EXPLORING THE ADDITIVE BENEFIT OF PARENTAL NURTURANCE TRAINING ON PARENT AND CHILD SHARED READING OUTCOMES: A PILOT INTERVENTION STUDY

A Dissertation

by

MEGAN TERRY

Submitted to the Office of Graduate Studies of
Texas A&M University
in partial fulfillment of the requirements for the degree of

DOCTOR OF PHILOSOPHY

August 2011

Major Subject: School Psychology

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Approved by:

Chair of Committee,	Jan Hughes
Committee Members,	Anita McCormick
	Jorge Gonzalez
	Erin McTigue
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ABSTRACT

Exploring the Additive Benefit of Parental Nurturance Training on Parent and Child Shared Reading Outcomes: A Pilot Intervention Study. (August 2011)

Megan Terry, B.S., Westminster College

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A six week parent-child shared reading intervention targeting children's emergent literacy and emotion knowledge was implemented for 33 Head Start home-based families. This pilot study tested the hypothesis that the nominal addition of social emotional components to an evidenced-based shared reading intervention (dialogic reading) would result in additive effects in regards to parent and child outcomes. The study utilized a pre-post test design involving random assignment of families to one of two treatment groups. Both groups received the standard dialogic reading intervention, while parents in the DR+ES (dialogic reading plus emotion skills) received an additional nominal dose of training in how to be nurturing towards their child during reading and how to use the story as a catalyst to talking about emotions.

Differential effects between the two interventions were not found. Specifically, no clinically significant group effects were found for children's print concepts knowledge and emotion knowledge (emotion labeling and perspective taking) at post-test. Similarly, no effects emerged for parents' reading related behaviors, namely, application of verbal prompts, and displayed warmth. Effect sizes, as measured by eta

squared, were also consistently low for all dependent measures, ranging from .00 for children's perspective taking and parents' displayed warmth to .03 for parent verbal prompts. Significant time effects emerged for all outcome variables with the exception of parent warmth, with effect sizes ranging from $d = 0.31$ (parent warmth) to $d = 1.31$ (parents' dialogic reading prompts), with an average effect size of $d = 0.61$.

This study is the first to explore the potential impact of combining emotional content into the dialogic reading intervention. It refocuses attention on the *contexts* that promote children's school readiness skills. Results suggest that the potential benefits of dialogic reading extend beyond parent and children reading related skills, and may include children's emotional development. Findings warrant further investigation of interventions that support parents in maximizing the benefits of shared reading.

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INTRODUCTION

Significant research has demonstrated the need to promote high quality early childhood experiences to children long before they enter formal schooling (e.g. Barnett, 1998; Hart & Risley, 1995; Ramey & Ramey, 2004). Longitudinal research has clearly supported the argument that children's skills at school entry are strongly correlated with later educational outcomes, especially in the area of literacy (e.g. Juel, 1988; Stanovich, 1986; Stevenson & Newman, 1986). Dramatic differences in the home environments of families place disadvantaged children at an even greater risk for school failure (e.g. Burgess, Hecht, & Lonigan, 2002; Storch & Whitehurst, 2001). Despite the substantial research supporting early intervention, universal preschool has yet to become a reality in this country, with few exceptions (Gormley, Gayer, Phillips, & Dawson, 2005). Never-the-less, national attention to the issue remains strong, resulting in federal initiatives targeted at school readiness skills, with a particular emphasis on literacy (No Child Left Behind Act, 2001; Reading Excellence Act, 1998).

There are many contributing factors to this increased awareness and commitment to preparing young children for success in school. Kindergarten teachers can attest to the rise in extremely diverse classrooms of students who vary significantly in terms of prior experience, background, language, and ability (International Reading Association (IRA) & National Association for the Education of Young Children (NAEYC), 1998; Rimm-Kaufman, Pianta, Cox, 2000). This uneven playing field that

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This dissertation follows the style of *School Psychology Review*.

exists as early as Kindergarten places some children at significant risk for continued academic difficulties. Longitudinal studies have called attention to the relative stability of early deficits in reading. For example, among a sample of 54 children evaluated during 1st and 4th grade, Juel (1988) found that if a child was a poor reader at the end of first grade, the probability that the child would remain a poor reader at the end of 4th grade was a .88. Juel (1988) and Stanovich (1986) discuss the ever widening gap that develops over time between the good readers and the poor readers as the good readers typically continue to increase their interactions with print, while poor readers avoid such interactions. Stanovich coined this "rich get richer" phenomenon the Matthew effect in reading.

As will be elaborated in the Literature Review, 1st grade is by no means when a child begins to learn how to read. Large scale reviews of reading related research conducted by the National Research Panel (NRP; 1998) and the National Early Literacy Panel (NELP, 2008) report a host of precursory skills that children develop through informal interactions with language and print prior to school entry. These skills, referred to as emergent literacy skills, repeatedly have shown moderate to strong relationships to conventional literacy skills; therefore, have been the focus of newly developed preschool curricula and intervention efforts. This body of literature suggests that discrepancies in reading ability can often be traced back to before the child even set foot inside a Kindergarten classroom.

Some troubling national statistics only accentuate the need for early intervention. Results from the most recently released Nation's Report Card provided by

the National Assessment of Educational Progress (2007) indicated that 67% of 4th grade students and 74% of 8th grade students performed at or above the "Basic" level, using a scale that includes Basic, Proficient, and Advanced designations. This leaves a staggering 33% of fourth graders and 26% of 8th graders reading below the Basic level. In Texas, performance was comparable with 34% of 4th graders and 27% of 8th graders failing to read at the Basic level.

The substantial research pointing to the stability of early deficits is not meant to create feelings of hopelessness, rather draw attention to a serious problem that can be improved. There is actually no sensitive period for literacy acquisition. Young children who enter Kindergarten behind their peers are capable of becoming successful readers. Unfortunately, the "age-based" as opposed to "skill-based" curriculum that characterizes our educational system does not easily accommodate the extreme entry level differences that exist (Whitehurst & Lonigan, 1998). Additionally, as Lonigan (2006) notes, reading proficiency levels have remained constant over the years, while society's expectations for literacy have changed. The literacy requirements for most jobs are continuously increasing, raising the bar for what is considered basic proficiency.

The mental health status of today's youth is an equally disturbing picture. Similar to the relative stability of early literacy skills, social and emotional competence at school entry can predict emotional and behavioral outcomes years later (e.g. Izard, 1971; Fine, Izard, Mostow, Trentacosta, & Ackerman, 2003). Results from the Early Childhood Longitudinal Study, a nationally representative study of more than 22,000 Kindergarteners, suggest that children from disadvantaged families are at a particularly

high risk for social and emotional problems due to exposure to multiple poverty-related risk factors (West, Denton, & Reaney, 2001). Among a sample of 259 Head Start children, Kaiser (2000) reported 25% of both boys and girls demonstrated clinical or subclinical levels of internalizing behavior, while over 20% of boys scored in the clinical rage for externalizing behavior, measured by parent rating scales. Consequently, the following key issues should be targeted in early intervention efforts for high-risk children: control of aggressive behavior; acquisition and use of prosocial skills with peers; positive relationships with peers, parents, and teachers; and the development of a positive interest in school (Webster-Stratton & Taylor, 2001). Additionally, substantial research has demonstrated the bidirectional relationship that appears to exist between social emotional competencies and academic achievement (e.g. Blair, 2002; Raver & Zigler, 1997; Raver, 2002). For example, among a sample of 5 year old children from disadvantaged families, emotion knowledge (i.e. recognition and labeling of emotions) significantly predicted teacher reported social skills, behavior problems, and academic competence in 3rd grade (Izard, Fine, Schultz, Mostow, Ackerman, & Youngstrom, 2001).

This culmination of knowledge, along with troubling statistics, have contributed in part to a shift in how early childhood education is conceptualized. Preschool curriculum is more focused on promoting academic knowledge and skills with a particular focus on emergent literacy. As children face increased expectations, parents and educators likewise experience greater accountability in teaching such skills (Neuman, 1999). Ostrosky, Gaffney, and Thomas (2006) offered two approaches to

handling this paradigm shift in early education keeping in mind the importance of adult-child relationships in children's literacy and social emotional development. The first option is described as "pushing down" the first grade curriculum into childcare and preschool programs, such that literacy is taught as a separate content area. In such cases, teachers acknowledge the fact that literacy acquisition begins early and implement teaching practices that are typically used with older children, such as whole group instruction or intensive drill and practice techniques. Such teaching methods are ineffective and developmentally inappropriate for preschool children; yet, unfortunately they continue to be implemented in many classrooms (International Reading Association & National Association for the Education of Young Children, 1998). The second option Ostrosky et al. proposed incorporates literacy into routine interactions with children. Such a choice demands not only expert knowledge of evidence-based instructional practices, but also requires attention to the social and emotional contexts that encourage optimal learning. This objective is aligned with the traditional approach to early childhood education, which is to foster the development of the whole child, a vision that inspired the creation of Head Start in the 1960s. This philosophy continues to drive nationwide efforts committed to coordinated social and emotional learning implemented throughout a child's educational career (e.g. Collaborative for Academic, Social, and Emotional Learning, 2005).

The following review of the literature provides theoretical and empirical support for the development and pilot study of an intervention designed for preschool-aged children and their caregivers to simultaneously promote key readiness skills--emergent

literacy and social emotional competence--while also fostering the parent-child relationship within which the intervention is delivered. Early childhood education could benefit from literacy-focused interventions that consciously address other developmental domains and can be easily incorporated into the regular home or school routine.

The present intervention is based on shared book reading between parent and child, a home literacy activity that has been extensively researched for decades (for review see Anderson, Anderson, Lynch, & Shapiro, 2003). Quantitative features of shared book reading, such as the frequency with which storybook reading occurs (Evans, Shaw, & Bell, 2000), and the age at which parents begin to read to their child (Bus, van Ijzendoorn, & Pellegrini, 1995) have been investigated and positively correlated with emergent literacy skills. Additionally, many qualitative characteristics of shared reading have been linked to child reading outcomes, including the child's interest in book reading (e.g. Payne, Whitehurst, & Angell, 1994), parents' or teachers' interactional style and verbalizations (e.g. Reese & Cox, 1999), type of text (e.g. Neuman, 1996), and qualities of the parent-child relationship (e.g. Bus, 2003).

Focusing on maternal interactional style, a specific type of reading referred to as dialogic reading, will be utilized in the intervention. Dialogic reading techniques, first developed by Whitehurst and colleagues (Whitehurst et al., 1988; for review see Zevenbergen & Whitehurst, 2003), involve high levels of adult-child interaction such that the adult provides the child opportunities to become an active participant. This is accomplished through verbal scaffolding techniques such as asking open-ended questions, adding information, and focusing on print concepts (Zevenbergen &

Whitehurst, 2003). These prescribed reading techniques have been the focus of numerous empirical studies involving diverse samples and using both parents and teachers as delivery agents (Arnold, Lonigan, Whitehurst, & Epstein, 1994; Lonigan & Whitehurst, 1998; Whitehurst et al., 1988; Whitehurst et al., 1999; Whitehurst, Arnold et al., 1994; Whitehurst, Epstein et al., 1994; Valdez-Menchaca, & Whitehurst, 1992) . Results of this relatively short-term intervention point to consistent gains in expressive language, as well as some emergent literacy skills of preschool-aged children.

The role of the parent-child relationship during book reading and its unique effect on children's language and literacy development has also received significant attention within the literature. Several studies by Bus and colleagues (for review see Bus, 1994; Bus, 2003) suggest that a child's primary motive for reading storybooks is the intimate experience it offers with his or her caregiver. Other studies have linked qualities of the parent-child relationship (i.e. maternal sensitivity, nurturance) to characteristics of the parent-child interaction during literacy activities (Clingenpeel & Pianta, 2007), and later reading achievement (Merlo, Bowman, & Barnett, 2007) after controlling for variables such as SES, prior reading achievement, and home academic stimulation. Implications of this body of literature support the development of parent-child shared book reading interventions that also attend to the social and affective features of the interaction.

Tying together both the instructional and relational aspects of shared book reading, the proposed intervention will include brief parent training in dialogic reading strategies modeled after Whitehurst and colleagues', as well as provide parents with

some basic knowledge and skills to enhance the affective and emotional climate of reading with their child. Parents will be instructed to attend to characteristics of their shared reading sessions that go beyond the story itself, including encouragement of child talk, use of warm and supportive language, displays of physical affection, and flexibility in adapting to their child's interests and affect.

While the proposed intervention acknowledges the role of quality relationships in promoting social and emotional competencies, such skills will also be explicitly promoted through the intervention books themselves. Utilizing books with social emotional themes to teach children various skills is a theoretically supported practice within the field of bibliotherapy (e.g. Cartledge & Kiarie, 2001; Heath, Sheen, Leavy, Young, & Money, 2005), and such books are a common component of empirically based social and emotional programming for preschoolers (e.g. Head Start REDI Program, Beirman et al., 2008; PATHS, Domitrovich, Cortes, & Greenberg, 2007). There is growing empirical support that stories offer a powerful medium through which to teach social skills (Teglasi & Rothman, 2001). Stories represent a form of experiential learning that allows a child to emotionally connect with the plot and characters in the book (Doyle & Bramwell, 2006). In addition, family socialization practices, including parental affect and talk about emotions, have been linked to children's social and emotional competence (e.g. Denham, Mitchell-Copeland, Strandberg, Anerbach, & Blair, 1997; Garner, Dunsmore, Southam-Gerrow, 2008). Reading books that offer ample opportunities to discuss emotions can assist parents in engaging in such discourse with

their child. This is a skill that may be particularly valuable to low-income families who typically experience greater levels of emotional distress (McLoyd, 1990).

The proposed intervention thus aims to capitalize on the overlap between young children's language and literacy development and social emotional competence. Parents play a vital role in all aspects of their child's development and the proposed intervention offers them a fun and simple way to simultaneously address multiple developmental needs at home. The developmental needs of children have not changed. As educational priorities shift, parents and teachers alike will need support in adapting routine experiences so that children can meet the educational expectations with which they are faced.

An estimated 40 Head Start parent-child dyads will be randomly assigned to either a Dialogic Reading (DR) only group (Control) or a Dialogic Reading plus Emotion Skills (DR + ES) group (Treatment). In a brief one-session training conducted in the family's home, parents will be taught the dialogic reading techniques to be used while reading with their child 3 times a week over a 5-week period. A pre-posttest design will evaluate the effects of the DR + ES group on parent and child outcomes when compared to the DR only group. Dependent variables include children's language and emergent literacy skills, (i.e. qualitative measures of language, print concepts knowledge), children's emotion knowledge, caregiver nurturing behavior and use of emotional talk during book reading, and parent satisfaction. The specific research questions sought through this study include:

- Do children in the DR + ES group show greater gains in language, print concepts knowledge, and emotion knowledge at post-test compared to the DR only group?
- Do parents in the DR + ES group exhibit greater levels of nurturing behavior and emotion talk during book reading at post-test compared to parents in the DR group?
- Do parents in the DR + ES group report greater levels of satisfaction with shared reading experiences at post-test compared to the DR group?

LITERATURE REVIEW

Definition of Emergent Literacy

Consistent with the shift in early educational expectations, particularly in regards to literacy, there has been increased attention to how children learn to read. So as to inform interventions and narrow the gap in skills at school entry, researchers have sought the answer to the question, *what are the developmental precursors to becoming a conventional reader?* These efforts have contributed to the *emergent literacy* approach to reading acquisition, an opposing perspective to the former "reading readiness" view that suggests there are specific "prereading" skills that must be mastered before a child can benefit from formal literacy instruction (Whitehurst & Lonigan, 1998). The emergent literacy model posits that learning to read occurs on a developmental continuum, such that no distinct boundary exists between prereading behavior and formal reading that takes place in school (Lonigan, 2006). As Whitehurst and Lonigan (1998) eloquently describe, the idea of emergent literacy assumes that "reading, writing, and oral language develop concurrently and interdependently from an early age from children's exposure to interaction in the social contexts in which literacy is a component, and in the absence of formal instruction."

While the terms "emergent literacy" represent a new perspective on literacy acquisition, emergent literacy has also been used to define the earliest stage of reading development in which a child acquires the skills, knowledge, attitudes, and environmental supports that serve as the foundation for conventional reading and writing (Sulzby & Teale, 1991; Teale & Sulzby, 1986; Whitehurst & Lonigan, 1998). Many

variables within these broad domains of emergent literacy have been linked to one's success as a conventional reader, including language ability (i.e. expressive and receptive language), conventions of print (i.e. directionality of print), beginning writing skills, alphabet knowledge, phonological awareness, interest and motivation in books, and various qualities of home and preschool environments (Whitehurst & Lonigan, 1998).

Emergent Literacy Skills and Later Reading Achievement

A substantial body of research demonstrates positive correlations and longitudinal continuity between individual differences in emergent literacy skills and later reading achievement. This culmination of evidence contributes to an undisputable case for early intervention and informs preschool and home-based interventions. Recently the National Early Literacy Panel (NELP) published their report of a comprehensive meta-analysis conducted to identify precursory skills that appear to be most important in learning to read, and interventions, parenting activities, and instructional practices that promote such skills (NELP, 2008). The early literacy skills that closely resemble actual reading (i.e. alphabet knowledge, phonological awareness, writing name) emerged as the strongest predictors of conventional literacy skills in Kindergarten and 1st grade. Another set of more broadly defined skills, such as oral language and print concepts (i.e. directionality of print, knowledge of environmental print) showed only moderate relation to conventional literacy. These findings certainly raise some eyebrows given that many common early literacy practices, such as shared book reading, primarily influence skills in the latter group. Lonigan (2006), however,

noted that a stronger relationship between oral language and conventional literacy skills (decoding and comprehension) has been established among studies that measured oral language in a more complex manner (i.e. listening comprehension, understanding syntax) as opposed to assessing receptive and expressive vocabulary skills. Additionally, longitudinal findings from Storch and Whitehurst (2002) highlight the potential sleeper effects that can occur with regards to oral language skills in the early years. While code-related skills strongly influenced reading in the early elementary years, oral language emerged as a significant contributor to comprehension in 4th grade. Furthermore, a strong association between code-related skills and oral language in preschool was found. Limitations of the NELP's findings also coincide with limitations of emergent literacy studies in general, including lack of follow up through elementary school and limited outcome measures (NELP, 2008).

