

Dialogic Reading with Emotion-Laden Storybooks: Intervention Methods to Enhance
Children's Emergent Literacy and Social-Emotional Skills

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By

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Dedication

This is dedicated to the administrators, teachers, families, and children of the Rocky Mountain SER Head Start Program in Pueblo, Colorado, who made this research possible, and to all future preschool programs who implement future versions of this research to enhance young children's emergent literacy and social-emotional skills.

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Abstract

DIALOGIC READING WITH EMOTION-LADEN STORYBOOKS: INTERVENTION METHODS TO ENHANCE CHILDREN'S EMERGENT LITERACY AND SOCIAL-EMOTIONAL SKILLS

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Improving both literacy and social-emotional skills has become a focus of recent intervention research. Replicating procedures previously implemented by Whitehurst et al. (1994, 1999) with emotion-laden storybooks, this study introduced and evaluated intervention methods (i.e., teacher-directed small-group storybook readings) aiming to simultaneously enhance preschooler's vocabulary and social-emotional skills. Participants included 27 teachers and 114 children in the southern Colorado Rocky Mountain SER Head Start Program divided into 2 groups: the intervention group (i.e., teachers used dialogic reading techniques during storybook readings) and the book reading control group (i.e., teachers read storybooks as usual). Results regarding intervention effects across experimental group assignment and Head Start programming dosage revealed that of children attending half-day and full-day classrooms assigned to the intervention and book reading control groups, children attending half-day Head Start classrooms assigned

to the intervention group demonstrated the greatest affective perspective taking skills of all groups. Children attending full-day Head Start classrooms assigned to the intervention group, however, demonstrated the least affective perspective taking skills of all groups. Results also revealed that children in classrooms assigned to the intervention group had stronger vocabulary skills and demonstrated greater productiveness during classroom activities than children in classrooms assigned to the book reading control group. Findings warrant the potential value of future research investigating altered intervention methods. Teachers held favorable attitudes toward intervention implementation. Education and educational policy implications are discussed.

1. Introduction

Improving both literacy and social-emotional skills has become a focus of recent intervention research. Emergent literacy research has acknowledged the importance of literacy intervention efforts aiming to improve children's academic and social-emotional environments (Pianta, 2006), and research in the social-emotional realm has linked children's verbal abilities and social-emotional development (i.e., emotion knowledge and positive emotion regulation; Miller et al., 2006). Current programs aiming to enhance both children's literacy and social-emotional skills take a comprehensive approach to program curricula (see Committee for Children, 2006; Evangelou & Sylva, 2007; Morningside Center for Teaching Social Responsibility, n.d.) that is not always feasible to implement. Effective and resource-efficient intervention methods enhancing both children's emergent literacy and social-emotional skills could provide positive developmental outcomes for larger numbers of children, and particularly children at risk for poor literacy (Britto, 2001; Hoff, 2003) and social-emotional outcomes (McLoyd, 1990; Yeung, Linver, & Brooks-Gunn, 2002) due to socio-economic hardship.

By replicating methods previously implemented by Whitehurst et al. (1994, 1999), the proposed research introduces intervention methods aiming to simultaneously enhance the development of preschool-aged children's vocabulary skills, one of the three key predictors of literacy acquisition (Lonigan, 2006), and the development of preschool-

aged children's emotional expression, emotion understanding, and emotion regulation, the three key components of emotional competence (Denham, 1998, 2005), using emotion-laden storybooks. Children's literacy and then social-emotional development will first be discussed, followed by a review of literature linking children's literacy and social-emotional development.

2. Literature Review

Literacy Development

The development of literacy skills during the preschool period sets the stage for subsequent literacy-based abilities. Because children from families facing socio-economic hardship live in environments offering less support for language and literacy development (Britto, 2001) and demonstrate literacy skills below national averages (Zill & Resnick, 2006), literacy intervention development in this population is of great educational concern. The importance of literacy development during the preschool years, then particularly for children facing socio-economic hardship, will be discussed. The role of preschool teachers in facilitating early literacy skills will then be discussed, followed finally by a brief review of a previously implemented literacy intervention program that will be used in the current intervention.

