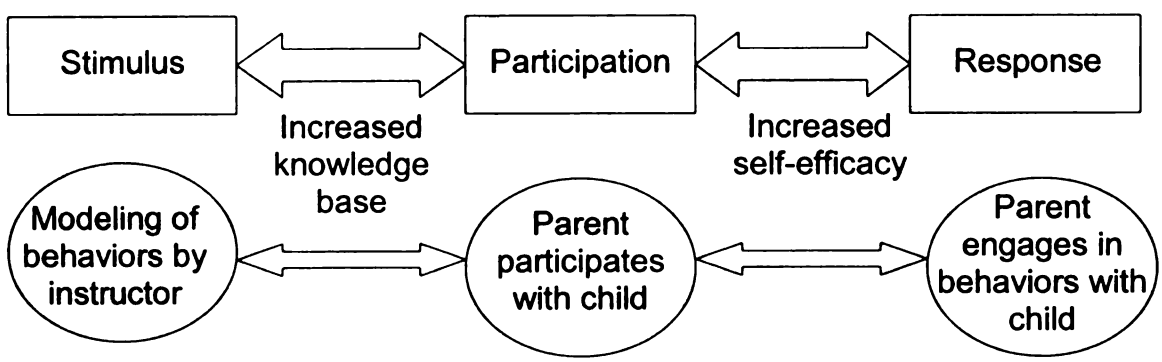
information only, and a fourth group served as the control, receiving no treatment. During home visits, parents listened, watched and participated with their children in the book reading activities. Instructors were trained to demonstrate specific behaviors during each intervention, using lesson plans created for each book (Appendix A). Supplemental activities followed each reading demonstration and included a discussion of the book, a reinforcing nutrition activity and a reinforcing literacy activity. Printed parent information was also available at each home visit for the two groups intended to receive it, consisting of a nutrition message appropriate for parents of preschoolers, a low-cost recipe that the family could prepare together, parenting information related to preschool children, and a *Raising a Reader* section that provided emergent literacy information and activities for parents of preschoolers (Appendix B).

The results of this research will contribute to the general body of knowledge related to parental involvement in literacy skill building in preschool children. Moreover, the research builds on previous research related to the importance of parental involvement in literacy development in young children, but focuses on parental behavior outcomes rather than performance of children. This study also seeks to demonstrate appropriate approaches in curriculum development in programs designed to increase parental knowledge and perceived ability in parenting skills related to literacy development. The results of this research can be applied to similar socioeconomic groups of parents of preschool children.

Conceptual Framework

Social Cognitive Theory served as the basis of the conceptual framework of the intervention for increasing knowledge capacity and subsequent behavior change. Social Cognitive Theory (SCT) emphasizes the interaction between a person and the environment, recognizing self-regulated behavior change over time in response to a stimulus (Bandura, 1977; Zimmerman, 1989). Rather than a model of cause and effect, SCT places a mediator between a stimulus and a response, with reciprocity between these elements (Bandura, 2001).

Figure 1. Interaction Between Participant and Environment Using Social Cognitive Theory.




Social Cognitive Theory maintains self-efficacy as a key variable affecting the mechanisms in which a person learns (Bandura, 1977). In order to navigate "a complex world full of challenges and hazards, people have to make good judgments about their capabilities" (Bandura, 2001, p. 3). Parents who believe they can foster emergent literacy skills in young children are more likely to do so. Building the knowledge base of appropriate behaviors through participation in the Pyramids Between the Pages program was intended to increase parent self-

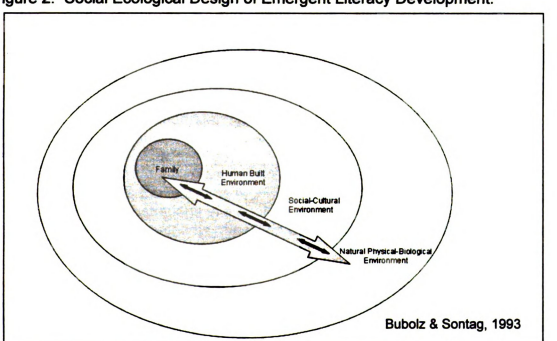
efficacy in developing these skills. The process is reciprocal, with the assumption that an increase in cognition increases incidence of behavior, in turn increasing levels of cognition. It was assumed that parents participating in the program would learn from the modeling of behaviors by the instructor, in turn displaying these same behaviors with their children to foster emerging literacy skills. Self-efficacy serves as a guide for both intentions and actions related to learning, acting as a vehicle for Social Cognitive Theory. For the purpose of this study, a focus on modeling of behaviors was used to stimulate change in behaviors in literacy development by parents. Rather than expecting peer educators to have a broad knowledge of emergent literacy development and translate this information to parents, instructors were trained to model specific behaviors and engage in these behaviors during sessions with parents.

Social Cognitive Theory is similar to Human Ecological Theory in that it relies on feedback to produce system change (Bulboz & Sontag, 1993, Bronfenbrenner, 1979). Components of the system interact with one another to determine course of action, with an emphasis on reciprocity between several elements to mediate behavior change (Figure 2). The ecological perspective examines the interdependence of the biological, physical, social-cultural and natural-physical-biological environments of the unit being studied and maintains that families do not exist in vacuums; rather, they function as a part of a larger system, operating interdependently (Bubolz & Sontag, 1993, p. 425).

Literacy development is affected by all aspects of the system. At the family level, family literacy practices are affected by each member of the family

and their skills, knowledge and subsequent behaviors. The family's environment provides further opportunity for literacy development, and can subsequently affect the family's behaviors. Tangible items such as books and other print materials, as well as the establishment of basic needs, such as housing, food and clothing also affect literacy development. Further, the social-cultural aspect of the family's system, including such elements as school, faith-based organizations and community includes key factors for the support of literacy development. Finally, the natural physical-biological environment, housing larger aspects of the family's system continues to offer factors that affect development. Each of the components of the system act independently and interdependently on the family and the literacy behaviors they engage in (Bubolz & Sontag, 1993). Bronfenbrenner further describes the ecological perspective as an interaction of elements within a system over time, with constant feedback and change based on the interactions between systems (Bronfenbrenner, 1979).

Figure 2. Social Ecological Design of Emergent Literacy Development.



Operational and Conceptual Definitions

Table 1. Conceptual and Operational Definitions.

| Independent Variables | | |
|---|---|---|
| **Concept** | **Conceptual Definition** | **Operational Definition** |
| Home visit with instructor and parent | Provision of educational background, reading strategies and skills to increase parental involvement in the development of emergent literacy in young children (Neuman, 1996). | Parent education session featuring interactive learning that models appropriate reading strategies for the development of emergent literacy in young children. |
| Level of participation | Varied levels of participation designed to educate parents about their role in developing literacy (Ponzetti & Dulin, 1997). | Degree of participation in program sessions (see Table 2). |
| Printed information | Printed text related to developing emergent literacy in young children provided to parents to take home (Ortiz, Stowe & Arnold, 2001). | Printed newsletters containing information related to the development of emergent literacy in young children for parents. |
| **Dependent Variables** | | |
| Demonstration of print concepts | Demonstrated behaviors related to handling of a book, including how to hold the book, how to turn pages, manner in which text is read and understanding that text stands for words (Gregory & Morrison, 1998). | Demonstration of how to hold a book, turn the pages and how to read text as measured by the Parent Reading Survey. |
| Dialogic reading | Interactive discussion related to the story line or illustrations in a book, prompted by questions from the parent or child (Snow & Tabors, 1996; Whitehurst et al, 1994). | Reading of a book or other printed material and subsequent discussion of text and or/illustrations. Dialogic reading may include prompting questions from the parent and/or inquiries from the child as measured by the Parent Reading Survey. |

Table 1 (cont'd).

| | | |
|---|---|---|
| Environmental print activities | Activities within the home environment that include a variety of literacy genres, including books, newspapers, magazines, and writing and reading as part of daily behaviors (Korat, 2001; Storch & Whitehurst, 2001). | Literacy activities that take place in the home using print materials that are readily accessible within the home environment as measured by the Parent Reading Survey. |
| Lap reading | Reading of books or literacy materials while sitting in the lap, or directly next to, a parent or caregiver (Gregory & Morrison, 1998). | Reading of literacy materials with child sitting in parent's lap as measured by the Parent Reading Survey. |
| Literacy excursions | Trips to libraries, book stores or other venues involving literacy activities (Berger, 1998). | Visits to locations outside of the home that involve literacy activities as measured by the Parent Reading Survey. |
| Parent behaviors | Parent-led activities, including lap reading, environmental print activities, singing, storytelling and writing (Zeece & Churchill, 2001; Korat, 2001). | Parent-led activities as measured by the Parent Reading Survey. |
| Phonological Awareness Development | Development of the understanding of the role of sounds in language (Adams, 1990; Gregory & Morrison, 1998). | Teaching of the role of sounds within language as measured by the Parent Reading Survey. |
| Singing | Singing of lullabies or other songs as part of a diverse literacy experience (Zeece & Churchill, 2001; Korat, 2001). | Any singing that takes place during interactions between parent and child as measured by the Parent Reading Survey. |
| Storytelling | Verbal sharing of a storyline without the use of text (Bennett, Weigel & Martin, 2002). | Sharing of stories without the benefit of printed text in front of parent or child as measured by the Parent Reading Survey. |
| Teaching alphabetic principle | Knowledge related to letters and the sounds they make (Haney, 2002). | Teaching of the alphabet and the corresponding sounds of letters as measured by the Parent Reading Survey. |

Table 1 (cont'd).

| | | |
|---|---|---|
| Vocabulary | Acquisition of new words and enhancement of existing repertoire of words (Hargrave & Senechal, 2000). | Existing and new words that are exchanged between a parent and child as measured by the Parent Reading Survey. |
| Writing | Availability of writing materials and encouragement to use materials (Korat, 2001). | Use of writing instruments (can include paper, crayons, pens, markers, fingers, sand, etc.) as measured by the Parent Reading Survey. |

The dependent variable, parent behaviors in developing literacy skills in preschool children, conceptually referred to parent-led literacy activities such as lap reading, activities using environmental print, singing, storytelling and writing (Bennett, Weigel & Martin, 2002; Zeece & Churchill, 2001). Operationally, parent behaviors in developing literacy skills in preschool children were measured by using a modified version of the Stony Brook Family Reading Survey (Whitehurst, Arnold, Epstein et al, 1994). Similar to the Stony Brook Family Reading Survey, the Parent Reading Survey evaluated parent-child behaviors using a combination of Likert scale and index questions, measuring incidence of active reading with a child, demonstration of print concepts, engagement in dialogic reading, teaching of alphabetic principle, and development of phonological awareness (Whitehurst et al, 1994). Parents self-reported responses to individual questions, which were totaled to determine a total score for both pre and post testing. The change in parent behaviors was determined by changes in total scores.

The independent variable, levels of participation, conceptually referred to participation in program sessions and receipt of printed parent information. Operationally, level of participation was defined by the number of interactions

with peer educators related to curriculum and/or the number of parent information sheets received. Participants that participated in each of the four home visits and received all printed information were operationally defined as the full-intervention group. Participants that participated in each of the four home visits only were operationally defined as the home-visit-only group. Participants receiving only printed information were operationally defined as the printed-intervention-only group. Participants that did not participate in the four home visits or receive printed information were operationally defined as the control group.

Table 2. Levels of Participation in the Pyramids Between the Pages Program.

| Full Intervention (Group 1) | Home Visits Only (Group Two) | Printed Information Only (Group 3) | Control (Group 4) |
|---|---|---|---|
| 4 home visits and all printed parent information | 4 home visits only | All printed parent information only | No intervention |

Research Questions

The purpose of the study was to assess the effect of different levels of parent participation in a program to enhance developing literacy skills in young children. In order to accomplish this objective, several specific research questions were addressed:

1. Does participation in an intervention group in a parent literacy program change parent behaviors related to emergent literacy development?
2. What dosage of program participation (home visits, printed information or both in combination) is most effective to elicit parent behavior change?

3. Do specific parent behaviors related to emergent literacy development in young children change at equal levels of significance as a result of participation in a parent literacy program?

Research Hypotheses

Participation and type of intervention were expected to impact parent behavior changes in developing literacy skills in young children, as noted by Bennett, Weigel & Martin,,2002; Cronan, Cruz, Arriaga & Sarkin, 1996; Ponzetti & Dulin, 1997; Seaman & Yoo, 2001; and Sharif, Dinkevich & Mulvihill, 2003. Parents receiving the full intervention, including home visit participation and printed parent information were expected to report an increase in behaviors that positively affect emergent literacy development. Parents participating in the home visits only were expected to report less increase in behaviors than the full intervention group, but more than those who received printed information only. No change was expected in the control group that did not participate in the program.

Table 3. Rank of Intervention and Level of Parent Behavior Change (Predicted).

| Full Participation (Home visit and printed information) | Home visit Only | Printed Information Only | Control |
|---|---|---|---|
| Most Change | | | No Change |

For this research, three hypotheses were utilized to answer the three research questions posed earlier related to parent behaviors and the development of emergent literacy in young children. The following lists each research question with the corresponding hypotheses tested:

*Question One*
Does participation in an intervention group of a parent literacy program change parent behaviors related to emergent literacy development?

Hypothesis 1-A
Parents participating in the intervention groups will demonstrate greater changes in behavior in developing emergent literacy skills in young children than parents in the control group.

*Question Two*
What dosage of participation (home visits, printed information or both in combination) is most effective to elicit parent behavior change?

Hypothesis 2-A
Parents participating in greater levels of intervention will indicate greater change in parent behavior than parents participating in lower levels of intervention.

*Question Three*
Do specific parent behaviors related to emergent literacy development in young children change at equal levels of significance as a result of participation in an experimental literacy program?

Hypothesis 3-A
Parents participating in the intervention groups will demonstrate significant changes in specific behaviors related to emergent literacy development, as measured by the Parent Reading Survey.

Analysis

Using T-tests and multivariate analyses of variance (MANOVA), a probability of .05 was used to accept or reject the hypotheses.

Assumptions

Several assumptions existed within the study. The study assumed that instructors in the intervention followed the curriculum as outlined in the training session. Further, instructors would provide only the level of instruction indicated, not exceeding the level of intervention assigned to the intervention group, i.e., additional instruction beyond the lesson plan (including but not limited to individual instruction or scheduled home visits related to emergent literacy

instruction) was not permitted. The study also assumed that parents participating in the program would exhibit levels of self-efficacy indicative of demonstrating appropriate behaviors. In order to change parent behaviors in developing emergent literacy skills, it was also assumed that parents viewed school readiness and the development of these skills as a priority. It was further assumed that participants would engage fully in the intervention sessions, actively take part in each session and reading the printed parent information as given. Parents were assumed to participate in the intervention with a rudimentary background related to age appropriate activities, and with an active interest in interacting with their children for the purpose of preparation of entering school.

Following Chapters

Chapter Two will provide a brief overview of research related to the development of emergent literacy skills, including the primary factors affecting a parent's ability to foster these skills in young children. More importantly, the review of literature provides a backdrop for the methodology that will be used in the study. The literature also provides a basis for conceptual and operational definitions, as well as the type and scope of data analysis.

Chapter Three will provide information related to the methodology employed for the study. Additionally, the chapter will identify limitations of the study based on previous research findings, as well as potential difficulties that were identified in the literature.

Chapter Four will provide the results of the statistical analysis related to each research question and individual hypothesis. This chapter will include a summary table showing which hypotheses were supported, and which were not.

Chapter Five will provide discussion related to the statistical analysis summarized in Chapter Four. A summary of the current research, as well as suggestions for future research and implications for practitioners will be included.

## CHAPTER TWO

## LITERATURE REVIEW

Overview

Parents have long been regarded as a child's first teacher, with responsibilities for creating and fostering an effective learning environment that adequately prepares a child for school. The development of emergent literacy begins at birth, with learning taking place within the context of the family, through a variety of parent-child interactions (Zeece & Churchill, 2001). Parents foster the development of emergent literacy, or literacy that occurs prior to formal schooling, by "modeling literacy as a practice useful in solving problems, and to establish social literacy practices that children can participate in as a critical part of their lives, rather than sampling transmitting or transferring literacy" (Snow & Tabors, 1996. p. 2).

Emergent literacy is comprised of several different elements, but each maintains a place within the context of literacy development. Activities related to the development of literacy before a child is formally engaged in literacy development are mostly derived from the home, and rely on parental influence and direction to occur (Bennett, Weigel & Martin, 2002). A parent's decision to provide access to books, opportunity for literacy activities, and active engagement in the process of literacy development is crucial to improving skills for young children. Further, the establishment of literacy as an enjoyable activity further sets a foundation for literacy development beyond the preschool years (Britto & Brooks-Gunn, 2001; Storch & Whitehurst, 2001; Trelease, 2001; Zeece

& Churchill, 2001). Even the parent's own literacy levels and practices affect opportunities for young children to take part in literacy activities which subsequently affects literacy levels (Leseman & DeJong, 1998; Ortiz, Snow & Arnold, 2001).

Emergent Literacy Development

The course of literacy begins at birth with the literacy activities parents engage in with infants. Literacy development continues as a component of family life, in daily literacy experiences consistent with a family's lifestyle, such as reading, writing and even singing (Wasik, Dobbins & Herrmann, 2001). Community involvement continues to offer support, through school, faith-based organizations, public libraries and other venues offering resources and information for families related to literacy (Zeece & Churchill, 2001).

Parents play a crucial role in the development of emergent literacy, or literacy skills that are acquired prior to formal schooling. Emergent literacy, including print awareness, serves as a precursor to formal literacy skills, including phonics, phonemic awareness, fluency, vocabulary and comprehension, with parent-child interactions providing a foundation for these various skills (Korat, 2001). Parents are vital to the development of literacy skills, but many are unsure how to help their children become ready to read. Successful development of literacy in children is dependent upon helping parents learn how to incorporate "fun and meaningful" activities that engage a child in learning basic literacy skills and model appropriate literacy behaviors (Snow & Tabors, 1996, p. 5).

Early literacy development, or emergent literacy, generally occurs within the home and is comprised of several skills that serve as cornerstones for formal schooling. The International Reading Association (IRA) and National Association for the Education of Young Children (NAEYC) maintain that increased exposure to print, opportunities to form an understanding of alphabetic principle, and development of phonemic awareness are the foundations of literacy development (NAEYC, 1995). The No Child Left Behind legislation further postulates phonemic awareness, phonics, fluency, vocabulary and comprehension as the building blocks to successful literacy development (National Reading Panel Study, 2000).

Phonics, or the relationship between the sounds of spoken language and the individual letters that represent those sounds in written language, is learned as children demonstrate a better understanding of individual letters. One study utilized children's names as a vehicle to teach basic concepts related to phonics, and found children used the knowledge related to the letters and sounds in their names to arrange and model other letters (Haney, 2002). Gregory and Morrison's (1998) study identified positive gains in phonics knowledge through the modeling of appropriate reading techniques to parents, including lap reading. Children participating in this qualitative study demonstrated a greater understanding in print concepts, relationships between print and illustration, and phonics after parents participated in an in-home intervention aimed at increasing reading behaviors (Gregory & Morrison, 1998).

Understanding phonemic awareness as the link between separate, small sounds in spoken words is a cornerstone of reading, as well as speaking and writing. Adams (1990) indicated a child's level of phonemic awareness as one of the most powerful predictors of a child's success in learning to read. Gregory and Morrison's (1998) subjects demonstrated a greater understanding of phonemic awareness as a result of a direct intervention process that increased dialogic reading by parents to children. Phonemic awareness is a vital component to spelling, and also helps to develop alphabetic principle, or the understanding that written letters represent sounds.

Fluency is affected by familiarity with books, as an increase in reading time with a parent or caregiver also increases exposure to vocabulary words and syntax of language. Adams (1990) estimated that a typical child from a middle class family will have spent 1000 to 1700 hours experiencing books during lap reading times with parents and caregivers prior to entering kindergarten. It was further estimated an average child from a lower class family will spend only twenty-five hours in similar lap reading experiences. A study introducing parents to simple lap reading techniques as a method to increase literacy skills in children demonstrated a positive correlation between lap reading experience and an improvement in language proficiency (Gregory & Morrison, 1998). As parents read to their children, children also begin to associate reading as a pleasurable activity, increasing their motivation to read. As a child's motivation to read increases, his or her ease of reading also tends to increase, resulting in greater fluency (Trelease, 2001).

Parent-child interactions related to reading also impact vocabulary and subsequent literacy skill development associated with increased vocabulary knowledge. Again, socioeconomic status, including educational background of the parent, plays a large role in the acquisition of vocabulary. A child from a professional family will have a cumulative vocabulary of approximately 1100 words by the age of three, while a child from a working class family will have a cumulative vocabulary of about 750 words, and a child from a lower income family will have a cumulative vocabulary of just over 500 words (Hart & Risley, 1995). Further, discussion using a wide vocabulary and active responses to child inquiry were strongly correlated with literacy development (Hart & Risley, 1995). Dickinson and DeTemple (1998) also demonstrated that home literacy environments, including the amount of available print, can be directly correlated with vocabulary.

Comprehension is vital to everyday functioning and the success of learning, and literacy comprehension serves as a building block for comprehension in other learning arenas. A parent's understanding of comprehension and its influence on learning is recognized during lap reading experiences, as well as in other social contexts. "Engaging children in active, analytic talk during book reading generates gains not seen if books are simply read to children, without questions and opportunities for discussion" (Snow & Tabors, 1996, p. 4). Predictions of stories, text, or words (as in rhymes) are fundamental components of building comprehension skills. The modeling of appropriate reading behaviors in intervention programs has demonstrated

positive gains in comprehension levels among children, even without direct instruction on comprehension building techniques (Gregory & Morrison, 1998). Further, asking questions related to story content and prediction of events shows a positive impact not only on vocabulary, but also on comprehension (Trelease, 2001).

Literacy development is viewed as a social interaction taking place within the family rather than instructional discourse, but these interactions are affected by several variables. A review of literature indicates that several factors account for parent behaviors related to development of literacy skills in young children. Socioeconomic status (Bennett, Weigel & Martin, 2002; Bus, VanIJzendoorn & Pelligrini, 1995; Leseman & deJong, 1995; Neuman, 1996; Storch & Whitehurst, 2001), culture and ethnic background (Goldenberg, 2000; Johnston & Rogers, 2001; Vernon-Feagans, Scheffner, Hammer, Miccio & Manlove, 2002), the home literacy environment (Senechal & Lefevre, 2001; Storch & Whitehurst, 2001) and level of parent involvement (Britto & Brooks-Gunn, 2001; Leseman and deJong, 1998), including maternal education (Johnson, Walker & Rodriguez, 1996; Seaman & Yoo, 2001; Zill, Collins, West & Germino-Hausken, 1995), are the most noted predictors of literacy development among young children.

Socioeconomic Effects

Families with lower incomes are often faced with critical decisions related to the daily care of their family, placing the development of early literacy skills as low priority (Bennett, Weigel & Martin, 2002, Entwisle & Alexander, 1995). Lower income families may have less access to quality health care, poorer

nutrition, lower immunization rates or other health related factors shown to impact the development of young children (NAEYC, 2000; Zill et al, 1995). Lack of resources for the acquisition of literacy related materials within the home may also prohibit children from becoming familiar with a variety of literacy activities (Entwisle & Alexander, 1995). Quality day care is also affected by income, with parents opting for the most cost-effective method to care for their children, often resulting in substandard care that is not developmentally stimulating (Christian, Morrison & Bryant, 1998; Zill et al, 1995). Differences in vocabulary and reading opportunities are also noted, further placing children from lower income families at risk of reading difficulties upon school entrance.