Shared Reading Research

In addition to identifying key emergent literacy skills among the literature, the National Early Literacy Panel (2008) reviewed interventions and instructional practices that target such skills. Among instructional practices analyzed in the review, code-focused interventions represented the category with the most studies (n = 78). In general, such interventions targeted various decoding skills, such as phonological awareness. Most relevant to the present study; however, were positive findings on shared reading interventions and parent and home programs. Nineteen studies including those of basic shared reading practices and those investigating specific types of parent-child interactions (i.e. dialogic reading), pointed to statistically significant and moderate-sized

effects on children's print knowledge (i.e. alphabet knowledge, print conventions, early decoding) and oral language skills (i.e. produce and comprehend spoken language). Parent and home interventions (n = 32) in which parents were taught techniques to use with their child at home to stimulate language and general cognitive ability produced statistically significant and moderate to large effect sizes in these same domains (NELP, 2008)

While the limitations of meta-analysis research do not allow for hard and fast conclusions to be made, the reported outcomes of shared reading interventions is positive. Shared reading has maintained its popularity for decades, which can likely be credited in part to its endorsement by numerous "experts" and government figures (i.e. Barbara Bush; Bush, 1990), and its promotion in public campaigns to better prepare children for school. The general belief that shared reading is important in preparing children to read has persisted despite a large body of inconsistent and sometimes contradictory research (e.g. Bus, van IJzendoorn, & Pellegrini, 1995; Scarborough & Dobrich, 1994). In a quantitative meta-analysis of the effects of shared book reading to children before Kindergarten and subsequent outcome measures Bus et al. (1995) reviewed 29 pertinent studies that focused solely on the effects of shared reading frequency as opposed to the qualitative aspects of the activity. Similar to previous meta-analysis findings (Scarborough and Dobrich, 1994), effects for each literacy-related skill varied considerably. Effect sizes for the association between frequency of shared reading and an overall measure of reading and language outcomes (combined language, emergent literacy, and reading achievement) ranged from d = 0.00 to d = 1.51, resulting

in an average effect size of $d = 0.59$, indicating that 8% of the variance in children's skills can be accounted for by book reading activity. Analyzed individually, average effect size for language skills was the strongest at $d = 0.67$; studies on book reading and emergent literacy skills and reading achievement produced effect sizes of $d = 0.58$ and $d = 0.55$, respectively.

In contrast to Bus et al. (1995), Scarborough and Dobrich's (1994) review did include studies exploring the effects of qualitative aspects of shared book reading (i.e. reading style) in addition to those that measured only shared reading frequency. Excluding the small group of intervention studies reviewed, correlational research indicated that frequency of reading is more predictive of child outcomes than qualitative characteristics, such as parents' reading style. While this finding could very well be true, the authors noted several limitations that prohibit such a conclusion to be made with certainty, including reliability concerns with observational measures, choice of qualitative aspects observed, and few qualitative studies examined. Significant findings from experimental studies included in the review (i.e. Whitehurst et al. 1988) provided strong evidence that the quality of the book reading experience can play a significant role in child outcomes as well.

Qualitative features of shared book reading. In addition to findings in support of a simple link between book reading frequency and child outcomes, there is a significant body of research that supports the influence of various qualitative features of the reading experience. A social-constructionist approach to shared reading acknowledges that young children benefit from the text only by way of the social

interaction with an adult (Mol, Bus, de Jong, & Smeets, 2008). Similarly, Vygotsky's zone of proximal development describes learning through a scaffolded approach, such that the adult acknowledge a child's current ability level and provides input that extends just beyond that level, resulting in greater cognitive growth than would be obtained by the child alone (Vygotsky, 1978). Such theories have inspired a plethora of research on qualitative variables of shared reading, including qualities of parent and child talk (i.e. code- or meaning-focused), the context of reading, (i.e. home vs. school; dyadic vs. group), reader's relationship to child (i.e. parent vs. teacher), book characteristics (i.e. narrative, expository, alphabet), emotional or affective climate, and child factors such as attachment style, prior literacy-related knowledge, reading interest, and attention (e.g. Baker, Mackler, Sonneschein, & Serpell; Bus, 1994; Reese, Cox, Harte, McAnally, 2003; Roberts, Jurgens, & Buchinal, 2005; Zevenbergen & Whitehurst, 2003). Given the aims of the present intervention, this review will focus primarily on parents' discourse during reading and the affective dimension of the experience (i.e. nurturing behavior, attachment relationship).

Differences in the way adults read to children, specifically qualities of their language, have been linked to emergent literacy gains (e.g. Crain-Thoreson & Dale, 1999; Reese & Cox, 1999; Whitehurst et al. 1988). Reading related talk has been investigated from many angles. Reese and Cox (1999) explored the effects of different reading styles categorized across two dimensions: cognitive demand level required of the child to understand and/or respond (low vs. high), and placement of the talk within the reading session (prior, during, after reading). Low-demand language (i.e. labeling and

describing pictures) delivered throughout the reading session, designated as the *describer style*, proved to be a unique predictor of children's posttest vocabulary skills and print skills (general print concepts, identification of environmental print, letter/word identification) following the 6-week intervention. Such effects were not found for preschoolers who were read to by the high-demand interrupting (*comprehender*) and non-interrupting (*high performance*) styles.

Readers' talk has also been examined according to content, specifically code verses meaning-related talk (Hindman, Connor, Jewkes, & Morrison, 2008). Fluent reading requires both decoding and meaning-related skills (Torgenson, 2002); therefore, it seems logical that facilitative talk focused around a particular aspect would have an impact of children's corresponding skills. As the names imply, code-related talk refers to discussion around print features, such as letter names or sounds, while meaning-related talk includes verbalizations typically associated with story comprehension, including labeling and describing pictures, making inferences and predictions, and connecting the story with prior knowledge (Hindman et al., 2008). Some work found that supplying parents with books that emphasize letters or sounds (i.e. alphabet books), in addition to training in how to discuss such aspects during shared reading, can improve both parents' code-related talk and children's code skills (Ezell & Justice, 2000). Among a sample of 130 predominantly White parent-child dyads of middle to working class status Hindman et al. (2008) coded untrained parents' and teachers' language according to content (code and meaning related) and complexity (contextualized vs. decontextualized). Contextualized talk refers to verbalizations directly related to the book being read;

decontextualized describes talk that is removed from the present situation, thus characterized as more complex or of higher cognitive demand. Both teachers and parents primarily used meaning related as opposed to code-focused talk. Code-focused talk was observed minimally among both reading groups and no main effects were found on children's code skills. While teachers were observed using more decontexualized related talk, parents primarily engaged in contextualized talk. Both teachers' and parents' decontextualized talk, but not contextualized talk, contributed positively to children's expressive vocabulary skills. These unanticipated findings could have resulted from contextualized parent talk that lacked novel words, or from lack of exposure to new words through repeated readings (Hindman et al., 2008).

These findings highlight one of the challenges in determining a particular reading style that is superior in producing child language and literacy gains. Several studies report an interaction effect between the child's initial skills and the cognitive level or content of the readers' talk, such that children gain more from the reading experience when the reader's language is more closely aligned with their skills. Not surprisingly, interaction effects were found by Reese and Cox (1999) in which trained readers applied strict reading protocols that varied according to style. For example, children with initial low-level vocabulary experienced greater vocabulary gains when read to with the low demand, interrupting style (*describer*). In contrast, children with high initial vocabulary showed greater gains when the reader applied language of higher cognitive demand at the beginning and end of the story only (*high performance style*). Interaction effects between reading style and child skill level have also been noted in observational studies

of untrained readers in their natural environment (e.g. Hindman et al., 2008). These findings, along with others (e.g. Blewitt et al., 2009) support the need for a flexible reader who can modify the reading activity to the developmental level of the child. Additionally, readers may benefit from training in this skill.

Dialogic reading. Observational research involving shared reading reports that most parents and teachers do not apply interactive reading techniques automatically (e.g. Britto, Brooks-Gunn, & Griffin, 2006; Dickinson, 2001). Hindman et al. (2008) found an extremely large range of parents' and teachers' use of both meaning and code-related talk, and classroom-based reading produced very little talk by children. Given the central premise that shared book reading effectiveness is dependent on the dyadic interaction between reader and child, it is not surprising that intervention studies in which adults are trained in such techniques have led to greater language and literacy gains compared to untrained groups who engage in reading "as usual" (Whitehurst et al., 1988). One interactive reading method that has been empirically tested with a variety of populations and shown to have a positive impact on preschool children's oral language and emergent literacy skills is dialogic reading (for review see Zevenbergen & Whitehurst, 2003). Based on the principles of dialogic reading and the range of interactive prompts taught to parents, these techniques appear to encapsulate a combination of reading styles identified by others. Although not typically acknowledged by other authors (i.e. Reese & Cox, 1999), dialogic reading principles emphasize the adult's role in increasing the demand level of the child's responses over time, and using more challenging prompts for older children. Based on theoretical and empirical evidence previously discussed, such

adaptive qualities are likely critical for the child to fully benefit from shared reading. While this component of dialogic reading can be viewed as a positive quality of this style, a recent review of dialogic reading intervention studies suggested that this ideal scaffolded approach may not occur for all parents (Mol, Bus, de Jong, & Smeets, 2008). Groups of children at higher risk for language and literacy impairments, as determined by family income or maternal education, benefited less from dialogic reading compared to families not at risk. Explanations could be that a certain level of education is required to apply the techniques or that application of the dialogic reading techniques as demonstrated in training already exceeds the initial level of some younger or delayed children (Mol et al., 2008).

Dialogic reading techniques, first developed by Whitehurst and colleagues (Whitehurst et al., 1988) are based on the assumption that language growth can be stimulated during shared reading through appropriately scaffolded adult-child interactions that allow the child to practice using language and receive adult feedback. What differentiates dialogic reading from traditional shared reading is that the child learns to become the storyteller, rather than a passive listener. Consequently, the adult's role shifts to that of an active listener, guiding the child's verbalizations through evocative techniques, such as asking questions, expanding on the child's verbalizations, offering praise, and continually pushing the child to produce responses of greater sophistication. This short-term intervention has typically been carried out over the course of 4 to 8 weeks and has demonstrated success in increasing children's oral language and emergent literacy skills. Parents and teachers undergo a brief one or two-

session training in dialogic reading principles and instructed to read to their child/children typically using intervention specific books.

Dialogic reading has proven to be a versatile intervention, implemented as a stand alone program with parents and teachers (Lonigan & Whitehurst, 1998; Whitehurst et al., 1988; Whitehurst, Arnold, et al., 1994), in conjunction with other literacy-related curricula (i.e. Sound Foundations; Bryne & Fielding-Barnsley, 1992) (Whitehurst, Epstein et al., 1994; Whitehurst et al., 1999), or integrated within a comprehensive preschool curriculum (i.e. Preschool R.E.D.I.; Domitrovich et al., 1999) (Domitrovich et al., 2008). Whitehurst and colleagues have dominated research in this area, developing and implementing the dialogic reading intervention in both home and school contexts with children from varying socioeconomic statuses. No author bias was found in Mol et al.'s (2008) meta-analysis which included dialogic reading studies from the Whitehurst group and others.

Dialogic reading training. In a continual effort to make the dialogic reading intervention more portable and cost effective while maintaining positive outcomes, a variety of training methods have been developed and compared, including direct one-on-one or small group instruction, video training, and a combination of the two. In the initial dialogic reading intervention study (Whitehurst et al., 1988), a sample of middle to upper class mothers of children ranging in age from 21-35 months were trained via direct instruction by a trainer who modeled the techniques and acted as the "child" for the mother to practice. While this training method led to significant gains in oral language and expressive vocabulary among children in the treatment group, alternative

videotape training was subsequently explored to increase cost effectiveness of the intervention. In Arnold et al. (1994) children in both training groups (direct instruction or video) experienced greater language skills compared to children of the untrained control group at the end of the 4-week intervention. Children from the videotape parent training group, however, experienced even greater gains than those from the live instructor parent training group. These findings suggest that parents may benefit more from observing actual parent-child dyads than the live trainer (Zevenbergen & Whitehurst, 2003).

As described in a book chapter on dialogic reading (Zevenbergen & Whitehurst, 2003), two sets of dialogic reading techniques have been developed for children of different ages (2-3 year olds and 4-5). While both sets are committed to the same objective of maximizing the child's verbalizations about the story, differences can be seen in the complexity of questions posed to the child and how the techniques are presented to the adult during training. Training for this younger group typically involves two 20-30 minute sessions conducted 2-3 weeks apart during which parents are taught the following points via direct training or video, and given "assignments" to incorporate such techniques into their shared reading sessions:

1. *Ask "what" questions* to prompt children to label objects in the story (e.g. "What is the name of that animal?") and simple questions about the story (e.g. "What does the dog do next?")

2. *Follow child's answers with questions* (e.g. "Yes, that is an elephant. What color is the elephant?")

3. *Repeat what the child says* to reinforce verbalizations. ("Yes, that's a wagon like yours.")

4. *Help the child as needed* in labeling objects or responding to questions (e.g. "That's called a giraffe. Can you say 'giraffe'?").

5. *Praise and encourage child participation* using both general (e.g. "Great job!") and specific praise (e.g. "Wow! You did such a good job telling me what happened.").

6. *Follow the child's interests.* In keeping with the goal to increase the child's verbalizations, adults are encouraged to be flexible in reading, not hesitating to deviate from the text in order to further explore the child's interest.

7. *Have fun.* Although dialogic reading techniques were designed to improve children's language and emergent literacy skills, Whitehurst and colleagues send the message that reading with a child should be fun. Although not the focus of training, parents are encouraged make the experience game-like, perhaps taking turns talking about each page. Being responsive to the child is also noted, such as putting the book aside if the child appears tired.

Second Assignment

1. *Ask open-ended questions.* As opposed to the specific labeling prompts in assignment one, open-ended questions are encouraged for use after the child is more familiar with the objects and plot of a story, and to increase the child's verbalizations.

    1. *Expand what the child says.* For example, if the child says, "Dog," the adult might say, "Yes, that is a dog. He looks sad. Can you say that?"

    2. *Have fun*.

    Many similarities are found in comparing these dialogic reading techniques to those intended for use with 4 to 5 year old children, which are taught in one session using the acronyms PEER and CROWD detailed below:

Dialogic reading techniques (PEER)

1. *Prompt* the child to label objects and talk about the story. CROWD offers several different types of prompts to use.

2. *Evaluate* the child's responses. This point combines the praise and offer help tips in the previous training. If a child's response to a question is accurate, praise is offered,

and if in need of help or a response is inaccurate, the reader can offer the correct response and ask the child to repeat.

3. *Expand* the child's verbalizations.

4. *Repeat* expanded utterances in order to reinforce new vocabulary.

Question types (CROWD)

1. *Completion prompts* are fill-in-the blank questions (e.g. When the kids left the zoo, the gorilla felt _____.

2. *Recall prompts* require the child to remember an element of the story (e.g. "Do you remember what happens on this page?")

3. *Open-ended prompts* require the child to respond in his or her own words (e.g. "Tell me about this page.").

4. *Wh-prompts*, such as what, where, and why questions for both labeling and inferential responses (e.g. "What do you think Knuffle Bunny is saying?")

5. *Distancing prompts* encourage the child to make connections between elements of the story and their own life (e.g. "Did you ever lose anything like Knuffle Bunny?").

Interestingly, most studies by Whitehurst and colleagues do not describe this differentiation of training based on the age of the child. Descriptions of training assignments given to parents at each of the two sessions have typically been aligned with the training procedures designated for 2-3 year olds (Zevenbergen & Whitehurst, 2003), even among samples containing 3- and 4-year olds (i.e. Lonigan & Whitehurst, 1998; Whitehurst, Epstein, et al., 1994). Whereas more challenging question types (CROWD) have not been referenced in most studies, they were detailed in the general description of dialogic reading of a published study utilizing a sample of 3- and 4-year old children (Zevengergen, Whitehurst, and Zevengergen, 2003).

Zevenbergen and Whitehurst (2003) provide some evidence that training may have been differentiated by way of different training videos. Videos have been developed for use with parents of 2 to 3 year olds, parents of 4 to 5 year olds, and teachers of 4 to 5 year olds (Whitehurst, 1991, 1994a, 1994b, as cited by Whitehurst & Zevenbergen, 2003). According to descriptions of video content reported in many studies (e.g. Arnold et al., 1994; Lonigan & Whitehurst, 1998), videos have been created to closely resemble direct training methods used in previous studies. More recently Whitehurst and colleagues collaborated with Pearson Early Learning publishing company to make dialogic reading even more cost effective and widely available through the development of a curriculum package called *Read Together, Talk Together* (RTTT: Pearson Early Learning, 2002). Separate packages are designed for 2-3 year olds and 4-5 year olds; however, both utilize the same 15-minute instructional video. Parent-child dyads of different ethnic makeup model the dialogic reading principles and specific prompts using PEER and CROWD to help parents remember the reading tips.

In a recent pilot study by Blom-Hoffman et al. (2006), the RTTT video was shown to parents in the waiting room of community health centers. Without any additional instruction or requirements to read to their child, shared reading observations taken 6 weeks after viewing the video resulted in a significant increase in parents' facilitating verbalizations ($d = 2.26$) which remained fairly stable at the 12-week follow up ($d = 1.36$). Parents in the control group demonstrated a slight decrease in the number of facilitating verbalizations used during shared reading at the 6-week follow-up. Some dialogic techniques, including expansion, repetition, recall, and distancing prompts were

not common among parents in either group, suggesting the potential for improved treatment fidelity as a result of additional training. Results of this small scale study (n = 18) are very positive for the use of the RTTT video and warrant further investigation with larger and more diverse samples.

Book selection criteria. Books selected for use in dialogic reading studies by Whitehurst and colleagues have been fairly consistent. A recommended book list containing 22 titles is provided in Zevengergen and Whitehurst (2003). Intervention books have been described as commercially available picture books with the potential to enhance vocabulary growth. Books have been selected that do not rely on extensive text to tell the story; the illustrations alone can support the narrative. This criterion has been used to discourage straight reading (Whitehurst, Arnold, et al., 1994), but lengthy or small print is also likely to be a turnoff to parents, especially parents with little or no reading ability. Overall, the characteristics of the books have received less attention in the shared book reading literature. Some book factors that have been explored include genre, such as expository or narrative (Pellegrini, Perlumutter, Galda, & Brody, 1990), use of alphabet books (Justice & Ezell, 2000), and overall complexity of the text (Neuman, 1996). Interestingly, Neuman (1996) found that the type of text (predictable vs, narrative) interacted with reading proficiency of the parent to predict amount of parent and child talk. Specifically, predictable text encouraged the child to read along with the parent, and predicted greater parent and child talk among low-proficiency parents. Significant theoretical support and some empirical support exists for using the book's theme to simulataneously enhance other developmental skills, such as social

emotional competencies (e.g. Aram & Aviram, 2009; Cartledge & Kiarie, 2001; Doyle & Bramwell, 2006).