Literacy Development During the Preschool Years: Why is literacy development so important?

Literacy skills acquired during the preschool period serve as the foundation for children's subsequent reading abilities. Much previous research has demonstrated links between early literacy skills acquisition and children's reading and writing abilities throughout the early elementary years. According to Beard (2003), fluency, comprehension, and phonics, in particular, have been emphasized in previous research.

He described these literacy skills as fitting one of three categories: 'bottom-up,' 'top-down,' and interactive skills. The first two categories approach literacy from opposite directions, with bottom-up skills moving from basic skills to more complex written and spoken communication, and with top-down skills starting from the level of communicative meaning for reading comprehension and word recognition. Finally, interactive skills incorporate a number of skills working in tandem to promote literacy outcomes.

Similar to Beard's (2003) categorization of early literacy skills, Whitehurst and Lonigan (1998) proposed a model described emergent literacy as developing along a continuum ranging from pre-reading to reading abilities. According to the model, emergent and conventional literacy consist of inside-out and outside-in units. Inside-out units, or skills focused on translating print into sounds or sounds into print, include knowledge of graphemes, phonological and syntactic awareness, phoneme-grapheme correspondence, and emergent writing skills involved in the earliest stage of emergent literacy (i.e., decoding text). Outside-in units, or skills focused on the comprehension of the context of reading and writing, include language, narrative, conventions of print, and emergent reading skills used in reading for meaning and pleasure. Evidence suggests that a combination of inside-out and outside-in emergent literacy skills, specifically including children's language skills, letter knowledge, and phonological sensitivity, are essential reading and writing skills developed during the preschool period (Whitehurst & Lonigan, 1998). Consistent with and in addition to this model, Whitehurst et al. (1994) proposed a model relating children's emergent literacy experiences and development of literacy

skills. The model includes four key components of early literacy leading to reading abilities: language skills, writing skills, linguistic awareness, and print concepts. The model depicts preschool learning activities, including shared reading activities and knowledge of sounds and letters, leading to children's emergent literacy abilities, which subsequently lead to reading, including the abilities to decode and comprehend text.

A recurrent theme within previous research implicates oral language, phonological processing skills, and print knowledge as key predictors of children's literacy acquisition from kindergarten through the early primary grades (Lonigan, 2006). Oral language denotes the capacity and use of children's vocabularies in every-day communication and reflects Beard's (2003) top-down skills and Whitehurst and Lonigan's (1998) outside-in units. Phonological processing skills reflect the sound of language and its use in cognitive processing, and print knowledge reflects knowledge of the basic functions of print (Lonigan, 2006). Both skill sets reflect Beard's (2003) bottom-up skills and Whitehurst and Lonigan's (1998) inside-out units.

Just as differing models of emergent literacy implicate a number of skills, relations between key literacy skills have also been demonstrated. Specifically regarding children's language skills, Senechal, Ouellette, and Rodney (2006) reported that individual differences in children's oral vocabulary skills were predictive of reading comprehension and also influenced children's reading abilities through relations with phonological awareness and listening comprehension. After reanalyzing archival data from previous research, they found that children's kindergarten vocabularies predicted reading comprehension in grade 3 and in grade 4 when controlling for grade 4 reading

fluency and grade 1 word reading. Further, children with larger vocabularies had greater phonological awareness, and children's oral vocabulary skills were indirectly related to subsequent reading skills (Senechal et al., 2006). Other research has demonstrated strong relations between oral language skills and code-related (e.g., phonological processing, print concepts) literacy precursors during the preschool period as well as continuity of code-related and oral language skills from preschool through the fourth grade. Further, oral language skills developed during the preschool years form the foundation for the development of subsequent oral language skills characteristic of advanced readers; thus, developing oral language skills during the preschool period should comprise a fundamental component of literacy instruction during preschool and throughout the elementary school years (Storch & Whitehurst, 2002). Oral language skills' direct and indirect effects on children's subsequent literacy development make them a prime candidate for intervention research.