Health implications for children from lower socioeconomic status homes are pivotal factors in cognitive development, including the development of literacy skills. Children from disadvantaged homes are more likely to suffer from acute health conditions such as asthma, otitis media and respiratory disorders (NAEYC, 2000; Rising, Weir & McMullen, 1996; Roberts & Burchinal, 2001). The effect of these conditions on the family resources, as well as priority on reading development is debilitating. Further, low income families are often subject to malnutrition, with adverse affects on cognitive development (Gorman, 1995; Mendez & Adair, 1999). Exposure to lead by way of inferior housing options may also lead to serious health complications, in addition to cognitive disabilities not noted in children from families of higher incomes (Chisholm, 2001; Liu, Dietrich, Radcliffe et al, 2002).

Lack of resources is most often cited as a detriment to literacy development (Bennett, Weigel & Martin, 2002; Bus, Van IJzendoorn & Pelligrini, 1995; Storch & Whitehurst, 2001). Absence of print related materials in the home, lack of access to facilities such as quality libraries, and differences in academic opportunities in disadvantaged schools may have a compound effect on families of lower socioeconomic status (Entwisle & Alexander, 1995; Neuman, 1996; Storch & Whitehurst, 2001). Discrepancies in parental education may precipitate a lack of adequate employment, affecting resources and compounding the effects of socioeconomic status on literacy development in young children (Teachman, Paasch & Carver, 1996). Several studies have shown positive correlations among children from lower income families and lower reading achievement, concluding that home literacy activities are determined largely by income (Leseman & DeJong, 1998; Molfese, Modglin & Molfese, 2003; Storch & Whitehurst, 2001). A study conducted by Molfese and colleagues in 2003 directly linked socioeconomic status and corresponding Home Observation for Measurement of the Environment (HOME) scores with reading abilities of young children. Lack of resources associated with literacy rich environments are key differences noted to affect a parent's decision to participate in the educational experiences of a child (Neuman, 1996).

Quality child care may also be a concern for families from lower income brackets (Dickinson & Sprague, 2001). Inadequate daily care may not include cognitive stimulation such as reading or other developmentally appropriate literacy activities. Lack of literacy resources within the daycare environment, lack

of training or turnover of staff, or ineffective attempts at literacy activities compound the effects of literacy deprivation already noted in children from lower income families (Dickinson & Sprague, 2001). According to the National Association for the Education of Young Children, three out of four children are in a daycare environment (NAEYC, 2000), but often the child-care options used by low-income families are of low quality, particularly if they are not licensed, center-based care facilities (Christian, Morrison & Bryant, 1998; Dickinson & Sprague, 2001). Despite the success of programs such as Even Start and Head Start, children from economically disadvantaged homes may not receive appropriate literacy nutrition until they enter school. However, the differences in economic backgrounds are evident by this time (Hart & Risley, 1995).

Hart and Risley's landmark 1995 study of vocabulary differences in children from different economic backgrounds provides critical insight to the affect of poverty on literacy development The study identifying vocabulary discrepancies among children from families of various economic backgrounds positively associated income status with the number of vocabulary words heard within the first four years of a child's life, with an eight million word vocabulary difference between children from poor families versus children from upper class families (Hart & Risley, 1995). The number of hours spent reading books together is also dramatically different based on income. Children from low socioeconomic status families may spend as little as 25 hours engaged in lap reading time, while children from higher socioeconomic status families may engage in 1000-1600 hours in the same five year period (Adams, 1990). These

differences during the preschool years have been shown to affect subsequent reading achievement (Adams, 1990; Hart & Risley, 1995; Storch & Whitehurst, 2001).

Culture and Emergent Literacy

Culture and ethnic background also play an important role in the development of emergent literacy. Often children who are at risk for difficulty in developing emergent literacy skills are children from lower socioeconomic backgrounds, with a disproportionate amount of these children from black and Hispanic families (Vernon Feagans, Hammer, Miccio & Manlove, 2002). Further, many of the studies related to parental effects on literacy development are limited in that they are largely focused on the beliefs and practices of white middle class families.

African American families are more likely to treat literacy activities and reading as a group event, with adults reading aloud to each other, and children participating by listening (Heath, 1983). Children might be exposed to environmental print, but often these materials are not intended for children. Storytelling is emphasized and provides for an enriched vocabulary, but often happens as a joint process between adults and children, rather than the child alone creating the story (Feagans & Haskins, 1986).

Cultural differences related to approaches to learning must also be taken into account, as different ethnicities approach education in different manners. "There is extraordinary variation in the languages and cultures that children bring to literacy learning and in the literacies into which they are apprenticed prior to

coming to school" (Johnston and Rogers, 2000, p. 386). These cultural differences are evident in how parents understand and view emergent literacy as well. Non-English speaking parents often view literacy development as the ability to read, with less importance placed on literacy activities that foster the development of emergent literacy skills (Goldenberg, 2001). Both cultural differences in approaches to learning, as well as language barriers and difficulties, can affect emergent literacy skills in young children. Culture and ethnic background is often closely tied with socioeconomic status as well.

*Approaching Kindergarten, A Look at Preschoolers in the United States* identified accomplishments and difficulties in the development of over 4000 children ages three to five, including emergent literacy development, prior to kindergarten entrance (Zill, Collins, West & Germino-Hausken, 1995). Using data gleaned from the National Household Education Survey, five risk factors were identified as placing children at educational risk. Data from this study used race and ethnic background as a control variable for the study, citing that "race and ethnicity are not actionable by private choices or public policies the way such factors as parent education level, poverty status, and preschool program participation potentially are" (Zill, Collins, West, & Germino-Hausken, 1995, p. 8). In terms of emergent literacy, differences in accomplishments by race were observed for four year olds. White children were more likely than Black children to identify colors, read (or simulate reading), and to write their own names. Hispanic children were less likely than white children to exhibit these same accomplishments, with as much as 30 percentage points variations noted

between Hispanic and white children. These variances may also be attributable to the primary language spoken in the home.

One of the five family risk factors examined in the study was English as the non-primary language in the household, and this was clearly demonstrated in the study. Children of non-English speaking mothers, of whom 72 percent were Hispanic, demonstrated significant differences in emergent literacy tasks as compared to children of English-speaking mothers (Zill, Collins, West & Germino-Hausken, 1995). Of children with English speaking mothers, 87 percent of children could identify primary colors, and nearly 75 percent could write their names. Comparatively, of children of non-English speaking mothers, 55 percent could identify primary colors, and 54 percent could write their names. (Zill, Collins, West & Germino-Hausken, 1995).

The Early Childhood Longitudinal (ECL) Study of kindergartners included a sample of 22,000 kindergartners beginning in the fall of 1998. Preliminary data related to reading correlated with the National Household Education Survey, and demonstrated that children from English speaking homes scored higher in reading achievement tests than children from non-English speaking homes. Key findings for the ECL study also concluded that white children were more likely to score in the top quartile than black or Hispanic children (West, Denton & Germino-Hausken, 2000). Initial key findings also include interesting results related to the literacy environment and family interactions, both known factors in contributing to the development of emergent literacy. While black parents are

less likely to read to their children than white, Hispanic and Asian parents, they are more likely to sing to their children than white, Hispanic or Asian parents.

Because culture and ethnic background are so closely linked with socioeconomic status, it is important to understand the role of the home literacy environment in the development of emergent literacy. Despite differences in socioeconomic or cultural backgrounds, home literacy environments can provide a rich background to positively affect emergent literacy development.

Home Literacy Environment

The home literacy environment is described as a "sociocultural context that supports the development of literacy is a natural environment or milieu that is infused with reading books, newspapers, magazines; writing and reading in daily behavior; the use of computers to fulfill these needs; and discourse with children" (Korat, 2001, p. 228). Activities taking place within the home provide a foundation for literacy skill building as children enter school (Storch & Whitehurst, 2001). Children who are provided rich and varied experiences within the home environment from a significant adult are more likely to identify reading experiences as pleasurable throughout their lives (Zeece & Churchill, 2001).

Several studies have demonstrated the positive effects of the home literacy environment on literacy development in children. Storch and Whitehurst (2001) concluded that the home literacy environment had a significant impact on the early literacy skills of children, even before entrance into school. Children with poor home literacy environments with limited exposure to reading and print materials, including limited shared reading activities, were found to place at

higher risk for reading difficulties once they entered school (Storch & Whitehurst, 2001). Another study examining the effects of interventions on literacy by pediatricians demonstrated a positive correlation between language scores and the number of books in a household (Theriot, Franco, Sisson, Metcalf et al, 2003). The 2003 Theriot et al study also hypothesized that parents may have purchased even more books for the home after observing the effects of the reading sessions with their children. Britto and Brooks-Gunn (2001) maintained the home literacy environment referred to the presence and availability as well as access of printed materials within the home and multi-dimensional home literacy environments that included language and verbal interactions in addition to provision of print materials were most strongly associated with literacy development in young children. These findings were also maintained in other studies, identifying the importance of environment in the development of reading abilities (Molfese, Modglin & Molfese, 2003; Senechal & LaFevre, 2001; Storch & Whitehurst, 2001).

A longitudinal study conducted by Molfese and colleagues revealed associations between environment and development of reading skills (Molfese, Modglin & Molfese, 2003). Activities in the home, as well as characteristics of the home were shown to contribute to cognitive development. Senechal and LeFevre's 2001 study supports previous studies examining the home literacy environment, identifying home literacy experiences and frequency of activities as important to the development of emergent literacy and language. Another study examined the levels of educational stimulation provided in the homes of 313

families, concluding that mothers participating in a literacy development program provided "a more educationally stimulating environment for their children as assessed by the HOME procedure" (Johnson, Walker & Rodriguez, 1996, p. 110).

Discrepancies in home literacy environments exist, particularly related to socioeconomic status. "Poor families have unequal access to materials, books, and social resources" with these differences influencing the "amount of exposure and opportunities to engage with literacy materials" (Neuman, 1996, p. 496). Low socioeconomic status may negatively affect literacy development due to lack of materials, lack of interactive experiences within the home, and low priority of literacy within the home (Hockenberger, Goldstein & Hass, 1999). However, effective programming yielded other mechanisms to provide a literacy rich environment in lower income homes, including print on boxes or in the grocery store, preparation of grocery or shopping lists, menus, phone books, reading of signs or license plates while in cars or busses and telling stories (Berger, 1998). Hockenberger and colleagues (1999) also determined that a brief intervention could provide changes to effectively promote the home literacy environment as well. Christian, Morrison and Bryant found in their 1998 study that the family literacy environment was positively linked with four of five academic measures, including reading recognition, receptive vocabulary, general information and letter recognition.

Effect of Parental Involvement

While the importance of the home literacy environment is crucial to the development of literacy skills in young children, parental involvement is perhaps the strongest mitigating factor in development of emergent literacy. The process of becoming a reader begins at birth, and is within the context of the family. Countless studies have shown positive correlations between parental involvement and literacy outcomes in children (Bennett, Weigel & Martin, 2002; Cronan et al, 1996; Hancock, Kaiser & Delaney, 2002; Hart & Risley, 1995; Johnson, Walker & Rodriguez, 1996; Molfese, Modglin & Molfese, 2003, Seaman & Yoo, 2001; Senechal & LeFevre, 2001; Storch & Whitehurst, 2001; Zeece & Churchill, 2001).

Family involvement in the development of literacy skills in young children is perhaps one of the strongest predictors of future school success in children, and consequently, their families. A study of 143 families examined the relationship between family environment and children's language and literacy skills (Bennett, Martin & Weigel, 2002). Results of the study determined that only the use of the theoretical model of Family as Educator was significantly related to language and literacy outcomes in children. Storch and Whitehurst (2001) also determined that to improve the reading abilities of children from low-income homes, efforts must begin at home, focusing on increasing experiences within the home. Utilizing the Home Observation for Measurement of the Environment (HOME), Molfese and colleagues (2003) determined that family influence, particularly in the activities taking place in the home, affects the development of

reading abilities. "Activities in the home, home characteristics and parenting practices contribute to the development of children's cognitive abilities-both intellectual abilities and reading abilities" (Molfese, Modglin & Molfese, 2003, p. 66).

For many families, literacy opportunities exist in a variety of environments, but are largely directed by parents. Through interactions with parents -- in the home, in the car, completing errands -- children learn different aspects of literacy and are exposed to a multitude of literacy genres, including lists, billboards and stories that are within their natural context and serve a functional purpose (Korat, 2001).

Studies have also shown that appropriate parent education and change in parent self-efficacy has shown improvement in development of early literacy skills in young children, despite socioeconomic status (Cronan, Cruz, Arriaga & Sarkin, 1996; Gregory & Morrison, 1998; Hancock, Kaiser & Delaney, 2002; Molfese, Modglin & Molfese, 2003). Mothers are most often cited as the primary source for literacy support within the home, particularly within lower income homes (Zill, Collins, West & Germino-Hausken, 1995). Maternal education and literacy related beliefs of mothers are an important component in the development of literacy skills in preschool children, as the mother often provides the majority of the child's early education (Bennett, Weigel & Martin, 2002; Johnson, Walker & Rodriguez, 1996; Leseman & deJong, 1998). Maternal education related to child development, age appropriate activities and mothers'

own literacy practices are tied to the opportunities created for children to engage in literacy-related activities (Leseman & deJong, 1998).

An understanding of the cognitive development and progression of achievements in young children is directly correlated to maternal education and subsequent development of literacy skills in young children (Bianchi & Robinson, 1997; Entwisle & Alexander, 1996; Johnson, Walker & Rodriguez, 1996; Sharif, Dinkevich & Mulvihill, 2003). Operationally defined as the total number of years of formal schooling a mother has completed, maternal education plays a crucial role in a child's learning experience (Christian, Morrison & Bryant, 1998). Not only attitudes and beliefs about child rearing, including discipline, but a mother's attitude toward education and her role as a teacher have been shown to affect emergent literacy (Sharif, Dinkevich & Mulvihill, 2003). Parental literacy-related beliefs provide a foundation for opportunities for their children, and are based largely on the mother's level of education as well as her experiences related to reading (Bennett, Weigel & Martin, 2002; Leseman & deJong, 1998). Ponzetti and Dulin discovered that a brief intervention consisting of four parent education sessions produced significant results in receptive vocabulary scores in children (1997). These interventions included sessions on child development and the selection of developmentally appropriate books. Further, increasing parent education levels through family literacy programs has produced increases in emergent literacy skills in children (Seaman & Yoo, 2001). Involvement in family literacy programs by high school dropouts has shown increased confidence in

their own ability to learn, as well as increased expectations for their children, and an increased value in education (Seaman & Yoo, 2001).

Age appropriateness of literacy related activities is also directly related to the mother's educational background (Christian, Morrison & Bryant, 1998; Ponzetti & Dulin, 1998; Seaman & Yoo, 2001). Literacy programs that focused on empowering parents to provide age appropriate activities produced greater gains in reading (Bus, VanIJzendoorn & Pelligrini, 1995; Johnson, Walker & Rodriguez, 1996, Ponzetti & Dulin, 1998,). A longitudinal study of 14 women by Holloway and colleagues examined maternal beliefs of appropriate practice related to preparation for school (1995). Participants in the study concluded that learning took place by participating in different activities that required direct participation (Holloway, Rambaud, Fuller & Eggers-Pierola, 1995). Understanding age appropriate activities can further stimulate the cognitive development of young children, including development of emergent literacy skills.

Perhaps most closely tied with maternal education are literacy practices that mothers engage in. "Parent's own literacy practices appeared to determine specifically the opportunities for young children to be involved in literacy-related interactions" (Leseman & deJong, 1998, p. 313). Several studies indicated that mother's actively engaged in literacy behaviors provided effective modeling to their children, producing similar behaviors (Bennett, Weigel & Martin, 2002; Debaryshe, Binder & Buell, 1996; Leseman & deJong, 1998; Neuman, 1996; Snow & Tabors, 1996). Appropriate behavior modeling established literacy practices within the family that taught children the value of reading as a part of

their lives (Snow & Tabors, 1996). Even parents with low literacy skills are able to model literacy activities to positively affect literacy outcomes in children (Neuman, 1996). Children that see parents reading for pleasure, engage in lap reading experiences that associate reading as a pleasurable activity for children, and connect reading experiences across a broad range of activities are more likely to engage in similar behaviors (Trelease, 2001).

Simple conversation during story book reading has demonstrated positive gains in literacy development, often gains that are unparalleled through the reading of text alone (Bennett, Weigel & Martin, 2002; Britto & Brooks-Gunn, 2001; Bus, Van IJzendoorn & Pelligrini, 1995; Cronan, Cruz, Arriaga & Sarkin, 1996; Senechal and LeFevre, 2001; Snow & Tabors, 1996). Shared book reading has resulted in positive literacy skill outcomes regardless of socioeconomic status, and serves as a strong predictor of reading achievement (Bus, Van IJzendoorn & Pelligrini, 1995). "The available data on book reading support intergenerational literacy programs intended to stimulate parent-preschooler reading in order to better prepare young children for beginning reading instruction" (Bus, Van IJzendoorn & Pelligrini, 1995, p. 17). Senechal and LeFevre determined in 2001 that the frequency with which parents teach their young children about literacy seems to be a key factor in understanding the developmental differences in emergent literacy in children. Exposure to books has been directly linked with vocabulary development, listening comprehension skills and language development, with subsequent relation to reading levels in grammar school (Senechal & Lefevre, 2002).

Several studies have demonstrated increases in literacy skills in children by increasing parent awareness of techniques to develop literacy skills in young children. A community based literacy program that focused on increasing parent skills in fostering emergent literacy in their children, including the use of dialogic reading initiated change in the incidence of reading to children, the establishment of regular reading sessions with children and the incidence of dialogic reading during the sessions (Cronan, Cruz, Arriaga & Sarkin, 1996). Another study of 24 Even Start sites focused on educating parents about their role in developing literacy in their children to garner positive change in family literacy practices, using an empowerment approach rather than training to achieve positive outcomes in literacy development (Ponzetti & Dulin, 1997).

A crucial component of parental involvement is the literacy practices that parents engage in. Parental literacy-related beliefs precipitate opportunity for and occurrence of literacy related activities within the home (Bennett, Weigel & Martin, 2002). The research of Britto and Brooks-Gunn (2001) suggests that the manner in which parents interact with their children in literacy activities can shape literacy development. Parental expectations of literacy development may also affect the skills that children acquire from parents (Storch & Whitehurst, 2001). Further, the literacy practices engaged in by parents "appeared to specifically determine the opportunities for young children to be involved in literacy-related interactions" (Leseman and deJong, 1998, p. 313). A smaller study examining the beliefs of literacy instruction by mothers of young children revealed modeling of appropriate behaviors by parents and parental motivation to

foster literacy skill development to also be important components of emergent literacy development (DeBaryshe, Binder & Buell, 2000). Too often, however, these literacy beliefs are shaped by socioeconomic effects that in turn affect the emergent literacy development of children.

Increasing Parental Involvement

Home visiting programs designed to improve parental practices related to emergent literacy skill development have demonstrated positive effects on family literacy environments in relatively short periods of time, despite the socioeconomic status of the family. One home visiting intervention study showed greater gains in families participating in 18 home visits compared to those receiving no home visitor (Cronan et al, 1996). Further, families in the high intervention group initiated change in family reading times and types of family reading (Cronan et al, 1996). Family visiting programs may also include insight and instruction on the developmental stages of young children, an important component of literacy programming for parents of young children. As parents gain knowledge of developmentally appropriate practices, home environments also change (Parks & Smeriglio, 1986). Most family literacy programs typically consist of adult education (related to improvement of the literacy skills of the parents), parent education and early childhood education, with a focus on empowering families (Ponzetti & Dulin, 1997).

Senechal and Lefevre (2002) discovered a positive correlation between home experiences and literacy development in their longitudinal study of parental involvement:

> "Children's exposure to books was related to the development of vocabulary and listening comprehension skills, and that these language skills were directly related to children's' reading in grade 3. In contrast, parent involvement and teaching children about reading and writing words was related to the development of early literacy skills. Early literacy skills directly predicted word reading at the end of grade 1, and indirectly predicted reading in grade 3" (Senechal and Lefevre, 2002, p. 445).

Family involvement in the literacy skill development process is clearly illustrated in this and other studies. Another study examined the family as the primary source for the development of a child, specifically looking at the family literacy environment as a predictor of a child's level of preparation upon entering kindergarten. The study determined that the family literacy environment in fact emerged as a strong predictor of children's later academic abilities, and appeared to play a major role in the shape of the child's cognitive growth (Christian, Morrison & Bryant, 1998). Discussion of the results of the study went further to assert that further research on parenting behaviors could provide "valuable information regarding the role of the family in children's early skills acquisition" (Christian, Morrison & Bryant, 1998, p. 518).

In 1998, Lonigan and Whitehurst determined that dialogic reading interventions were most successful when parents were trained in intervention strategies, in addition to teachers. Another study examined literacy activities occurring in the home during the preschool years with reading assessments once children entered school (Scarborough, Dobrich & Hager, 1991). The study determined that children with less experience with reading as preschoolers tested at lower levels of proficiency in reading than children with more dialogic reading experiences. A similar study conducted by Leslie and Allen in 1999

determined that parental involvement was directly correlated with fostering reading ability for children who were experiencing difficulty reading, or unable to read in grades one through four.

Very few studies have examined the effect of different dosages of intervention on parent behaviors related to literacy development in young children. One study examined a dosage effect on emergent literacy development assessing changes in the home literacy environment, rather than change in parent behaviors based on direct instruction with parents and children (Bennett, Martin & Weigel, 2002). Another study examining dosage in terms of number of visits determined that greater changes in parent behaviors resulted with an increased number of visits (Cronan et al, 1996). The Cronan et all (1996) study utilized a home visitation model, with varying numbers of visits, and concluded that the more home visits a family participated in, the greater the amount of change in family reading time as reported by parents.

Social Cognitive Theory

Social Cognitive Theory examines the interaction between a person and the person's environment, stressing that self-regulated behavior will change over time as a response to a stimulus. Self-efficacy is a mainstay of the theory, with the idea that a person's perceived self-belief can guide both intentions to action, and deliberate actions related to learning. Four key principles guide Social Cognitive Theory.

The first principle postulates that learning occurs through the observation of desired behavior (Bandura, 1977). For the purposes of this research study,

participants learned skills to enhance the development of emergent literacy in young children simply by watching the behavior of a trained peer educator. Rather than focusing on strict behavior modification or purposefully eliciting change, interventions relied on the modeling of appropriate behaviors with the understanding that learning can occur simply through observation.

The second guiding principle of the theory indicates that learning can occur without a marked change in behavior (Bandura, 1977). Fostering of emergent literacy skills is a subtle process, and demonstrated change may be difficult to determine simply through observation. Attitudes and beliefs related to developing literacy skills are perhaps just as important as actual actions. Changes related to self-efficacy in developing skills may not exhibit as a marked change, but an important change exists nonetheless.

As with other theories, a knowledge base is a vital component to determine the effects of an intervention. Social Cognitive Theory's third principle states that an increase in knowledge base serves as a precursor to behavior change (Bandura, 1977). Changes in cognition, including an awareness of reinforcements or punishments, drives the behaviors that people exhibit. A parent's understanding of developmentally appropriate practices related to literacy shapes their behaviors in developing literacy skills in young children. Moreover, other studies have shown that parents with demonstrated increased cognition related to emergent literacy development exhibited more behaviors such as lap reading, use of environmental print and dialogic reading as a result

(Cronan, et al, 1996; Johnson, Walker & Rodriguez, 1996; Ponzetti & Dulin, 1997; Seaman & Yoo, 2001).