Review of dialogic reading studies. Several of the studies will be reviewed here, particularly those involving children from disadvantaged families. On average, this population experiences less exposure to literacy rich environments (e.g. Ninio, 1990; Snow, Burns, & Griffin, 1998) and substantially fewer verbal interactions with adults compared to children from middle and upper income families (i.e. Hart & Risley, 1995). Similar to the present study, such samples were typically drawn from Head Start or other day care centers serving low-income families. Whitehurst and colleagues' collection of similarly designed studies has allowed for comparison of child outcomes associated with dialogic reading at home, school, or both. Consistency can be found in the selection of outcome variables and methods of measurement across most studies, including expressive vocabulary (Expressive One-Word Picture Vocabulary Test, EOWPVT; Gardner, 1981), receptive vocabulary (Peabody Picture Vocabulary Test-Revised, PPVT-R; Dunn & Dunn, 1981), expressive language fluency (Illinois Test of Psycholinguistic Abilities, ITPA-VE; Kirk, McCarthy, & Kirk, 1986), and structural aspects of language (i.e. mean length utterance, sentence complexity). Studies in which dialogic reading was incorporated into other preschool curricula included assessment of other emergent literacy skills such as print concepts, phonemic awareness, and writing.

In contrast to the middle and high SES families utilized in early dialogic reading studies, Valdez-Menchaca and Whitehurst (1992) investigated the intervention's potential with a small sample of 20 low-income children attending day care in Mexico.

The study design involved an intervention group of children who were read to according to dialogic reading principles and a control group who received instruction in arts and crafts for an equivalent time period. Positive findings were found for the dialogic reading group who demonstrated significantly higher expressive and receptive language scores compared to children in the control group following the 7-week intervention. This study provided some initial support for the use of dialogic reading with children from low-income families; however, several limitations hindered the intervention's external validity. Despite implementing the intervention in a day care setting, children were read to one-on-one by an advanced doctoral student, a combination of factors that are highly impractical for typical day care centers.

In order to address these limitations Whitehurst, Arnold, et al. (1994) contrasted intervention effects found among a sample of seventy-three 3 year old children from low income families randomly assigned to one of three conditions: 1) dialogic reading at school only, 2) dialogic reading at home and school, 3) and a control condition in which children engaged in small group play. In working towards improved practicality, parent and teacher training was accomplished primarily through video (Whitehurst, 1992), followed by some discussion and role play with a live trainer. Over the course of the 6-week intervention, teachers were instructed to read 10 minutes each day at their convenience to small groups of no more than five children. Parents in the home plus school condition were encouraged to read every day. Treatment fidelity was monitored by daily log sheets completed by parents and teachers to account for reading frequency and specific titles read. Six to eight intervention books were used for both treatment

groups, dispersed in groups of three following each training assignment. Outcome measures were assessed at pretest, posttest, and a 6-month follow up. As predicted, children in both intervention conditions showed significant gains in expressive language skills at posttest and follow-up compared to controls. Additionally, children in the home plus school condition demonstrated even greater expressive language gains than those in the school only condition.

The design of Whitehurst, Arnold, et al. (1994) study did not allow for an examination of the effects of a home only condition. To address this issue and investigate the capacity for low-income parents to apply dialogic reading techniques effectively, Lonigan and Whitehurst (1998) randomly assigned a sample of 91, primarily African American 3- and 4-year old children attending subsidized child care centers to one of four conditions: 1) no treatment control, 2) school only group involving teacher-directed small group dialogic reading sessions, 3) home only condition in which parents delivered the intervention, and 4) home plus school condition. In addition to the receptive and expressive measures used in previous studies, this study incorporated naturalistic measures of language, including complexity (i.e. mean length utterance), total words produced, number of different words produced, and semantic diversity (i.e. number of different nouns, verbs, adjectives). These characteristics were measured via a semi-structured interactive reading session using a book unfamiliar to all children and an intervention book.

Consistent with Whitehurst, Arnold, et al. (1994), all dialogic reading conditions demonstrated significant gains in expressive vocabulary, but not receptive language

compared to the control group. Similar to previous studies, positive group effects were found for standardized expressive language measures, EOWPVT and ITPA-VE, but no significant differences were found among the three intervention conditions, with the exception of children's posttest scores on the ITPA-VE. Effect sizes for this measure ranged from 0.18 (school group) to 1.19 (home group). Additionally, large effect sizes were reported for the naturalistic measures of language ranging from .63 (MLU) to 1.03 (total words produced), compared to the control group.

Treatment fidelity proved to be a significant problem in both Whitehurst, Arnold, et al. (1994) and Lonigan & Whitehurst (1998). Treatment fidelity in all intervention groups was extremely variable leading to interaction effects between children's gains and center or home compliance. For example, Lonigan and Whitehurst reported the mean number of reading sessions conducted within the school only and school plus home groups ranged from 2.8 to 20.5 (M = 11.7, SD = 7.84), contributing to a significant positive correlation between posttest EOWPVT scores and reading frequency for both school conditions (r = .30, $p < .05$). Parents' reports of reading frequency were also highly variable (M = 28.2, SD = 9.63, range = 12-52), but surprisingly no significant relation between reading frequency and outcome measures emerged.

Poor treatment fidelity observed within the schools highlights inherent problems with dialogic reading within a group context. Evidence from Whitehurst and colleagues studies revealed that group delivery within preschool centers may not only be less effective, but not very feasible given the limited staff and resources available. A survey completed by teachers at follow-up revealed that while all but one center continued to

hold daily reading sessions, none of them were able to maintain the small group arrangement required during the intervention, resulting in groups comprised of at least half the class. Decreased verbal interaction and the reader's limited ability to engage individual children in the reading are negative consequence of shared reading within larger groups. Hindman et al. (2008) also found that children read to by teachers in small group settings talked significantly less than children read to individually by a parent. Parents' and children's style of talk was also correlated, whereas teacher and child styles were not, suggesting a more conversational verses instructional reading context in the home (Hindman et al., 2008). Overall, such observations argue against large group dialogic reading and point to the need for continued attention to home interventions that ultimately improve the home literacy environment that we know is so important for young children.

Whitehurst, Epstein, et al. (1994) acknowledged the importance of targeting a broad range of literacy related skills during preschool, and tested the effects of dialogic reading in combination with a emergent literacy curriculum in Head Start classrooms. The treatment condition involved both home and school dialogic reading plus the authors' adaptation of a phonemic awareness curriculum called Sound Foundations (Bryne & Feilding-Barnsley, 1992) implemented at school. Head Start centers, randomly assigned to the control condition, experienced the regular Head Start curriculum. Twenty-one emergent literacy measures were used to test the effects of the combined interventions which were reduced to four factors including Language, Writing, Linguistic Awareness, and Print Concepts. Overall results found the intervention to have

significant effects on children's writing and print concepts knowledge, but surprisingly not on the language domain. An explanation for this finding again raised the issue of group verses on-on-one reading sessions, pointing to potentially greater language gains as a result of one-on-one reading interactions. Whitehurst, Epstein, et al. (1994) add that interventions designed to substantially improve language abilities of children "who are from backgrounds of poverty may need to be focused on the home environment, with all the difficulties that entails, or may need to have substantially increased opportunities for one-on-one interaction in the classroom" (p. 553).

Several unique efforts to improve treatment fidelity of the dialogic reading intervention in this study deserve mention. First, "book guides," were provided to parents and teachers with each intervention book, consisting of a description of the story or purpose of the book, and hints for introducing and reading the book. The pages of the books also included *wh*-prompts on each page and specific recall questions pasted to the back cover. Book guides have also been included in the recently developed Read Together Talk Together (RTTT) dialogic reading curriculum (Pearson Early Learning, 2002), but prompts within the books are excluded. Secondly, as an alternative to weekly log sheets used previously, a follow-up survey was administered to parents that not only included direct questions regarding frequency of reading, but also included a book checklist as an unobtrusive measure of treatment fidelity. The checklist included 28 picture books by title and author and asked parents to indicate their level of satisfaction on a Likert-type scale ranging from *did not like at all* (1) to *enjoyed very much* (5). Parents were also given the option to indicate that they did not remember the book and

told not every book on the list was given to each child. Only half of the books on the list had actually been sent home; therefore, the checklist served as an inconspicuous measure of treatment integrity fidelity.

To test whether the effectiveness of the intervention was influenced by intervention compliance, performance on the title checklist (identification rate) and parents' response to how often she or another member of the house read to the child (ranging from hardly ever (1) to almost daily (4)) were both correlated with the posttest outcome factor scores. Identification rate and reported reading frequency both correlated significantly to the Language factor (described below) ($r = .38$ and $r = .39$, respectively), but not the other factors. Both compliance measures individually contributed to the prediction of posttest Language factor after controlling for other variables such as pretest reading frequency (self-report), pretest language ability, and primary caregiver education and intelligence. Consequently, the two measures were combined to create a compliance score that predicted the Language factor ($R = .507$, $p = .0002$).

Whitehurst et al. (1999) replicated the Whitehurst, Epstein, et al. (1994) study and followed the original cohort as well as the new cohort of Head Start children through second grade to test the hypothesis that an emergent literacy curriculum comprised of dialogic reading and a phonemic awareness program could lead to stronger reading performance in elementary school. Children who participated in the intervention condition did perform better than children in the control condition on measures of language ability, letter and sound knowledge, and writing at the end of Kindergarten, but

no differences in reading ability were observed between intervention and controls in first and second grade.

This finding leads to an important discussion given that the purpose of early literacy interventions is to better prepare children to read. Within their sample and consistent with large scale reviews previously discussed (NELP), Whitehurst et al. (1999) found that decoding-related skills (i.e. identifying letters and sounds, blending sounds to make simple C-V-C words) in preschool, also referred to as "inside out" components (Whitehurst & Lonigan, 1998), were strong predictors of reading in elementary school. While these skills are very specific to reading, "outside in" skills reflect more general abilities, such as language and background knowledge that are important for reading comprehension. It is this set of skills that are typically targeted through shared book reading. It has been hypothesized that dialogic reading implemented in preschool may produce sleeper effects that are revealed when children make the shift from learning to read to reading to learn in later elementary school (Whitehurst et al., 1999; Zevenbergen & Whitehurst, 2003). There is theoretical and some empirical support (i.e. Whitehurst & Storch, 2002) for the comprehension skills enhanced through shared book reading (i.e. vocabulary, general knowledge), to play a more important role after children have acquired sufficient decoding ability (Zevengergen & Whitehurst, 2003).

It is important that the longitudinal findings from Whitehurst et al. (1999) not be interpreted at face value, leading to a strict focus on decoding skills in preschool, and neglecting the semantic and narrative aspects of reading that are critical to

comprehending more complex, non-illustrated texts. It is important that these skills are continually fostered from an early age (Zevenbergen & Whitehurst, 2003). As touched on in the introduction and will be elaborated in the rest of this review, learning to be a successful reader occurs on a developmental continuum and is highly dependent on several aspects of children's interaction with adults.

Social Emotional Context of Shared Reading

Despite its success, dialogic reading has its critics. Teale (2003) stated that dialogic reading is easy to learn but "restrictive" in nature, suggesting that parents will be less likely to continue using the techniques as prescribed over the long term. Based on numerous studies investigating the social emotional context of parent-child shared reading, Bus (1994) suggests that parents may need support in how to enjoy reading with their child in addition to learning specific evocative techniques. She goes on to suggest, "The developmental and emotional part of story-book reading may even argue against a prescriptive approach to describing and teaching book-sharing techniques" (p. 21). In a study conducted by Crain-Thoreson and Dale (1992) child engagement observed during shared reading at 24 months demonstrated greater predictive ability of language, literacy, and general cognitive skills at 4 ½ than the frequency or type of specific parental utterances (i.e. questions, responses, simplifications). Acknowledging the importance of interactive reading style (i.e. Whitehurst et al., 1988) the authors suggested the construct of engagement was "superior at capturing the quality of the interaction over measures of parental behavior" (p. 428). Thus, there is an alternative camp within shared book reading research that argues for less focus on content-related aspects, such as what is

said, and emphasizes the influence of the broader social context that impacts the sense of connection between parent and child.

Parent-Child Relationship and Shared Book Reading

The importance of the social emotional context of shared reading is much in line with the substantial body of research that links qualities of the parent-child relationship to many early competencies, including overall adjustment to Kindergarten, academic achievement, and social and emotional development (e.g. Pianta & Harbors, 1996; Campbell, 1994). A multitude of parent and child behaviors have defined constructs as maternal responsiveness, warmth, child engagement, and attachment security. Such variables can serve as a protective factor for at-risk children. Differences in parenting style of low-income, teenage mothers was found related to their child's reading success, such that mothers of successful readers also were typically warm, talked with their children, and interacted positively (Luster, Bates, Vanderbelt, & Casady, 2001). While study of the social emotional context of shared book reading has received considerable attention in the literature, research related to adult talk has dominated, especially among shared book reading intervention research.

Bus and colleagues have made a significant contribution to this area of research through a series of studies examining the interplay between aspects of the parent-child relationship and the quality of book reading and literacy outcomes (Bus & van IJzendoorn,1988a, 1988b, 1992). When children were found to be securely attached to their caregiver, as measured during a reunion session following separation from the caregiver, the affective climate of the dyadic reading sessions was more positive.

Securely attached infants and preschool-aged children appeared less distracted and parents employed fewer discipline tactics while reading. Bus (1994) contemplates that an insecure relationship may correspond with parents' diminished ability to stimulate interest in the book, respond to their child's needs, and be sensitive to the child's level of understanding. Findings from Bus (1993) provided empirical support for a model of emergent literacy in which mother-child attachment security affects both the quantity and quality of shared book reading, which together play a role in the development of emergent literacy skills. It is hypothesized in the current study that additional training in nurturing behaviors may assist all parents in creating a more positive climate and particularly serve as a buffer for insecurely attached dyads.

Bus and colleagues' work has lead to the conclusion that "children's main motive for reading story-books is the intimacy it affords with their parent during the reading session" (Bus, 1994). While short-term shared reading interventions are not designed nor expected to address the parent-child attachment relationship, it is important to acknowledge the clear role this variable plays in the quality and effectiveness of reading sessions. At the very least, however, it is seems feasible that traditional parent training in reading techniques could include some basic tips in promoting a nurturing environment during reading, which may over time contribute to greater child outcomes and overall enjoyment of reading.

The need to incorporate such training into reading interventions has also been highlighted in studies linking early parent-child relationship indicators (i.e. nurturance, sensitivity) to later reading related skills/behavior and reading achievement. Clingenpeel

and Pianta (2007) found maternal sensitivity at 36 months to significantly predict the amount and quality of meaning-related talk observed during a parent shared reading session in first grade within a sample of 58 predominantly White dyads originally recruited from the NICHD Study of Early Child Care. Mothers observed being sensitive with their 3 year old child during semi-structured play better engaged their child in a shared reading task in 1st grade through the use of open-ended questions and expansions. Among a small sample (n = 77) of Head Start children and their parents, nurturing behavior, as measured through multi-setting observations (i.e. home and lab) and parental report, was related to reading achievement at age 8 and the growth of reading from age 4 to 8 (Merlo, Bowman, & Barnett, 2007).

Most noteworthy to the present study, however, are studies that have linked the affective quality of shared reading experiences conducted during preschool to future reading outcomes. De Jong, Leseman, and van der Leij, 1997 examined the relationship between maternal responsiveness measured in different contexts at age 4 and emergent literacy outcomes at the end of 1st grade. Only maternal behavior during the shared reading session significantly predicted performance on a word decoding task at the end of first of grade (as cited in Clingenpeel & Pianta, 2007). Similar to fostering interest or a positive attitude towards reading, studies have also linked the social emotional context to children's motivation for reading. Among a sample of predominantly low-income parent-child dyads, Sonnenschein and Munsterman (2002) videotaped shared reading sessions conducted in preschool and coded parent and child talk and affective quality of the interaction. Affective quality was determined by the interplay of both parent and

child behaviors, including reading expression (i.e. tone, imitation of character voices), reader's physical contact with child, reader's and child's appearance of involvement (i.e. attention to story, asking questions, laughing), and the reader's sensitivity to child engagement (i.e. attempts to recapture child's attention, acknowledgement of child's feelings). These behaviors are elaborated because many of them are relatively simple and could be beneficial to children if incorporated into parent training in shared book reading techniques. Results of this study identified affective quality as a significant predictor of children's motivation for reading measured at the end of 1st grade but not literacy skills. Interestingly, parent-reported reading frequency was the only variable to significantly predict literacy skills in 1st grade. Never-the-less, interest and motivation in reading are undoubtedly important for future reading, given that poor readers are less motivated and engage in increasingly fewer interactions with print than good readers (Stanovich, 1986).

Attending to the broader context of shared book reading in interventions, including both parental talk and affective climate, may not only enhance literacy-related outcomes, but lead to gains that extend beyond this primary goal. Snow (1994) termed the act of shared reading a "microenvironment", as opposed to a single event, thereby acknowledging the many factors that interact to create an experience between adult, child, and book. Theoretically, using evidence-based research to manipulate more than one factor of the environment could produce additive effects for the child. Promoting positive parent-child interactions in which the child can share a story with a responsive

caregiver is likely to have a stronger impact on children's social emotional development than perhaps other interactive activities.