Previous research has implicated early literacy skill development in children's transition to formal schooling. Morrison, Connor, and Bachman (2006) introduced a model of literacy development from approximately age 3 years to grade 3. In the model, characteristics of (1) parenting (i.e., family learning environment, warmth and sensitivity, and control and discipline), (2) children's individual skills (i.e., language, literacy, and self-regulation skills and motivation), (3) amount and quality of preschool and child care environments, and (4) sociocultural factors (i.e., parent education, family income, and race) are all dominant forces on literacy development during the preschool period. Following the entry into formal schooling, sociocultural factors, teacher qualifications

(i.e., education and experience), and instructional methods (i.e., teaching philosophy and teacher-child interactions) influence the development of children's literacy skills. Further, the model demonstrated that factors related to children's environment and individual literacy skill development during the preschool period are closely linked with characteristics of the classroom environment and children's literacy abilities throughout the early primary grades.

In summary, mastering emergent literacy skills during the preschool period is pivotal to children's subsequent literacy and academic achievement. Further, children's literacy skill acquisition and the classroom environment are closely knit factors influencing children's subsequent literacy achievement. In particular, adults acting as teachers of literacy skills are crucial to children's literacy success, not only because they guide children through the literacy acquisition process using instruction, but also because they support children through personal relationships.

Importance of Literacy Development for Children Facing Socio-Economic Hardship

Given the importance of developing strong pre-literacy skills on children's transition to school (Morrison et al., 2006), literacy development in preschool-aged children from families facing socioeconomic hardships is of pivotal concern:

The reason that emergent literacy skills are important for children entering elementary school is not that children with low levels of those skills cannot succeed in the task of learning to read. Rather, the reason is that schools provide an age-graded rather than skills-graded curriculum in which early delays are magnified at each additional step as the gap increases between what children

bring to the curriculum and what the curriculum demands. . .The developmental function for learning to read is cultural and exogenous, not biological and endogenous. (Whitehurst & Lonigan, 1998, p. 865-866)

Children from low-income communities are at a disadvantage not because they lack the ability to develop schemas, but because, as a group, they lack the knowledge base to develop schemas of literacy concepts that form the foundation of reading skills acquisition (Neuman, 2006).

Previous research further supports the premise that literacy development is particularly important for children from families facing socio-economic hardships. Examining relations between socio-economic status and children's literacy development, Hoff (2003) found that 2-year-old children from high socio-economic status (i.e., college educated) families had larger productive vocabularies than same-age peers from mid socio-economic status (i.e., high school educated) families. Further, mothers' mean length of utterances fully mediated relations between socio-economic status and children's vocabularies, demonstrating that high socio-economic status mothers' language use influences mother-child verbal communication, which in turn influences children's vocabulary growth rates. In a sample of welfare-eligible, predominantly single African American mothers and young children, Britto (2001) demonstrated the differential relations between children's home and school contexts and literacy skills. Specifically, she found that expressive vocabulary skills during the preschool years were more significantly associated with language interactions, verbal interactions, and the learning climate within the home than were expressive vocabulary skills during the

school-aged years. Demonstrating continuous relations between children's family environments and literacy skills, maternal education was correlated with children's preschool- and school-age literacy skills. Further, mothers who engaged their children in high-quality literacy interactions, including the use of interaction and teaching children during book reading, had preschool-aged children who demonstrated greater school readiness and expressive vocabularies (Britto, 2001).

In summary, providing children from families facing socio-economic hardship with preschool instruction enhancing language and key emergent literacy skills is crucial for bettering their long-term literacy outcomes. Children's literacy environments have great potential to influence literacy skill development (Whitehurst & Lonigan, 1998), and qualitative differences have been noted in the language and literacy home environments of children in high, medium (Hoff, 2003), and low socio-economic status (Britto, 2001). Of particular concern is the knowledge that socio-economically disadvantaged children have been shown to live in environments offering less support for language and literacy development (Britto, 2001). The knowledge gap can be reduced through the use of early, high-quality instruction of both skill development and conceptual knowledge (Neuman, 2006). In particular, vocabulary development of children from families of low socio-economic status should benefit from enriched language experiences (Hoff, 2003).