The final principle of Social Learning Theory indicates that it is a catalyst to actual behavior change, and can function as a bridge between knowledge of change (cognitive learning theory) and actual change (behaviorist learning theories) (Bandura, 1977). For purposes of this study, parent behavior related to developing literacy skill building in young children was studied, rather than a longitudinal study of the intervention's effect on literacy skills in children. A review of the literature demonstrates that perceived ability, or self efficacy can change despite socioeconomic status, cultural issues or other factors that have been shown to negatively impact a parent's ability to foster emergent literacy skills.

Research documents the importance of parental involvement in developing emergent literacy skills, and for maintaining learning environment within the home to successfully prepare children for school entry. Despite socioeconomic factors such as limited maternal education, single parent homes and unmarried mothers known to negatively affect a child's literacy development, successful interventions have elicited positive changes in parent behaviors. Further, early childhood educational programs designed to change both literacy practices that families engage in, as well as the home literacy environment have demonstrated positive differences in children's literacy skills setting a foundation for literacy development beyond the preschool years.

## CHAPTER THREE

## METHODS

The purpose of the study was to assess the effect of participation in a program to enhance developing literacy skills in young children on parent behaviors. This chapter discusses the methodology employed in the study in greater details. The study addressed three key questions:

1. Does participation in an intervention group in a parent literacy program change parent behaviors related to emergent literacy development?
2. What dosage of program participation (home visits, printed information or both in combination) is most effective to elicit parent behavior change?
3. Do specific parent behaviors related to emergent literacy development in young children change at equal levels of significance as a result of participation in a parent literacy program?

### Sampling Design

A random probability sampling design was utilized to determine participation in the control or treatment groups. Participants were clustered by county and each county assigned a unit code. Counties were matched according to size (urban or rural) and then randomly drawn for assignment by unit code with one urban county and one rural county assigned to each group. A total of eight counties (Allegan, Baraga, Barry, Jackson, Mecosta, St. Clair, Saginaw and Sanilac) were selected to participate (Appendix C). Counties were designated urban if the 2000 U.S. Census Data indicated 125 or more people were living within one square mile. Urban counties included Allegan, Jackson, St. Clair and

Saginaw. Rural counties were defined as less than 125 people per square mile (U.S. Census Bureau, 2000). Rural counties included Baraga, Barry, Mecosta and Sanilac.

Each county participating was randomly selected to participate at different levels. One level of participation, referred to as the full intervention or Group One, participated in four home visits and received printed parent information. In the second level of participation, referred to as Group Two, participants participated in four home visits only. In the third level of participation, referred to as Group Three, participants received printed parent information only. A control group, referred to as Group Four, received no intervention. Protocol for participation in home visits and receipt of printed parent information is discussed in the procedures section. Figure 3 shows the levels of participation by group.

Figure 3. Levels of Participation by Group.

| | |
|---|---|
| **Group One**<br>Full intervention<br>(4 home visits and printed parent information) | **Group 3**<br>Printed parent information only |
| **Group Two**<br>4 home visits only | **Group Four**<br>No intervention |

Participants

Parents or caregivers of preschoolers aged two to five (mean age of 38.82 months) were recruited through the Michigan State University Extension Family Nutrition Program (FNP) or Expanded Food and Nutrition Education Program (EFNEP) county offices. County offices invited participants enrolled in either nutrition education program to participate in the program. Family income for

participants could not exceed 180% of the poverty level, consistent with federal guidelines for enrollment in either program.

Participant Information Forms provided demographic information for the study (Appendix D). One hundred and three participants completed demographic information. Of these, fifty-nine percent of participants enrolled in the study were living on $20,000 or less per year. Ninety-six percent of families included a mother living in the home, and 72% of families included a father living in the home. The mean number of children in families participating was 2.48 (*S.D. = 137)*. The sample included 53.4% married participants, 16.5% participants who were single, never married, approximately 15% separated or divorced, and approximately 15% cohabitating. The sample was largely white, non-Hispanic, with 80.6%, with the remaining participants indicating racial backgrounds of Hispanic (5.8%), African-American (4.9%) or Native American (6.8%). Maternal education levels included 19.4% not having completed high school, 61.2% high school graduates, and the remaining participants completing some college or beyond. Paternal education levels included 14.6% without a high school diploma, 47.6% graduated from high school, approximately 16% completing coursework beyond high school, and 21.4% with educational attainment not specified. The mean maternal age was 29.42 years (*S.D. = 6.75)* with an age range of 18-53 years. The mean paternal age was 32.27 years (*S.D. = 7.30)* with an age range of 19-56 years. Age range was affected by two sets of foster parents. Appendix E provides a comparison by group on income, marital status, mother's education level, father's education level, mother's occupational

status, father's occupational status, mother living in the home, father living in the home, number of children under 18 in the home, number of family members over the age of 18 in the home, number of non-family adults in the home, race of the child, gender of the child, and rural or urban residence. Table 4 provides a comparison of the age of the child the parent referred to while completing the Parent Reading Survey, the age range of the child, gender of the child and mean maternal and paternal age and age range.

Table 4. Age Distribution of Children and Parents Among Groups.

| Variable | Group 1 X | range | Group 2 X | range | Group 3 X | range | Group 4 X | range |
|---|---|---|---|---|---|---|---|---|
| Age of Child (in months) | 36 | 21-57 | 42 | 23-73 | 35 | 22-59 | 40 | 23-60 |
| Age of Mother | 29 | 18-41 | 31 | 22-53 | 26 | 18-37 | 29 | 20-39 |
| Age of Father | 33 | 22-47 | 34 | 21-56 | 27 | 19-37 | 31 | 23-46 |

Independent Variables

Level of intervention served as the independent variable, with four levels of participation examined. Level of participation conceptually referred to participation in program sessions and receipt of printed parent information. Operationally, level of participation was defined by the number of interactions with peer educators related to the intervention, and the number of printed parent information sheets received. Those in Group One participated at the highest level of participation consisting of four separate home visits designed to model appropriate parent behaviors in developing literacy skills in young children and printed information in the form of a parent newsletter for reinforcement. Participants in Group Two engaged in the next level of participation, consisting of four home visits designed to model appropriate behaviors in developing literacy

skills in young children, but did not receive printed information. Group Three received only printed information. Group Four served as the control, and did not engage in home visits or receive printed information.

Dependent Variable

The dependent variable, parent behaviors in developing literacy skills in young children, was conceptually defined as parent-led activities such as lap and dialogic reading, activities involving concepts of print, use of environmental print, singing, storytelling and writing (Bennett, Weigel & Martin, 2002; Zeece & Churchill, 2001). Operationally, parent behaviors in developing literacy skills in young children were measured using a modified version of the Stony Brook Family Reading Survey called the Parent Reading Survey (Whitehurst et al, 1994). The Parent Reading Survey enabled parents to self-report behaviors related to providing support for emergent literacy development in young children.

Control Variables

Parent behaviors in developing literacy skills in young children were self-reported and compared from pre-test to post-test using the Parent Reading Survey. Control variables included certain demographic characteristics, including family income, level of parental education and age of child.

Procedures

Participants were invited to participate in the program by their Family Nutrition Program (FNP) or Expanded Food and Nutrition Education Program (EFNEP) paraprofessional. Parents invited to participate spoke English as the primary language in their home, eliminating bias in the sample. The consent

letter served as a letter of introduction outlining the purpose of the study and the participant's role in the study. It was distributed to each family indicating an interest in participation at the first home visit (Appendix F).

Each participant was visited by an instructor in their home at the onset of the study to establish participation in the study. This included signing the consent form, collecting demographic data by completing the Participant Information Form, and the administration of the pre-test Parent Reading Survey to establish baseline behaviors during a home visit session. Additionally, each participant was assigned a family number which was included on the evaluation instruments and demographic information. Family numbers were established to maintain confidentiality and to allow for matching of the pre-test and post-test instruments. Family numbers consisted of the initials of the instructor, the first two letters of the county name and two numbers assigned by the peer educator. Consent forms and any identifying information were retained in a locked file drawer in the county office. All forms sent to the state office for evaluation purposes did not have any identifying information with the exception of the family number, and also remained in a locked cabinet.

Group One (the full intervention) completed four home visits approximately one month apart, for a total of four months. At the conclusion of each visit, they received printed parent information. Group Two participated in four home visits only, also approximately one month apart, for a total of four months. Group Three received printed parent information approximately one month apart, for a total of four months. The printed parent information was delivered either by the

instructor directly to the participant's home, with no additional support or instruction related to literacy development, or was mailed to the participant's home at appropriate intervals. Group Four served as the control, and did not participated in home visits or receive printed parent information.

Home visits were conducted by a trained paraprofessional through Michigan State University Extension. A lesson plan was provided to offer structure to the home visit, as well as consistency to the visits. The paraprofessional read a book with a positive nutrition or physical activity message, while parents listened, watched and participated with their children in the book reading activities. Instructors were trained to demonstrate specific behaviors during each intervention, using the lesson plans created for each book. Reading behaviors modeled by instructors included how to handle a book, pointing to text while reading, asking questions about the book before reading, during reading and after reading, and relating a book to everyday things, among others. Books were chosen based on their appropriateness for a preschool audience, inclusion of positive food, nutrition or physical activity messages, as well as sensitivity to culture and race. Additionally, each of the books provided an opportunity for fostering emergent literacy skills, such as development in vocabulary, comprehension, phonics, phonological awareness and alphabetic principle. Supplemental activities followed each reading demonstration and included a discussion of the book, a reinforcing nutrition activity and a reinforcing literacy activity. Home visits occurred over the course of four months, spaced approximately one month apart, and took place in the participant's home.

The printed parent information was provided in a newsletter format (Appendix B). Each newsletter consisted of a nutrition message, an easy, low-cost recipe for the family to prepare together, parenting information appropriate for parents of preschoolers, and a *Raising a Reader* section that included information on emergent literacy development, as well as ideas for emergent literacy activities the family could enjoy together. Printed information was provided over the course of the study monthly, either delivered to the house by the instructor, or mailed to the home.

At the conclusion of the four month study period, each participant was visited by an instructor to complete the Parent Reading Survey post-test. Additionally, each participant received two children's books in appreciation for their participation. Participants not participating in the full intervention were invited to receive four home visits, printed parent information or both.

Instrumentation

A modified version of the Stony Brook Family Reading Survey (SBFRS) was developed for parents to self-report behaviors and attitudes related to the development of emergent literacy in young children (Appendix H). Similar to the SBFRS, the modified version titled Parent Reading Survey (PRS) was designed to provide data for comparison purposes related to parental beliefs, attitudes and behaviors related to emergent literacy development. While the SBFRS consisted of mostly multiple choice questions and fourteen scaled questions, the Parent Reading Survey was made up of mostly scale questions, and only five multiple choice. The SBFRS also included questions on child's physical capabilities

(such as hearing and speech), expectations of child's grades in school, and perception of parental abilities related to reading and school performance. The SBFRS also included information related to English as the non-primary language, which was not included in the PRS, as all participants enrolled used English as the primary language. The SBFRS included demographic information as well. In this study, demographic questions were recorded on the Participant Information Form, with the remaining questions recorded on the Parent Reading Survey (PRS). The SBFRS was used to construct the PRS by providing guidance related to specific behaviors for comparison based on parental self-report related to two aspects of emergent literacy development.

The Parent Reading Survey was designed to focus on two aspects of emergent literacy development: (1) the home literacy environment (including availability of print materials, shared reading experiences and number of hours of television watched), and (2) parental involvement (including perceived enjoyment of shared reading experiences, dialogic reading, and involvement in literacy activities). Combined, the Participant Information Form and Parent Reading Survey contained thirty five questions, with eight of these questions providing demographic information on the Participant Information Form. The remaining questions on the Parent Reading Survey consisted of twenty two questions on a seven point Likert scale, and five index questions that were multiple-choice. Scale questions asked parents to self-report incidence of engaging in specific literacy behaviors with children ranging in frequency from never to every day. Multiple choice questions including self-reported responses consisting of the age

the child was first read to, the number of minutes read to child the previous day, the number of children's books owned, how often the child asked to be read to and hours of television viewed each day. Each response to questions on the Likert scale was assigned a point value ranging from one to seven. Additional index questions with multiple choice responses were assigned a point value ranging from one to five. When completing the PRS, parents were asked to self-report behaviors by referring to the behaviors engaged in with their youngest child within the age range of two to five. Scores on both question sets were combined to create a total raw score. Evaluation of behavior change was based on the change in pre and post test scores.

Validity and Reliability

Validity and reliability scores were not calculated on the Parent Reading Survey (PRS). However, the Parent Reading Survey was pilot tested prior to administration to participants to ensure content validity. Similar to the Stony Brook Family Reading Survey, the PRS was intended to provide information for comparison purposes related to parental beliefs and attitudes related to emergent literacy development. The authors of the Stony Brook Family Reading Survey view the survey as a "source for the construction of scales and not a scale itself" and reliability calculations were deemed inappropriate (Touliatos, Perlmutter & Straus, 2001, p. 202).

Data Collection

Paraprofessionals providing instruction for the program were responsible for data collection at the local level. Participants were asked to complete the

Participant Information form at the first home visit, as well as the Parent Reading Survey. Family numbers to enable confidentiality were established at the first session as well, and participants were asked to sign a consent form prior to the collection of any information. Participant Information forms and Parent Reading Surveys were sent to the state office for data analysis with only a family number for identification and matching purposes. All forms and information in the state office were also retained in a locked cabinet. After completion of the study, all participants received a small token of appreciation in the form of children's books.

Data Analysis

Descriptive summary statistics related to the demographic variables were first analyzed. First stage analysis consisted of univariate statistics to analyze the characteristics of each variable and describe the sample. Second stage analysis utilized a series of analyses of variance to determine the similarity between groups prior to treatment on demographic characteristics, as well as the literacy variable prior to intervention. Independent samples T-tests were used to compare change in raw score between the intervention groups and the control group. T-tests were chosen because of the smaller sample size. Multivariate analyses of variance were run to compare change in raw score between the four groups participating at different dosages of the intervention. Multivariate analyses of variance were chosen to analyze pairwise comparisons after conducting Levene's Test of Equality of Error Variances, again concluding the groups were roughly equal prior to intervention. Finally, paired-samples T-tests

were used to compare the pre-test score with the post-test score on specific parent behaviors related to emergent literacy development among the three intervention groups. Again, T-tests were chosen because of the small sample size, based on the assumption and appropriate analyses to determine the groups were roughly equal on both demographic variables and the pretest literacy score prior to intervention (Field, 2000). Data analysis utilized a probability of .05 to reject or accept the hypotheses.

Table 5 indicates the research questions and corresponding hypotheses addressed. Additionally, the table summarizes the data utilized for each hypothesis tested, as well as the type of data analysis utilized to either reject or fail to reject the hypotheses.

Table 5. Data Analysis of Hypotheses by Research Questions.

| **Research Question/ Hypothesis** | **Data utilized for analysis** | **Type of analysis used** |
|---|---|---|
| ***Question 1***. Does participation in an intervention group in an experimental literacy program change parent behaviors related to emergent literacy development? | | |
| **Hypothesis 1-A**: Parents participating in the intervention groups will demonstrate greater changes in behavior in developing emergent literacy skills in young children than parents in the control group. | Change in Raw Score | Independent Samples T-tests |

Table 5 (cont'd).

| | | |
|---|---|---|
| ***Question 2:*** What dosage of participation (home visits, printed information or both in combination) is most effective to elicit parent behavior change? | | |
| **Hypothesis 2-A:** Parents participating in greater levels of intervention will indicate greater change in parent behavior than parents participating in lower levels of intervention. (Home visits and printed information compared with home visits only, printed information only or control, home visits only compared with printed information only and control and printed information only compared with control). | Change in score | MANOVA |
| ***Question 3:*** Do specific parent behaviors related to emergent literacy development in young children change at equal levels of significance as a result of participation in an experimental literacy program? | | |
| **Hypothesis 3-A** Parents participating in the intervention groups will demonstrate significant changes in specific behaviors related to emergent literacy development, as measured by the Parent Reading Survey. | Pre-test and Post-test Scores | Paired Samples T-tests |

Limitations

Certain limitations to the study must be addressed. Implied bias may exist, as participants were already part of an educational program designed to improve parenting skills, and self-selected into this project. As previously

discussed, participants were recruited from one of two nutrition education programs, both providing education as well as the improvement of skills related to nutrition. Parents opting to participate may have already been an active stage of change related to parenting skills, and seeking new opportunities to improve other aspects of their parenting behaviors.

Further, participants may have chosen socially acceptable answers which may affect the validity of the results. The relationship between Extension instructor and participant is often one of trust and longevity. However, participants may have provided the answers they anticipated the instructor wanted to see, rather than accurate responses to the questions posed. Socially acceptable answers may have also been provided out of fear of judgment or perceived inadequate parenting ability.

Ensuring reliability of the instructors was also a limitation to the study, although training sessions and monitoring via written and verbal communication took place to potentially alleviate any discrepancies. Additionally, a video not to exceed ten minutes in length was offered for use to model appropriate reading behaviors and reduce bias that may be introduced by multiple instructors, however the video was not requested for use by any instructor. Prior to the start of the study, county level staff that would conduct the interventions were required to attend a training session. The training session included information on data collection procedures, utilization of the curriculum, appropriate behavior modeling and follow-up procedures as part of the curriculum.

Participants in the sample were fairly homogenous. The lack of variance among groups was a limiting factor in analyzing the effect of demographic characteristics on change in parent behaviors related to emergent literacy development. The sample was mainly married, white parents with high school educations or greater. The majority of the sample was employed at least part-time, with two parents in the home and over the age of 25 for both mother and father.

Summary

Participants recruited from Michigan State University Extension Family Nutrition or Expanded Food and Nutrition Education Programs were invited to participate in four distinct levels of a literacy intervention. Utilizing the Parent Reading Survey, parents self-reported behaviors in developing literacy skills in young children was measured before and after participation in the intervention. Four varying levels of interventions took place. The full intervention consisted of four home visits and printed parent information, with modified interventions consisting of four home visits only, or receipt of printed parent information only. Participation in the control group was limited to completion of demographic information and pre and post test forms. Each experimental group provided demographic information and completed a pre and post test. Summary statistics for descriptive purposes, multivariate analyses of variance and T-tests were used to accept or reject the hypotheses. The following chapters will provide information related to data analysis and support of the hypotheses, and discussion related to the research questions and final data.

## CHAPTER FOUR

## RESULTS

This chapter will present a summary of the results. Demographic characteristics of the groups studied will be presented first. Next, results of the second stage analysis consisting of an analysis of variance to determine the similarity between groups prior to treatment will be presented, followed by third stage analysis consisting of multivariate analyses of variance and T-tests to accept or reject the hypotheses. The results of the statistical analysis will be presented in order of the three research questions and the three corresponding hypotheses.

Demographic Characteristics of the Sample

One hundred and twenty seven parents of young children completed the pre-test and first home visit. Data included post-test results for 103 parents. Twenty four parents dropped out of the program, with field staff reporting loss of contact or lack of interest as determined through conversation with 21 of these families. Participants reported a mean age of the child referred to during completion of the Parent Reading Survey of 38.82 months (*S.D. = 11.92*), with 43% of the children referred to male, 55% female and 2% with gender not specified. The mean maternal age was 29.42 years (*S.D. = 6.75*) and mean paternal age of 32.27 years (*S.D. = 7.30*). Participants in the study ranged from households containing only one child to households of up to seven children, with a mean number of children equal to 2.48 (*S.D. = 1.377*). 53.4% of the sample was married, 16.5% single or never married, 5.8% separated (married but not

living together), 9.7% divorced and 14.6% cohabitating or living together. Nineteen percent of mothers had less than a high school diploma, and approximately 15% of fathers had not obtained a high school diploma. Approximately 96% of participants reported the mother lived in the home, and 72% of fathers were living in the home. The sample was largely white (83%). Hispanics (6%), African Americans (5%) and Native Americans (7%) were the only other reported races. Thirty five percent of the sample reported an income of $10,000 per year or less, 23% reported an income of $10,001 to $20,000, 16% reported $20,001 to $30,000 and 15% reported $30,001 to $40,000 per year.

Pre-intervention analysis of group means

An Analysis of Variance was run to determine if the four groups were similar related to self-reported parent literacy behaviors prior to treatment. Table 6 presents the results of the ANOVA demonstrating that pretest scores were not significant between groups.

Table 6. Testing Differences Between Groups at Pretest Using ANOVA.

| Pretest Score | Sum of Squares | DF | F | Significance |
|---|---|---|---|---|
| Between Groups | 646.541 | 3 | .482 | .695 |
| Within Groups | 44251.207 | 99 | | |

Results of Hypotheses

Question One. Does participation in an intervention group in a parent literacy program change parent behaviors related to emergent literacy development?

*Hypothesis #1-A*

Parents participating in the intervention groups will demonstrate greater changes in behavior in developing emergent literacy skills in young children than parents in the control group.

To test Hypothesis 1A that parents participating in the intervention groups would demonstrate greater changes in behavior than parents participating in the control group, an independent samples T-test was used. A T-test was chosen because of the small sample size, after determining the groups were roughly equal on the literacy variable based on the analysis of variance (Field, 2000). Change in raw score was used as the test variable, and participation in the control or intervention groups as the grouping variable. The mean change in score for parents participating in the intervention groups (mean = 5.94, *S.D.* = 10.757) did not differ significantly from that of parents in the control group (mean = 2.55, *S.D.* = 13.476). Using a $p < .05$, the hypothesis was not supported (Table 7).

Table 7. Change in Score by Participation Using T-tests.

| Group | N | Mean | Std. Dev | Std. Error Of Mean | Sig. (2-tailed) |
|---|---|---|---|---|---|
| Intervention | 81 | 5.94 | 10.757 | 1.195 | .285 |
| Control | 22 | 2.55 | 13.476 | 2.873 | |

Effect size was calculated to estimate the effect of the intervention between the intervention and control group. Effect size was equal to .30, with confidence intervals of -.18 to .77.

Question Two. What dosage of program participation (home visits, printed information or both in combination) is most effective to elicit parent behavior change?

*Hypothesis #2-A*

Parents participating in greater levels of intervention will indicate greater change in parent behavior than parents participating in lower levels of intervention.

Using a multivariate analysis of variance (MANOVA), a $p<.05$ was used to reject or accept hypotheses. MANOVA was chosen to analyze change in raw

score among the four models of intervention to examine the interactions between them (Field, 2000). Levene's Test of Equality of Error Variances was run prior to MANOVA to determine if the group variances were roughly equal related to the dependent variable. Levene's test yielded a significance of .055, indicating group variances were roughly equal, signifying MANOVA was an appropriate analysis (Field, 2000). Each variable group was compared with the other groups as outlined in each hypothesis above. Group 1 was compared with Groups 2, 3 and 4, Group 2 was compared with Groups 3 and 4, and Group 3 was compared with Group 4. Tests of between-subjects effects utilizing the change in raw score as the dependent variable yielded a significance of .340 (F = 1.132). Table 8 presents the summary of pairwise comparisons. The hypothesis was not supported.