Children's Literature and Social Emotional Development

As previously touched on in discussing dialogic reading interventions, the effects of the books themselves have received less attention in the literature, but it is clear that this variable can affect child's interest, parents' type and amount of talk, and growth in literacy-related skills (i.e. vocabulary) (Aram & Aviram, 2009; Bus, 1993; van Kleeck, 2003). Children's literature is commonly used by parents and teachers as a gateway to teaching or discussing various issues. This is certainly true for fostering social emotional learning. Stories provoke an emotional response that allows the child to identify with the characters in the story, thus learning through a form of modeling. This emotional charge is also associated with attention and memory, thus aiding the child's focus and learning of new words, concepts, or skills (Doyle & Bramwell, 2006). Such ideas are central to the practice of bibliotherapy, which calls for the use of carefully selected stories to help children or adults gain insight into problems (Pardek & Pardek, 1997). Bibliotherapy techniques, which focus on discussing the story, resemble the interactive nature of dialogic reading, and have been recommended for use with children in multiple settings to address emotional problems as well as teach important skills (Heath, Sheen, Leavy, Young, & Money, 2005; Sridhar & Vaughn, 2000). While there is significant theoretical support behind using books to promote social emotional skills, empirical support is limited, found mostly in outdated bibliotherapy publications and dissertations. Bhavnagri and Samuels (1996) however, investigated the effects of children's literature on a

measure of social cognition of peer relationships. In a quasi-experimental study involving 44 preschool children, children in the experimental group were read 15 stories throughout the school year (each story read twice) containing peer interaction concepts (i.e. taking turns, helping, cooperation). As anticipated, children in this group demonstrated significantly higher scores on a task designed to measure knowledge of appropriate responses to problematic peer situations presented through vignettes.

Children's books containing social emotional themes are typically utilized within empirically supported social emotional programs for preschoolers (Head Start REDI Program, Beirman, et al., 2008; PATHS, Domitrovich et al., 1999; Emotions Course, Izard, Trentacosta, King, & Mostow, 2004). These programs are designed in response to a body of research similar to that of emergent literacy that demonstrates the relative stability of early deficits and their impact on educational and psychological outcomes. Skill domains typically targeted include prosocial behaviors (i.e. helping, taking turns) and self-regulation skills, which relate to the ability to identify, label, and manage emotions, inhibit impulses (i.e. aggression), and maintain attention and on-task behavior (Bierman et al., 2008). An example of using literature to promote social emotional development can be found in the Head Start REDI Program (Research-based, Developmentally Informed), which incorporates the Preschool PATHS Curriculum (Domitrovich et al., 1999) to promote social emotional skills. A central goal of REDI is to "maximize the integration of the social-emotional and language/emergent literacy intervention components;" therefore, one interactive reading session per week focuses on reinforcing a specific PATHS theme. To this same end, the present study aims to

explicitly target children's emotion knowledge within the context of parent-child reading through carefully selected books.

Children's Emotion Knowledge

Generally speaking, emotion knowledge refers to understanding of different emotional states in oneself and others, which combines with emotion regulation skills (i.e. control of emotional reactions) to comprise the broad domain of emotional competence (Sarrni, 1999). Emotion knowledge in preschoolers has been extensively researched and linked to concurrent and future social behavior (Denham, 1998; Fine, Trentacosta, Izard, Mostow, & Campbell, 2004). While emotional skills begin to develop as early as infancy, significant growth in this arena occurs during the preschool years as children's advancing communication skills and social interaction increase awareness of their own and others' feelings (Saarni, 2000). Three commonly measured components of emotion knowledge are expression knowledge, situation knowledge, and emotional role taking (Garner, Jones, & Miner, 1994). Emotion expression knowledge, the cognitively lowest skill of the three, refers to the ability to identify and produce a verbal label for facial displays of emotion. Situation knowledge reflects understanding of normative reactions to emotion-evoking events, while emotional role taking refers to the ability to accurately identify the emotion experienced by a person when the emotion is different from the normative emotional reaction for the event (i.e. child displaying sadness after receiving ice cream) (Garner et al., 1994).

Parents' Socialization of Emotion Skills

Parents play a significant influence on young children's emotion knowledge and general social emotional competence (Denham, 1998; Gottman, Katz, & Hooven, 1997; Saarni, 1999). Beyond biologically based differences in emotional reactivity, parents engage in several emotion-related socialization behaviors that lay the foundation for emotion skills (Denham, Mitchell-Copeland, Strandberg, Anerbach, & Blair, 1997; Eisenberg et al., 1992; Halberstadt, 1991). From a social constructivist perspective Saarni (2000) emphasizes that "one's emotional experience is contingent on exposure to specific contexts, unique social history, and current cognitive developmental functioning" (p. 73). Halberstadt (1991) conceptualized socialization practices as functioning through three mechanisms: modeling, contingency, and coaching. Children implicitly learn which emotions are acceptable to the family and the relationship between specific situations and emotion. This theory is supported in research linking a wider range of emotional expressiveness by the parent, including both positive and negative emotions, to greater emotion knowledge in the child (Denham & Grout, 1992; Denham, Zoller, & Couchoud, 1994; Halberstadt & Eaton, 2003). Similarly, contingency serves as another implicit form of learning resulting from parents' reactions to their child's displays of emotion. Through rewarding and punitive actions children learn how to control and express emotion. Lastly, parental coaching refers to the use of emotion-related talk as a more direct means of socialization. Gottman et al. (1997) identified contrasting approaches to how parents coach their child in the expression of negative emotions (anger, sadness). "Coaching" families, as opposed to "dismissing" or

"disapproving" types, are "actively engaged in their child's emotion, and also regard emotional moments as teaching opportunities" (p. 49) .

The concept of parental coaching is seen within research that highlights the positive impact of emotion-related discourse on children's emotion knowledge and prosocial behavior (Brown & Dunn, 1991; Denham & Auerbach, 1995). It is hypothesized that providing parents with emotion-laden books in addition to training in how to facilitate language production (i.e. dialogic reading techniques) and attend to their child's needs (i.e. nurturing behavior) will provide ample opportunities to engage in emotion talk.

In a recent correlational study involving preschool aged children from upper middle class, predominantly White families, Garner, Dunsmore, and Southam-Gerrow (2008) measured mother-child emotional discourse during shared reading. The only instruction given to parents for reading the wordless picture book was to discuss each picture on the page. The book was carefully selected to include characters displaying a wide range of emotions. Parents' emotion-related discourse was then examined in relation to children's emotion skills (emotion situation knowledge and anger perception bias), and displays of prosocial and aggressive behavior observed during a semi-structured play session with peers. As anticipated, mothers who provided frequent explanations of emotions had children who showed stronger emotion situation skills and engaged in more prosocial and less physically aggressive play. However, once the effects of demographic variables (i.e. age, gender) and children's emotion skills (situation knowledge and anger perception bias) were entered into the regression

analysis, the contribution of mothers' explanations of emotion on children's relational aggression showed only marginal significance and was non-significant for prosocial behavior. These results suggest that the path between parents' explanations of emotion and children's behavior towards peers may be partly mediated by emotion knowledge. Another important note of this study was that parents' simple comments about emotions (i.e. labeling character's emotion) were differentiated from more elaborate explanations of emotions, which involved talk about the cause, antecedent, or consequence of an emotion.

Garner, Jones, and Miner (1994) examined the interplay between similar variables using a small (n = 26), racially diverse sample of Head Start families. Multiple measures of family socialization practices were conducted via self-report, including a global measure of family hostility, expressed anger towards the child, and suppression of negative affect. These parent measures were uncorrelated and entered simultaneously into the regression analysis resulting in a prediction of children's emotion situation knowledge but not emotion expression. Additionally, preschool children's situation knowledge predicted peer competence, as measured by peer sociometric rating and friend nomination tasks.

Overall, this review of literature suggests that shared book reading has the potential to do more than just promote young children's language and emergent literacy skills. The one-on-one, intimate nature of the activity can provide structure to parents within which they can be tuned into their child, engage in conversation, listen, and teach. They can share the joy of children's literature and learn to use stories as a parenting tool.

The present shared reading intervention is stepping outside the bounds of literacy promotion in anticipation of fostering multiple aspects of preschool children's school readiness skills. Disadvantaged families face a greater risk of sending their children to Kindergarten unequipped with the social emotional competencies and emergent literacy skills they need to meet increased educational demands.

METHODS

Participants

Participating families were recruited from the Head Start Home-Based program serving two counties in central Texas. The Home-Based program provides services to preschool-age children and their caregivers in the home. Families are assigned a home visitor at the beginning of the school year who delivers parent and child services during weekly home visits. Consistent with Head Start enrollment criteria, all families earned an annual income at or below federal poverty guidelines (see http://aspe.hhs.gov/poverty/index.shtml for past and current poverty level guidelines). Ten home visitors serving an estimated 120 families were asked to invite all parent-child dyads to participate in the reading project if they met the inclusion criteria. Caregivers ineligible for participation were those whose primary language was not English, or who could not read at a minimum 3rd grade level, as estimated by the family's home visitor. Bilingual families were invited to participate if the caregiver primarily spoke English to his or her child and the child primarily spoke English in response to the caregiver.

Out of the 50 families that met the specified inclusion criteria, 39 signed consent and parent permission documents to participate in the study. Parent and child pre-test data were not collected on one family who was dropped by the home visitor following several missed visits. Three additional families voluntarily dropped after beginning the program due to family stresses, and one family could not be located at post-test. Lastly, one child's data was excluded from analysis due to having a disability that prevented him from participating in the assessment procedures. A resulting 33 families comprised

the sample for this study, which were randomly assigned to one of two treatment groups, a dialogic reading only group (DR) (n = 16) and a dialogic reading plus emotion skills group (DR + ES) (n = 17).

Demographic data on the participating children and caregivers were obtained from Head Start, who collects self-report data at the time of enrollment. Children ranged from 36 to 64 months of age at pre-test (M = 49.58 months, SD = 6.65) and eighteen were boys (55%). The sample included 13 (39%) African American, 12 (36 %) Caucasian, five (15%) Mixed race, and three (9%) Hispanic children. Primary caregiver participants were all female except one, and included 28 mothers and five other relatives. Eleven (33%) of the participating caregivers had not completed high school, 17 (52%) earned a high school diploma or equivalent, and five (15%) had some college credit but no degree.

Procedures

Recruitment. Families who met the specified inclusion criteria came from the case loads of seven home visitors. Families were initially informed of the study through a friendly letter provided by their home visitor at the beginning of the school year (Appendix A), which provided details about the study including time commitments and participant responsibilities. Families who returned a signed letter granted permission for a member of the research team to provide more detailed study information during the family's regularly scheduled home visit. During this initial visit parents had the opportunity to provide informed consent to participate with their child.

Design overview. Due to limited resources, families started and ended the project at different times throughout the 2009-2010 school year. Roughly half of the sample began the intervention during the fall and completed in December, while the rest began and completed the intervention in the spring. Following an initial round of recruitment in the fall, families who consented to participate were randomly assigned to the dialogic reading (DR) or dialogic reading plus emotion skills (DR + ES) group. In order to maintain random assignment after the first round of families began the project in the fall, consent forms were alternately assigned to each group in the order they were received. All intervention activities occurred during regularly scheduled home visits accompanied by the families' home visitor. Incorporating the intervention activities into the regular home visits, as opposed to scheduling separate sessions, was intended to make participation more convenient for families and reduce the risk of dropout. Further continuity was promoted by assigning one member of the research team to each family. The team member delivered all intervention components, including consent procedures, pre- and post-test assessment, and parent training. The research team was comprised of the lead researcher and four undergraduate assistants who were registered for research credit.

This study utilized a pre-post test experimental design to examine any additive effects of "emotion coaching" to the standard dialogic reading training on parent and child outcomes. Dependent variables were measured the week prior to parent training (pre-test) and at the end of the 6-week reading period (post-test). Child dependent variables were print-concept knowledge (measure of emergent literacy) and emotion

skills (emotion knowledge and perspective taking). Parent dependent variables were several observed shared reading behaviors (reading expression, parent warmth, physical affection, and verbalizations) and overall satisfaction with the intervention. Table 1 provides an overview of the project sequence for each family.

Table 1
Project Sequence for Each Family

Week	Activity
Weeks 1-2	Consent and Pre-test Procedures • Consent form read, explained, signed by parent • Parent permission obtained for child to participate *Pretest Parent Measures* • Family Reading Survey: home literacy practices • Children's title checklist: parent storybook exposure • Videotaped parent-child reading session *Pretest Child Measures* • Preschool Word and Print Awareness: print-concepts knowledge • Affect Knowledge Test: emotion knowledge
Week 3	Caregiver training. Reading begins. *DR Training* • Introduction: Shared reading to promote emergent literacy skills for Kindergarten • Video 1: *Read Together Talk Together* • Video 2: Parent-child modeling using regular DR book • Practice and feedback *DR + ES Training* • Introduction: shared reading to promote emergent literacy AND emotion skills for Kindergarten • Emotion training • Video 1: *Read Together Talk Together* • Video 2: Parent-child modeling using emotion-laden book • Practice and feedback
Week 4	Home reading week 2. No home visit. Parents encouraged to read minimum of 3 times per week.
Week 5	Home reading week 3. Parent visited in home by member of research team. Parent received new books and turned in audiotapes of reading sessions. Parent practices reading to child and receives feedback.

Table 1 continued

Week	Activity
Week 6-7	Home reading weeks 4-6. No home visit. Parents encouraged to read minimum of 3 times per week.
Week 8	Post-test Procedures *Post-test Parent Measures* • Videotaped parent-child reading session • Satisfaction Survey: parental satisfaction with project *Child Measures* • Preschool Word and Print Awareness: print-concepts knowledge • Affect Knowledge Test: emotion knowledge

Caregivers and children participated in pre- and post-test activities during their regular home visits which occurred in the home or at the local elementary school. As long as the child appeared comfortable with the examiner, pre-test procedures began during the initial visit following consent procedures. For children who appeared anxious with the new situation, assessment activities were postponed until the following week and the researcher focused the first visit on establishing rapport. Post-test data were collected immediately following the six week reading period. Both pre- and post-test procedures included brief parent questionnaires, two semi-structured child assessment tasks, and a videotaped parent and child reading session.

Measures of Baseline Home Reading Environment

Two measures were administered at pre-test only to assess families' home literacy environment. The home literacy environment refers to the resources and opportunities provided to children at home that influence emergent literacy development (e.g. Burgess, Hecht, & Lonigan, 2002). These two measures were the Parent-Child

Reading Interaction Scale from The Family Reading Survey (Bracken & Fischel, 2008) (Appendix B) and a modified version of the Child's Title Checklist (Senechal et al., 1996). Due to poor internal consistency of the five item Parent-Child Reading Interaction Scale (alpha = .297), it was eliminated as a covariate.

In contrast to the Family Reading Survey, the children's title checklist served as an indirect measure of home literacy practices. The checklist used in the present study was a modified version of Senechal at al.'s (1996, 1998) Children's Title Checklist (CTC), which was developed in Canada and contains some book titles unavailable in the United States. Consistent with the CTC, the modified checklist consists of 40 titles of popular children's books selected from a list of popular children's books obtained from various sources (i.e. children's bookstores, early childhood teachers and personnel) and 20 false titles (foils). Parents indicated which book titles they recognized, and guessing was discouraged. See Appendix C for the complete list of titles and foils.

Children's book title and author checklists have been developed and used by many authors as an alternative, indirect measure of storybook exposure, due to the inherent validity problems with self-report measures, such as social desirability bias, and unknown reliability (e.g. Senechal et al., 1996; Senechal et al., 1998; Allen, Cipielewski, & Stanovich, 1992). In a sample of middle class parents of preschool-aged children, Senechal et al. (1996) provided convincing evidence that performance on the CTC predicted measures of child language better than traditional self-report measures of storybook exposure after controlling for children's analytical knowledge, parents' exposure to adult literature, and parents' education. It is assumed that performance on

such tasks reflects parents' exposure to children's books as a result of reading to their child. The positive relationship between parents' storybook exposure checklists (title and author checklists) and children's vocabulary also remained stable across studies with similar samples (Senechal et al, 1996; Senechal et al., 1998), whereas other self-report measures of home literacy practices did not prove to be stable predictors.

Internal consistency was evaluated for the title checklist in the present study. Split-half reliability analysis determined a correlation of .61 between forms. Spearman Brown coefficient, which accounts for all the items together was .76. Each half of the measure contained roughly the same number of true and false titles. Based on Senechal et al.'s (1996) scoring method, a total score was created by subtracting the proportion of false titles checked from the proportion of correct titles checked.

Measures of Parent Dependent Variables

Parent outcomes in the context of a shared reading task were assessed both pre- and post intervention as proximal measures of intervention effectiveness. The parent-child reading task and video coding procedures are described below. Parents also completed a satisfaction survey at post-test.

Shared reading procedure. Caregivers were asked to read a children's book titled, *The Pig in the Pond* (Waddell, 1992) with their child, which was videotaped and coded for affective quality. *The Pig in the Pond* met the criteria for books selected in the present study. The research assistant provided the parent with no further instructions than to read as he or she would normally read and remained as unobtrusive as possible.

Coding procedures. Videotaped reading sessions were coded for various parent and child verbal and non-verbal behaviors using a protocol adapted from previous research (Baker, Mackler, Sonnenschein, & Serpell, 2001; Sonnenschein & Munsterman, 2002). The original categories were developed based on observations of shared reading sessions that appeared enjoyable and engaging for both the parent and child (Sonnenschein & Munsterman, 2002). Exploratory analysis of the variables measured revealed unacceptable measurement properties for the child variables (i.e. child attention, affect, physical affection), including poor variance and and/or low correlations with conceptually similar or related variables. Only variables with acceptable measurement properties were used in the analyses. The following parent categories were targeted in the present study: reading expression, parent-initiated physical affection, warmth or sensitivity, and parent verbal involvement. Congruent with the goal of dialogic reading, verbal involvement encompassed a variety of verbal prompts and techniques that encouraged the child to be an active participant in the reading. Specifically, coders were trained to identify eight dialogic reading categories and three non-dialogic reading categories. Appendix D and E provide brief descriptions of each category and coding criteria. The detailed coding manual is available from the author upon request.

Codes were assigned on either an interval or total frequency basis. Parent reading expression and parent warmth were coded by assigning a global rating for every 20 second interval of the video. Parent reading expression per interval was rated as a 1, 2, or 3 to represent “low”, “moderate”, or “high” levels, respectively. All interval ratings were

then averaged to represent the parent's level of expression throughout the reading. Warmth was coded by considering a variety of behaviors associated with responsive interactions. An interval was rated "warm" if at least three of the following parent behaviors were observed: uses moderate or high level of reading expression, displays positive affect related to the activity; displays physical affection, and demonstrates sensitivity to the child's engagement (e.g. makes eye contact, provides verbal prompts to talk, recaptures attention if waning). If less than three of the above behaviors were observed, the interval was rated as "cool". Given that this variable was nominal, the total score represented the percentage of intervals rated as "warm", as opposed to creating an average.