Literacy Development: The Roles of Preschool Programming and Teachers

The enhancement of children's literacy skills begins long before kindergarten entry (Lonigan, 2006; Morrison et al., 2006); thus, the preschool classroom context provides a pristine opportunity to serve this purpose. Both children's individual language

skills and teachers' instructional methods must be considered in order to provide a positive environment for acquiring literacy skills (Makin, 2003).

Taking a developmental systems perspective, Pianta (2006) describes the literacy behavioral system, or the "organization of cognition, language, speech, visual perceptions, etc., that produces reading in a functional manner" (p. 151), as a product of interactions between children's individual skills and contexts in which literacy skills are facilitated. More specifically, teacher-child relationships enhance literacy development by providing children "a base in motivation, interest, communication, and general knowledge" (p. 159) as well as instruction in linkages between written and spoken language, distinct processes considered to have separate and combined effects on children's literacy skills. To this effect, Pianta (2006) introduced a model describing relationship functions and communicative modalities as they intersect to influence literacy-related outcomes. According to the model, children's relational and literacy development move in two distinct patterns as children's literacy skills progress: a shift from emotion-focused interactions to instruction-based interactions and a shift from non-verbal or oral communication to print communication. Intervention methods encompassing both facets of this model, versus one or the other, better support classroom environments in facilitating children's literacy development (Pianta, 2006).

Demonstrating support for the integration of relational and instructional emphases in effective classroom practices, Hall (2003) categorized effective literacy practices as emphasizing curricular, organizational, and pedagogical practices. Examples of effective curricular practices include instructing children to read and write about topics of personal

interest; direct teaching of word recognition, vocabulary, spelling, comprehension, and writing skills; and offering flexibility and choice in literacy practices (e.g., shared or independent reading, choice of reading material). Examples of organizational practices include effectively managing the classroom environment; incorporating classroom routines that support children's independence; thoroughly planning classroom activities; and emphasizing literacy within the classroom context, providing children performance feedback, and positively reinforcing children during classroom activities. Effective pedagogical literacy practices include examples such as integrating storybook content with writing activities, modeling literacy-based behaviors for children, and considering children's cultural backgrounds in literacy practices (Hall, 2003).

Results from two studies (see Farran, Aydogan, Kang, & Lipsey, 2006) support the integration of relational and instructional classroom components in facilitating literacy development within the preschool context. First, Kang (2003; as cited in Farran et al., 2006) examined the effects of the presence of literacy-related materials (i.e., the availability of literacy materials, the presence of environmental print, and the organization of literacy materials and environmental print) and teachers' instructional styles (i.e., verbal interactions and guidance in literacy learning (e.g., reading books, modeling the writing process)) on children's involvement with literacy materials within a sample of low-income preschoolers. Results revealed that teachers' emphasizing literacy in the classroom (i.e., literacy instruction and the availability of literacy materials) was strongly correlated with children's levels of involvement with literacy materials in the classroom, such that children chose and were actively involved in play that included

literacy materials. More recent research lends support to these findings. Clark and Kragler (2005), for example, found that teachers' incorporation of literacy materials (including writing materials) into their preschool classrooms lead to positive outcomes in low-income children's literacy development.

Results of a second study further supported the integration of relational and instructional preschool classrooms in facilitating literacy development in preschool-aged children. Aydogan (2004; as cited in Farran et al. 2006) investigated the effects of preschool teachers' language characteristics on children's linguistic behaviors in the classroom context. Findings revealed that children listened to and talked more with teachers who were characterized as warmer (i.e., demonstrated affection and care for children, demonstrated interest in children's activities, created a positive social environment, attempted to enhance children's self-esteem and confidence), used more responsive language, and introduced new vocabulary to children during instruction.