Table 8. Significance of Mode of Intervention on Parent Behavior Change.

| Group Des. | Group Des. | Mean Diff. | Standard Error | Significance |
|---|---|---|---|---|
| 1 | 2 | -1.033 | 2.715 | .999 |
| 1 | 3 | -3.564 | 3.365 | .874 |
| 1 | 4 | 2.966 | 2.951 | .899 |
| 2 | 3 | -2.531 | 3.496 | .978 |
| 2 | 4 | 4.000 | 3.098 | .737 |
| 3 | 4 | 6.531 | 3.692 | .394 |

Effect size was calculated to estimate the differences between two groups, or the effect of the intervention in terms of in terms of the standard deviation (McCartney & Rosenthal, 2000). Table 9 presents the effect size and confidence intervals for each of the pairwise comparisons.

Table 9. Summary of Effect Size Between Groups.

| Group Des. | Group Des. | Effect Size | Confidence Interval | |
|---|---|---|---|---|
| | | | Lower | Upper |
| 1 | 2 | .09 | -6.75 | 4.63 |
| 1 | 3 | .33 | -7.48 | 2.30 |
| 1 | 4 | .23 | -3.10 | 8.16 |
| 2 | 3 | .12 | -9.68 | 6.62 |
| 2 | 4 | .25 | -4.46 | 11.64 |
| 3 | 4 | .45 | -2.64 | 12.88 |

Effect sizes between -.015 and .15 are considered negligible, between .15 and .40 small, between .4 and. 75 medium, and between .75 and 1.10 large (Cohen, 1992).

Question Three. Do specific parent behaviors related to emergent literacy development in young children change at equal levels of significance as a result of participation in a parent literacy program?

*Hypothesis #3-A*

Parents participating in the intervention groups will demonstrate significant changes in behavior related to emergent literacy development, as measured by the Parent Reading Survey.

The hypothesis for Question Three contends that specific parent behaviors related to emergent literacy development would change after participation in the parent education program *Pyramids Between the Pages for the Young Child*. To determine if specific parent behaviors measured by the Parent Reading Survey changed, paired samples T-tests were conducted on the pre-test and post-test variables for participants in the three intervention groups (Table 10).

Table 10. Summary of Paired T-tests Comparing Test Items from the Parent Reading Survey.

| Test Item | Mean | Std. Dev. | Std. Error Mean | Sig. (2 tailed) |
|---|---|---|---|---|
| Reads to child | -.210 | .627 | .070 | .003** |
| Enjoys reading to child | -.210 | .770 | .086 | .016* |
| Shows how to handle book | -.432 | 1.541 | .171 | .014* |
| Relates book to everyday | -.605 | 1.262 | .140 | .000*** |
| Talk about a book | -.519 | 1.314 | .146 | .000*** |
| Teach ABC's reading | .049 | 1.359 | .151 | .745 |
| Sing songs w/ child | -.111 | 1.194 | .133 | .405 |
| Teach colors reading | -.210 | 1.421 | .158 | .187 |
| Play rhyming games | -.160 | 1.167 | .130 | .219 |
| Nursery Rhymes | -.259 | 1.127 | .125 | .042* |
| Plays word games | -.296 | 1.545 | .172 | .088 |
| Writing materials avail. | -.160 | .798 | .089 | .074 |
| Storytelling | -.531 | 1.558 | .173 | .003** |
| Child "reads" | -.346 | 1.216 | .135 | .012* |
| Teaches shapes reading | -.457 | 1.245 | .138 | .001*** |
| Listens to child talking | -.160 | .622 | .069 | .023* |
| Visits library/bookstore | -.753 | 1.640 | .182 | .000*** |
| Teaches new words | -.062 | .992 | .110 | .577 |
| Points to words in book | .000 | 1.037 | .115 | 1.000 |
| Answers questions | -.062 | 1.278 | .142 | .665 |
| Sit close reading | -.062 | .659 | .073 | .401 |
| Read over and over | -.160 | .858 | .095 | .096 |
| Age of child 1st reading | -.049 | .723 | .080 | .540 |
| Minutes per day reading | -.543 | 3.705 | .412 | .191 |
| Number of books owned | .000 | .689 | .077 | 1.000 |
| Childs asks to be read to | -.146 | .976 | .108 | .176 |
| Hours of TV daily | -.099 | .735 | .082 | .230 |
| PRS score (pre/post) | -5.815 | 11.031 | 1.226 | .000*** |

*statistically significant at the .05 level
**statistically significant at the .005 level
***statistically significant at the .0005 level

Several behaviors were noted to increase for the entire sample, including reading to a child, enjoying reading to a child, showing a child how to handle a book, relating a book to everyday things, talking about a book, singing or saying nursery rhymes, having writing materials available, storytelling, allowing the child to "read" to the parent, teaching shapes through reading, parent listens to the

child, and visiting a library or bookstore. Paired T-tests resulted in a significance of .000 on comparison of Parent Reading Survey pre-test and post-test scores.

Summary

In this section, the results of the statistical analysis were presented according to each question. The results are summarized for each question by hypothesis in Table 11.

Table 11. Summary of Hypotheses by Question.

| Hypothesis | Supported/Not Supported |
|---|---|
| **Question 1**<br>Does participation in an intervention group in a parent literacy program change parent behaviors related to emergent literacy development? | |
| *Hypothesis #1-A*<br>Parents participating in the intervention groups will demonstrate greater changes in behavior in developing emergent literacy skills in young children than parents in the control group. | Not Supported |
| **Question 2**<br>What dosage of program participation (home visits, printed information or both in combination) is most effective to elicit parent behavior change? | |
| *Hypothesis #2-A*<br>Parents participating in greater levels of intervention will indicate greater change in parent behavior than parents participating in lower levels of intervention. | Not Supported |
| **Question 3**<br>Do specific parent behaviors related to emergent literacy development in young children change at equal levels of significance as a result of participation in the intervention groups of a parent literacy program? | |

Table 11 (cont'd).

| | |
|---|---|
| *Hypothesis #3-A*<br>Parents participating in the intervention groups will demonstrate significant changes in specific behaviors related to emergent literacy development as measured by the Parent Reading Survey. | Supported |

The research questions examined the impact of participation and participation at various levels on the parent behaviors related to emergent literacy development in young children. Specifically, the study examined whether parent behaviors changed at all when comparing intervention groups with the control group, and what levels of intervention elicited the greatest amount of change. Further, the study examined if changes in specific parent behaviors resulted from participation in a parent education program. From the analysis, significant change was not noted between those participating in the intervention and those in the control groups, nor was significant change noted among the various types of intervention. However, specific behaviors changed from the administration of the Parent Reading Survey pre-test to the post-test among participants in the intervention groups, including the overall score of the Parent Reading Survey. The next chapter discusses the results, as well as implications for future practice and research.

# CHAPTER FIVE

# DISCUSSION

The purpose of this study was to assess the effect of different levels of participation on parent behaviors in developing emergent literacy skills in young children.

Three research questions guided the study, with three corresponding hypotheses tested to determine the effectiveness of a parent curriculum in developing emergent literacy skills. In this chapter, the results of the statistical analysis will be discussed as they relate to each question and its corresponding hypotheses. Observations from the researcher, including anecdotal support of the study, implications for field use and implications for future research will also be addressed.

## Summary of the Findings

### Question One

**Does participation in an intervention group in a parent literacy program change parent behaviors related to emergent literacy development?**

Hypothesis for Question One:

**1-A: Parents participating in the intervention groups will demonstrate greater changes in behavior in developing emergent literacy skills in young children than parents in the control group.**

The hypothesis was not supported by the data, which could be due to a number of factors. Sample size could be a contributing factor. The sample may not be large enough to observe statistically significant changes in behaviors on the Parent Reading Survey. The design of the study included three levels of intervention and a control group. While the overall sample is small, additionally,

the control group may not be large enough to compare change in scores with the combination of the three levels of intervention.

Effect size was calculated to estimate the effect of the intervention between the intervention and control group. Cohen (1992) indicates effect sizes between .15 and .40 small, and the effect size estimating the differences between the two groups was .30, and this is what could be expected. This could be interpreted that the average change in score of participants in the intervention groups was greater than the scores of 30% of the control group (Thallheimer & Cook, 2002). While T-tests did not demonstrate statistical significance between the intervention and control groups, effect size indicates the intervention groups had greater changes in score than the control group.

Secondly, the use of Social Cognitive Theory may not be an appropriate framework for emergent literacy development. The theory maintains that people can increase knowledge and in turn change behavior merely by observation. It is possible that more direct instruction may be necessary to elicit behavior change, particularly when working with limited income families. Often these families are faced with a variety of issues, such as food security, maintaining housing and family medical or child care issues, reducing the immediate priority of emergent literacy development. The idea that observation will elicit behavior may simply not be appropriate for this population. Further, more intensive training for the instructors related to Social Cognitive Theory may have changed the results. For this study, the principle that behavior would change as a result of observing behavior was utilized. Perhaps direct education about the theory and the

importance of modeling appropriate behaviors to change behavior could have provided different results. More importantly, instructors may have benefited from more information, as well as repeated reinforcement of the concepts of Social Cognitive Theory.

The length of time of the study may have also affected the results. This study took place over a period of four months, with four interventions occurring approximately one month apart. Participants may require more intensive intervention over a longer period of time. While programs with short durations have demonstrated positive results (Gregory & Morrison, 1998), studies providing increased frequency of visits and duration of the program have also proven effective (Cronan et al, 1996). Social Cognitive Theory maintains that behavior change takes place over time in response to a stimulus. In this case, the stimulus of modeled behaviors may have needed to be repeated more frequently and over a longer period of time to demonstrate statistically significant changes in behavior.

Another explanation for the lack of support for the hypothesis may be the use of socially acceptable answers. Although participants had a relationship with the instructor, fear of providing answers to questions that might appear unsatisfactory to the instructor may have prompted inaccurate results. Participants were already participating in a parent education program designed to improve parenting skills related to nutrition. Rather than demonstrate a lack of ability in overall parenting, they may have provided the answers they thought instructors wanted to see to avoid being considered an inferior parent, or to prove

that they were "doing something right." This could be addressed in future studies in a variety of ways. For parents already participating in programming with an instructor, the issue may be addressed through careful counseling related to the confidentiality of answers and assurance that instructors are not personally reviewing responses. For participants not familiar with Extension programming methodology, allowing participants to use pre-paid, addressed envelopes to mail responses to the state office directly may decrease the provision of socially acceptable answers. All participants, regardless of the relationship with the instructor, may require additional assurances that their answers are confidential and are not reviewed by program staff or directly associate with them.

Question Two

What dosage of program participation (home visits, printed information or both in combination) is most effective to elicit parent behavior change?

Hypotheses for Question Two:

2-A: Parents participating in greater levels of intervention will indicate greater change in behavior than parents participating in lower levels of intervention.

The hypothesis for Question Two was not supported. Again, several factors may account for the results. Attrition may be responsible for lack of support of the hypotheses. The sample size was originally intended to consist of 240 participants. County staff reported difficulty in recruiting participants (largely due to income restrictions). Additionally, two other studies related to emergent literacy development were taking place within Extension programming, utilizing the same pool of participants. One hundred and twenty seven participants were recruited, but nearly 19% eventually dropped out. Lack of interest and change in

residence were cited most often by participants as reasons for discontinuing the program. Despite efforts to recruit a larger sample population, the number of participants in each group may not have been large enough to show statistically significant changes in scores. Additionally, distribution among groups may have affected the analysis. Although an analysis of variance was conducted and determined if four groups were similar related to parent literacy behaviors prior to treatment, a larger sample size may have shown different results related to the hypotheses.

Upon examination of effect size, however, small to medium effects were noted when comparing different groups. Small effect sizes were noted between Groups One and Three (.33), Groups One and Four (.23) and Groups Two and Four (.25). Medium effect size (.45) was noted between Groups Three and Four. This demonstrates that despite lack of support for the hypothesis, changes did occur based on the varying levels of intervention. However, the total sample size may not have been large enough to detect statistically significant results.

Instructors also expressed concern with the amount of time between lessons (one month) and total time to complete the study (four months). The amount of time necessary to complete the study was reported as a barrier in recruiting participants, many of whom were accustomed to weekly visits. The study took place during summer months as well, which also contributed to the difficulty in recruiting participants as well as retaining participants throughout the course of the study.

As discussed with Question One, Social Cognitive Theory may not have been appropriate. The theory maintains that self-efficacy is a key variable in eliciting behavior change (Bandura, 1977). For the purpose of this study, parents would have to believe that they could foster emergent literacy skills, but in fact they may not know what constitutes those skills. Often participants in the full intervention group (home visits and printed parent information) told instructors that they didn't know singing or playing word games would help their child learn to read. Additionally, despite the modeling of appropriate behaviors for developing emergent literacy, participants may not have picked up on the cues for behavior. Instructors were trained to model behaviors such as how to hold a book, pointing to text while reading, asking questions about the book and relating the book to everyday things, among others. It is possible that these behaviors would require consistent modeling with each visit, as well as several times within the visit to provide an adequate stimulus to elicit behavior change. Further, parents may have needed more direct instruction to identify what behaviors would assist in emergent literacy development, as well as the value of engaging in those behaviors. This is consistent with the third principle of Social Cognitive Theory, suggesting that an increase in knowledge base produces a subsequent change in behaviors. In terms of the underlying principle of the role of self-efficacy, parents would have to believe that they could in fact, affect their child's development, but would also have to know what behaviors would be required to do so. It is however, important to note that Social Cognitive Theory also maintains that learning can occur without a marked change in behavior (Bandura,

1977). Despite a lack of statistical significance, change may have in fact occurred among the parents participating in the intervention groups.

Additionally, the reliability of the instructors, despite training and weekly follow up related to appropriate delivery, could have affected the results. Instructors modeling behaviors were trained to model behaviors without overemphasis or direct instruction related to the behaviors. Because of the variability in caseload, as well as background knowledge related to the study, it is possible that the reliability of instructors was compromised. Although a video for each session was offered, instructors turned down its use. Instructors felt the one-on-one interaction between instructor and client would be compromised with the use of the video, although it would have increased the reliability of the instruction received by the participant. Extension is noted for the relationships built between instructors and participants. Generally over time, participants develop a sense of trust with their instructor, and are familiar with the peer educator model typically used in interventions. Instructors felt that the use of a video would contradict this model, and cause participants to "shut down" or not pay attention during the visits. Additional considerations with using a video included participants identifying with the subject in the video and whether the person modeling the behaviors would be similar to the participants in terms of demographics. Equipment considerations were also a limiting factor. Funding prohibited the purchase of tv/vcr combinations for each of the eight counties, and availability of equipment within the homes was questionable.

Question Three

Do specific parent behaviors related to emergent literacy development in young children change at equal levels of significance as a result of participation in a parent literacy program?

Hypothesis for Question Three:

3-A: Parents participating in the intervention groups will demonstrate significant changes in specific behaviors related to emergent literacy development, as measured by the Parent Reading Survey.

Several behaviors were noted to increase at varying levels of significance for the entire sample, including reading to a child, enjoying reading to a child, showing a child how to handle a book, relating a book to everyday things, talking about a book, singing or saying nursery rhymes, having writing materials available, storytelling, allowing the child to "read" to the parent, teaching shapes through reading, parent listens to the child, and visiting a library or bookstore. Paired T-tests resulted in a significance of .000 on comparison of Parent Reading Survey pre-test and post-test scores. These results are significant, despite the lack of support for the first two hypotheses. Although *overall* parent behavior changes were not statistically significant, a number of individual, self-reported behaviors were. This suggests that this particular parent literacy program was effective in stimulating specific behavior changes in emergent literacy development, as reported by participants.

Many of the variables noted to change, including talking about a book, storytelling, allowing the child to read and listening to the child talking are notable in shaping a child's development of emergent literacy skills, particularly as they focus on dialogic reading (Korat, 2001; Storch & Whitehurst, 2001). Several

studies have noted the importance of talk during book reading, as well as the use of conversation to increase vocabulary and the long term effects on a child's literacy development (Bennett, Weigel & Martin, 2002: Britto & Brooks-Gunn, 2001; Bus, VanIJzendoorn & Pelligrini, 1995, Hart & Risley, 1995). The use of dialogic reading promotes vocabulary development, as well as critical thinking skills and the development of comprehension skills that are vital to a child's later school success. These small changes also demonstrate that Social Cognitive Theory may have been effective in stimulating change in parent behaviors as well.

Additionally, the amount of non-book literacy activities showed significant change, including the availability of writing materials, storytelling and visits to the library or bookstore. These results corroborate Berger's (1998) research asserting that effective programming can provide families with different mechanisms to provide literacy rich environments among limited income families. Further, these changes were noted in a relatively short period of time (four months), providing further evidence that brief interventions can promote change in home literacy practices as well (Hockenberger, Goldstein & Hass, 1999).

Researcher Observations

Significant changes in behavior were noted from pre-test to post-test for the intervention groups. Additionally, individual test items indicated changes from pretest to posttest that were significant as well. These results suggest that despite the lack of support for the other hypotheses tested, positive changes in behavior related to emergent literacy development occurred. Social Cognitive

Theory has been questioned as an appropriate theory for this intervention with the lack of support for the first two hypotheses. However, effect size calculations as well as the statistically significant changes in 11 of 27 specific behaviors self-reported by parents, demonstrate that Social Cognitive Theory may in fact be appropriate. Anecdotal evidence demonstrated changes in self-efficacy related to behavior change, as well as changes in knowledge base. Additionally, the theory postulates that behavior change is a subtle process taking place over time. Results of the significance of the intervention may not be noticeable until well after the completion of the study.

It may also be possible that behavior change occurred due to the instrument used to assess behavior change. Participants may have learned new ideas for developing emergent literacy skills by completing the pre-test, and increased their participation in these activities throughout the period of the study. This could account for the increase in score from pre-test to post-test among all groups, including the control. Pre-test sensitization is a threat to the integrity of any study, and certainly could be considered a detriment to validity in this study.

It is also important to note that the mean age of the child referred to while completing the Parent Reading Survey was 38.82 months. The study did not obtain information related to participation in preschool or other early childhood education programs, or if additional information related to emergent literacy development was obtained from an outside source. It is possible that parents were receiving support or information through early childhood education settings, which in turn affected the results.

Despite attempts to recruit participants with diverse ethnic backgrounds, the sample consisted of nearly 81% white, non-Hispanic parents. This challenge may be attributed to working within the Extension system to recruit participants and deliver programming. Extension programming, particularly in Michigan, has experienced challenges in the recruitment of diverse populations. Also notable is the location of counties that agreed to participant. While several of the counties may have diverse populations (Jackson and Saginaw), recruitment of participants of non-white backgrounds was reported as "difficult". Historically in Michigan, programming has focused on the outlying suburbs and townships of cities with diverse populations, narrowing the participant profile considerably. Additionally, counties with increased diverse populations declined to participate, reducing the pool of participants with diverse ethnic backgrounds.

It should be noted that any positive changes in behavior on the part of the parent directly impacts the development of the child. Small, individual behavior changes on the part of the parent can produce substantial improvement in reading abilities in the child (Bus, Vanljzendoorn & Pelligrini, 1995; Johnson, Walker & Rodriguez, 1996; Ponzetti & Dulin, 1998). However, the behaviors reported in the study were based on the participant's self-reports rather than observed behaviors. One of the challenges of self-reported assessment is the validity of the responses from the participants. This aspect was challenged upon review of the Parent Reading Survey, with some participants indicating responses that seemed unlikely, such as visiting a library or bookstore "everyday". It would be impossible to determine if the entire Parent Reading

Survey was completed merely for the sake of completion, or if participants were carefully reading the questions. The literacy levels of the participants may also be called in to question. While attempts at content validity were made to ensure the instrument would be easily understood by participants, application still provided a challenge for some of the participants. While a larger sample size may have offset some of these outlier responses, the incidence of questionable responses may still exist.

Regression analysis would have been a natural follow up for the T-tests conducted to analyze data to determine which variables predicted parent behaviors. However, due to the small sample size and lack of variance among the demographic variables, as well as the exploratory nature of the study, regression analysis was not conducted.

Field staff included anecdotal evidence of behavior change upon submission of final data. Despite the lack of statistical evidence to support the hypotheses in the first two questions, field staff noted behavior changes in parents during home visits as evidenced in the results of the third hypothesis. Field staff also reported parents' self reports of increased reading with children, increased participation in non-reading literacy activities (such as singing, playing word games, and allowing a child to "read" to the parent). Parents were noted to comment "I didn't know this would help him later on" and "He really enjoyed going to the library to pick out new books."

Additionally, field staff provided anecdotal information six months after the conclusion of the study indicating that continued literacy development support

was taking place. Instructors continued home visits with many of the participants, as well as provided the full intervention to those who received only home visits, printed information or served as the control. Instructors reported providing support by making recommendations for appropriate children's books, ideas for hands-on literacy activities to enjoy with children and opportunities to obtain books free of charge through local school districts or by obtaining a library card. As a result of participation in the study, instructors also requested increased training and materials related to emergent literacy development, and four regional trainings will be conducted in the summer of 2005.

Implications for Field Use

This section includes several suggestions for practical use with families related to emergent literacy development. These suggestions were developed based on the discussion of the data, as well as observations during the study.

1. Parental knowledge base related to emergent literacy development should be assessed prior to the onset of interaction. Rather than a broad-based curriculum approach, an individual approach would be more effective when conducting home visits with families. Often parents are unsure of what skills comprise emergent literacy development, and effective education interventions should provide easily understood and applicable information related to developmentally appropriate practices. Similarly, group sessions should also assess participants to accurately and efficiently provide appropriate information for the audience. Increasing a parent's knowledge base is consistent with Social Cognitive Theory, and

may also increase a parent's self-efficacy in providing support for emergent literacy development.

2. Educating parents related to emergent literacy development must be deliberate and intentional. Observing a "watch and do" approach may not be conducive to the variety of learning styles field staff may encounter. Particularly with audiences with lower levels of education, direct instruction (including developmentally appropriate practices) with opportunity for questions and follow-up is necessary. Increasingly, parents need to understand developmental milestones connected with emergent literacy development, and practical applications and activities to enhance skill development in young children. Using all aspects of Social Cognitive Theory, including providing participants with a knowledge base, the modeling of appropriate behaviors and fostering self-efficacy can be a vital part of deliberate and intentional education for parents to support emergent literacy development.
3. Parents must value the instruction related to emergent literacy development in order to make changes in their behaviors. Developmentally appropriate information must be presented, and a parent's unique situation considered during individual instruction. Instructors cannot assume, in group or individual settings, that a parent values literacy development in the same manner as the instructor, or even the other participants. Similarly, instructors must value what they are

teaching parents, and possess an enthusiasm for assisting parents in changing behaviors.

4. Television viewing did not change based on participant response as a result of participation in the intervention groups. Parents reported children watching an average of one to three hours of TV daily, directly competing with literacy activities that may take place within the home. Sixteen percent of participants indicated their children were watching three or more hours of television daily in the post-test. Emergent literacy instruction should include ways to decrease TV viewing time, or at least work within the current lifestyle of the family. Appropriate literacy support includes addressing those activities that directly compete with opportunity for literacy development within the family, and the provision of ideas and opportunities for families to engage in fun and meaningful literacy activities with demonstrated impacts on children's literacy development.
5. An ecological approach is paramount to changing parent behaviors related to emergent literacy development. Without support from a broad network, parents may easily slip into familiar habits that do not include literacy activities. Encouraging and educating families of the myriad of activities that comprise emergent literacy development is critical. This includes support not only within the family, but also from early childhood education settings, school districts, faith-based organizations, public libraries, print and television media, as well as policy makers.