Parent initiated physical affection and parent verbal involvement was each coded using a total frequency method, where all occurrences of the behavior were recorded. Subscale scores for these variables, however, were created similar to the interval recorded variables, such that scores reflected the percentage of 30 second intervals during which the behavior of interest was observed. This method was preferred over using the total frequency of behaviors in order to control for video length, which may account for variance in scores independent of actual behavior. Additionally, in the case of parent verbal involvement, this method took into account the ultimate goal of the prescribed verbal techniques, which was to encourage the child to talk during reading. Parents who provided continual prompts and questions without allowing a minimum two second pause for the child to respond failed to apply the techniques correctly.

Inter-coder agreement. Two school psychology graduate students, blind to treatment group, completed the coding using a custom-built computer program using Revolution software (Zellner, 2010). This program divided videos into 20 second intervals to facilitate coding according to the methods described. The computer program was utilized instead of traditional paper and pencil coding methods in order to enhance the coder's ability to document multiple behaviors efficiently and reliability. Coders underwent extensive training in how coded behaviors were defined, and how to use the computer coding program. An estimated 25 hours were devoted to group training and practice coding on the computer. Videos of study participants not used in analyses served as training and practice videos. In addition to studying the coding manual and watching video clip examples of each behavior, coders compared their coded data from 3-5 practice videos to that of the lead researcher. Disagreements were discussed and operational definitions of coded behaviors were revised as needed. Additionally, percent agreement for each behavior category was calculated for the first two training videos coded by both coders prior to proceeding with the rest of the videos. Across 33 intervals (20 seconds each), percent agreement was 82% for parental warmth and 79% parent reading expression. Among the frequency coded variables, 24 intervals (30 seconds each) were compared for inter-rater agreement, resulting in agreement rates of 96% for parent initiated physical affection and 96% for parent verbal involvement.

The total 33 pre-test and 33 post-test videos were evenly divided between the two coders. A random sample of five pre-test and five post-test videos from each treatment group, for a total of 20 videos (30%), were coded by both raters for purposes of

establishing inter-rater agreement. Agreement was evaluated using a variety of indices shown in Table 2, namely proportion of agreement, Cohen's kappa, and an adjusted kappa value, to be elaborated below. Proportion of agreement (p_o) ranged from .71 (reading expression) to .96 (parent physical affection) (M = .85). Kappa values were significantly lower, ranging from .46 (reading expression) to .83 (verbal involvement) (M = .62). Adjusted kappa values ranged from .71 (parent warmth) to .87 (parent physical affection) (M = .82).

Cohen's kappa is a popular method of measuring inter-rater reliability in cases involving categorical variables, as it represents the proportion of agreement after chance agreement has been removed (Cohen, 1960). Two paradoxes associated with the interpretation of kappa are important to mention here as kappa coefficients by themselves can be misleading (i.e. Byrt, Bishop, & Carlin, 1993; Feinstein & Cicchetti, 1990). Independent from the observed proportion of agreement between raters (p_o), differences in the marginal frequencies of codes used by raters (observer bias) and distributions of data across categories (prevalence) have an impact on the proportion of expected agreement (p_c), and thus have an effect on the observed kappa (i.e. Byrt, et al., 1993). When judges assign different numbers of items to each category, the upper limit of kappa is automatically less than 1.0. In such cases Dunn (1989) suggests reporting the maximum value of kappa attainable given the observed marginal frequencies observed in the data set. In the table below, the maximum kappa possible (kappa $_{max}$) for each variable is listed followed by an adjusted kappa, which represents the ratio of the observed kappa to the maximum possible.

For behavior categories requiring a global rating at the end of each 20 second interval (parent reading expression and parent warmth), inter-rater reliability was determined by comparing all codes for each category across all videos. As is the nature of kappa, only exact agreement was counted as an agreement; however, the ordered rating options designated for parent reading expression (low, moderate, high) justified the calculation of a weighted kappa (Cohen, 1968). In such cases, kappa is adjusted to account for the distance between raters' codes, or the degree of disagreement.

Coder agreement for frequency categories (parent verbal involvement and parent initiated physical affection) was determined by comparing whether both raters observed the given behavior or not during each 30 second interval of the video. Furthermore, to reduce the number of tests, thereby increasing the experiment-wise probability of Type I error, the 12 parental verbal involvement categories were collapsed into two categories: non-dialogic reading prompts and dialogic reading prompts. As with the interval rated variables above, this method of determining agreement was chosen to be consistent with how affective scores were calculated. Given that the scores were calculated based on a percentage of intervals a behavior was observed, exact agreement in terms of the frequency of behaviors recorded by each rater was not examined.

Table 2
Inter-rater Agreement Indices for Affective Quality Variables

	Agreement Index			
Variable	p_o	Kappa	$Kappa_{max}$	Adjusted kappa
Reading Expression	.71	.46[a]	.54[a]	.84[a]
Parent Warmth	.81	.57	.81	.71
Parent Physical Affection	.96	.62	.71	.87
Parent Verbal Involvement	.92	.83	.97	.86

[a] Denotes kappa with linear weighting due to the ordinal nature of the variable
Po: proportion of agreement
K: unweighted kappa
Kmax: maximum kappa given observed marginal frequencies (i.e., adjusted kappa)

Measurement of parents' satisfaction. Parents completed a measure of overall satisfaction with the intervention at post-test. The 12-item Parent Satisfaction Survey (Appendix F) assessed parents' attitude towards the intervention in regards to training provided, ease of applying DR strategies, overall enjoyment of reading sessions, perception of child's enjoyment, satisfaction with books, and perceived changes in their own and their child's attitudes and behaviors as a result of the intervention. The survey was given and collected by the home visitor in the weeks following the intervention period in the absence of the researcher in an effort to minimize the effects of social desirability. The following item was excluded from the scale due to some negative and low correlations with other items in the scale: *Following this program, I enjoyed reading with my child____before the program (More than, Less than, The same as).* The 2 open-ended items (What did you like the best about the program? What would you change about the program?) were explored qualitatively for programming purposes. Internal

consistency for the remaining nine items that utilized Likert or multiple choice response formats resulted in a Cronbach's alpha of .84.

Child Outcome Measures

Print-concepts knowledge. The Preschool Word and Print Awareness (PWPA; Justice & Ezell, 2001) is an individually administered, informal measure of preschoolers' word and print awareness, both important emergent literacy skills (Justice & Ezell, 2001). Print awareness refers to the ability to understand the form and function of print and the relationship between oral language and written language (Mason, 1980). Similarly, word awareness refers to a child's understanding that words are distinct components of written and spoken language (Bowey, Tunmer, & Pratt, 1984). The PWPA is modeled after the early literacy assessment approach developed by Clay and used in the Concepts about Print test (CAP; Clay, 1979). The PWPA was designed specifically for use with preschool-age children (Justice & Ezell, 2001) as a tool for describing a child's skills and monitoring change during intervention research. The PWPA is divided into two parts, Print Concepts and Words in Print to separately assess print concepts knowledge and word awareness. Given time constraints for child assessment procedures, only the print concepts knowledge task was administered. This task assesses a broader range of skills than the word awareness task and has been used in similar intervention studies (Justice & Ezell, 2000, 2002).

As prescribed by the authors, children were presented with the book *Nine Ducks Nine* (Hayes, 1990) and told by the examiner, "We're going to read this book together, and I need you to help me read." The examiner followed a script requiring the child to

respond to 14 tasks, such as “Show me the front of the book,” “Show me the name of the book,” and “Where do I begin to read?” Each task is awarded 0, 1, or 2 points depending on the child’s response and complexity of the item. In a sample of 3-to-5 year olds, Justice, Bowles, and Skibbe (2006) investigated the psychometric properties of the PWPA using a sample of 128 predominantly Caucasian children, aged 3-5, who differed in socioeconomic status and language ability. Using item response theory (IRT) model, Justice et al. (2006) concluded that the PWPA had adequate reliability of .74 and was sensitive to differences in skill level as a function of language ability and socioeconomic status.

Reliability analysis was conducted for the original 14 items at pre-test resulting in a Cronbach’s alpha of .57. Item number 10 (*Why are all these words in the water?*), which dealt with the concept of contextual print, was automatically excluded from the analysis due to zero variance (all children received a score of zero). Six additional items were deleted due to consistently low or negative inter-item correlations. The resulting Cronbach’s alpha for remaining seven items improved to .60 for pre-test scores and .67 for posttest.

Emotion skills. The Affect Knowledge Test (AFT; Denham, 1986), consisting of the Affective Labeling Task and the Perspective Taking Task, assesses young children’s ability to recognize and label different emotions. Similar labeling and perspective taking tasks are designed for and commonly used among preschool samples due to the significant social and emotional growth during this stage of development. During the Affective Labeling Task the child is presented with four faces on felt depicting the basic

emotions of happy, sad, angry, and scared. Children are evaluated on their ability to identify the correct emotion both expressively and receptively. Faces are laid out in a line and for each face the child is asked, "How does he/she feel?" To assess receptive knowledge, the child is then asked, "Point to the (emotion) face." Two points are awarded for identifying the correct emotion and one point for identifying an incorrect emotion within the same emotional valance (i.e. "good" for happy, "crying" for sad). This scoring method allowed for an expressive and receptive labeling aggregate score ranging from 0 to 16.

The Perspective Taking Task presents children with 20 vignettes played out by a neutral-faced puppet that is matched to the child's gender and ethnicity. Unlike the labeling task, the examiner acts out the puppet's emotion through his or her facial expression, voice, and body language. Following each vignette the child is asked, "How does Johnny/Nancy feel?", and the child responds by selecting one of the four felt emotion faces used in the labeling task. During the first 8 vignettes, the puppeteer depicts "stereotypical" responses to the situation (i.e. expressing fear when being all alone in the dark). The remaining 12 vignettes involve "non-stereotyical" emotions to the situations based on input from the parent. Prior to administration, parents complete a questionnaire about their child's typical reactions to the vignette scenarios, as well as their child's favorite and least favorite food. This information is used by the examiner to individualize the puppet's response to each scenario to reflect an emotion opposite that of the child's typical response; thus, the child must make an inference based on the emotion cues provided by the examiner. For example, if the child would typically get

mad if called inside for dinner while playing, the following vignette would be played out by the puppet/examiner: “I am swinging but I’m hungry and Mommy’s food is good. I will go in. Okay, Mommy.” Again, the child is asked, “How did the puppet feel?” and points are awarded as described in the labeling task. Perspective taking aggregate scores combining both stereotypical and non-stereotypical vignettes ranged from 0 to 40.

Internal consistency and test-retest reliability values reported for the ATK in previous research are adequate, ranging from .6 - .85 (Denham, 1986; Denham & Couchoud, 1990a, 1990b; Denham et al., 2003) depending on how the items are combined. In a sample of 2 and 3 year olds, performance on the AKT related to children’s prosocial behavior during structured, but realistic situations ($r = .51$, $p < .02$) (Denham, 1986). Additionally, emotion knowledge assessed using the AKT among 3 and 4 year olds predicted social competence, as measured by peer and teacher ratings, both concurrently and in Kindergarten (Denham et al., 2003). Lastly, the ATK proved an adequate measure to assess change in emotion skills during the course of a social emotional intervention for preschoolers (Domitrovich et al., 2007). Cronbach’s alpha was calculated for the present sample for pre and posttest affective labeling and perspective taking aggregate scores. All alpha values were high, ranging from .84 to .96.

Examiner Procedural Fidelity

All members of the research team underwent extensive training prior to administering assessment tasks. The lead researcher provided roughly 10 hours of training, with particular focus on the child assessment activities. Team members were required to “pass” a practice administration given to the lead researcher, such that no

major errors were made, and were observed during their first pre-test session with a family. Follow-up supervision was also provided by the lead researcher by listening to audio-recordings taken during assessment tasks.

Furthermore, it was important to examine whether the child assessment procedures were administered according to their respective manuals for both treatment groups, such that any differences between groups could not be attributed to differences in assessment administration. From a total of 33 pre-assessment audio clips containing administration of both the PWPA and AKT, five were randomly selected from each treatment group. A similar random sample was selected among the 33 post-assessment audios for a total of 20 assessment samples. All 20 audio samples were coded by two raters. Consistent with the administration guidelines, PWPA audio clips were coded for sequence of items, item verbiage, item repetition, and corrective feedback. The AKT tasks were coded for slightly different criteria pertaining to its manual, including sequencing of items, item verbiage, puppet gender matched with child, emotional expression or lack of expression (labeling task), and use of corrective feedback. A detailed checklist is provided for both tasks in Appendix G.

The percentage of correctly administered elements was calculated for each PWPA and AKT administration as observed via audio clips. AKT samples were further divided into the affective labeling and perspective taking tasks. Among the DR group, number or administration errors on any one administration ranged from 0 to 3, resulting in average errors per administration of less than one for all child tasks. Number of administration errors identified among the DR + ES children ranged from 0 to 21,

resulting in an average number of errors per administration of 0.1, 0.7, and 2.6 for the PWPA, AKT labeling, and perspective taking tasks respectively (M = 1.1). The significantly higher number of errors made in administering the AKT perspective taking task resulted from one administration in which the examiner used the opposite gender for the main character (used "Nancy" when testing a boy) in acting out all 21 scenarios. The effects of this error are unknown; however, given that the examiner consistently used the same main character in all scenarios, it is predicted that the error had minimal impact on the child's interpretation of the character's emotions and overall performance. Disregarding this administration, average errors per administration of the AKT perspective taking task reduce to 0.5, and average errors per administration across all tasks would be less than one, which is consistent with the DR group results. Overall, treatment groups did not differ in regards to examiner's adherence to assessment protocols. Inter-rater agreement for all data points (N = 4,040) was 99%. Fifty percent of all points of disagreement were in rating the examiner's use of evaluative feedback following the child's response, a category that requires more judgment than the others. Cohen's kappa could not be reported for many of the rating categories due to both coders only using one code option (i.e. never using the code "0"), or one coder using both code options (used both "1" and "0") while the second coder only used one of the options.

Intervention

Dialogic reading, an empirically supported shared book reading practice (e.g. Whitehurst et al., 1988; Arnold et al., 1994; Whitehurst et al. 1999) was implemented by Head Start parents in their homes. Parents were trained to use dialogic reading

techniques (DR group and DR + ES group) to promote key readiness skills of emergent literacy and emotional skills (ES group only) over the course of six reading weeks. Every other week parents received four books to read, and encouraged to read a minimum of three times total. Throughout the six weeks, families read 10 books, thus reading two previously read books during the final two weeks. A complete list of intervention books for each group is shown in Appendix H.

Final book selection for both groups was conducted with the assistance of a reading specialist to ensure that the books met general guidelines to help parents apply dialogic reading strategies and encourage child participation. Books for the DR group were selected from recommended book lists for interactive reading found in published studies by Whitehurst and colleagues (for list see Zevenbergen & Whitehurst, 2003), and from the *Read Together Talk Together* curriculum package (RTTT; Pearson Early Learning, 2002). All books met the following guidelines: 1) commercially available, 2) demonstrate the potential for vocabulary growth, 3) plot does not rely on extensive text to tell the story, and 4) illustrations alone support the narrative (Lonigan & Whitehurst, 1998).

DR + ES group books were selected by the researcher according to these recommendations in addition to the having the potential to elicit emotional talk. Specifically, a small number of books explicitly focus on different emotions (e.g. *The Way I Feel, Glad Monster, Sad Monster*), such that they provide emotion labels, illustrations of corresponding facial expressions, and depictions of typical situations that would elicit such feelings. The majority of the books, however, are narratives in which

the characters clearly experience and express (i.e. facial) one or more of the basic emotions of happy, sad, angry, and scared; therefore, inviting the parent and child to discuss emotion outside of the text. Most of the books also contain animal characters, which eliminates identification problems that may arise due to the child's gender or race. In consideration of the at-risk sample and 3rd grade reading level inclusion criterion, books with small text were avoided as much as possible. Extensive text, especially if it is small, may be more intimidating or off-putting to parents who read at a low level or are not used to reading with their child. While all books contain pictures that can tell the story on their own, the reading specialist also reviewed the difficulty level of text. For example, it was important that the majority of uncommon vocabulary words were spelled phonetically. Finally, books that contained an obvious rhythm and were designed to be sung were also excluded, even if recommended by Whitehurst and colleagues (e.g. *We're Going on a Bear Hunt*). It was hypothesized that these books may encourage more straight reading by the caregiver in an effort to maintain the text's intended rhythm, as opposed to engaging in intermittent discussion.

Caregiver training. Training in dialogic reading techniques was conducted during one in-home session the week following informed consent and pretesting procedures. Training for the DR and DR + ES groups varied slightly in accordance with the study questions. Parent-training scripts for DR and DR + ES group can be found in Appendices I and J, respectively. Parents in the DR+ES group received an additional 15 minutes of training at the beginning of the session aimed at teaching parents the importance of displaying nurturing behaviors (i.e. physical displays of affection,

expressiveness, responsiveness) towards their child while reading, and how to be "emotional coaches" during shared reading, such that the plot and story's characters guide discussion of emotions.

All parents were trained in dialogic reading techniques using two videos. Both groups watched the commercially available, 15-minute instructional video called *Read Together Talk Together* (RTTT; Pearson Early Learning, 2002). Developed in part by Whitehurst, this video is included in the RTTT Dialogic Reading Curriculum to teach parents and teachers the importance of encouraging children to talk during shared reading activities. The specific DR techniques are introduced using the acronyms PEER and CROWD (discussed in Literature Review) and demonstrated by male and female, ethnically diverse parent-child dyads. Arnold et al. (1994) reported improved child outcomes when parents were trained in dialogic reading techniques via video as opposed to direct person training alone. It has been hypothesized that parents may learn best by viewing other parent-child dyads modeling the techniques as opposed to a live trainer (Zevenbergen & Whitehurst, 2003). Blom-Hoffman, O'Neil-Pirozzi, and Cutting (2006) found high acceptability ratings from parents who viewed the Read Together Talk Together video in waiting rooms of community health centers as part of a small scale pilot test. Results also included an increase in the use of dialogic reading prompts to facilitate parent-child talk among parents who viewed the video compared to parents who only received a generic "reading tips" bookmark (Blom-Hoffman, O'Neil-Pirozzi, Volpe et al., 2006).