In summary, the roles of preschool programming and preschool teachers in facilitating children's literacy development exceed effective literacy instruction alone. Rather, achieving this goal requires the integration of a number of literacy-relevant resources and flexibility and variation in literacy-related classroom practices. Specifically regarding teachers' roles, effective teachers must adapt instructional practices to the strengths and weaknesses of their classrooms to best meet the specific instructional needs of individual children (Hall, 2003).

Literacy Prevention and Intervention Programs

Previous research has indicated that language skills may be pliable particularly within the preschool period. Further, relations between literacy skills grow more complex during this time frame. Thus, the late preschool period offers an optimal time frame for intervention methods targeting literacy development (Dickinson, McCabe, & Essex, 2006). Previous research has demonstrated qualitative differences in home literacy environments of children from families of all socio-economic backgrounds (Britto, 2001; Hoff, 2003). In particular, children from families of low socio-economic status have been shown to live in environments offering less support for language and literacy development (Britto, 2001). Given this knowledge, high-quality preschool programming targeting literacy skill development and conceptual knowledge could greatly benefit children in families facing socio-economic hardship (Neuman, 2006).

A number of literacy-based intervention programs have altered a commonplace literacy practice in children's homes and classrooms: storybook reading. Many of these programs have included dialogic reading techniques developed by Arnold and Whitehurst (1994) and described by Whitehurst and Lonigan (1998). Dialogic reading is based on three general principles: adults use evocative techniques to encourage children to actively participate in storytelling; adults expand children's responses to questions, model appropriate responses to questions, correct children's responses to questions as needed, and praise children for correct responses to questions; and adults' standards for children progressively change in order to constantly prompt the child to process the story more than he or she typically would (Arnold & Whitehurst, 1994). Translated into practice,

these three principles dictate that the roles of adults and children are reversed, such that children play the role of storyteller and adults become active listeners. During the story, adults facilitate discussion of storybook content with children by asking questions, adding information about the story to the discussion, and prompting children to think about the story in more sophisticated ways. Adults praise children for and repeat their responses to questions asked, and they encourage children to provide more sophisticated responses to questions by expanding on the child's utterances and by asking more challenging questions. Techniques can be varied to best suit children's developmental needs, such that younger children and children with poor vocabulary skills can be questioned about objects, actions, and story events; and older children and children with good language skills can be questioned about the general story or about links between the story and their own lives (Lonigan, 2006).

In an attempt to increase 4-year-old Head Start children's language skills, linguistic awareness, and print knowledge, Whitehurst et al. (1994) implemented a curriculum including two primary components: Dialogic reading techniques were used in the classroom and parents were encouraged to read with their children at home, and a program focused on phonemic language structures and relations between phonemes and letters was introduced into classrooms. Teachers and parents were trained in dialogic reading techniques using a video-based format. Specifically, two acronyms were introduced in order to remind them of dialogic reading techniques: CROWD and PEER. CROWD reminded them to use Completion prompts, or fill-in-the-blank questions; Recall prompts, or questions encouraging children to remember storybook facts; Open-

ended prompts, or statements encouraging children to discuss the story; Wh-prompts, or questions asking ‘What?’, ‘Where?’, and “Why?” about the story; and Distancing prompts, or questions encouraging children to relate storybook content to their own lives. A second acronym, PEER, was provided to remind teachers and parents of these five types of questions: Prompting children to discuss the story, Evaluating children’s responses, Expanding children’s prompts through additional information and repetition, and encouraging children to Repeat their own elaborated responses to questions regarding storybook content.

Children participated in dialogic reading for approximately 7 months and the intervention program focused on phonemic awareness and relations between phonemes and letters for approximately 4 months. A principal components analysis including items of the Peabody Picture Vocabulary Test, the Expressive One Word Picture Vocabulary Test, the expressive subscale of the Illinois Test of Psycholinguistic Abilities, and 18 Developing Skills Checklist (DSC) subscales revealed four factors: language, writing, linguistic awareness, and print concepts. Results revealed that children in the intervention group outperformed children in the control group on nearly every subtest. Statistically significant, medium effect sizes were found for children’s writing skills (Cohen’s $d = .52$) and print concepts knowledge (Cohen’s $d = .62$) at post-test. Intervention effects on children’s language skills and linguistic awareness, however, did not reach statistical significance. Whitehurst et al. (1994) attributed this lack of statistical significance to less frequent uses of advanced dialogic reading techniques (e.g., using distancing prompts and open-ended questions) by teachers in the intervention condition. Also, variability in

parents' reading with their children at home had differential effects on children's language skills, such that parents maintaining the highest level of compliance had children with significantly higher language factor scores than children whose parents read to them less frequently.