6. Working within an Extension framework posed numerous challenges. County Extension directors and Extension Educators were initially approached to participate in the study to gain support at an administrative level. While many supervising staff were committed to the project, paraprofessionals actually completing the home visits or delivery of printed parent information were not always equally enthusiastic. Several county staff recruited participants and worked diligently within protocol guidelines, while other staff expressed difficulty in recruitment. For these staff, many of their families did not complete the study. All staff participating received an additional set of children's books to use in programming, as well as additional resources for literacy development when working with families, including literacy tool kits and educational brochures to provide to families. Despite these incentives, county staff may not have been motivated enough to fully participate to the degree expected. Future efforts should include more intense efforts at supervision, recruitment of field staff at both the administrative and field levels, as well as increased training related to the theory, recruitment of participants, content and methodology of the study.
7. The delivery mechanism of the study may also be benefit from a change. While home visits are optimal for family participation, group visits may have provided a different dynamic with different statistical results. Social Cognitive Theory may be more appropriate with group sessions, as group members may note the modeling of a particular behavior to other group

members. Similarly, the opportunity to see how other participants interact with the instructor and the materials may provide a better framework with Social Cognitive Theory. This study relied heavily on the principle of Social Cognitive Theory that parent behaviors would change with the modeling of appropriate behaviors by an instructor. Placing equal emphasis on all four principles of Social Cognitive Theory, as well as providing further training about the theory and the four underlying principles would be beneficial for field staff and participants alike.

Implications for Future Research

This section includes suggestions for future research concerning parent behavior change related to emergent literacy development. These suggestions were developed based on the discussion of the data, as well as observations during the study.

1. A review of the literature revealed very few similar studies examining changes in parent behaviors related to emergent literacy development utilizing a dosage approach. Additional studies focused on parental actions can yield further insight related to effective methods to foster emergent literacy development in young children. Additional studies including differing levels of intervention can also serve to identify cost-effective mechanisms for delivering emergent literacy development support to families. This could also further determine best practices for literacy support among families with young children.

2. Because of the small sample size, replication of this research project with a larger sample size may produce different results. A larger sample size would increase the heterogeneity of the sample as well, possibly demonstrating differences in demographic characteristics not noted in this study. Similarly, regression analysis to further determine the demographic variables that predict parent behaviors could be analyzed. This would further contribute to the body of knowledge related to parent behavior change in developing emergent literacy skills.
3. Replication of the study utilizing groups rather than home visits may also produce different results. Social Cognitive Theory may be more effective in groups, with opportunity for discussion related to the individual items tested in the Parent Reading Survey. Group sessions provide different dynamics and interactions than home visits with a single family. The different dynamics may enable greater levels of change as participants interact with one another and share ideas for activities and resources related to literacy development. This may also provide an increased opportunity to utilize all four aspects of Social Cognitive Development, including the modeling of behaviors, providing a knowledge base to participants, increasing self-efficacy and understanding that behavior changes may be too subtle to observe initially.
4. This study took place over a four month period. It would be interesting to examine changes in parental behavior over a longer time period. Changes in parent behavior may show statistical significance given a

longer period of intervention. Additionally, examining if specific behavior changes were sustained over time could provide further insight into successful approaches to literacy interventions. The number or frequency of visits may also provide opportunity for changes in significant behavior.

5. The average age of the child referred to in the evaluation instrument was over three years old. As discussed, parents may have already been engaging in the activities measured. Similarly, children may have been enrolled in an early educational opportunity that also provided information to families. Behavior changes may have not been significant because of external variables already providing a background in emergent literacy development to families. Research that compares self-reported behavior change among parents with children enrolled in early childhood education programs with parents with children not enrolled could provide valuable information related to the value of an ecological approach to support families.
6. Most parents indicated reading to their child shortly after the birth of the child. Conducting the study with parents of children from birth to age three would provide valuable information related to the onset of literacy development instruction, as well as appropriate practices to work with families of younger children. Many early childhood education programs do not enroll children until they have reached their third birthday, creating a missed opportunity for literacy skill development within families in the first three years of a child's life.

7. The study used Michigan State University Extension program associates to disseminate the information. In many communities program associates are viewed as colleagues of the participants, but an authority figure issue may still exist for some parents. Delivery of the curriculum by parents trained in the curriculum might be useful to examine effective delivery mechanisms. Additionally, the challenges previously posed related to working with the Extension system are applicable here as well. Commitment to the project at all levels, including the field and administrative level, is critical to program success. More importantly, participants lose the value of the instruction and the intervention when an instructor is not fully committed to the project, or does not have full support from their supervisor. Enhanced recruitment and supervision of instructors, intensive training related to the theory, as well as focus groups, technical assistance and assistance and training on recruiting participants could provide valuable changes to enhance the intervention.
8. Maintaining a stronger ecological perspective for families could prove valuable as well. Reinforcement of the messages provided in the curriculum through other avenues such as early childhood education centers, public service announcements, physician offices, restaurants, grocery stores and other public places could elicit greater changes in behavior.

## Summary

This research effort has indicated that different levels of participation had no effect on self-reported parent behaviors in developing literacy skills in young children. Despite this, changes reported on individual test items in paired T-tests showed change in several individual parent behaviors that were significant.

A strong ecological approach that observes the various needs of an individual family is critical for success in emergent literacy development instruction. Similarly, families need a broad support system that encourages and offers resources for sustained changes over time. To effectively support emergent literacy development in families, strong support from trained instructors, educational institutions, faith-based organizations and other community entities, as well as policy makers is necessary.

Small changes in parent behavior can prove to be extremely important in the development of emergent literacy development. Use of the curriculum utilized during the study may not have demonstrated statistically significant changes in parent behaviors based on overall participation and the different modes of intervention, but changes in specific, individual behaviors were found to be statistically significant. Based on the results of this study, it is evident that further research is necessary to determine best practices for eliciting parent behavior change related to emergent literacy development.

# APPENDIX A

# LESSON PLANS

# Pyramids between the Pages for the Young Child

# Feast for 10

## by Cathryn Falwell

**about the book**

***Beautiful illustrations depict an African American family working together as they shop for, prepare and eat a nutritious family meal. The realistic, brightly colored illustrations and brief text lead children on a counting journey as they count from 1 to 10 twice–first, as the family shops, and second, as they prepare the foods they bought for dinner.***

### NUTRITION AND HEALTH OBJECTIVES

***Children will...***

- Identify where food comes from—e.g., grocery store, farmers' market, farm, garden.
- State at least one way they can help with family mealtime.
- Try a new vegetable (time permitting).

### BUILDING BLOCKS FOR READING

- **Phonological Awareness:** Children identify words from the book that rhyme, such as beans and greens, look and cook, etc.
- **Comprehension:** Children practice remembering and communicating what was read; children retell the story.
- **Vocabulary:** Children use counting words.

### SCHOOL READINESS INDICATORS

- **Social and Emotional Development:** Children will take turns and cooperate when discussing the book and participating in the activities.
- **Language Development:** Children will develop emergent literacy skills by learning rhyming words and developing print awareness.
- **Cognition and General Knowledge:** Children will use number concepts through counting.

**it's a fact**

**Even young children can help with family mealtime.**

**Young children can:**

- ***Scoop things out with a spoon.***
- ***Spread foods such as butter with a dull knife or the back of a spoon.***
- ***Mix ingredients with a large spoon or spatula.***
- ***Help set the table.***
- ***Help clear the table.***

**GET THE WIGGLES OUT**

**Practice counting skills by asking children to count along with you as they do 10 toe touches, 10 arm circles, 10 claps, etc.**

## BEFORE READING

**Tell the children: "Today we will be reading the book *Feast for 10* by Cathryn Falwell."**

1. Hold up the book and ask the children which side is the front and which side is the back of the book.
2. Read the title of the book and identify the author/illustrator. Explain that the author wrote the story, and the illustrator drew the pictures. Invite the children to look at the pictures on the front and back of the book. Ask them:
   - *What do you think this book is going to be about?*
   - *Does anyone see a number on the page? Where is it? Do you know what number that is?*
   - *How many people do you see on the front cover? How many kids? How many grown-ups?*
   - *What is the baby doing? Have you ever sat in a grocery cart? What did you do?*
   - *Where does the food you eat come from?*
   - *When you eat a meal or snacks, who eats with you?*

## READING THE BOOK

1. Read the book out loud, taking time to make sure every child sees the illustrations on the pages.
2. While you are reading, point to the number on each page. Ask: "Does anyone know where the numbers —1, 2, 3, etc —is?"
3. Show the children how the words at the end of the sentences rhyme. Older children will be able to "fill in the blanks" and guess what the rhyming word at the end of the sentence is before you say it.
4. Point out all the foods in the story and ask children to raise their hands if they've ever tasted chicken, dill pickles, beans, greens and pumpkin pie. Talk about how it's important to try new foods.

## AFTER READING

1. Talk about how the family in the book had to work together to shop for and make a meal. Ask the children: "How did the people in the story help out with mealtime? Do you help make meals at your house? What do you do?"

# Activity #1 - It's a Match!

**Children practice phonemic awareness by identifying cards with words that rhyme.**

❶ The object of this game is to find the matching food/picture cards. Cards that rhyme, such as the potatoes and tomatoes, are a match.

❷ Before you play the game, go through the food/picture cards and identify them by name, out loud, so the children can hear you say the word. Ask the children to repeat the word after you say it.

❸ After you have gone all the way though the cards, mix them up again, and gather them in a stack.

❹ Hold up the first food/picture card and ask the children to say aloud together what the food/picture on the card is, such as "beans." Post the card on the board where children can see it.

❺ Now, go slowly through the remaining cards, one by one, showing them to the children and saying the words out loud. (Children are looking for the food/picture card that rhymes.) Tell the children: "When you think we've come to a card that rhymes [e.g. "greens"], stand up." Post the matching cards next to each other on the corkboard.

❻ Take another card from the top of the stack and repeat steps 4 and 5, going through the stack until you find a match. When all the cards are matched and posted on the board, the game is finished.

### supplies

- Cork bulletin board (16 by 20 inches), feltboard or sturdy cardboard display
- Velcro or double-sided tape
- Picture cards, copied, colored and cut apart (see page 30)

# Activity #2 -A Feast for 10 Tasting Party

**Children have fun looking at and tasting foods from the book *Feast for 10*.**

## supplies

- Bite-sized samples of tomatoes, carrot, greens, beans or other vegetables labeled and in separate containers
- An example of each vegetable whole
- Small paper plates
- Small forks for tasting
- Napkins

1. Ask all children to wash their hands while you sing the ABC song together (or at least 20 seconds) with warm water and soap.
2. Show the children the types of vegetables they will be tasting, and what they look like when they are whole. Explain where vegetables come from: farm, store, farmers' market, garden.
3. Ask children to identify by sight how the vegetables are alike and different (e.g., size, color, texture, etc.)
4. Give each child a paper plate, one piece of each of the different kinds of vegetables to taste, and a fork or spoon.
5. Invite the children to taste the vegetables and to describe what they taste like.

**When children are done tasting, ask these questions:**

1. *Tell me about the vegetables you tried.*
2. *Why did you like about [vegetable name]?*
3. *Why didn't you like about [vegetable name]?*
4. *Have you seen this vegetable in the grocery store or farmers' market? Have you ever had this vegetable to eat at home?*

## CLOSURE AND TAKE-HOME MESSAGE:

1. Remind children that we buy food to eat at a grocery store or farmers' market. Talk about how you can also grow your own food in a garden or on a farm.
2. Send home with parents or caregivers the handouts **Dear Parents** and **Raising a Reader** that go with this lesson.

## MORE GREAT BOOKS ABOUT FAMILY MEALTIME

- ***Too Many Tamales*** by Gary Soto
- ***Dim Sum for Everyone*** by Grace Lin
- ***Magda's Tortillas, Las Tortillas de Magda*** by Becky Chavarria-Chairez

# Learning Links

**More great ideas and activities to go with *Feast for 10*, by Cathryn Falwell**

## LANGUAGE

- Children can learn various words related to family mealtimes and grocery shopping, such as grocery store, cart, meal, tomatoes, greens, potatoes, pots, pans, pumpkins, beans, hungry, taste, cook, ripe and plump.

## SENSORY

- Children can touch, smell and taste fruits and vegetables that are new to them.

## DRAMATIC PLAY

- Children can use pretend food and grocery carts to shop for the ingredients for a family meal.
- Children can use pretend tableware to set a table for a family meal.
- Children can use pretend food and cooking utensils to prepare a family meal.
- If you have a play kitchen, plastic food and a shopping cart or basket in your classroom, invite children to take turns "shopping" for the things they read about in the book: chicken, pie, greens, carrots, beans, potatoes, tomatoes, dill pickles, food in cans, and pots and pans.

## CREATIVE EXPRESSION

- Children can use crayons and paper to draw their favorite meal.
- Children can use grocery ads and newspaper inserts to create a grocery list for a meal for their family. Children can tear the foods in the ads and paste them to construction paper (or cut the ads with an instructor's help).

## FINE MOTOR SKILLS

- Children can use utensils to scoop rice or dried beans out of large containers into smaller containers.
- Children can serve themselves during family-style meals and snacks.

## COGNITIVE

- Children can play with food matching cards.

## LARGE MOTOR SKILLS

- Children can play with child-sized grocery carts and cooking appliances.

## songs and finger plays

### One Tasty Dinner

***One tasty, two tasty, three tasty dinners,***
***Four tasty, five tasty, six tasty dinners,***
***Seven tasty, eight tasty, nine tasty dinners,***
***Ten tasty dinners for us.***

# From Head to Toe

## by Eric Carle

### about the book

***"I can do it!" is the confidence-building message that repeats over and over again throughout this colorful, interactive picture book. Young children will delight in "moving" through this book as they are introduced to basic body parts and simple body movements. In classic Eric Carle style, this book contains bold illustrations, easy-to-read text, and a clear message that readers of all ages can understand and appreciate.***

## NUTRITION AND HEALTH OBJECTIVES

***Children will...***

- Take part in being physically active with their peers, parents and/or caregivers.
- State what they like to do to be active.
- Try new movements they may not have tried before.

## BUILDING BLOCKS FOR READING

- **Phonological Awareness:** Children will clap the syllables of words.
- **Comprehension:** Children will remember and communicate what was read.
- **Fluency:** Children will use picture clues and a repetitive refrain.

## SCHOOL READINESS INDICATORS

- **Physical Well-being and Motor Development:** Children will use large motor skills while reading and moving along with the book.
- **Social and Emotional Development:** Children will take turns and cooperate when discussing the book, and take part in a confidence-building refrain.
- **Language Development:** Children will develop emergent literacy skills through print awareness.

### it's a fact

**Young children need to be active every day, and there are many things that small bodies can do.**

**Children ages 3 to 5 can...**

- *Hop on one foot.*
- *Jump rope (sometimes).*
- *Ride a tricycle.*
- *Pull a wagon.*
- *Catch a ball.*
- *Dance.*

### GET THE WIGGLES OUT

**Play a short game of "Where is it?" Ask children to stand up and stretch out so that they are not touching anyone. Ask the question: "Where is your head?" Have children point to the body part. Ask where other body parts are, such as neck, elbow, arm, leg and foot.**

## tips on reading to kids

1. **Use a loud, clear voice that kids can hear. Speak slowly.**
2. **If you are comfortable doing so, use silly or unusual voices for the characters.**
3. **Make sure kids are seated comfortably.**
4. **Take time for all the children to get a chance to see the pictures.**
5. **If you can, after you're done reading, pass the book around for children to look through it themselves.**

## BEFORE READING

**Say to the children: "Did you know there are lots of different ways you can move your body and that moving is good for you? Today we will be reading a book about lots of different ways animals and people move their bodies. First we'll read the book, then we'll follow the directions in the book and try to move like the kids and animals in the story."**

1. Have the children help you identify the front and back covers of the book.
2. Read the title of the book aloud and identify the author/illustrator. Explain that the author wrote the story and the illustrator drew the pictures. Invite the children to look at the pictures on the front and back of the book.
   Ask them these questions:
   - *Do you know what kind of animal is on the front cover? What is he doing?*
   - *Can you tell me about the animal and the child on the back cover of the book?*

## READING THE BOOK

1. Read the book once all the way through, making sure every child sees the illustrations on the pages.
2. Read the book a second time. When you come to the body part—e.g. "I am a penguin, I can move my head" — ask the children, "Where is your head? Can you move it like the penguin in the book?" After the children try each movement, ask them to repeat after you: "I can do it!"

## AFTER READING

1. Ask the children: "What did you like most about this book? Tell me your favorite animals in the book."
2. Remind children that moving their bodies every day is important to stay healthy. Encourage kids to share with the others what types of movements they like to do best and why.

# Activity #1 - I Can Read It!

**Children practice clapping out the way words sound and learn to associate picture cues with text.**

**supplies**

- Chart paper, one piece of poster board, or a chalk board
- Chalk or a wide-tipped marker

1. The object of this activity is to encourage children to read the chorus of the story (I can do it!) in unison.
2. Before you start, copy the words I can do it! on to chart paper, poster board, or a chalkboard (if available) so that all the children can see it.
3. Read the sentence with the children pointing to each word. Ask them to clap the sound as they say each word. (Each word is one clap/syllable.)
4. Next, hold up the book *From Head to Toe*. Tell the children: "I have read this book to you, now you can help me read it. When we come to the name of an animal on a page, I will wait for you to read the animal's name, like giraffe or cat. When we come to the sentence 'I can do it!' I will wait for you to read and clap it, as we have just done."

   Now, read the story at a natural speed. When you come to the animal word, pause to let the children use the picture clue to identify the animal word. When you come to the chorus, pause to let the children read and clap it, as you point to each word.
5. You may want to repeat this activity again and have the children whisper or sing the chorus.

# Activity #2 - Active Animals

**Children have fun being active while playing an animal guessing game.**

1. Gather the children together in a large circle holding hands.
2. Choose one child to be the "active animal."
3. The person who is the "active animal" stands in the center of the circle and walks and talks like an animal without telling what the animal is. The other children try to guess what animal it is.
4. Whoever guesses correctly is the next child to be the "active animal."
5. The game is over when each child has had a chance to be the animal.

   **When children are done playing, ask them these questions:**

   - *Which animal was the hardest to guess?*
   - *What was your favorite animal?*
   - *How did you like being the "active animal"?*
   - *What did it feel like to move your body like an animal?*

## CLOSURE AND TAKE-HOME MESSAGE:

1. Remind children that if they play a lot and move every day, their bodies will get strong and healthy.
2. Ask the children to think about what it would feel like to have strong muscles like the gorilla on the cover of the book. Ask them how they think the gorilla got such big muscles.
3. Send home with parents or caregivers the handouts **Dear Parents** and **Raising a Reader** that go with this lesson.

# Learning Links

**More great ideas and activities to go with *From Head to Toe* by Eric Carle**

## LANGUAGE

- Children can repeat vocabulary words related to body parts and movement, such as turn, arch, stomp, bend, raise, wiggle, wave, thump, arms, knees, head, shoulders, hips, legs, chest, foot, etc.

## SENSORY

- Children can play with items that have textures similar to animal coats, such as feathers, velvet, wool fabric and synthetic fur.

## DRAMATIC PLAY

- Children can pretend to be zookeepers and care for the animals from the book.
- Go through the book and ask children what animal sound they think each animal in from *Head to Toe* makes. Invite each child to try making the sound each animal (gorilla, buffalo, flamingo, cat, etc.) makes.

## CREATIVE EXPRESSION

- Children can use finger paint to paint their favorite animal or a picture of themselves doing an activity (e.g., running, jumping, stretching) they like to do.
- Children can use clay or modeling dough to sculpt their favorite animal in motion.
- Children can make fingerprint animals.

## FINE MOTOR SKILLS

- Children can use bottles full of water to spray animal shapes cut from sponges. Children should spray the sponge animals until they are drenched in water. Once the sponges are wet, they can help to clean the desks and tables.

## COGNITIVE

- Children can look at pictures of two animals and identify what is similar about the two animals or what is different (e.g., a penguin has wings, a monkey does not).

## LARGE MOTOR SKILLS

- Children can take turns acting like various animals.

## songs and finger plays

**Sung to the tune of "This is the Way"**

***This is the way we turn our heads, turn our heads, turn our heads***

***This is the way we turn our heads, when we are penguins.***

***This is the way we...***

***Bend our necks when we are giraffes.***
***Raise our shoulders when we are buffaloes.***
***Wave our arms when we are monkeys.***
***Clap our hands when we are seals.***
***Thump our chests when we are gorillas.***
***Arch our backs when we are cats.***
***Wriggle our hips when we are crocodiles.***
***Bend our knees when we are camels.***
***Kick our legs when we are donkeys.***
***Stomp our feet when we are elephants.***
***Wiggle our toes when we are ourselves!***

# Lunch

## by Denise Fleming

### about the book

***Mouse was very hungry. In fact, he was so hungry he ate his way through nine different fruits and vegetables before he decided to quit and take a nap! With each turn of the page, Mouse happily devours one colorful fruit or vegetable after another. This book can help young children learn to recognize shapes and colors while exposing them to fruits and vegetables they may have never seen before. As Mouse sniffs and chomps his way through this simple yet beautifully illustrated picture book, children will love to guess what's coming next!***

### NUTRITION AND HEALTH OBJECTIVES

***Children will...***

- State that eating fruits and vegetables is good for you.
- Name at least one fruit and/or vegetable from the book they would be willing to try.
- Taste a fruit or vegetable (time permitting.)

### BUILDING BLOCKS FOR READING

- **Comprehension:** Children remember and communicate what was read.
- **Fluency:** Children use picture clues and prediction.
- **Vocabulary:** Children learn the words to use when describing colors.

### SCHOOL READINESS INDICATORS

- **Language Development:** Children develop emergent literacy skills in reading and writing through book and print awareness.
- **Cognition and General Knowledge:** Children classify objects and sensory knowledge.
- **Social and Emotional Development:** Children take turns and cooperate when discussing the book and taking part in the activities.

### it's a fact

**Young children like to eat fruits and vegetables they can pick up with their hands and fingers.**

**Try serving young children these great-tasting, nutritious and colorful finger foods.**

- ***Banana slices***
- ***Green pepper strips***
- ***Peach or melon slices***
- ***Watermelon chunks***
- ***Kiwi rounds (peel first)***
- ***Cucumbers***
- ***Cut-up zucchini or summer squash***

*** Children should wash their hands before eating.**

*** Cut foods into very small bite-sized pieces so kids don't choke.**

### GET THE WIGGLES OUT

**Help young children learn their colors. Sing this song and ask children to stand up and sit down where appropriate.**

***Blue, blue is the color I see.***
***If you're wearing blue, then show it to me.***
***Stand up and turn around,***
***Show me your blue and then sit down.***
(Repeat with other colors.)

## BEFORE READING

1. Have the children help you find the front and the back covers of the book.
2. Read the title of the book aloud and identify the author/ illustrator. Explain that the author wrote the story, and the illustrator drew the pictures. Invite the children to look at the pictures on the front and back of the book. Ask them:
   - *What do you think this book is going to be about?*
   - *Do you know what the animal is on the front cover? What is he doing?*
   - *Ask the children if they can name some of the colors on the front and back covers of the book. Point to them.*
3. Tell the children to listen carefully and see if they can remember some of the names of the fruits and vegetables the mouse eats.
4. Explain to them that fruits and vegetables taste great and will help them grow.