After watching the RTTT video, each technique and specific prompt type was briefly reviewed by the research team member using a reminder bookmark given to the parents (Appendix K). Parents then watched an additional 5 minute video that modeled dialogic reading techniques via a shared reading session between an adult and preschooler. This additional video also differentiated training for each treatment group. The DR group viewed a parent-child dyad read *Good Night Gorilla* (Rathmann, 1994), a book that is included in their intervention book list. Consistent with the training goals of the DR + ES book, parents watched a parent-child dyad reading *Llama Llama Misses Mama* (Dewdney, 2009), which modeled use of dialogic reading techniques plus examples of emotional talk, such as discussing emotions of characters, the child, and the reader. While viewing this second video, all parents were encouraged to call out examples of PEER and CROWD, and emotional talk (DR + ES group only) observed throughout the video. Training for both groups concluded with an opportunity for the parent to practice the techniques with their child while reading *Pig in the Pond*, which they previously read during the pretest videotaped session. Feedback was provided by the researcher.

Two weeks after the training session, parents received a follow-up training in their home. Parents were videotaped while reading to their child and received constructive feedback on their use of DR techniques. Families in the DR + ES group also received feedback on the affective climate of the session (i.e. attention to child, displays of affection, affect) and talk about emotions present in the book. This visit also served as an opportunity to check in with the families and address any questions or concerns.

Videos taken at follow-up visits were not included in analyses, thus served as practice videos for affective quality coding.

Treatment Fidelity

Parent training sessions were audio-recorded for treatment fidelity. While parents were responsible for the implementation of the treatment, the parent training session is considered the "treatment" of the study, as it is under the direct control of the research team. To assess whether parent training was delivered according to the manual, a random sample of 10 recorded sessions from each treatment group was coded for adherence by two raters. Raters evaluated audio clips using checklists created from the training scripts for each group. Research members' implementation of the final training component of applied practice (parent and child reading together) could not be evaluated accurately, however, because researchers often turned the recorder off prior to inviting the parent and child to practice. Treatment fidelity was calculated with and without consideration of the practice component. When considering evidence of parent-child practice, if there was no indication that practice occurred, the component was considered not met. Out of a total of 10 training elements (including practice), an average of 9.3 (93%) (*range*: 8-10) and 9.1 elements (91%) (*range* = 8-10) were met for the DR only and DR + ES groups, respectively. No evidence of parent-child practice accounted for 71% of the missing training elements observed among the DR only group, and 78% among the DR + ES group. When "practice" was excluded from analysis, both groups received fidelity ratings of 98% (*range*: 8-9). Overall inter-rater agreement across both groups was 99%.

Parent Compliance

Parents were given a mini audio recorder to keep throughout the 6-week reading period to record reading sessions with the intervention books only. Parents used one to two cassette tapes per 2-weeks, which were rotated along with new books. Audiotapes were listened to by the lead researcher and reading frequency was measured by counting total number of readings recorded. In an effort to reduce any resistance or anxiety associated with using the recorders, parents were only required to audiotape themselves reading three times each week, which was the minimum number of readings instructed. Average number of reading clips observed among families in the DR group was 9.12 (range: 1 to 36, *SD* = 8.69) and 11.59 among families in the DR + ES group (range: 0 to 22, SD =5.91).

RESULTS

Preliminary Analyses

Attrition. Data were collected at pre-test on an initial sample of 39 families. There was a 15% attrition rate (six families), resulting in 33 families at post-test. Demographic data and select pre-test data were analyzed to compare those families who completed the study and those who did not. No statistically significant differences were found between the six attritted families and the 33 families for whom post-test data were available. Because the small sample size has limited power to detect differences between families who completed post-test and those who did not, it the data were also examined descriptively (Table 3). This examination confirmed that participants with and without post-test data were similar on pre-test data.

Table 3
Descriptive Analysis of Attritted Families

Demographic	Completed Post-test (N = 33)	Attritted Families (n = 6)
Child Age (in months)	*M* = 49.58 *SD* = 6.65	*M* = 48.83 *SD* = 6.24
Gender		
Female	15	3
Male	18	3
Child Ethnicity		
African American	13	3
Caucasian	12	0
Hispanic	3	1
Mixed-race	5	2
Parent Education		
No high school	1	0
Some high school	10	1
High school diploma	17	5
Some college	5	0

Baseline comparisons. Table 4 provides descriptive statistics and group comparison data for demographic variables, home reading practices at baseline (children's title checklist), and dependent variables at pre-test. Treatment groups were compared to confirm that the randomization process resulted in equivalent groups. Groups did not significantly differ in regards to child gender (X^2 = .26; p = .611), child age $t(31)$ = -1.17; p = .251), child ethnicity (X^2 = .58; p = .901), or parent education (X^2 = 1.63; p = .653). Similarly, groups did not differ significantly at pre-test on parent and child dependent variables with the exception of child print concepts $t(31)$ = -2.27, p = .030. Children in the DR+ES group scored higher at pre-test on this measure compared to children in the DR only group.

Table 4
Demographic and Pre-test Measures by Intervention Group

Demographic and Pre-Test Measures	DR only (n = 16)		DR + ES (n = 17)		Overall Sample (N = 33)		Statistic
	M	*SD*	*M*	*SD*	*M*	*SD*	*t*
Child Age (in months)	48.19	(6.76)	50.88	(6.46)	49.58	(6.65)	*ns*
Children's Title Checklist (CTC)	.06	(.08)	.06	(.07)	.06	(.07)	*ns*
Child Print Concepts	2.25	(1.61)	3.71	2.17	3.00	(2.03)	$t(31)$ = -2.27*
Child AKT Labeling	8.81	(5.27)	10.59	(4.73)	9.73	(5.00)	*ns*
Child AKT Perspective Taking	25.88	(14.00)	31.35	(8.40)	28.70	(11.61)	*ns*
Parent Warmth	.53	(.31)	.53	(.36)	.53	(.33)	*ns*
Parent DR Prompts	.48	(.31)	.66	(.30)	.58	(.31)	*ns*
Total Verbal Prompts	.58	(.28)	.76	(.29)	.68	(.30)	*ns*
	N		*N*		*N*	*%*	X^2
Child gender							ns
Male	8		10		18	55	--
Female	8		7		15	45	--

Table 4 continued

Demographic and Pre-Test Measures	DR only (n = 16)	DR + ES (n = 17)	Overall Sample (N = 33)		Statistic
Child ethnicity					ns
African American	6	7	13	39	--
Caucasian	6	6	12	36	--
Hispanic	2	1	3	9	--
Mixed-race	2	3	5	15	--
Parent Education					ns
No high school	0	1	1	3	--
Some high school	6	4	10	30	--
High school diploma	8	9	17	52	--
Some college	2	3	5	15	--

*$p < .05$

Exploratory data analysis. Subscale scores and aggregate scores for all variables to be analyzed were examined to ensure data met the specified assumption of normality for the present analyses. Table 5 presents means, standard deviations, and skewness and kurtosis values for pre and post-test variables as well as the children's title checklist, which was entered as a covariate on one of the analyses. Due to the various methods of scaling across variables, a maximum score possible column is included to clarify scores. All variables showed acceptable values of skewness and kurtosis (West, Finch, & Curran, 1995). Outliers were identified as z-scores equal to or greater than 3. Five outliers were identified and determined not to be data entry errors. Assuming these scores were valid, analyses were conducted with and without the scores to determine whether they had undue influence on the outcomes. No difference in outcomes resulted; therefore, the outlier scores were included in all analyses.

Table 5
Descriptive Data for Home Literacy Environment and Pre- and Post Test Variables

Variable	*M*	*SD*	Maximum score value	Skewness	Kurtosis
Children's title checklist[a]	.06	(.07)	1.0	.53	.80
Child outcome variables					
PWPA print concepts knowledge[b] pre-test	3.00	(2.03)	10.00	.36	-0.22
PWPA print concepts knowledge post-test	4.09	(2.40)	10.00	.26	-0.68
AKT labeling composite[c] pre-test	9.73	(5.00)	16.00	-0.74	-0.93
AKT labeling composite pre-test	12.18	(4.07)	16.00	-1.00	-0.17
AKT perspective taking composite[d] pre-test	28.70	(11.61)	40.00	-1.29	1.01
AKT perspective taking composite post-test	32.67	(8.41)	40.00	-1.41	1.78
Parent outcome measures					
Warmth[e] pre-test	.53	(.33)	1.00	-0.18	-1.28
Warmth post-test	.63	(.32)	1.00	-0.34	-1.30
DR prompts[f] pre-test	.58	(.31)	1.00	-0.31	-1.19
DR prompts post-test	.82	(.21)	1.00	-2.24	6.92
Total verbal prompts[g] pre-test	.68	(.30)	1.00	-0.85	-0.36
Total verbal prompts post-test	.87	(.17)	1.00	-2.40	7.14

Note. PWPA = Preschool Word and Print Awareness; AKT = Affective Knowledge Test
[a]Score calculated as the proportion of correct titles identified out of 40 possible minus the proportion of incorrect titles out of 20 indicated. [b]Score calculated as sum of raw scores. Maximum points possible per item ranged from 1-2; therefore, scores were converted to z-scores for analysis. [c]Composite calculated as sum of 4 expressive and 4 receptive labeling items. [d]Composite calculated as sum of scores on 8 stereotypical scenarios and 12 non-stereotypical puppet scenarios. Max score per item = 2. [e]Score reflects percentage of 20 second intervals parent displayed warmth behavior. [f]Score reflects percentage of 30 second intervals in which a specific dialogic reading prompt was observed. [g]Score reflects percentage of 30 second intervals in which a verbal prompt of any kind was observed.

Parent reading-related behavior. In regards to parent outcomes, only three observed reading behaviors were included in the analyses, namely, degree of warmth, use of dialogic reading prompts, and total verbal prompts. Total verbal prompts included all verbal prompts aimed at engaging the child in the story, while dialogic reading

prompts referred to the specific types taught during parent training (see Appendix E). Whereas parents' levels of reading expression and physical affection were measured as part of the video coding process, these behaviors were not analyzed separately because they were both captured in the warmth construct (see Appendix D for construct definitions and coding criteria). Table 6 highlights several significant positive correlations between the three variables provided further support for using only the warmth construct to represent parents' affective support during shared reading.

Table 6
Inter-correlations for Parents' Observed Reading Behaviors

Pre-test measures	1	2	3	4	5
1. Warmth	--	.136	.308	.575**	.618**
2. Physical affection		--	.107	-.281	-.203
3. Reading expression			--	.192	.020
4. Dialogic reading prompts				--	.872**
5. Total verbal prompts					--
Post-test measures					
1. Warmth	--	.438*	.616**	.533**	.458**
2. Physical affection		--	.129	.207	.228
3. Reading expression			--	.162	.064
4. Dialogic reading prompts				--	.930
5. Total verbal prompts					--

* $p < .05$.
** $p < .01$

Parent satisfaction. Nineteen (58%) of the 33 participating families completed and returned a survey at post-test to assess overall satisfaction with the intervention. Many families completed the intervention at the end of the Head Start year making it more difficult for the home visitor to administer the survey to families before the

summer break. Table 7 provides a descriptive analysis of parents' responses to questions regarding satisfaction with training, acceptability of the DR techniques and reading requirements, satisfaction with the book selection, and perception of changes that resulted following the intervention. Overall, results suggest that parents were extremely satisfied with the training provided and will continue to apply the strategies they learned. More than half of the families also reported that they and their child enjoyed reading more than they did prior to participation in the program. Despite high overall satisfaction, more than half of the parents indicated that it was difficult to read three times a week, as recommended.

Table 7
Overview of Parent Satisfaction Across Groups

Item	***Agree/ Strongly Agree***	***Neutral***	***Disagree/ Strongly Disagree***
Satisfaction with training			
The training provided in this program helped me in reading with my child.	95%	5%	--
The training provided made sharing books with my child more enjoyable.	95%	5%	--
Acceptability of treatment			
It was difficult for me to use the specific reading strategies learned in training.	11%	4%	68%
It was difficult for me to read to my child at least three times a week.	63%	16%	16%
I am likely to continue to use the strategies I learned when I read with my child.	95%	5%	--
Satisfaction with books			
I liked the books in this program.	74%	--	11%
My child liked the books in this program.	95%	5%	--

Table 7 continued

Item	*Less than*	*Same as*	*More than*
Perception of intervention change			
When we read together, now my child seems to talk___he or she did before the program.	--	21%	79%
Following this six week program, I enjoy reading with my child____before the program.	--	21%	74%
Following this six week program, my child enjoys reading with me____before the program.	5%	21%	74%

Outcome Analyses

The effect of treatment condition on child and parent post-test scores was tested using analysis of covariance (ANCOVA), with the relevant parent or child pre-test score entered as covariates. Baseline home literacy environment, as measured by the children's title checklist was also considered as a potential covariate. A significant correlation between baseline home literacy environment and children's emotion labeling (Affective Knowledge Test labeling task) justified including the checklist scores as a covariate in that analysis only. Additionally, eta squared was calculated to provide a standardized measure of observed effects, which was particularly important in this case given small sample sizes and the increased probability of committing a Type II error. Eta-squared, also referred to as the correlation ratio, is a common estimate of effect size for ANOVA's, and is defined as the sums of squares of the effect (group effect in this case) divided by the total sums of squares (e.g. Pearson, 1911; Cohen, 1973). The square root

of eta-squared is r, which is one of many reasons it is often a preferred choice for reporting effect sizes in ANOVA's (Levine & Hullett, 2002).

Table 8 provides means and standard deviations for each variable by group at pre- and post-test. In regards to child dependent variables, the ANCOVA produced no significant group effects for print concepts knowledge, $F(1, 31) = 0.15$; $p = .705$, $\eta^2 = .003$, emotion labeling, $F(1, 31) = 0.65$, $p = .428$, $\eta^2 = .011$, and perspective taking, $F(1, 31) = 0.01$, $p = .935$, $\eta^2 = .000$. Similarly, no significant group effects were found for parents' use of dialogic reading prompts, $F(1, 31) = 0.52$, $p = .477$, $\eta^2 = .015$, use of all verbal prompts, $F(1, 31) = 1.16$, $p = .291$, $\eta^2 = .033$, or displayed warmth during reading, $F(1, 31) = .02$, $p = .889$, $\eta^2 = .000$.

Of note, considering both groups together, a dependent samples t-test revealed significant time effects for children's print concepts $t(32) = 3.20$, $p = .003$, $d = 0.49$, emotion labeling $t(32) = 4.06$, $p = .000$, $d = 0.54$ and perspective taking $t(32) = 2.94$, $p = .006$, $d = 0.39$. Among parent dependent variables, significant time effects emerged for dialogic reading prompts $t(32) = 4.38$, $p = .000$, $d = 1.13$ and total verbal prompts $t(32) = 3.84$, $p = .001$, $d = 0.78$. Parents' pre- and post-warmth scores were not significantly different, yet yielded an effect size of $d = 0.31$.

Table 8
Means and Standard Deviations of Outcome Variables by Group

Outcome Variable	DR only (n = 16)				DR + ES (n = 17)			
	Pre-test		*Post-Test*		*Pre-test*		*Post-test*	
	M	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*
Child Print Concepts	2.25	(1.61)	3.38	(1.96)	3.71	(2.17)	4.76	(2.63)
Child AKT Labeling	8.81	(5.27)	12.06	(4.09)	10.59	(4.73)	12.29	(4.16)
Child AKT Perspective Taking	28.88	(14.00)	31.06	(9.68)	31.35	(8.40)	34.18	(6.98)
Parent Warmth	.53	(.31)	.63	(.37)	.53	(.36)	.62	(.29)
Parent DR Prompts	.48	(.31)	.83	(.17)	.67	(.30)	.82	(.24)
Total Verbal Prompts	.58	(.28)	.89	.15	.79	(.29)	.86	(.20)

SUMMARY AND CONCLUSIONS

A six week parent-child shared reading intervention targeting children's emergent literacy and emotion knowledge was implemented for 33 Head Start home-based families. This pilot study tested the hypothesis that the nominal addition of social emotional components to an evidenced-based shared reading intervention (dialogic reading) would result in additive effects in regards to parent and child outcomes. The study utilized a pre-post test design involving random assignment of families to one of two treatment groups. Both groups received the standard dialogic reading intervention (e.g. Whitehurst et al., 1988), while parents in the DR+ES (dialogic reading plus emotion skills) received an additional nominal dose of training in how to be nurturing towards their child during reading and how to use the story as a catalyst to talking about emotions.

Differential effects between the two interventions were not found. Specifically, no clinically significant group effects were found for children's print concepts knowledge and emotion knowledge (emotion labeling and perspective taking) at post-test. Similarly, no effects emerged for parents' reading related behaviors, namely, application of verbal prompts, application of specific dialogic reading prompts, and displayed warmth. Effect sizes, as measured by eta squared, were also consistently low for all dependent measures, ranging from .00 for children's perspective taking and parents' displayed warmth to .03 for parent verbal prompts.

While no significant group effects were found, significant time effects emerged for all outcome variables with the exception of parent warmth. Effect sizes ranged from

d = 0.31(parent warmth) to *d* = 1.31(parents' dialogic reading prompts), with an average effect size of *d* = 0.61. The moderate to large effects found for children's print concepts (d = .49) and parents' use of dialogic reading prompts are expected given the proven efficacy of dialogic reading interventions in producing gains in both parent verbalizations while reading (Whitehurst et al., 1988; Blom-Hoffman et al., 2006), and children's language (e.g. Whitehurst et al., 1988; Arnold et al., 1994; Whitehurst, Arnold, et al., 1994; Lonigan & Whitehurst, 1998) and emergent literacy skills (e.g. Whitehurst, Epstein, et al., 1994; Whitehurst, et al., 1999).

An explanation for time effects for children's emotion labeling (*d* = 0.54), perspective taking (*d* = 0.39), and parent warmth (*d* = .31) is less clear given that that emotion coaching skills were explicitly targeted in training for the DR + ES group only. Given that the construct of warmth included parents' verbal efforts to engage their child in the story, it is logical that all parents would show an increase in this area. Additionally, it is intuitive that the other components of warmth (i.e. parent reading expression, physical affection, making eye contact, reflecting child's affect) may also be enhanced solely as a function of increased reading frequency. It is well documented that a warm and emotionally responsive parenting style is predictive of children's social emotional competence (e.g. Denham et al., 1997; Pianta, Nimetz, & Bennett, 1997); therefore, it is possible that children's emotional skills are enhanced as a result of the warm child-focused context that shared reading creates.