Whitehurst et al. (1999) attempted to replicate Whitehurst et al.'s (1994) findings and examined long-term outcomes of dialogic reading's effects on both the 1994 and 1999 samples. Results revealed that compared to children in the control group, children in the intervention had significantly higher post-test scores at the end of the academic year on the One Word language age and the Memory, Print Concepts, and Writing subscales of the DSC. At post-kindergarten follow-up, children in the control group had higher scores on the One Word language age and the Memory, Auditory, and Writing DSC subscales. Contrasting the medium effect sizes reported by Whitehurst et al. (1994), Whitehurst et al. (1999) reported small effect sizes at both time points (Cohen's *f*s ranging from .10 to .21). These positive effects, however, were not maintained through the end of children's first- and second-grade academic years. Whitehurst et al. (1999) explained this lack of longitudinal effects to early elementary age reading abilities relations to a subset of skills targeted by the interventions.

Variations of dialogic reading methodologies used in these studies have been shown effective when implemented within a number of contexts (e.g., children's homes and preschool classrooms, Lonigan & Whitehurst, 1998), within varied time frames (e.g., 1 month, Whitehurst et al., 1988; 7 months, Whitehurst et al., 1994, 1999), and within low-income (Lonigan & Whitehurst, 1998; Whitehurst et al., 1994, 1999) and language-

delayed children (Crain-Thoreson & Dale, 1999). These techniques in particular may also prove the most cost- and time-efficient techniques for increasing children's literacy skills for several reasons. First, dialogic reading techniques have typically been implemented during shared storybook reading, a commonplace practice within preschool contexts. Further, research has demonstrated that teacher-child book reading contributes to children's oral language development via teacher-child discourse (Makin, 2003) and that Head Start teachers engaged children in richer and more sensitive and responsive communication during book reading when compared with other classroom activities (i.e., free play and meal time; Gest, Holland-Coviello, Welsh, Eicher-Catt, & Gill, 2006). Thus, enhancing the common literacy practice of classroom storybook reading can help teachers to enhance the development of oral language skills while providing them more time and resources for implementing additional literacy programming to enhance phonological processing skills and print knowledge, the remaining two of the three key emergent literacy skills (Lonigan, 2006).

In summary, previous research has determined that dialogic reading techniques are effective tools for increasing children's short-term vocabulary skills across varied contexts and within populations of varying socio-economic status. Beyond their versatility, dialogic reading techniques specifically target children's oral vocabulary skills, emergent literacy skills that have been related to phonological awareness and listening comprehension, that have been found to be predictive of reading comprehension skills (Senechal et al., 2006), and that are prerequisites for reading "grade level" books (Biemiller, 2006). According to Biemiller (2006), much more time is dedicated to

teaching pre-literate children reading mechanics than is dedicated to increasing children's vocabularies. Rather than following this traditional teaching method, teachers should focus more exclusively on developing children's vocabulary skills. Specifically, children should be taught words common to their more developmentally advanced counterparts (Biemiller, 2006). Implementing dialogic reading techniques in preschool contexts could help teachers achieve the goal of enhancing children's vocabulary skills. Further, dialogic reading requires minimal training to implement. In fact, previous research has revealed that compared to direct training, video-based dialogic reading training was not only less laborious but also more effective at increasing children's literacy skills (see Arnold & Whitehurst, 1994). Thus, dialogic reading techniques make an excellent candidate for further intervention research.