## READING THE BOOK

1. Read the book aloud, making sure every child sees the illustrations on the pages.
2. While you are reading, each time a new food is introduced (beginning with "turnip"), point to the illustration on the page and ask the children: "What color is the turnip [corn, carrots, etc]? Does it have a shape? What do you call that shape? Have you ever tasted a turnip [carrot, watermelon, etc.]?"

## AFTER READING

1. Ask the children: "What did you like most about this book?"
2. Say to the children: "Think back to the book. Can you remember what the mouse ate? [Fruits and vegetables.] Can you name any of them? How many different fruits and vegetables do you think Mouse ate?" (Use your fingers to show them 1…2…3)
3. Remind children that fruits and vegetables taste great and will help them grow. Encourage kids to share with the others aloud the name of their favorite fruit and/or vegetable.

## CLOSURE AND TAKE-HOME MESSAGE:

1. Remind children that fruits and vegetables come in all shapes, sizes and colors, and if they eat them, fruits and vegetables will help them grow.
2. Send home with parents or caregivers the handouts **Dear Parents** and **Raising a Reader** that go with this lesson.

# Activity #1 - Nutrition Activity: Comparing Sweet and Sour

❶ Ask all children to wash their hands for at least 20 seconds with warm water and soap.

❷ Show the children the two types of fruit they will taste and what they look like when they are whole.

❸ Ask children to identify how the apple and the watermelon are alike and different (shape, size, color, etc.).

❹ Give each child (on a paper plate or napkin) a piece of peeled apple and a piece of watermelon to taste.

❺ Invite the children to taste the fruits and to describe what they taste like.

### supplies

- Small cut-up pieces of Granny Smith apple (peeled) and seedless watermelon, enough for every child to try one piece of each
- Napkins or small plates
- Serving utensil for the educator to serve samples

**Note:** *Cut fruit into small pieces so children won't choke.*

# Activity #2 - Literacy Activity: Make Your Own Mouse Book

1. Begin by brainstorming and discussing colors of the children's favorite fruits and vegetables.
2. Tell the children that they are going to make their own *Lunch* book.
3. Give each child a Mouse color book sheet. Ask them to fold the paper along the long black line. Younger children may need help with this activity.

**supplies**

- Scissors
- Crayons
- One two-sided copy of the Mouse Color Book Sheet for each child (see page 29)
- Blank piece of paper for the cover

4. Have children color their favorite fruits and vegetables, grouping same-colored fruits and vegetables on the same page. For example, the red page could include apples, tomatoes and red peppers.
5. Ask children to continue coloring different colored fruits and vegetables for each page, helping them to label the pages with the appropriate color name.
6. Use the blank piece of paper folded in half to create a cover. Have children color the covers of their books and place the Mouse color book sheets inside of them.
7. Tell the children they each now have their own book they can read. Have them repeat or say with you while pointing to each page, "Mouse was so hungry he ate a red..." and list all of the fruits or vegetables they colored.

**Alternative Activity:**

1. Give each child a single-sided copy of the Mouse color book sheet.
2. Allow each child to choose a crayon in a different color (pre-select crayons that are the same color as various fruits and vegetables).
3. Have children color fruits and vegetables that are the same colors as their crayons on a single-sided copy of the Mouse color book sheet.
4. Make a cover and have each child color one fruit or vegetable with his or her crayon.
5. Make a class *Lunch* book by combining all of the sheets and the class cover.
6. Read the book together as a group, allowing each child to identify the fruits or vegetables on his or her page.

## MORE GREAT BOOKS ABOUT TASTING FRUITS AND VEGETABLES

- ***Oliver's Vegetables*** by Vivian French
- ***Rabbit Food*** by Susanna Gretz
- ***Growing Colors*** (a non-fiction picture book) by Bruce McMillan

# Learning Links

**More great ideas and activities to go with *Lunch* by Denise Fleming**

## LANGUAGE

- Children can learn words related to fruits, vegetables and colors, including hungry, crisp, white, turnip, green, peas, yellow, corn, blue, berries, pink, watermelon, black, seeds, purple, grapes, red, apples, orange, carrots, sweet, tender, tart, sour, shiny, juicy, crunchy, dinnertime.

## SENSORY

- Children can taste various fruits and vegetables.
- Children can feel various fruits and vegetables.

## DRAMATIC PLAY

- Children can use mouse ears and other dress-up clothes to pretend to be Mouse and eat a variety of fruits and vegetables.
- Children can use child-sized gardening equipment, such as a wheelbarrow, shovel, rake and hoe, and pretend to plant and tend a garden.

## CREATIVE EXPRESSION

- Children can tear or cut paper with safety scissors and then glue the paper pieces on construction paper to create pictures of their favorite fruits or vegetables.
- Children can use crayons to draw their favorite fruits or vegetables.
- The class can create their own *Lunch* book, with each child creating a picture of his or her favorite fruit or vegetable and describing it using color and texture words.

## FINE MOTOR SKILLS

- The children can tear or cut construction paper with safety scissors to create pictures of their favorite fruits or vegetables, similar to the illustrations in the book.

## COGNITIVE

- Children can play with matching cards to match fruits and vegetables by colors or shapes.
- Children can identify the color of a fruit or vegetable picture.

## LARGE MOTOR SKILLS

- Using tape to tape off shapes on the floor, such as circle, square and triangle, children can walk, run, hop, skip or gallop to the appropriate shape called out by an instructor.

## songs and finger plays

### This is the Color (Sung to the tune "I've Been Working on the Railroad")

***Red is the color for an apple to eat.***
***Red is the color for cherries, too.***
***Red is the color for strawberries,***
***I like red, don't you?***

***Green is the color for the leaves on the trees.***
***Green is the color for green peas, too.***
***Green is the color of a watermelon,***
***I like green, don't you?***

Additional verses can be made up with other colors.

# Muncha! Muncha! Muncha!

## by Candace Fleming

**about the book**

***After years of dreaming, Mr. McGreely plants a garden full of yummy vegetables. But three hungry bunnies are determined to get into the garden, and Mr. McGreely is just as determined to keep them out. Witty and amusing, this delightful picture book with attractive illustrations and lively language makes an excellent read-aloud and a good introduction to a vegetable-tasting party.***

### NUTRITION AND HEALTH OBJECTIVES

***Children will...***

- Identify the fruit and vegetable groups of the Food Guide Pyramid.
- State that they should eat fruits and vegetables each day.
- State that fruits and vegetables come from gardens and farms.

### BUILDING BLOCKS FOR READING

- **Comprehension:** Children will remember and communicate what was read.
- **Fluency:** Children will use picture clues and prediction
- **Vocabulary:** Children will learn words about gardening.

### SCHOOL READINESS INDICATORS

- **Social and Emotional Development:** Children take turns and cooperate when discussing the book and taking part in the activities.
- **Language Development:** Children will develop emergent literacy skills through print awareness.
- **Cognition and General Knowledge:** Children will classify objects.

### GET THE WIGGLES OUT

**Help young children with large motor skills by having them hop in a circle like bunnies.**

## BEFORE READING

**Tell the children:** "Today we will be reading a book about a man with a garden full of vegetables, and how rabbits enjoyed his garden as much as he did."

1. Ask the children to help you find the front and back covers of the book.
2. Read the title of the book aloud and identify the author/illustrator. Explain that the author wrote the story and the illustrator drew the pictures. Invite the children to look at the pictures on the front and back of the book. Ask them:
   - *Do you know what is on the front cover? What are they doing?*
   - *What vegetables have you eaten today?*
   - *Do you have a garden or live on a farm?*

## READING THE BOOK

- Read the book aloud, making sure every child sees the illustrations on the pages.
- While reading, invite children to point out the vegetables in the illustrations, and name them if they can.
- As you read, ask the children: "What do you think will happen next?"

## AFTER READING

Ask the children:

1. "What vegetables did you see in the book?" Discuss that eating a variety of fruits and vegetables is important to keep us healthy.
2. "How many vegetables did the bunnies eat each day?" Discuss the importance of eating five or more servings a day to stay healthy. Have children count to five on their fingers with you to demonstrate the concept of five.
3. "Do you or does someone you know have a garden? What grows in the garden?"

## CLOSURE AND TAKE-HOME MESSAGE

1. Remind children why it's important to eat fruits and vegetables every day.
2. Encourage children to try new fruits and vegetables.
3. Send home **Dear Parents** and **Raising a Reader** handouts.

# Activity #1 - Growing a Garden

1. Give each seated child a small paper cup.
2. Help each child spoon in enough soil to fill the cup 2/3 to 3/4 full.
3. Give each child a few seeds from a seed packet (beans, radishes or peppers are best). Count out the seeds. Explain to the children that planting more than one seed is a good idea, because some seeds may not grow.
4. Push the seeds into the soil (instructing them to use their fingertips to measure) about 1/2 inch.
5. Assist children in watering their seeds.
6. If sending seed cups home with children, provide written instructions for watering, sunlight and transplanting.

**supplies**

- Small paper cups
- Water
- Seed packets
- Soil
- Spoons for soil

# Activity #2 - Garden Tasting Party

**supplies**

Fruits and vegetables

1. Cut up fruits and vegetables from the grocery store or local farmers' market into small pieces. Choose soft fruits and vegetables (banana, melon, tomato, etc.) for small children to reduce the risk of choking.
2. Show the children the whole fruit or vegetable, and have them identify it. After the fruit or vegetable has been identified, invite children to try each fruit or vegetable and say what they like or don't like about each one.

# Activity #3 - Fantastic Garden

1. Using tissue paper, construction paper and glue, have children make art projects of their favorite fruits or vegetables. (It may be helpful to have examples of real fruits or vegetables for children to see.)
2. Have children glue small, torn pieces of tissue paper to the construction paper to make the shapes of their favorite fruits or vegetables. Assist children in writing the name of their favorite fruit or vegetable in the top right corner of each page.
3. After the activity, discuss with children where their fruits or vegetables come from.

**supplies**

- Tissue paper
- Construction paper
- Glue

## MORE GREAT BOOKS ABOUT GARDENING

- ***Cecil's Garden*** by Holly Keller
- ***Oliver's Vegetables*** by Vivian French
- ***Tops and Bottoms*** by Janet Jeffries
- ***We Can Eat the Plants*** by Rozanne Lanczak Williams
- ***One Bean*** by Anne Rockwell

# Learning Links

**More great ideas and activities to go with *Muncha! Muncha! Muncha!* by Candace Fleming**

## LANGUAGE

- Children can learn vocabulary words related to gardening and produce, such as garden, seed, plant, water, carrot, leaves, stalk, vegetable, salad, yummy, hoe, shovel, soil, harvest, fruit.

## SENSORY

- Children can plant seeds using soil, vegetable seeds and water.
- Children can touch, smell, see and taste various fruits and vegetables from a local farmers' market or grocery store.

## DRAMATIC PLAY

- Children can play with plastic, child-sized gardening equipment, including a shovel, hoe, rake and wheelbarrow.

## CREATIVE EXPRESSION

- Children can paint with potato stamps (potatoes with designs cut in them).
- Children can paint with various produce, using celery or carrot leaves, green onions or slices of apple.
- Children can use tissue paper and construction paper to make their favorite fruit or vegetable.

### songs and finger plays

**Sung to the tune of "Where is Thumbkin?"**

***Where is broccoli? Where is broccoli?***
***Here it is. Here it is.***
***It is very tasty, I am going to eat it.***
***Yum yum yum. Yum yum yum.***

## FINE MOTOR SKILLS

- Children can use spoons and utensils to plant seeds.

## COGNITIVE

- Children can sort fruits and vegetables by color, shape, size or other characteristics.

## LARGE MOTOR SKILLS

- Children can plant a vegetable garden or visit a farm or farmers' market.

# APPENDIX B

# PARENT NEWSLETTERS

# Dear Parents

**Do you think that sometimes your child is a picky eater? Including your child in grocery shopping and meal planning and preparation is one way to encourage your child to eat a variety of foods. Kids are more likely to eat food they've chosen and helped to prepare. Working together in the kitchen is also a great way to help with counting. Children can count as they help you measure ingredients, or count out forks when they help set the table. Try this great recipe, and have your child count the different toppings as she makes her own pizza:**

## Mini Pizza Feasts

**(makes 4 servings)**

- *2 English muffins, halved*
- *8 tablespoons of tomato or spaghetti sauce*
- *1 cup of mozzarella cheese, divided into 1/4 cup servings*
- *variety of toppings, including low-fat ham, turkey, chicken, broccoli, carrots, spinach, pineapple or other tasty toppings*

1. Preheat oven to 350 degrees.
2. Place English muffin halves on a cookie sheet.
3. Spread 2 tablespoons of tomato or spaghetti sauce on each English muffin half.
4. Place favorite toppings on each English muffin half, and cover with mozzarella cheese.
5. Bake in preheated oven for 7 to 10 minutes, or until cheese has melted.

Enjoy!

## kitchen help

**Your child can help prepare family mealtime in a variety of ways, depending on his age:**

**TWO-YEAR-OLDS**
Can wipe table tops, scrub vegetables, help tear lettuce or greens, snap beans and play with utensils.

**THREE-YEAR-OLDS**
Can wrap potatoes in foil, shape dough, pour liquids with help, mix ingredients and help clean up.

**FOUR-YEAR-OLDS**
Can peel oranges, mash soft fruits or cooked vegetables with a fork and help set the table.

**FIVE-YEAR-OLDS**
Can begin to measure ingredients and help read the recipe!

**Remember to be patient with your budding chef, and expect some messes. Have realistic expectations about the tasks your child can do, and be positive about his attempts to help in the kitchen. Nothing tastes better than something you've prepared together.**

# Raising a Reader

## How Many Can You Count?

**With a little help, your child can learn to count and read at the same time. Children love books that they can count along with while you read. Learning numbers is important for young children. It shows that your child is beginning to learn order, matching and comparing.**

**When reading a book with numbers, ask your child to point to the items being counted such as one-two-three apples, one-two-three-four bananas and so on. You can also ask your child how many items are on a page and to point to each one while counting. For example, "How many pears do you see on this page?" "Do you see more apples or bananas?"**

**Take your time and enjoy each book with your child. The goal of reading aloud with your child should be to spend time together, not just to finish a book. Hold your child on your lap and cuddle him as you read together. Enjoy your child and give him lots of time to enjoy the book with you.**

### OTHER WAYS TO READ TOGETHER:

- Practice your child's counting, reading and writing skills by making a grocery list together.
- Point out signs or boxes and read them aloud at the grocery store while you do your shopping.
- Go on a letter hunt. Pick a letter and try to find it in as many places as you can. The first letter of your child's name is a great letter to start with.
- Count how many things you bought at the grocery store. When you get home, count other things around your house, such as books, crayons, puzzle pieces and blocks.
- Prepare a favorite recipe together, counting the ingredients as you add them.

### Check out these great counting books at your local library:

- ***Apples*** by Samantha Berger and Betsey Chessen
- ***Bearobics: A Hip-Hop Counting Story*** by Vic Parker
- ***The Gigantic Turnip*** by Aleksei Tolstoy and Niamh Sharkey
- ***One Lonely Sea Horse*** by Saxton Freymann and Joost Elffers
- ***One Potato*** by Diana Pomeroy

This project has been partially funded with federal funds from the U.S. Department of Agriculture (USDA) Food Stamp Program by way of the Michigan Family Independence Agency and the MSU Extension Family and Consumer Sciences program--the Family Nutrition Program--at Michigan State University. The Food Stamp Program provides nutrition assistance to people with low incomes. Michigan State University Extension programs and materials are open to all without regard to race, color, national origin, gender, religion, age, disability, political beliefs, sexual orientation, marital status or family status. MSU is an affirmative-action, equal-opportunity institution. This material may be copied for purposes of non-profit educational groups with credit given to MSU.

# Dear Parents

**Your young child is always on the move: running, hopping, jumping, climbing, stretching and throwing. Active play is good for your child, and good for you, too! Moving together encourages your child to be physically active as an adult and is fun for both of you! Try these fun, physical activities together, and watch as your child develops body skills such as coordination, strength and flexibility, and learns how to cooperate and share:**

- Roll or throw a ball together.
- Swing at the nearest playground.
- Have races, whether running, hopping, jumping or skipping.
- Create an indoor obstacle course with pillows, open boxes and things to hop over.
- Dance to music—turn on the radio and see who can dance the silliest!
- Read a book together and act out the story. *Animal Action ABC* is a great book for families to read and move together.

## Animal Dinner Rolls

**Ask your child what his or her favorite animal is, and then make it into a dinner roll. It's easy! Follow this recipe.**

INGREDIENTS

- *Frozen bread dough, thawed*
- *Non-stick spray*
- *Optional toppings such as sesame seeds, Parmesan cheese, poppy seeds, dried minced onion, etc.*

MATERIALS

- *A cookie sheet or baking tray*
- *A clean, flat surface to roll and shape the dough on*
- *Utensils, such as a dull knife, to cut the dough into shapes*

STEPS

1. Join your child in washing his or her hands while singing the ABC song together (or at least 20 seconds) with warm water and soap. Dry hands.
2. Separate the frozen bread dough into 8 sections.
3. Use your clean hands to shape the dough into your favorite animal and place on a cookie sheet. Be careful not to stretch the animal too thin or it may burn.
4. Sprinkle on toppings if you wish.
5. Follow the baking instructions for dinner rolls on the package.
6. Talk about the movements and sounds each animal makes as you enjoy them with dinner!

## cooperation

**All parents want children who cooperate, but getting children to cooperate can be very hard! Cooperation is more than getting children to do what someone else wants them to. It really means getting children to do what someone else wants them to because they choose to do it. When young children are cooperating, they are making a choice to behave a certain way. To help your child become cooperative, there are many things you can do:**

- Give choices whenever possible.
- Have predictable routines.
- Be specific and clear.
- **Set limits and stick to them.**
- **Find other words to say besides "no".**
- Use **statements instead of questions.**
- Prepare your child **ahead of time for what will happen next.**

# Raising a Reader
# Make Reading FUN!

**Reading with your child should be fun!** Get silly. Make funny voices. Stand up and act out what you're reading. Children love to act out the stories they hear and read. It's a great way to read and have fun at the same time!

When you read to your child, show him the pictures and ask him to act out the story while you read the words. Encourage new ideas by saying, "That's a great idea," or "I like the way you are moving." Ask your child to make up a story about what is happening in the pictures. Laugh at the silly things your child makes up.

**Enjoy the book with your child by joining in the fun.** Children need to see that adults like books, too. Don't be afraid to laugh or make silly faces or change your voice while reading a story. Children learn to love what the special adults around them love. If you show your child that reading is important to you, it will be important for him, too.

## OTHER WAYS TO READ TOGETHER:

- When several children are playing at your house, read an action book that gets them up and moving to the story as part of the fun.
- Carry a bag of children's books in your car. These books will help driving time go faster.
- Help your child to make up stories about their favorite animal. What does the animal do and where does it go? You can take turns with your child making up the stories.
- Ask your child to make up a story and act it out for you.
- Tell them stories while singing and dancing.

### Fun Books to Get You Up and Moving!

- ***Animal Action ABC*** by Karen Pandell
- ***Dinosaurumpus!*** by Tony Mitton
- ***Hop Jump*** by Ellen Stoll Walsh
- ***From Head to Toe*** by Eric Carle

This project has been partially funded with federal funds from the U.S. Department of Agriculture (USDA) Food Stamp Program by way of the Michigan Family Independence Agency and the MSU Extension Family and Consumer Sciences program--the Family Nutrition Program--at Michigan State University. The Food Stamp Program provides nutrition assistance to people with low incomes. Michigan State University Extension programs and materials are open to all without regard to race, color, national origin, gender, religion, age, disability, political beliefs, sexual orientation, marital status or family status. MSU is an affirmative-action, equal-opportunity institution. This material may be copied for purposes of non-profit educational groups with credit given to MSU.

# Dear Parents

**Getting a young child to eat fruits and vegetables can be a huge challenge sometimes! Young children are still learning to eat with forks and spoons, and sometimes eating with their hands and fingers is easier and more fun! Try serving cut-up fruits and vegetables with these great dips, and enjoy a healthy snack with your child.**

## Yogurt Pudding Fruit Dip

- *1/4 cup skim milk*
- *1 small package (3 1/6 ounces) instant pudding, any flavor*
- *2 cups plain, low-fat yogurt*

Add milk to the pudding mix and stir until smooth. Add yogurt and stir. Chill until ready to serve with fresh fruit. Try apples, pears, star fruit, cantaloupe and berries.

(Recipe courtesy of *Eating Right is Basic*, MSUE, 2000)

## Fresh Vegetable Dip

- *1 cup plain, low-fat yogurt*
- *1/2 cup low-fat mayonnaise*
- *1/4 cup onion, chopped fine*
- *2 tablespoons soy sauce*

Blend all ingredients and chill before serving. Try carrot sticks, celery, broccoli or cauliflower, zucchini and summer squash strips, fresh peppers or cherry tomatoes.

(Recipe courtesy of *The Market Basket*, MSUE, 2003)

## I don't want to share!

**Sharing can be the hardest thing a young child has to learn. Preschoolers often can think only of meeting their needs first. Learning to share is a big step as your young child begins to understand that sharing means that her favorite toy or book will be returned to her, not taken away forever. Most children will begin to share well between the ages of 3 and 4, although they still may not want to give up that special toy. Use these tips to help your young child learn to share:**

- Help her understand that sharing means someone has borrowed, not taken, something she has.
- Teach her how to share. Say something like, "I'm using the crayons for my picture. Come share them with me."
- Be specific about what sharing means. Say, "First you can play with the bucket, and then your brother gets a turn." Describe what she needs to do to share.
- Help her to pick a few special things that she is not expected to share.
- Make a sharing box of toys that comes out when friends come to play.
- Give her a choice about what she is willing to share. Tell her that her brother would like to play with a toy and ask her which one she will let him play with.

# Raising a Reader

## What's Your Favorite Color?

**Children love to learn new things such as the names of colors. They also love to be read to. You can do both when you read a book about colors.**

Point to the colors as you read about them. The next time you read the book, ask your child to point to certain colors. Together find the word for that color in the book. Next have your child find the color in the room. You can play "I spy with my little eye...the color ____." This can be a fun game to play with your child or with a group of children.

Children learn about reading when you read a book to them. After reading together many times, most children know how to hold a book, and can identify the front and the back of the book and where the story begins on a page. These are important things for children to learn at home and will help them when they start school.

Look at the cover together and talk about what you see. Point to each word in the title and read it aloud. Talk about what your child thinks the story might be about. Point to the author's name on the cover and explain to your child that this is the name of the person who wrote the story. If there is an illustrator, point to that name and say that this is the name of the person who made the pictures for this book.

### More Great Books to Learn Colors

- ***Color Crunch!*** by Charles Reasoner
- ***Growing Colors*** by Bruce McMillan
- ***Growing Vegetable Soup*** by Lois Ehlert
- ***Food is Fun!*** by Marcia Leonard
- ***Eating the Alphabet: Fruits and Vegetables from A to Z*** by Lois Ehlert

As you read the book, have your child help you turn the pages. With your finger, show your child where you begin reading on a page. Read a page and then ask your child to point to certain pictures on that page. Give your child enough time to look at the pictures, touch them and talk about them.

### OTHER WAYS TO READ AND LEARN COLORS

Have your child name a color. Then together think of as many foods as you can that have that color. Next try other things, such as toys, clothes and plants, that have that color. Learning to listen, follow directions and take turns when talking will help your child when he or she starts school.