In order to consider what effect, if any, the additional emotional components had on parents' and children's reading-related behavior and skills, a comparison of effect

sizes from the present study to previous dialogic reading studies would be in order. In regards to parents' use of dialogic reading prompts during reading, Blom-Hoffman, O'Neil-Pirozzi, Volpe, et al. (2006) found an even larger effect size (d = 2.26) in favor of parents who viewed the *Read Together Talk Together* training video (RTTT; Pearson Early Learning, 2002) and received a dialogic reading bookmark compared to control parents who received a generic parenting tips bookmark. Similar to the present study, parents' frequencies of applying the specific prompt types was measured by coding a video-taped reading session pre and post a 6-week period. While both studies found large effects, several factors may have contributed to the difference in effect sizes, including sample characteristics and measurement techniques. Caregiver education level of the samples was dramatically different. Among families who participated in the present study, 15% had received some college credit compared to 78% in the comparison study. Additionally, Blom-Hoffman, O'Neil-Pirozzi, Volpe, et al. used a total frequency count (controlling for reading length) to measure parent verbalizations, which may have been more sensitive to change compared to the interval recording method employed in the present study.

Unfortunately, given differences in methodology between the present study and the many trials conducted by Whitehurst and colleagues, sound comparison of child effects is not possible. The current study did not intend to test previously established dialogic reading effects; rather, the goal was to compare the "standard" dialogic reading intervention to an "enhanced" package, targeting a broader domain of parent and child skills. In regards to child dependent measures, Whitehurst and colleagues routinely used

standardized measures of oral language, including the *Peabody Picture Vocabulary Tests* (PPVT; Dunn & Dunn, 1981), *Expressive One-Word Picture Vocabulary Test* (EOWPVT; Gardner, 1981), and the *Illinois Tests of Psycholinguistic Abilities* (IPTA-VE; Kirk, McCarthy, & Kirk, 1968), while the current study measured children's print concept knowledge through the *Preschool Word and Print Awareness* (PWPA; Justice & Ezell, 2001). While the extent to which the emotion components added value to the standard dialogic reading intervention cannot be determined, non-significant group effects suggest that these components did not detract from the anticipated effects of the reading intervention on parents' dialogic reading verbalizations and children's reading-related skills.

There are several conceptual and methodological issues that deserve attention given their potential impact on the study findings. An obvious limitation is small sample size, which resulted in decreased power to detect a significant difference if one exists. Unfortunately, limited resources for this pilot study negatively impacted the number of families allowed to participate. For future research, power analysis suggests that in order to detect a small effect size of 0.30 for a two group design at 80% power, a total sample size of 393 should be used (Cohen, 1992). Characteristics of the sample and selection process also prevented the current results from generalizing to Head Start families among the target population as well as nation-wide. While families were randomly appointed to treatment groups, selection was not random. Spanish-speaking families, who comprise a large proportion of Head Start families within the target population,

were excluded from the study. Consequently, Hispanic families were under-represented within the sample.

The "dosage" of treatment (parent training) provided to parents and the duration of the intervention (reading period) are other important factors to consider, given that previous dialogic reading research has not attempted to simultaneously target children's social emotional skills and parents' nurturing behavior. In regards to the dialogic reading component of the training, dosage was comparable to previous studies, which have documented the effectiveness of a single training session using a relatively short video in conjunction with discussion and a role play activity (Whitehurst, Epstein, et al., 1994). The progression of research in the field has continuously moved towards training methods that are time and cost efficient. The single session training and 6-week intervention period applied in the present study is comparable to these standards.

The question remains, however, what "dosage" of treatment and what duration or intensity of intervention is required to produce changes within the social emotional domain? The present study hypothesized that coaching parents in how to be nurturing and engage in emotion-talk while reading with their child would lead to changes in parent reading behavior and subsequent gains in children's emotion knowledge at post-test. As mentioned, a nominal additional training time of approximately 15 minutes was devoted to teaching these skills. In comparing this to other social emotional intervention programs for preschool children, this minimal dosage was likely insufficient to produce the desired effects.

Several social emotional interventions for preschoolers have documented effectiveness in enhancing children's emotion knowledge; however, such programs are much more extensive in regards to the curriculum schedule and training for teachers. For example, Preschool PATHS (Domitrovich et al., 1999), Head Start REDI (Beirman et al., 2008), and the Incredible Years Dinosaur School Curriculum (Webster-Stratton & Reid, 2004) involve 30-34 manualized lessons and extension activities to be implemented once or twice a week throughout the school year. Moreover, teacher training includes two to four days of training at the beginning of the year, a booster session in January, and weekly mentoring and in-class support by trainers or research staff. Storybook reading is just one of several modalities (i.e. role playing, modeling with puppets, videos) used in these programs to teach children about emotions; further research is needed to determine its relative contribution to child outcomes.

Home-based parent programs targeting children's emotional competence with which to compare to the present study are less common; however, some perspective can be gained by examining the training protocol used in Parent-Child Interaction Therapy (PCIT; Eyberg & Robinson, 1982). PCIT is an evidence-based treatment for preschool-aged children with externalizing problems that is rooted in social learning and attachment theories. A primary focus of the program is strengthening the parent-child relationship by training parents in engaging in positive, non-directive play with their child on a daily basis. PCIT sessions occur weekly and consistently involve the parent practicing their play skills and receiving feedback from the therapist. Sessions are not limited to a set number; rather, they continue until a target level of child behavior is

reached. Previous studies documented an average of 13.5 sessions (e.g. Eyberg, Boggs, & Algina, 1995; Lyon & Budd, 2010). Again, the time devoted to coaching parents and practicing positive interaction skills is substantial.

Treatment integrity is another critical component of intervention research. Steps were taken to promote and subsequently evaluate integrity of the treatment provided parents (parent training). Research team members underwent formal training and were required to tape record all training sessions, which were later evaluated for fidelity to the training protocol. While the current study modeled parent training procedures documented in previous research, some slight differences may have negatively impacted treatment fidelity. Training procedures documented in Whitehurst, Epstein, et al. (1994) and others (Lonigan & Whitehurst, 1998; Whitehurst, Arnold, et al., 1994, Whitehurst et al., 1988) involved direct instruction and/or video training at either a university setting or at the child's day care center. Training sessions that occurred at the preschool centers were conducted for groups of parents while childcare was provided. Theoretically, one-on-one training might be considered advantageous to a group structure because it allows for tailored instruction. Additionally, in-home training eliminates potential barriers to access. Anecdotal reports of parent training sessions from the research team, however, suggest that the home environment may be less conducive to training due to limited space, various distractions (i.e. children, noises, family members), and frequent interruptions.

Another factor related to treatment fidelity relates to the training protocol. To evaluate procedural fidelity parent training sessions were audio-taped; however, trainers

often turned the recorder off while parents practiced the techniques with their child and received feedback. Consequently, whether this key step was implemented and the quality of feedback provided could not be evaluated in all cases. Trainers reported that at times practice and feedback did not occur for reasons beyond their control. For example, the home visitor may have scheduled a make-up visit with the parent at a time the child was at school.

Parent adherence to the intervention has been measured a variety of ways in previous dialogic reading research (e.g. Whitehurst, Arnold, et al., 1994). A common practice has been for parents to document readings on a schedule provided by the researcher. Additionally, Whitehurst, Epstein, et al. (1994) incorporated study guides into the intervention books to support parents in applying the prescribed techniques. Such studies, however, did not investigate the degree to which parents used the study guides or found the guides helpful. The present study did not measure adherence to the intervention beyond frequency of reading, nor provide parents with additional support in applying the techniques while reading. While groups did not significantly differ in regards to frequency, total readings across the six weeks varied greatly from 1 to 36 readings across groups. Given the non-significant findings of the present study, future investigation of parent adherence, in terms of both reading frequency and the degree to which parents applied the specified techniques, would be valuable.

Several instrumentation issues, particularly around reliability, limited the present study. Both the Family Reading Survey (Bracken & Fischel, 2008) and the children's title checklist used (adapted from Senechal et al.,1996) were selected to measure

families' home literacy environment at baseline. Like others (e.g. Payne, Whitehurst, & Angell, 1994), Bracken and Fischel (2008) adopted a broad conceptualization of the home literacy environment, including items that factored into three areas—child reading interest, parent reading interest, and parent-child reading interaction. While early tests of the measure's psychometric properties supported a three factor structure and demonstrated predictive links between factors and children's literacy skills, reliability of the scores of all items together or within each factor was not reported (Bracken & Fischel, 2008). The present study failed to find adequate reliability for the scores obtained from the 5-item parent-child reading interaction scale. The small number of items comprising the scale was likely one factor involved in poor reliability; however, future studies need to assess reliability of scores for all 10 items together, as well as items comprising individual factors.

The present study also served to pilot an adapted version of Senechal et al.'s (1996, 1998) Children's Title Checklist for use with families in the United States. While the present study found adequate split-half reliability, further research is needed to determine the validity of the scores when used with low-income populations. Analyzing parents' responses descriptively, real titles identified correctly ranged from 0 to 25 (mean = 3.9; median = 2), which suggests that the measure may not be able to differentiate between high and low quality home literacy environments among this sample.

As touched on previously, the Preschool Word and Print Awareness (*PWPA*; Justice & Ezell, 2001) was chosen as a measure of children's print concepts knowledge

as opposed to standardized language measures used in previous dialogic reading studies. In addition to measuring a skill domain that is linked to children's success in early reading (Lonigan, 2004), the PWPA is easy to administer, and extremely low cost. Reliability of the scores obtained on this measure; however, is a potential concern. Reliability analysis on the original 14 items resulted in low alphas of .57 for pre-test scores and .59 for post-test scores. These numbers improved only slightly (pre-test alpha = .60; post-test alpha = .67) as a result of eliminating half of the items that exhibited poor psychometric properties. Also, along the same lines as the previous "dosage" discussion, the standard dialogic reading intervention may not target print concepts to the degree necessary to produce child gains in this area over the short-term. Justice and Ezell (2000) demonstrated the measure's sensitivity to short-term gains in print concepts knowledge as a result of a shared reading intervention that directly targeted such skills.

Conclusions regarding the intervention's effect on parents' affective behaviors and verbalizations during reading should also be interpreted with caution given measurement issues. Only one sample of parent-child reading behavior was taken pre- and post-intervention. The degree to which parent-child dyads deviated from typical behavior as a result of being videotaped or otherwise is unknown. In fact, in many instances it seemed that parents were less motivated to engage their child in talk during videotaped sessions as compared to observations of audiotaped readings conducted throughout the intervention. Blom-Hoffman, O'Neil-Pirozzi, Volpe, et al. (2006) attempted to control for such effects by asking parents to report how similar the

videotaped reading was to a typical session at home. An ideal procedure for future research is to average performance scores over several observations.

Inter-rater agreement for coded reading sessions may also be considered questionable depending on which agreement index is preferred (i.e. percent agreement, kappa) and one's interpretation of kappa, as controversy exists in the field. Questionable inter-rater reliability raises concern over how the affective variables were conceptualized and coded. While previous research served as a starting point in conceptualizing affective quality in the present study, adaptations were necessary to reflect the specific behaviors targeted in parent training. Careful consideration to how such affective variables are defined and measured is important in interpreting results of this study and comparing to similar research.

The present study also piloted a computer-based video-coding program to measure parent and child behaviors while reading. Several advantages support further exploration of this technique in social sciences and educational research. Since the program is custom-built, the researcher can adapt every aspect of measurement to answer the question of interest. The manner in which data is stored and organized eliminates the time-consuming process of data entry and ultimately allows the researcher greater capabilities in analysis. The technological capabilities of the program open the door to questions that could not be explored as easily with traditional paper and pencil methods. The primary disadvantage of utilizing this program in the present study was the time intensive development stage. Future adjustments and trials are necessary to improve the inter-rater reliability and explore validity of the data obtained.

This study is the first to explore the potential impact of combining emotional content into the dialogic reading intervention. While differential effects between the "standard" and "enhanced" versions of dialogic reading were not supported, the benefits of dialogic reading did not appear to be compromised by the addition of emotional components. Additionally, significant effects in children's emotion skills and a small effect found for parents' warmth across all participants suggests that the standard dialogic reading intervention alone may enhance these skills. Previous dialogic reading research has not investigated the potential impact on these skills; however, the positive link between warm parent-child interactions and children's academic and social-emotional competencies is well established (e.g. Pianta & Harbors, 1996). Future research involving a wait-list control group that does not receive training in interactive reading techniques is needed to attribute such positive effects to dialogic reading. Given that both treatment groups received a quality intervention with established effectiveness, lack of differential effects is reasonable. Increased sample size and greater dosage of emotion coaching for parents are crucial for future research.

This study refocuses attention on the *contexts* that promote children's school readiness skills. Efforts to support preschool teachers in simultaneously targeting literacy and social emotional skills within a positive classroom environment are growing (e.g. Beirman et al., 2008; Pianta, Mashburn, Downer, Hambre, & Justice, 2008). Parent-child shared reading interventions provide another avenue through which parents can support such important skills at home. The act of parent-child shared reading creates a developmentally appropriate context to foster more than children's literacy and language

skills. Supporting parents in incorporating warm, child-focused interactions into their daily routine holds tremendous potential for preparing young children for success in school. Shared reading provides a safe learning environment for parents to facilitate children's language, literacy, emotion skills, self-esteem, and attachment with their caregiver. Explicitly targeting a broader skill set within dialogic reading has the potential to extend the benefits well beyond parent and child reading-related behaviors.

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APPENDIX A

INFORMATIONAL RECRUITMENT LETTER

Dear Head Start Parents,

I am excited to offer you the opportunity to participate in a project to help parents read with their children. This is a part of a research study to learn how reading to children helps prepare them for Kindergarten. Children learn skills needed to read and write long before they enter school. Reading at home is one way you can help these skills develop. This program shares some easy reading tips to help your child benefit more from shared reading and make it more fun for both of you.

What would I be asked to do?

This program will last about 9 weeks total and include 4 visits to your home, which will be arranged with your home visitor. Each week, for 6 of those weeks, you will be given two new high quality books and asked to read with your child using the reading tips provided. These tips will include things like asking questions, adding on to what your child says, and praising your child. Over time your child will become the storyteller! You will be required to audiotape your weekly readings sessions with your child. During 3 of the home visits described below, you will also be videotaped reading with your child. All audiotapes and videotapes will be securely stored in a locked cabinet and destroyed after the study. The four visits to your home will involve the following activities:

1. **Informed consent and gathering information:** You will be given detailed information about the project and sign a consent and child permission form if you choose to participate. You and your child will also be involved in assessment activities such as completing questionnaires about your background and parenting behaviors, and child game-like tasks.
2. **Learning reading tips:** We will watch video examples of how to get your child involved in reading and you will have a chance to practice.

3. **More practice:** You will be videotaped reading with your child and we will talk about any concerns you have.
4. **Final Assessments:** You and your child will be asked to complete questionnaires and be videotaped reading together a final time. Also, you will get to choose at least 2 of your child's favorite program books to keep!

As your child's first teacher, you play a very important role in their success in school! I hope you will consider being a part of this program! If you have any questions, please call Megan Terry (801) 755-1539 or ask your home visitor for details.

For those of you who wish to learn more, I will be coming to your house with your home visitor. If you are interested or not, please mark the appropriate box below.

Your name:_____

- ☐ Yes! I agree to learn more about this project during a home visit.
- ☐ No, thank you.

APPENDIX B

CHILDREN'S BOOK TITLE CHECKLIST

INSTRUCTIONS (please read carefully):

Below you will see a list of 60 titles. Some of these are titles of popular children's books and some are made up. You are to read the titles and put a check next to those titles which you know to be titles of children's books. Do not guess, but only check those you know. Please answer without stopping to verify the books in your home. Please respond without consulting with your spouse.

_____Alligator Pie
_____Barnyard Dance!
_____Big Old Trucks
_____Brown Bear, Brown Bear, What Do You See?
_____Clarissa's Patch
_____Click, Clack, Moo: Cows that Type
_____A Difficult Day
_____Don't Let the Pigeon Drive the Bus
_____Eleanor and the Magic Bag
_____Farmer Joe's Hot Day
_____Freight Train
_____Go Dog Go
_____Good Night, Gorilla
_____Grandma and the Pirates
_____Guess How Much I Love You
_____Hello Morning, Hello Day
_____How Stephen Found a Pet
_____How Wishes Come True
_____I Hear a Knock at my Window
_____I Went Walking
_____In the Night Kitchen
_____Jelly Belly
_____Just Me and my Dad
_____Kimberly's Horse
_____Lilly's Purple Plastic Purse
_____Love You Forever
_____Martha Rabbit's Family
_____Matthew and Midnight Tow Truck
_____Max's Bath
_____Moo, Baa, La La La!
_____Moonbeam on a Cat's Ear
_____Mortimer
_____Mouse Paint
_____Murmel, Murmel, Murmel
_____No, David!
_____Noisy Nora
_____Olivia
_____A Promise is a Promise
_____Rachel's Real Dilemma
_____Red is Best
_____Snowballs
_____Snowflakes are Falling
_____Something From Nothing
_____Stella, Star of the Sea
_____The Paper Boat's Trip
_____The Runaway Bunny
_____The Snowy Day
_____Terry Toad
_____This is My Family
_____Three Cheers for Gloria
_____The Toy Trunk
_____There's a Nightmare in my Closet
_____Tracy Tickles
_____Velveteen Rabbit
_____We're Going on a Bear Hunt
_____What Do I Hear Now?
_____Winter Fun on Snowy Days
_____Wonderful Pigs of Jillian Jiggs
_____Worry No Longer
_____Zack's House

_____ I do not recognize any of these titles

APPENDIX C

FAMILY READING SURVEY (PARENT-CHILD INTERACTION SCALE)

1. Frequency of parent reading with child
   - ☐ Hardly ever
   - ☐ 1–2 times per month
   - ☐ 1–2 times per week
   - ☐ Almost daily

2. Age when parent first read to child
   - ☐ After age 2
   - ☐ 1.5–2 years
   - ☐ 1–1.5 years
   - ☐ 6 months to 1 year
   - ☐ Before 6 months

3. Number of minutes parent read to child yesterday
   - ☐ 0 min
   - ☐ 1–10 min
   - ☐ 11–20 min
   - ☐ More than 20 min

4. Number of books in home for child's use
   - ☐ 0–2
   - ☐ 3–10
   - ☐ 11–20
   - ☐ 21–40
   - ☐ More than 40

5. How often parent takes child to library
   - ☐ Hardly ever
   - ☐ 1–2 times per month
   - ☐ 1–2 times per week
   - ☐ Almost daily

APPENDIX D

VIDEO CODING RUBRIC

Interval Recording (global rating per 20 second interval)		
Behavior category	Coding Rubric	Subscale Score
Parent Warmth	*Warm:* Parent expresses warmth through a minimum of three of the following behaviors: moderate or high level of reading expression (see below); displays positive affect related to activity; displays of physical affection (see description below); demonstrates sensitivity to child's engagement (e.g. makes eye contact; provides verbal prompts to talk; recaptures attention if waning) *Cool:* Parent displays less than 3 behaviors listed above.	Proportion of "warm" intervals
Parent Reading Expression[a]	*Low (1):* None to minimal change in volume/tone of voice. Parent simply reading text without using reading expression to make activity enjoyable and entertaining. *Moderate (2):* Some tonal change; moderate expression. Parent uses changes in tone and a moderate level of expressiveness to make the activity entertaining and enjoyable. *High (3):* Consistent use of multi-tonal reading and expression. Parent appears to purposely use expression to engage/entertain the child.	Average of all expression scores (1's, 2's, 3's)

Event Recording (frequency count)		
Parent verbal involvement	Parent verbalizations that aim to verbally engage the child in the activity. Verbalizations coded according to the categories listed in Appendix F.	*Dialogic reading:* Proportion of 30 second intervals during which parent provided DR prompt. *Non dialogic reading:* Proportion of 30 second intervals during which parent provided a non
Parent Physical affection[a]	Parent initiated display of physical affection (i.e. puts arm around child, places on lap, gives hug, kisses, gives high five, tickles)	Proportion of 30 second intervals during which parent initiated physical affection was observed.