Social-Emotional Development

Recent research on school readiness has emphasized the importance of social and emotional development during the preschool years for subsequent academic achievement (Denham, 2005). Further, research continually implicates the importance of social-emotional development in children from families facing socio-economic hardships (McLoyd, 1998). Thus, a number of social-emotional intervention programs targeting school-based interventions for socio-economically disadvantaged populations have received particular empirical attention. The importance of social-emotional development during the preschool years, then particularly for children facing socio-economic hardship, will first be discussed. The role of preschool teachers in facilitating social-emotional competence will then be discussed, followed finally by a brief review of previously

implemented social-emotional prevention and intervention programs and the developmental processes that drive their success.

Social-Emotional Development During the Preschool Years: Why is social-emotional development so important?

Because emotions influence social-emotional functioning through both intrapersonal and interpersonal experiences, positive social and emotional development is pivotal for children's navigating the social-emotional world during the preschool years and in subsequent social relationships. Three key components of emotional competence include emotional expression, emotion understanding, and emotion regulation (Denham, 1998, 2005). Emotional expression denotes behavioral expressions of emotions and the realization that one can feel one emotion yet display another. Emotion understanding denotes the recognition of one's own and others' emotions and the use of language in order to recognize these emotions. Finally, emotion regulation denotes the contextually appropriate use of emotions, including the "up-regulation" of emotions, the management, or "down regulation" of intense emotions, and the events fostering these emotions (Denham, 1998; see Denham, 2005).

Emotions play important roles in initiating and regulating social exchanges and in communicating and sharing affect (Sroufe, Schork, Motti, Lawroski, & LaFreniere, 1984). Previous research indicates close ties between children's emotional and social competence. Miller et al. (2006) demonstrated the importance of the three key components of emotional competence (emotional expression, emotion understanding, and emotion regulation; Denham, 1998, 2005) for preschool-aged children's social skills. In

their study, negative emotional expressions positively predicted teacher-rated aggression and negatively predicted teacher-rated social skills above age, verbal ability, and emotion knowledge. Conversely, children who understood emotional expressions, expressive behaviors, and emotional situations were more likely to interact positively with peers and teachers, were able to effectively communicate emotions, and were more empathetic toward others. Finally, teacher ratings of positive emotion regulation negatively predicted anxiety and positively predicted social skills (i.e., cooperation, assertion, and self-control) above verbal ability, age, and other factors related to emotional competence (Miller et al., 2006). Because the transition from preschool to kindergarten denotes a marked shift in children's social and emotional lives, and because children's negative and general emotional intensity and emotion regulation are generally consistent from the preschool period through middle childhood (i.e., age 10-12 years; Murphy, Eisenberg, Fabes, Shepard, & Guthrie, 1999), emotion socialization during the preschool period is imperative for the development of children's subsequent social-emotional competence.

According to Denham's (1998) developmental model linking children's emotional and social competence, the socialization of children's emotions via adults' modeling emotional expressions, reacting to children's emotional expressions, and coaching children's emotions all contribute to children's understanding of emotions, emotional expressions, and emotion regulation, which in turn contribute to children's social competence. Work by Denham and colleagues provides empirical evidence for this model. Denham, Cook, and Zoller (1992) instructed mother-child dyads to first discuss photographs of infants expressing interest, happiness, surprise, sadness, anger, disgust,

contempt, and fear. Dyads were then instructed to discuss photographs depicting sadness and anger while mothers also emulated sadness and anger. Denham and Auerbach (1995) coded emotion language from mother-child dyads' discussions of an emotion-laden storybook including happiness, surprise, sadness, anger, and fear. Mothers' and children's emotion language in either study was labeled as commenting, explaining, questioning, guiding, socializing, and repeating emotion language.