Help your child make his or her very own book about colors. Fold two pieces of paper in half to make a little book. Write your child's name on the cover as author and illustrator, along with a title. It could be your child's name and "Book of Colors". Ask your child to pick a color for each page and draw pictures on that page with the corresponding color.

This project has been partially funded with federal funds from the U.S. Department of Agriculture (USDA) Food Stamp Program by way of the Michigan Family Independence Agency and the MSU Extension Family and Consumer Sciences program—the Family Nutrition Program—at Michigan State University. The Food Stamp Program provides nutrition assistance to people with low incomes. Michigan State University Extension programs and materials are open to all without regard to race, color, national origin, gender, religion, age, disability, political beliefs, sexual orientation, marital status or family status. MSU is an affirmative-action, equal-opportunity institution. This material may be copied for purposes of non-profit educational groups with credit given to MSU.

# Dear Parents

**Want to see your young child eating more fruits and vegetables? It's easy, using fresh produce from your local farmers' market or grocery store, or fruits and vegetables you've grown as a family. Try these great recipes, and help your child count five servings of fruits and vegetables a day.**

## Strawberry-Yogurt Frozen Treats

- ***2 cups strawberries, rinsed and chopped***
- ***2 cups low-fat vanilla yogurt***
- ***12 small paper cups***

1. Combine strawberries and yogurt. Mix well.
2. Fill cups with mixture and cover cups with plastic wrap or aluminum foil.
3. Freeze treats until firm.
4. Remove from freezer to soften and serve with spoons.

**Enjoy more great books about gardening and fresh fruits and vegetables with your young child.**

**Check out these books from your local library:**

- ***Growing Colors*** by Bruce McMillan
- ***Grandpa's Garden Lunch*** by Judith Casely
- ***Rabbit Food*** by Susanna Gretz

## Cucumber Canoes

- ***2 small cucumbers, rinsed well in cool running water***
- ***1 cup low-fat cottage cheese***
- ***Carrot, celery or broccoli sticks***

1. Slice the cucumbers in half lengthwise, scooping out just the seeds with a spoon.
2. Fill the cucumber canoe with cottage cheese and add the carrot, celery or broccoli sticks as paddles.

(Recipe courtesy of *The Market Basket*, MSUE, 2003)

# Raising a Reader

## Reading to Your Young Child

**Reading aloud to young children helps them learn about words and language, and consider books as fun and valuable play materials. By sitting in your lap and listening to a story, young children can begin to understand that printed words have meaning, and that pictures represent real things.**

### TIPS FOR READING ALOUD TO YOUR CHILD

- Allow your child to choose books that appeal to him or her.
- Allow your child to sit in your lap and help you turn the pages of the book.
- Encourage your child to point to illustrations, letters or repetitive words.
- Make sure children can see the book easily, but don't be concerned if they don't want to sit still and listen. Some children prefer to stay busy while hearing a story.
- Read slowly, with lots of expression.

**Did you know?**

**Talking with your child can expand her vocabulary! Use adult words instead of "baby talk" to build language skills. Listen to your child, even if she rambles, to help build confidence and the ability to express herself.**

### FAMILY TRADITIONS

Preschoolers love traditions. Family traditions are the special things that family members do to honor each other. They can be simple, everyday traditions and traditions for special events. Family traditions give preschoolers a sense of who they are, provide support and create lasting memories. Traditions also help children understand they are part of a larger group—their family. Remember some of the following as you begin to develop traditions within your own family:

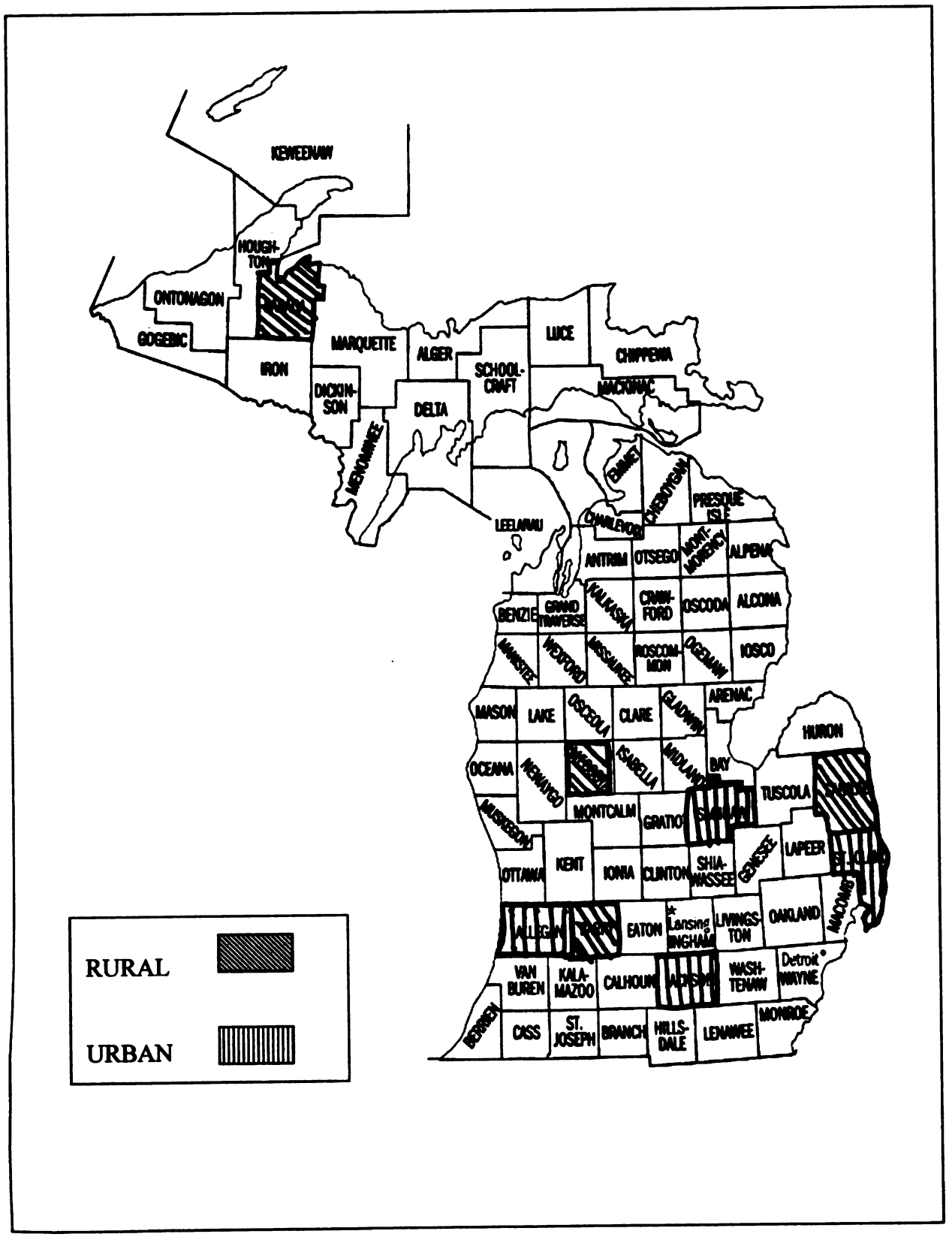
- Create a tradition that shows your child he is an important part of the family every day. Think about eating dinner together, singing in the bath or sharing a morning hug!
- Have traditions for special times such as birthdays or holidays. Try to celebrate the same way year after year.
- Hang on to your traditions, even during tough times. Traditions are comforting and will give your child a sense of security, especially when things are difficult.

This project has been partially funded with federal funds from the U.S. Department of Agriculture (USDA) Food Stamp Program by way of the Michigan Family Independence Agency and the MSU Extension Family and Consumer Sciences program--the Family Nutrition Program--at Michigan State University. The Food Stamp Program provides nutrition assistance to people with low incomes. Michigan State University Extension programs and materials are open to all without regard to race, color, national origin, gender, religion, age, disability, political beliefs, sexual orientation, marital status or family status. MSU is an affirmative-action, equal-opportunity institution. This material may be copied for purposes of non-profit educational groups with credit given to MSU.

# APPENDIX C

## COUNTY DESIGNATION MAP

## COUNTY DESIGNATION MAP



# APPENDIX D

# PARTICIPANT INFORMATION FORM

# Pyramids Between the Pages for the Young Child

## Participant Information

Participant First Name_____Family Number_____

1. Tell us about your child(ren)

| Age of child | Birthdate of child | Gender of child (boy or girl) |
|---|---|---|
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |

2. Age of Parents: _____mother_____father

3. Your marital status :
   married single/never married separated divorced cohabitating/living together

4. Educational Level of Parents (circle last completed)
   Mother: did not complete high school high school/GED Associate's degree
   college (BA/BS) graduate (MA/MS/PhD)

   Father: did not complete high school high school/GED Associate's degree
   college (BA/BS) graduate (MA/MS/PhD)

5. Parent Employment (based on parents living in household)
   Mother: Full Part Time Not Employed
   occupation_____
   Father: Full Part Time Not Employed
   occupation_____

6. Members living in home (please circle and write in numbers):
   Mother Father Number of Children under 18_____
   Other family members over 18_____Other adults over 18_____

7. Your Race/Ethnic Group of child (please circle):
   Hispanic African American Asian/Pacific Islander
   Native American White/Non-Hispanic
   Other_____

8. Annual income (please circle):
   less than $10,000 per year
   $10,001 to $20,000 per year
   $20,001 to $30,000 per year
   $30,001 to $40,000 per year
   $40,001 to $50,000 per year
   $50,001 to $60,000 per year
   $60,001 to $70,000 per year
   $70,001 to $80,000 per year
   $80,001 to $90,000 per year
   $90,000 or more per year

9. Form Completed by (please circle) Mother Father Other_____

# APPENDIX E

## DEMOGRAPHIC CHARACTERISTICS OF GROUPS

**Demographic Characteristics of Groups**

| Variable | Group 1 | | Group 2 | | Group 3 | | Group 4 | |
|---|---|---|---|---|---|---|---|---|
| | n | % | n | % | n | % | n | % |
| Annual Income | | | | | | | | |
| <$10,000 | 10 | 27% | 10 | 34% | 9 | 60% | 7 | 32% |
| $10,001-20,000 | 10 | 27% | 10 | 34% | 0 | 0% | 4 | 18% |
| $20,001-30,000 | 7 | 19% | 3 | 11% | 1 | 7% | 5 | 23% |
| $30,001-40,000 | 8 | 22% | 1 | 4% | 4 | 26% | 2 | 9% |
| $40,001-50,000 | 0 | 0% | 0 | 0% | 0 | 0% | 2 | 9% |
| $50,001 + | 0 | 0% | 0 | 0% | 0 | 0% | 0 | 0% |
| Not Provided | 2 | 5% | 5 | 17% | 1 | 7% | 2 | 9% |
| Marital Status | | | | | | | | |
| Married | 20 | 54% | 16 | 55% | 6 | 40% | 13 | 59% |
| Single | 2 | 5% | 7 | 24% | 6 | 40% | 2 | 9% |
| Separated | 4 | 11% | 1 | 4% | 0 | 0% | 1 | 5% |
| Divorced | 7 | 19% | 2 | 7% | 0 | 0% | 1 | 5% |
| Cohabitating | 4 | 11% | 3 | 10% | 3 | 20% | 5 | 22% |
| Not Provided | 0 | 0% | 0 | 0% | 0 | 0% | 0 | 0% |
| Mother's Educational Level | | | | | | | | |
| < High School | 6 | 16% | 2 | 7% | 5 | 33% | 7 | 32% |
| High School | 25 | 68% | 23 | 79% | 6 | 40% | 10 | 45% |
| Associates | 4 | 11% | 1 | 4% | 3 | 20% | 3 | 14% |
| BA/BS | 2 | 5% | 3 | 10% | 1 | 7% | 2 | 9% |
| Graduate | 0 | 0% | 0 | 0% | 0 | 0% | 0 | 0% |
| Not Provided | 0 | 0% | 0 | 0% | 0 | 0% | 0 | 0% |
| Father's Educational Level | | | | | | | | |
| < High School | 2 | 5% | 2 | 7% | 4 | 26% | 7 | 32% |
| High School | 20 | 55% | 17 | 58% | 4 | 26% | 8 | 36% |
| Associates | 3 | 8% | 4 | 14% | 1 | 8% | 1 | 5% |
| BA/BS | 3 | 8% | 2 | 7% | 1 | 8% | 1 | 5% |
| Graduate | 0 | 0% | 0 | 0% | 0 | 0% | 1 | 5% |
| Not Provided | 9 | 24% | 4 | 14% | 5 | 32% | 4 | 17% |
| Mother's Occupational Status | | | | | | | | |
| Full Time | 3 | 8% | 4 | 14% | 2 | 13% | 3 | 14% |
| Part Time | 6 | 16% | 6 | 21% | 5 | 33% | 4 | 18% |
| Not Employed | 26 | 71% | 16 | 55% | 8 | 54% | 14 | 64% |
| Not Provided | 2 | 5% | 3 | 10% | 0 | 0% | 1 | 4% |
| Father's Occupational Status | | | | | | | | |
| Full Time | 20 | 54% | 14 | 48% | 8 | 53% | 14 | 64% |
| Part Time | 1 | 3% | 3 | 10% | 1 | 7% | 2 | 9% |
| Not Employed | 3 | 8% | 7 | 25% | 1 | 7% | 2 | 9% |
| Not Provided | 13 | 35% | 5 | 17% | 5 | 33% | 4 | 18% |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Mother Living in the Home | | | | | | | | |
| Yes | 36 | 97% | 27 | 93% | 15 | 100% | 21 | 96% |
| No | 0 | 0% | 0 | 0% | 0 | 0% | 0 | 0% |
| Not Provided | 1 | 3% | 2 | 7% | 0 | 0% | 1 | 4% |
| Father Living in the Home | | | | | | | | |
| Yes | 24 | 65% | 24 | 83% | 9 | 60% | 17 | 77% |
| No | 0 | 0% | 0 | 0% | 0 | 0% | 0 | 0% |
| Not Provided | 13 | 35% | 5 | 17% | 6 | 40% | 5 | 23% |
| Children Under 18 | | | | | | | | |
| 1 child | 7 | 19% | 11 | 35% | 4 | 27% | 4 | 18% |
| 2 children | 11 | 30% | 9 | 28% | 7 | 47% | 9 | 41% |
| 3 children | 9 | 24% | 4 | 13% | 2 | 13% | 5 | 23% |
| 4 children | 5 | 14% | 3 | 9% | 1 | 6% | 2 | 9% |
| 5 children | 2 | 5% | 0 | 0% | 0 | 0% | 2 | 9% |
| 6 children | 3 | 8% | 1 | 3% | 0 | 0% | 0 | 0% |
| 7 children | 0 | 0% | 1 | 3% | 0 | 0% | 0 | 0% |
| Not provided | 0 | 0% | 3 | 9% | 1 | 7% | 0 | 0% |
| Family Over 18 | | | | | | | | |
| 1 member | 3 | 8% | 2 | 6% | 1 | 7% | 0 | 0% |
| 2 members | 1 | 3% | 2 | 6% | 0 | 0% | 0 | 0% |
| Not Provided | 33 | 89% | 25 | 88% | 14 | 93% | 22 | 100% |
| Non-Family | | | | | | | | |
| 1 member | 4 | 11% | 2 | 6% | 1 | 6% | 1 | 5% |
| 2 members | 0 | 0% | 0 | 0% | 0 | 0% | 1 | 5% |
| Not Provided | 33 | 89% | 27 | 94% | 14 | 93% | 20 | 90% |
| Race of the child | | | | | | | | |
| Hispanic | 3 | 8% | 1 | 4% | 0 | 0% | 2 | 9% |
| African-American | 1 | 3% | 2 | 7% | 0 | 0% | 2 | 9% |
| Asian/P.I. | 0 | 0% | 0 | 0% | 0 | 0% | 0 | 0% |
| Native American | 3 | 8% | 3 | 10% | 1 | 7% | 0 | 0% |
| White/N.H. | 29 | 78% | 23 | 79% | 14 | 93% | 17 | 77% |
| Other | 0 | 0% | 0 | 0% | 0 | 0% | 0 | 0% |
| Not Provided | 1 | 3% | 0 | 0% | 0 | 0% | 1 | 5% |
| Gender of the child | | | | | | | | |
| Male | 17 | 46% | 10 | 35% | 5 | 33% | 12 | 55% |
| Female | 20 | 54% | 18 | 62% | 9 | 60% | 10 | 45% |
| Not Provided | 0 | 0% | 1 | 3% | 1 | 7% | 0 | 0% |
| Residence | | | | | | | | |
| Urban | 17 | 46% | 24 | 83% | 15 | 100% | 8 | 36% |
| Rural | 20 | 54% | 5 | 17% | 0 | 0% | 14 | 64% |

# APPENDIX F

# CONSENT LETTERS

# Michigan State University
# Children, Youth and Family Programs

## Parent Consent Form-Group One
## Pyramids Between the Pages for the Young Child Participant

Name of Parent_____

Family Number_____

(Family Number = Instructor's Initials, County Initial and Family Number. For example, family number-MSI1 stands for Meagan Shedd (MS), Ingham County (I), and my first family (1) = MSI1).

---

We are conducting an evaluation of a nutrition education program that also provides information about early literacy development in young children. This study will determine the best way to deliver the program to parents of young children in Michigan. Your participation in this project is voluntary and services are still available to you should you choose not to participate. You have the right to refuse to answer any question or even refuse to participate at any time, without penalty.

By signing this form, you are consenting to participating in Group One of the study. This means that a staff member will visit your home four times for you to participate in four different lesson plans, and will provide you with four parent newsletters (for you to keep) at the end of each visit. Each visit will last approximately 45 minutes and consist of reading a children's book, discussing the book with you and your child, and participating in a nutrition activity and a reading activity. At the first and last visit, you will also be asked to complete a Participant Information Form, a Parent Nutrition Survey and a Parent Reading survey. After the study is completed, you will receive two children's books as a token of appreciation for your participation in this research project.

Information collected will be kept confidential to the maximum extent of the law. Your name will not be put on any of the evaluation forms. The forms will be kept separate from anything that would allow someone to link responses to your name. All information will be kept in a locked file cabinet in the project coordinator's office, and destroyed (shredded) two years after publication of the results. Also, no individual responses will be used when reporting the results of this evaluation. You may receive a copy of the evaluation results by calling Meagan Shedd at 517-353-8594.

The forms will take about 20-30 minutes of your time. If you have any questions about this study, please contact the investigator Meagan Shedd, regular mail: 240 Agriculture Hall, East Lansing, MI 48824, phone: (517) 353-8594, or by email address: sheddm@msue.msu.edu. If you have any questions or concerns regarding your rights as a study participant, or are dissatisfied at any time with any aspect of this study, you may contact-anonymously if you wish-Peter Vasilenko, Ph.D., Chair of the University Committee on Research Involving Human Subjects (UCRIHS) by phone: (517) 355-2180, fax: (517) 432-4503, email address: ucrihs@msu.edu, or regular mail: 202 Olds Hall, East Lansing, MI 48824.

I agree to voluntarily participate in this research project:

Signature of Parent_____Date_____

# Michigan State University
# Children, Youth and Family Programs

## Parent Consent Form-Group Two
## Pyramids Between the Pages for the Young Child Participant

Name of Parent_____

Family Number_____

(Family Number = Instructor's Initials, County Initial and Family Number. For example, family number-MSI1 stands for Meagan Shedd (MS), Ingham County (I), and my first family (1) = MSI1).

---

We are conducting an evaluation of a nutrition education program that also provides information about early literacy development in young children. This study will determine the best way to deliver the program to parents of young children in Michigan. Your participation in this project is voluntary and services are still available to you should you choose not to participate. You have the right to refuse to answer any question or even refuse to participate at any time, without penalty.

By signing this form, you are consenting to participating in Group Two of the study. This means that a staff member will visit your home four times for you to participate in four different lesson plans. Each visit will last approximately 45 minutes and consist of reading a children's book, discussing the book with you and your child, and participating in a nutrition activity and a reading activity. At the first and last visit, you will also be asked to complete a Participant Information Form, a Parent Nutrition Survey and a Parent Reading survey. After the study is completed, you will receive two children's books as a token of appreciation for your participation in this research project.

Information collected will be kept confidential to the maximum extent of the law. Your name will not be put on any of the evaluation forms. The forms will be kept separate from anything that would allow someone to link responses to your name. All information will be kept in a locked file cabinet in the project coordinator's office, and destroyed (shredded) two years after publication of the results. Also, no individual responses will be used when reporting the results of this evaluation. You may receive a copy of the evaluation results by calling Meagan Shedd at 517-353-8594.

The forms will take about 20-30 minutes of your time. If you have any questions about this study, please contact the investigator Meagan Shedd, regular mail: 240 Agriculture Hall, East Lansing, MI 48824, phone: (517) 353-8594, or by email address: sheddm@msue.msu.edu. If you have any questions or concerns regarding your rights as a study participant, or are dissatisfied at any time with any aspect of this study, you may contact-anonymously if you wish-Peter Vasilenko, Ph.D., Chair of the University Committee on Research Involving Human Subjects (UCRIHS) by phone: (517) 355-2180, fax: (517) 432-4503, email address: ucrihs@msu.edu, or regular mail: 202 Olds Hall, East Lansing, MI 48824.

I agree to voluntarily participate in this research project:

Signature of Parent_____ Date_____

# Michigan State University
# Children, Youth and Family Programs

## Parent Consent Form-Group Three
## Pyramids Between the Pages for the Young Child Participant

Name of Parent_____

Family Number_____

(Family Number = Instructor's Initials, County Initial and Family Number. For example, family number-MSI1 stands for Meagan Shedd (MS), Ingham County (I), and my first family (1) = MSI1).

---

We are conducting an evaluation of a nutrition education program that also provides information about early literacy development in young children. This study will determine the best way to deliver the program to parents of young children in Michigan. Your participation in this project is voluntary and services are still available to you should you choose not to participate. You have the right to refuse to answer any question or even refuse to participate at any time, without penalty.

By signing this form, you are consenting to participating in Group Three of the study. This means that you will be receiving a parent newsletter about nutrition and literacy devleopment for young children. A staff member will visit you two times (at the beginning and end of the study) and ask you to complete a Participant Information Form, a Parent Nutrition Survey and a Parent Reading survey. You will receive two of the parent newsletters when the staff member visits you, and the other two will be mailed to your home. After the study is completed, you will receive two children's books as a token of appreciation for your participation in this research project.

Information collected will be kept confidential to the maximum extent of the law. Your name will not be put on any of the evaluation forms. The forms will be kept separate from anything that would allow someone to link responses to your name. All information will be kept in a locked file cabinet in the project coordinator's office, and destroyed (shredded) two years after publication of the results. Also, no individual responses will be used when reporting the results of this evaluation. You may receive a copy of the evaluation results by calling Meagan Shedd at 517-353-8594.

The forms will take about 20-30 minutes of your time. If you have any questions about this study, please contact the investigator Meagan Shedd, regular mail: 240 Agriculture Hall, East Lansing, MI 48824, phone: (517) 353-8594, or by email address: sheddm@msue.msu.edu. If you have any questions or concerns regarding your rights as a study participant, or are dissatisfied at any time with any aspect of this study, you may contact-anonymously if you wish-Peter Vasilenko, Ph.D., Chair of the University Committee on Research Involving Human Subjects (UCRIHS) by phone: (517) 355-2180, fax: (517) 432-4503, email address: ucrihs@msu.edu, or regular mail: 202 Olds Hall, East Lansing, MI 48824.