[a]Parent reading expression and physical affection scores were not explored separately in analysis.

APPENDIX E

PARENT VERBALIZATIONS CODING RUBRIC

Non-dialogic reading prompts

Verbal Prompt	Description	/Example
Pointing request	Prompts child to point to something on the page.	Where is the dog? Point to the cat.
Yes/No Question	Question requires a yes/no answer or head nod/shake.	Do you think the pig will jump in the pond?
Labeling prompt	Prompts the child to label objects on the page.	Who is that? What is that called?

Dialogic reading prompts

Verbal Prompt	Description	/Example
Evaluation	Parent provides an evaluation of the child's response.	Yeah (acknowledgement) You're right! Great job! (praise)
Expansion	Parent repeats child's verbalization and expands on it.	Child: Dog! Parent: That is a big dog with spots.
Repetition	Parent repeats something the child says or asks the child to repeat a vocabulary word.	You say that word, 'exhausted'.
Completion	Prompts the child to complete a sentence or thought.	Little cloud changed into a ___?
Recall	Question that requires the child to recall an element of the story.	Do you remember what happens in this story?
Open-ended	Non-specific request for a response in the child's own words.	Tell me about this page. What do you think happens next?
Wh-prompts	Questions beginning with who, what, where, when, why, and how.	What is that pig doing? How does he feel?
Distancing	Statements or questions that encourage the child to make connections between the story and their life.	Did you see a pig at the zoo? Do you like to go swimming like the ducks?

APPENDIX F

PARENT SATISFACTION SURVEY

1. The training provided in this program helped me in reading with my child.
   Strongly Agree____Agree____Neutral___Disagree___Strongly Disagree___

2. The training provided made sharing books with my child more enjoyable.
   Strongly Agree____Agree____Neutral___Disagree___Strongly Disagree___

3. It was difficult for me to use the specific reading strategies learned in training while reading with my child.
   Strongly Agree____Agree____Neutral___Disagree___Strongly Disagree___

4. It was difficult for me to read to my child at least 3 times a week.
   Strongly Agree____Agree____Neutral___Disagree___Strongly Disagree___

5. I liked the books in this program.
   Strongly Agree____Agree____Neutral___Disagree___Strongly Disagree___

6. My child liked the books in this program.
   Strongly Agree____Agree____Neutral___Disagree___Strongly Disagree___

7. I am likely to continue to use the strategies I learned when I read with my child.
   Strongly Agree____Agree____Neutral___Disagree___Strongly Disagree___

8. When we read together, now my child seems to talk _____ before the program.
   - ☐ More than
   - ☐ Less than
   - ☐ The same as

9. Following this five week program, my child enjoys reading with me _____ before the program.
   - ☐ More than
   - ☐ Less than
   - ☐ The same as

10. Following this five week program, I enjoy reading with my child _____ before the program.
    - ☐ More than
    - ☐ Less than
    - ☐ The same as

11. What did you like the best about the program?

12. What would you change about the program?

APPENDIX G

SAMPLE PROCEDURAL FIDELITY RATING CHART

Item	Item administration	Item Integrity	Item repetition	Feedback
DIRECTIONS	Enter '1' if item was administered. Enter '0' if item was not administered.	Enter '1' if item was administered verbatim or with minor alteration such that intended meaning was not changed. Enter '0' if item was administered with major change such that intended meaning altered.	Enter '1' if item was stated LESS THAN or equal to 3 times. Enter '0' if item was stated MORE THAN 3 times.	Enter '1' if NO positive or negative feedback was provided following child's response. Enter '0' if feedback was provided. Transcribe feedback.
1. Show me the front of the book.				
2. Show me the name of the book.				
3. What do you think it/this says?				
4a. Where do I begin to read?				
4b. I begin to read here.				N/A
5. Then which way do I read?				
6. Show me where one of the ducks is talking?				
7. Do I read this page or this page first? OR Do I read this page first or this page first?				
8a. There is/are four lines on this page. Which do I read first?				
8b. I read this one first.				N/A
9. Which one do I read last?				

Note: Complete form not included here.

APPENDIX H

INTERVENTION BOOK LIST

Dialogic Reading Only Group		Dialogic Reading and Emotion Skills Group	
Title	Author	Title	Author
Little Cloud	Eric Carle	The Way I Feel	Janas Cain
Corduroy	Don Freeman	Glad Monster, Sad Monster	Anne Miranda, Ed Emberley
Whistle for Willie	Ezra Jack Keats	Llama Llama Misses Mama	Anna Dewdney
The Snowy Day	Ezra Jack Keats	Llama Llama Mad at Mama	Anna Dewdney
I Took My Frog to the Library	Eric Kimmel	Mouse Was Mad	Linda Urban
Pigs Aplenty, Pigs Galore	David McPhail	Bear Feels Scared	Karma Wilson
Good Night, Gorilla	Peggy Rothmann	Knuffle Bunny	Mo Willems
Sheep in a Shop	Nancy E. Shaw	The Pig in the Pond	Martin Waddell
Eek! There's a Mouse in the House	Wong Herbert Yee	Bunny My Honey	Anita Jeram
If You Give a Mouse a Cookie	Laura Joffe Numeroff	The Kissing Hand	Aubrey Penn

APPENDIX I

PARENT TRAINING SCRIPT: DIALOGIC READING GROUP

Training Objectives:

1. Parents will be learn about the importance of promoting early language and literacy skills during the preschool years to help prepare their child for success in school.

2. Parents will understand that simply talking to their kids regularly and reading books together at home are two ways they can help prepare their child for Kindergarten. Shared reading will be presented as a fun activity, rather than an instructional time. This activity will be described as an opportunity to spend quality time with your child, which may promote the child's interest in books and reading activities.

3. Parents will be taught the specific reading techniques of the Dialogic Reading curriculum. The acronyms PEER and CROWD will be described in the video as a way to remember the techniques. The new strategies will be reinforced through modeling and role-play practice with the researcher.

I. Introduction

Researcher: "Last time we met I talked about the purpose of this study, you completed several questionnaires about yourself and your family, and you signed the consent form agreeing to participate. As I mentioned last time, if you have any questions or concerns about what you are asked to do, feel free to contact me or your home visitor. Also, if you decide to discontinue your participation at any time over the next 7 weeks, just let me know. Do you have any questions that came up since the last time we met?"

"Today we are going to talk about the importance of talking and reading with (CHILD's NAME) to help him get ready for Kindergarten. Even though we may think of reading as a skill that children learn once they enter school, children are learning many important skills from the time they are born that help them learn how to read and write. Through talking and reading with CHILD you are helping him develop oral language and listening comprehension skills, and learn new words. Sharing different books with CHILD can teach him how a book works (such as where you start and what direction you read), and that the letters and words on the page have meaning. Books can teach kids about things they don't know about or get to see in real life. Does CHILD seem to enjoy books?"

II. Introduction to Dialogic Reading video

Researcher: "What I want to talk to you about today is some simple things you can do when reading with CHILD to get him more involved in telling the story. We will learn

about these reading tips by watching this short video. You may find that you already do a lot of the things they talk about in the video, which is great! You will hear on the video that these techniques are called Dialogic Reading, but don't worry too much about the fancy name. What is important is that there are some very **simple** things you can learn to do when reading that will make it more fun for you and CHILD. Over time, as he becomes more familiar with the stories, he will be the storyteller and you will be the listener, but still guiding him to learn new things. The goal of using these techniques is to make the experience more fun for both of you and give CHILD more opportunities to talk and learn new words.

Watch "Read Together, Talk Together" Video (Produced by Pearson Learning Group)

Researcher: "The video used the words PEER and CROWD to remind us of the different things we can say when we read. Here are some bookmarks for you to keep that will help you remember what each letter stands for. **But the most important thing to remember is that the reason we use these techniques is to have fun and get CHILD more involved in the activity, which will help him learn."**

"You will have a chance to practice these tips later. Do you have any questions?"

III. Video example of PEER and CROWD

Researcher: Now we will watch this video of me reading with a child for the second time. You will see how I use PEER and CROWD to get the child to tell me the story. While you are watching, if you see me use a one of the tips we talked about, call it out. For example, if I say, "What does a cat say?" you could say "Wh- question."

Watch short video.

Researcher: "Are you getting the feel of how this works? You want to make this as fun as possible so you don't have to ask questions on every page. You might notice your child getting frustrated or tired, which is a sign to you that you need to ask fewer questions. All kids are different and I want you to adapt the story time to fit your child. For example, the questions we used in our reading may be too hard or too easy for a child. Also, as you reread the books you should be able to ask more challenging questions. For example, instead of asking "What is this animal called?" you could ask a more specific question, such as "What is an elephant's nose called? What do they use it for?"

<u>Recalling the story:</u>
Researcher: After reading the book, you can use the **recall** prompts pasted to the back of the book to get CHILD to recall the story. These are the questions for this book:

IV. Practice with child

Child will be invited to listen to story read by parent using the new strategies. Parent will read two times and follow the guidelines provided for each reading.

V. Feedback

Researcher will offer constructive feedback to parent on their ability to engage their child in the story and use emotion talk.

APPENDIX J

PARENT TRAINING SCRIPT:

DIALOGIC READING TECHNIQUES + EMOTION COACHING

Training Objectives:

1. Parents will be learn about the importance of developing and promoting early language and literacy skills during the preschool years to help prepare their child for reading success at entry to kindergarten.

2. Parents will understand that simply talking to their kids regularly and reading books together at home are two ways they can help prepare their child for Kindergarten. Shared reading will be presented as a fun activity, rather than an instructional time. This activity will be described as an opportunity to spend quality time with your child, which may promote the child's interest in books and reading activities.

3. Parents will be taught the specific reading techniques of the Dialogic Reading curriculum. The acronyms PEER and CROWD will be described in the video as a way to remember the techniques. The new strategies will be reinforced through modeling and role-play practice with the researcher.

4. Parents will be taught the importance of displaying nurturing behaviors while reading to make the experience more enjoyable for them and their child. Parental nurturance will be promoted through the parent's tone of voice, physical touch and displays of affection, and overall responsiveness to their child.

5. Parents will learn how to use shared reading time to be "emotion coaches" and talk to their child about different emotions and how emotions are expressed.

I. Introduction

Researcher: Thank you for taking time to meet with me today. "Last time we met I talked about the purpose of this project, you completed several questionnaires about yourself and your family, and you signed the consent form agreeing to participate. As I mentioned last time, if you have any questions or concerns about what you are asked to do, feel free to contact me or your home visitor. Also, if you decide to discontinue your participation at any time over the next 8 weeks, just let me know, you are under no obligation to participate. Do you have any questions that came up since the last time we met?"

"Today we are going to talk about some simple things you can do at home with CHILD to help prepare him/her for Kindergarten. Sharing books with CHILD can help him/her develop talking and listening skills he/she needs to learn how to read. You will see how reading one-on-one with CHILD can also help build his/her emotion skills, which are also very important for success in school. Emotion skills can refer to many different things like being able to identify different emotions that you feel or someone else is experiencing, and being able to talk about and express your emotions in an acceptable way. We know that children who have better emotion skills do better in school and get along better with their teachers and peers. Parents play a very important role in helping children begin to develop these skills before Kindergarten. I am going to talk about some things you can do and say when reading that will make it more enjoyable and also help him/her learn emotion skills."

II. Be present.

Researcher: "Being present during reading means being physically and mentally with your child. This is a special one-on-one time that we don't get very often with our busy lives. You want to connect to the story you are reading and notice how your child connects with it. There are a few things you can do that can make this a quality time for the two of you."

Before Reading:

- Find some space with few distractions.
- Allow enough time to read and talk about the story without feeling rushed.
- Express excitement about reading with CHILD. For example, "It is time for our special reading time. Just you and me! I have so much fun talking about the stories with you."

During Reading:

- Be physically close to your child. When we touch our children in loving ways, we send a message about how we feel about them. Let them sit next to you or on your lap. Other ways to touch CHILD during reading include giving hugs, kisses, and high fives.
- Read with expression. Don't be afraid to read like you are performing. You can use different voices for the characters or change your tone and facial expressions to match how the character feels. Give Example.
- Enjoy the activity. Try to block out other things going on that make you upset. Let your child know that you enjoy spending time with them and that you are interested in the book. They will be more likely to follow your behavior.

III. Be an "emotional coach" for your child.

Children need words to describe what they are feeling and what they see others feeling. Reading books is a really easy way to teach CHILD emotion words.

- Talk about how the characters feel. "Look at dog sitting all alone. What is he feeling? "Mouse is stopping and yelling…he must be feeling _____?"
- Talk about how the child may feel. "You look excited to turn the page and see what dog is going to do next!" "How does that make you feel?"
- Connect the story with something in CHILD's life. "Remember when you lost your blankie? You were so sad."
- Talk about how you are feeling. "I love reading with you. It makes me very happy."

Do you have any questions about talking about emotions during reading?

IV. Introduction to Dialogic Reading Video:

Researcher: "Now we are going to watch a video that will give you some tips for having a conversation with CHILD about emotions and other things in the story. We want CHILD to be involved in telling the story, not just listening to you. These tips also help children learn skills that will help them to read and write. You may find that you already do a lot of the things they talk about in the video, which is great!"

You will hear on the video that these strategies or tips are called Dialogic Reading, but don't worry too much about the fancy name. What is important is that there are some very **simple** things you can learn to do when reading that will make it more fun for you and CHILD.

Watch Video
Researcher: "The video used the words PEER and CROWD to remind us of the different things we can say when we read. Here are some bookmarks for you to keep that will help you remember what each letter stands for. **But the most important thing to remember is that the reason we use these techniques is to have fun and get CHILD more involved in the activity, which will help him learn. You will see how they help you talk about emotions."**

"You will have a chance to practice these tips later. Do you have any questions?"

V. Video example of PEER and CROWD with emotional focus
Researcher: Now we will watch this video of me reading with a child for the second time. You will see how I use PEER and CROWD to get the child to tell me the story and talk about emotions. While you are watching, if you see me use a one of the tips we talked about, call it out. For example, if I say, "What does rabbit's face tell us about his feelings?" you could say "Wh- question."

"Are you getting the feel of how this works? You want to make this as fun as possible so you don't have to ask questions on every page. You might notice your child getting frustrated or tired, which is a sign to you that you need to ask fewer questions. All kids

are different and I want you to adapt the story time to fit your child. For example, the questions we used in our reading may be too hard or too easy for a child. Also, as you reread the books you should be able to ask more challenging questions.

Recalling the story:
Researcher: After reading the book, you can use the **recall** prompts pasted to the back of the book to get CHILD to recall the story.

VI. Practice with child
Child will be invited to listen to story read by parent using the new strategies. Parent will read two times and follow the guidelines provided for each reading.

VII. Feedback
Researcher will offer constructive feedback to parent on their ability to engage their child in the story and use emotion talk.

APPENDIX K

INTERVENTION BOOKMARKS

PEER

Ways to help your child talk during reading

Prompt or encourage child to label objects and talk about the story

Evaluate children's responses. Offer praise ("That's right! Good job!") or help.

> **Child:** "It's a poodle!"
> **Reader:** This is a different kind of dog called a lab. Can you say lab?

Expand or add on to what the child says.

> Child: "Dog!"
> Parent: "Yes! That is a big brown dog with curly hair. He looks angry. Can you say angry?"

Repeat what the child says. This lets you child know you are listening to them!

CROWD

Types of questions to ask

Completion or fill-in-the-blank questions. "To get upstairs, Corduroy went up the _____."

Recall prompts ask a child to remember something about the story. "How does Corduroy get his button fixed?"

Open-ended prompts invite the child to talk using his or her own words. "Tell me about this page."

Wh-questions, such as what, where, who, and why. "Why is bear sad?"

Distancing prompts help the child connect the story to his or her life. "Do you remember when you saw snow outside?"

BE "PRESENT"

Ways to make reading time more enjoyable

Before reading tips:

- Remove distractions (Turn TV/radio off)
- Allow plenty of time to read. Don't rush.
- Express excitement. "I love when we get to read together before bed."

During reading tips:

- Give loving touches. Let child sit on lap, give hugs, kisses, high fives, etc.
- Read with expression in voice!
- Block out stress and enjoy the moment!

BE AN "EMOTIONAL COACH"

Ways to talk about emotions while reading.

Talk about how the characters feel. "Racoon looks sad. He doesn't want to leave his mamma and go to school."

Talk about how your child feels. "It looks like you are excited to turn the page."

Talk about how you are feeling. "I love reading with you. It makes me happy."

Connect the story to the child's life. "Remember when you lost your blankie? You felt sad." "How did you feel when you went to school the first time?"

VITA

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