I agree to voluntarily participate in this research project:

Signature of Parent_____ Date_____

# Michigan State University
# Children, Youth and Family Programs

## Parent Consent Form-Control Group
## Pyramids Between the Pages for the Young Child Participant

Name of Parent_____

Family Number_____

(Family Number = Instructor's Initials, County Initial and Family Number. For example, family number-MSI1 stands for Meagan Shedd (MS), Ingham County (I), and my first family (1) = MSI1).

---

We are conducting an evaluation of a nutrition education program that also provides information about early literacy development in young children. This study will determine the best way to deliver the program to parents of young children in Michigan. Your participation in this project is voluntary and services are still available to you should you choose not to participate. You have the right to refuse to answer any question or even refuse to participate at any time, without penalty.

By signing this form, you are consenting to participating in the Control Group of the study. This means that a staff member will visit your home two times (at the beginning and end of the study) and ask you to complete a Participant Information Form, a Parent Nutrition Survey and a Parent Reading survey. After the study is completed, you will receive two children's books as a token of appreciation for your participation in this research project.

Information collected will be kept confidential to the maximum extent of the law. Your name will not be put on any of the evaluation forms. The forms will be kept separate from anything that would allow someone to link responses to your name. All information will be kept in a locked file cabinet in the project coordinator's office, and destroyed (shredded) two years after publication of the results. Also, no individual responses will be used when reporting the results of this evaluation. You may receive a copy of the evaluation results by calling Meagan Shedd at 517-353-8594.

The forms will take about 20-30 minutes of your time. If you have any questions about this study, please contact the investigator Meagan Shedd, regular mail: 240 Agriculture Hall, East Lansing, MI 48824, phone: (517) 353-8594, or by email address: sheddm@msue.msu.edu. If you have any questions or concerns regarding your rights as a study participant, or are dissatisfied at any time with any aspect of this study, you may contact-anonymously if you wish-Peter Vasilenko, Ph.D., Chair of the University Committee on Research Involving Human Subjects (UCRIHS) by phone: (517) 355-2180, fax: (517) 432-4503, email address: ucrihs@msu.edu, or regular mail: 202 Olds Hall, East Lansing, MI 48824.

I agree to voluntarily participate in this research project:

Signature of Parent_____Date_____

# APPENDIX G

# PARENT READING SURVEY

Family Number: _____
Birthdate of Child:_____

# Parent Reading Survey

Please indicate how often you do any of the following activities with your child. Place an X in the box that best describes your answer.

| *How often do you...* | **Always** (every day) | **Frequently** (4-5 times / week) | **Sometimes** (2-3 times / week) | **Occasionally** (once a week) | **Once in a While** (2 times / month) | **Almost Never** (once/month or less) | **Never** |
|---|---|---|---|---|---|---|---|
| **Read to your child** | | | | | | | |
| **Enjoy reading with your child** | | | | | | | |
| **Show your child how to hold a book** | | | | | | | |
| **Talk about how a book relates to everyday things** | | | | | | | |
| **Talk about a book with your child** | | | | | | | |
| **Help your child learn the alphabet** | | | | | | | |

| *How often do you...* | **Always** (every day) | **Frequently** (4-5 times / week) | **Sometimes** (2-3 times / week) | **Occasionally** (once a week) | **Once in a While** (2 times / month) | **Almost Never** (once/month or less) | **Never** |
|---|---|---|---|---|---|---|---|
| Sing songs with or to your child | | | | | | | |
| Help your child learn colors through reading | | | | | | | |
| Play rhyming games with your child | | | | | | | |
| Read, say or sing nursery rhymes with your child | | | | | | | |
| Play word games and finger plays with your child | | | | | | | |
| Have writing materials (crayons, markers and paper) available for your child | | | | | | | |
| Tell stories with or to your child without using books | | | | | | | |

| *How often do you...* | **Always** (every day) | **Frequently** (4-5 times / week) | **Sometimes** (2-3 times / week) | **Occasionally** (once a week) | **Once in a While** (2 times / month) | **Almost Never** (once/month or less) | **Never** |
|---|---|---|---|---|---|---|---|
| Have your child read to you (even if she/he can't read yet) | | | | | | | |
| Point out or sort shapes with your child | | | | | | | |
| Talk with your child, listening to his/her answers | | | | | | | |
| Visit the library or bookstore with your child | | | | | | | |
| Teach new words to your child | | | | | | | |
| Point to words or pictures when you read with your child | | | | | | | |
| Answer your child's questions while reading | | | | | | | |
| Sit close together while you are reading | | | | | | | |
| Read favorite stories over and over again | | | | | | | |

Please complete the additional questions by circling the best response for your situation.

1. How old was your child when you or another family member began to read to him or her?
   A. 0-6 months
   B. 7-12 months
   C. 13 months to 1 ½ years
   D. 1 ½ years to 2 years
   E. 2 years or older
2. How many minutes did you or another family member read to your child yesterday?
   A. 0 minutes
   B. 1-10 minutes
   C. 11-20 minutes
   D. 21-30 minutes
   E. more than 30 minutes
3. Approximately how many children's books do you have in your home for your children's use?
   A. 0-2
   B. 3-10
   C. 11-20
   D. 21-40
   E. more than 40
4. How often does your child ask to be read to?
   A. hardly ever
   B. once or twice a month
   C. once or twice a week
   D. almost daily
   E. every day
5. How much time does your child spend watching TV each day?
   A. none
   B. less than an hour
   C. 1-3 hours
   D. 3-5 hours
   E. more than 5 hours

Thank you for taking the time to fill out the Parent Reading Survey. We appreciate your willingness to respond.

# APPENDIX H

## RESEARCH ON HUMAN SUBJECTS APPROVAL LETTER

MICHIGAN STATE
UNIVERSITY

May 4, 2004

TO: Anne SODERMAN
13-H Human Ecology
MSU

RE: **IRB# 04-279** CATEGORY: EXPEDITED 2-7

**APPROVAL DATE: May 4, 2004**
**EXPIRATION DATE April 4, 2005**

TITLE: PARENT BEHAVIOR CHANGE IN DEVELOPING LITERACY SKILLS IN YOUNG CHILDREN

The University Committee on Research Involving Human Subjects' (UCRIHS) review of this project is complete and I am pleased to advise that the rights and welfare of the human subjects appear to be adequately protected and methods to obtain informed consent are appropriate. Therefore, the **UCRIHS approved this project.**

**RENEWALS:** UCRIHS approval is valid until the expiration date listed above. Projects continuing beyond this date must be renewed with the renewal form. A maximum of four such expedited renewals are possible. Investigators wishing to continue a project beyond that time need to submit a 5-year application for a complete review.
**REVISIONS:** UCRIHS must review any changes in procedures involving human subjects, prior to initiation of the change. If this is done at the time of renewal, please include a revision form with the renewal. To revise an approved protocol at any other time during the year, send your written request with an attached revision cover sheet to the UCRIHS Chair, requesting revised approval and referencing the project's IRB# and title. Include in your request a description of the change and any revised instruments, consent forms or advertisements that are applicable.
**PROBLEMS/CHANGES:** Should either of the following arise during the course of the work, notify UCRIHS promptly: 1) problems (unexpected side effects, complaints, etc.) involving human subjects or 2) changes in the research environment or new information indicating greater risk to the human subjects than existed when the protocol was previously reviewed and approved.

If we can be of further assistance, please contact us at (517) 355-2180 or via email: UCRIHS@msu.edu. Please note that all UCRIHS forms are located on the web: http://www.humanresearch.msu.edu

Sincerely,

Peter Vasilenko, Ph.D.
UCRIHS Chair

PV: rt

cc: Meagan Shedd
240 Agriculture Hall
East Lansing, MI 48824

OFFICE OF
**RESEARCH ETHICS AND STANDARDS**
**University Committee on Research Involving Human Subjects**
Michigan State University
202 Olds Hall
East Lansing, MI
48824
517/355-2180
FAX: 517/432-4503
Web: www.msu.edu/user/ucrihs
E-Mail: ucrihs@msu.edu

## REFERENCES


Adams, M.J. (1990). Beginning to read: Thinking and learning about print. Cambridge, MA: MIT Press.

Bandura, A. (2002). Social cognitive theory in cultural context. *Journal of Applied Psychology: An International Review*, 51-269-290.

Bandura, A. (2001). Social cognitive theory: An agentic perspective. *Annual Review of Psychology*, 52, 1-26.

Bandura, A. (1977). *Social Learning Theory*. Englewood Cliffs, New Jersey: Prentice Hall.

Bandura, A. & Locke, E.A. (2003). Negative self-efficacy and goal effects revisited. *Journal of Applied Psychology*, 88(1), 87-99.

Bennett, K.K. Weigel, D.J, & Martin, S.S. (2002) Children's acquisition of early literacy skills: examining family contributions. *Early Childhood Research Quarterly*, 17, 295-317.

Berger, E.H. (1998) Reaching Parents Through Literacy. *Early Childhood Education Journal*, 25(3): 211-215.

Bianchi, S.M. & Robinson, J. (1997). What did you do Today? Children's use of time, family composition and the acquisition of social capital. *Journal of Marriage and the Family,* 59(2), 332-344.

Britto, P.R. & Brooks-Gunn, J. (2001). Beyond shared book reading: dimensions of home literacy and low-income African American preschoolers' skills. In *New Directions for Child and Adolescent Development*, 92 Summer, pg. 73-89.

Bronfenbrenner, U. (1979). *The ecology of human development.* Cambridge, MA: Harvard University Press.

Bubolz, M. & Sontag, S. (1993). Human Ecology Theory. Sourcebook of family theories and methods. P. Boss, et al (Eds.). New York: Plenum.

Bus, A.G., van IJzendoorn, M.H. & Pelligrini, A.D. (1995). Joint book reading makes for success in learning to read: A meta-analysis on intergenerational transmission of literacy. *Review of Educational Research*, 65(1), 1-21.

Bush, L. (2001, July 26). Remarks of Laura Bush at the White House summit on early childhood cognitive development. Retrieved October 18, 2003,

from http://www.whitehouse.gov/news/releases/2001/07/20010726-16.html.

Carnegie Foundation for the Advancement of Teaching. (1991). *Ready to learn: A mandate for the nation.* New York: Carnegie Foundation for the Advancement of Teaching.

Casey Foundation. (1998). Kids Count Data Book, 1997-98. Baltimore, MD: Annie E. Casey Foundation.

Chisholm, J.J. (2001). The road to primary prevention of lead toxicity in children. *Pediatrics*, 107(3), 581-583.

Christian, K., Morrison, F.J. & Bryant, F.B. (1998). Predicting kindergarten academic skills: Interactions among child care, maternal education, and family literacy environments. *Early Childhood Research Quarterly*,13(3), 501-521.

Conen, J. (1992). A power primer. *Psychological Bulletin*, 112, 155-159.

Cronan, T.A., Cruz, S.G., Arriaga, R.I., & Sarkin, A.J. (1996). The effects of a community-based literacy program on young children's language and conceptual development. *American Journal of Community Psychology.* 24(2), 251-271.

DeBaryshe, B.D., Binder, J.C. & Buell, M.J. (2000). Mother's implicit theories of early literacy instruction: Implications for children's reading and writing. *Early Child Development and Care,* 160, 119-131.

DeBaryshe, B.D., Buell, M.J. & Binder, J.C. (1996). What a Parent Brings to the Table: Young Children Writing with and without Parental Assistance. *Journal of Literacy Research*, 28(1), 71-90.

Dickinson, D.K. & Sprague, K.E. (2001). The nature and impact of early childhood literacy education on the language and early literacy development of children from low income families. In S.B. Neuman and D.K. Dickinson (Eds.), *Handbook of Early Literacy Research*,. (pp. 263-280). New York: The Guilford Press.

Entwisle, D.R. & Alexander, K.L. (1995). A parent's economic shadow: Family structure versus family resources as influences on early school achievement. *Journal of Marriage and the Family*, 57(2), 399-409.

Field, A. (2000). *Discovering Statistics: Using SPSS for Windows.* Thousand Oaks, California: Sage Publications.

Fegans, L. & Haskins, R. (1986). Neighborhood dialogues of black and white 5-year-olds. *Journal of Applied Developmental Psychology*, 7, 181-200.

Goldenberg, C. (2001). Making schools work for low-income families in the 21st century. In S.B. Neuman and D.K. Dickinson (Eds.), *Handbook of Early Literacy Research*, (pp. 211-231). New York: The Guilford Press.

Gorman, K.S. (1995). Malnutrition and cognitive development: Evidence from experimental/quasi-experimental studies among the mild-to-moderately malnourished. *Journal of Nutrition, 125(3), 2239S-2244S.*

Gregory, L.P. & Morrison, T.G. (1998). Lap reading for young at-risk children: introducing families to books. *Early Childhood Education Journal*, 26(2), 67-77.

Hamilton, M.E., Roach, M.A. & Riley, D.A. (2003). Moving toward family-centered early care and education: The past, the present, and a glimpse of the future. *Early Childhood Education Journal*, 30(4), 225-232.

Hancock, T.B., Kaiser, A.P. & Delaney, E.M. (2002). Teaching preschoolers at high risk: strategies to support language and positive behavior. *Topics in Early Childhood Special Education*, 22(4),191-212.

Haney, M.R. (2002). Name writing: A window into the emergent literacy skills of young children. *Early Childhood Education Journal*, 30(2), 101-105.

Hargrave, A.C. & Senechal, M. (2000). A book reading intervention with preschool children who have limited vocabularies: The benefits of regular reading and dialogic reading. *Early Childhood Research Quarterly*, 15(1), 75-90.

Hart, B. & Risley, T. (1995). *Meaningful differences in everyday parenting and intellectual development in young American children.* Baltimore: Brookes.

Heath, S.B. (1983). *Ways with words.* New York: Cambridge University Press.

Hockenberger, E.H., Goldstein, H. & Hass, L.S. (1999) Effects of commenting during joint book reading by mothers with low SES. *Topics in Early Childhood Special Education*, 19(1),15-30.

Holloway, S.D., Rambaud, M.F., Fuller, B. & Eggers-Pierola, C. (1995) What is "appropriate practice" at home and in child care?: Low-income mothers' views on preparing their children for school. *Early Childhood Research Quarterly,*10, 451-473.

Johnson, D.L., Walker, T.B., Rodriguez, G.G. (1996). Teaching low-income mothers to teach their children. *Early Childhood Research Quarterly*, 11, 101-114.

Johnston, P.H. & Rogers, R. (2001). Early literacy development: The case for "informed assessment". In S.B. Neuman and D.K. Dickinson (Eds.), *Handbook of Early Literacy Research*,. (pp. 377-389). New York: The Guilford Press.

Juel, C. (1988). Learning to read and write: A longitudinal study of 54 children from first through fourth grades. *Journal of Educational Psychology*, 80, 437-447.

Korat, O. (2001). Cultural pedagogy and bridges to literacy: Home and kindergarten. *Early Childhood Education Journal*, 28(4), 225-230.

Leseman, P.P.M. & deJong, P.F. (1998). Home literacy: Opportunity, instruction, cooperation and social-emotional quality predicting early reading achievement. *Reading Research Quarterly*, 33(3), 294-318.

Leslie, L., & Allen, L. (1999). Factors that predict success in an early literacy intervention program. *Reading Research Quarterly*, 34, 404-424.

Liu, X., Dietrich, K.N., Radcliffe, J., Ragan, N.B. et al. (2002). Do children with falling blood lead levels have improved cognition? *Pediatrics*, 110(4), 787-791.

Marcon, R. (2002). Moving up the grades: Relationship between preschool model and later school success [special issue, electronic version]. *Early Childhood Research and Practice*, 4(1).

McCartney, K., & Rosenthal, R. (2000). Effect size, practical importance and social policy for children. *Child Development*, 71(1), 173-180.

Mendez, M.A. & Adair, L.S. (1999). Severity and timing of stunting in the first two years of life affect performance on cognitive tests in late childhood. *Journal of Nutrition*, 129 (8), 1555-1562.

Michigan Department of Education. (2003). Statewide MEAP results: Percent of students by performance category. Retrieved February 28, 2004 from http://treas-secure.state.mi.us/meritaward/mma/results.htm.

Molfese, V.J., Modglin, A. & Molfese, D.L. (2003). The role of environment in the development of reading skills: A longitudinal study of preschool and school-age measures. *Journal of Learning Disabilities.*, 36(1), pg 59-67.

National Association for the Education of Young Children. (2000). *National Center for Education Statistics: Survey* [online]. Available: http://nces.ed.gov/ecls/pdf/birth/BSum.pdf.

National Association for the Education of Young Children. (1995). *NAEYC position statement on school readiness.* Washington, D.C.

National Reading Panel. (n.d.) *Report of the National Reading Panel: Teaching children to read.* Retrieved November 15, 2003 from http://www.nichd.nih.gov/publications/nrp/findings.htm.

Neuman, S.B., (1996) Children Engaging in Storybook Reading; The influence of access to print resources, opportunity, and parental interaction. *Early Childhood Research Quarterly,* 11, 495-513.

Ortiz, C., Stowe, R.M. & Arnold, D.H. (2001). Parental influence on child interest in shared picture book reading. *Early Childhood Research Quarterly,* 16, 263-281.

Parks, P.L. & Smeriglio, V.L. (1986). Relationships among parenting knowledge, quality of stimulation in the home and infant development. *Family* Relations, 35(3), 411-416.

Ponzetti, J.J. & Dulin, W. (1997). Parent education in Washington state Even Start family literacy programs. *Early Childhood Education Journal,* 25(1), 23-29.

Reuter, M.A., Conger, R.D. & Ramisetty-Mikler, S. (1999). Assessing the benefits of a parenting skills training program: A theoretical approach to predicting direct and moderating effects. *Family Relations*, 48(1), 67-77.

Rising, K.L., Weir, C.G. & McMullen, M. (1996). Effects of otitis media and upper respiratory tract infection on cognitive development of 6- and 12-month-old infants. *Infant Behavior and Development*, 19, 702.

Roberts, J.E. & Burchinal, M.R. (2001). The complex interplay between biology and environment: Otitis media and mediating effects on early literacy development. In S.B. Neuman and D.K. Dickinson (Eds.), *Handbook of Early Literacy Research.* (pp. 232-241). New York: The Guilford Press.

Scarborough, H.S., Dobrich, W., & Hager, M. (1991). Preschool literacy experience and later reading achievement. *Journal of Learning Disabilities,* 24 (8), 508-511.

Seaman, D.F. & Yoo, C.Y. (2001). The potential for even start family literacy programs to reduce school dropouts. *Preventing School Failure.* 46(1): 42-46.

Senechal, M. & Lefevre, J. (2002). Parental involvement in the development of children's reading skill: a five-year longitudinal study. *Child Development*, 73(2), 445-450.

Senechal, M. & LeFevre, J. (2001). Storybook reading and parent teaching: Links to language and literacy development. In P.R. Britto & J. Brooks-Gunn (Eds.). *New Directions for Child and Adolescent Development*, 92, (pp. 39-52). Indianapolis, IN: Jossey Bass.

Sharif, I. Ozuah, P.O., Dinkevich, E.I. & Mulvihill, M. (2003) Impact of a brief literacy intervention on urban preschoolers. *Early Childhood Education Journal,* 30(3), 177-180.

Snow, C.E., Burns, M.S., & Griffin, P. (Eds.) (1998). *Preventing reading difficulties in young children.* Washington, DC: National Academy Press.

Snow, C. and Tabors, T. (1996) Intergenerational Transfer of Literacy. Archived Family Literacy: Directions in Research and Implications for Practice www.ed.gov/pubs/FamLit/transfer.html.

Sonnenschein, S. & Munsterman, K. (2002). The influence of home-based reading interactions on 5-year-olds' reading motivations and early literacy development. *Early Childhood Research Quarterly*, 17, 318-337.

Storch, S.A. and Whitehurst, G.J. (2001). The role of family and home in the literacy development of children from low-income backgrounds. In P.R. Britto & J. Brooks-Gunn (Eds.). *New Directions for Child and Adolescent Development,* 92 (pp. 53-71). Indianapolis, IN: Jossey Bass.

Teachman, J.D., Paasch, K. & Carver, K. (1996). Social capital and dropping out of school early. *Journal of Marriage and the Family,* 58(3), 773-783.

Thallheimer, W. & Cook, S. (2002, August). How to calculate effect sizes from published research articles: A simplified methodology. Retrieved April 27, 2005 from http://work-learning.com/effect_sizes.htm.

Theriot, J.A., Franco, S.M., Sisson, B.A., Metcalf, SC., et al. (2003) The impact of early literacy guidance on language skills of 3-year-olds. *Clinical Pediatrics.* 42(2) 165-172.

Touliatos, J., Perlmutter, B.F. & Straus, M.A. (Eds.). (2001). *Handbook of family measurement techniques.* Thousand Oaks, CA: Sage Publications.

Trelease, J. (1995). *The read-aloud handbook* (4th ed.). New York: Penguin Books.

U.S. Census Bureau. (2000). *Census 2000 Urban and Rural Classification.* Retrieved April 8, 2004 from http://www.census.gov/geo/www/ua/ua_2k.html.

Vernon-Feagans, L., Emanuel, D.C., & Blood, I. (1997). The effect of otitis media and quality of daycare on children's language development. *Journal of Applied Developmental Psychology*, 18, 395-409.

Vernon-Feagans, L., Hammer, S.C., Miccio, A. & Manlove, E. (2001). Early language and literacy skills in low-income African American and Hispanic children. In S.B. Neuman and D.K. Dickinson (Eds.), *Handbook of Early Literacy Research.* (pp. 444-458). New York: The Guilford Press.

Wasik, B.H., Dobbins, D.R., & Herrmann, S. (2001). Intergenerational Family Literacy: Concepts, research and practice. In S.B. Neuman and D.K. Dickinson (Eds.), *Handbook of Early Literacy Research.* (pp. 444-458). New York: The Guilford Press.

Werner, E.E., and Smith, R. S. (1992). *Overcoming the odds: High risk children from birth to adulthood.* Ithaca, NY: Cornell University Press.

West, J., Denton, K. & Germino-Hausken, E. (2000). *America's Kindergartners.* Washington, D.C.: U.S. Department of Education, National Center for Education Statistics.

Whitehurst, G.J. & Lonigan, C.J. (2001). Emergent Literacy: Development from prereaders to readers. In S.B. Neuman and D.K. Dickinson (Eds.), *Handbook of Early Literacy Research.* (pp. 11-29). New York: The Guilford Press.

Whitehurst, G.J., Arnold, D.S., Epstein, J.., Angell, A.L., Smith, M. & Fischer, J.E. (1994) A picture book reading intervention in day care and home for children from low-income families. *Developmental Psychology*, 30(5), 679-689.

Zeece, P.D. (2002) Learning, literacy, and literature in children's social world. *Early Childhood Education Journal*, 30 (2), 119-124.

Zeece, P.D. & Churchill, S.L. (2001) First stories: emergent literacy in infants and toddlers. *Early Childhood Education Journal*, 29(2), 101-104.

Zehnder-Merrell, Jane. (2000). Kids count in Michigan: Data book 2000: County profiles of child well-being. Lansing, Michigan: Michigan League for Human Services.

Zill, N., Collins, M., West, J., & Germino-Hausken, E. (1995). *Approaching kindergarten: A look at preschoolers in the United States.* Washington, DC: U.S. Department of Education, National Center for Education Statistics.

Zimmerman, B.J. (1989). A social cognitive view of self-regulated academic learning. *Journal of Educational Psychology*, 81(3), 329-339.