Findings from both studies illustrate the role of emotion socialization in facilitating children's emotion understanding. Results revealed that mothers' questioning their children during both tasks was positively associated with children using emotion language in explaining infants' emotional states and with children imitating their mothers' negative emotions during mothers' emotion emulation. Mothers' and children's use of guiding language and repetitions during both tasks were positively related. Further, when children explained infants' emotions in both tasks, mothers reinforced their children's efforts through repetition. Children's emotion knowledge was positively related to mothers' repetitions of children's emotion language in the first task and to mothers' commenting and explaining in the second task (Denham et al., 1992). The Denham and Auerbach (1995) study found that mothers who explained storybook characters' emotions repeated their children's emotion language, questioned children about storybook content, and used emotion language in socializing or guiding behavior. Further, results revealed that mothers' explanations of storybook content were positively correlated with children's emotional expressions, that mothers' guiding language was positively correlated with children's guiding and socializing language, and that mothers'

questioning emotional storybook content was positively correlated with children's use of emotion language and predicted children's emotion understanding. Finally, regression analyses revealed that mothers' questioning emotional storybook content predicted children's emotion understanding.

Results highlighting maternal contributions to children's social-emotional competence from both studies illustrate the role of emotion understanding in facilitating social competence in Denham's (1998) model. Mothers' emotional explanations in emulating sadness and anger while viewing emotional photographs were negatively associated with children's displaying sadness in the preschool classroom, and children's commenting on and explaining emotions in both tasks were positively associated with displays of happiness and affective balance in the classroom context (Denham et al., 1992). Mothers' questioning children about storybook characters' emotions and focusing discussions on the emotions of fear, sadness, and love positively predicted children's prosocial responses to peers' emotional displays (Denham & Auerbach, 1995). As these studies illustrate, the socialization of emotional competence is a bidirectional process as related to children's social competence. It is not only parents' modeling emotional expressions, reacting to children's emotional expressions, and coaching children's emotions, but also children's initiating emotional interactions with parents that contribute to the development of social-emotional competence.

Work by Gottman, Katz, and Hooven (1997) has also provided insight into parental methods of emotion socialization. They described emotion-coaching families,

families that interact with a child about emotions and view emotional instances as teaching opportunities, as follows (p. 48-49):

...helping the child to verbally label the emotions being felt, showing respect for the child's experience of this emotion (i.e., accepting the emotion), when the child is upset, the parent talking to the child, intervening in situations that caused the emotion, at times comforting the child during the emotion, teaching the child appropriate rules for expressing the emotion, educating the child about the nature of the emotion, teaching the child strategies for dealing with the emotion, and for soothing the intense levels of the emotion.

According to Denham's (1998) model, these practices can foster children's emotional competence. By showing respect for the children's emotional experiences, comforting children during expressions of emotions, and soothing intense levels of emotions, for instance, emotion-coaching families model emotional expressions for children. By talking to children when upset and intervening in situations causing emotions, emotion-coaching families react to children's emotional expressions. By helping children to verbally label their emotions, teaching children appropriate rules for expressing emotions, educating children about the nature of emotions, and teaching children strategies for dealing with emotions, emotion-coaching families coach children's emotions. These practices all contribute to children's understanding of emotions, emotional expressions, and emotion regulation, which in turn contribute to children's social competence (Denham, 1998).

In summary, emotional competence consists of three key emotional skills: emotional expression, emotion understanding, and emotion regulation (Denham, 1998, 2005). Each of these skills is closely related to children's social competence through emotion socialization practices. Specifically, adults' modeling emotional expressions, reacting to children's emotional expressions, and coaching children's emotions all contribute to children's understanding of emotions and emotional expressions, which in turn contribute to children's social competence (Denham, 1998). Gottman et al.'s (1997) emotion-coaching families provide examples of specific means by which parents can effectively enhance their children's emotional and social competence, and these practices could prove very useful for intervention programs aiming to enhance young children's social-emotional skills.

Importance of Social-Emotional Development for Children Facing Socio-Economic Hardship

Poverty during the period from birth to age 5 years can hinder children's social-emotional development (Ryan, Fauth, & Brooks-Gunn, 2006). Previous research has demonstrated the prevalence of negative social-emotional behaviors within children facing socio-economic hardship. Miller, Gouley, Seifer, Dickstein, and Shields (2004) reported that approximately 70% of low-income preschoolers displayed hyperactive dysregulation (i.e., contextually inappropriate behaviors accompanied by high motor activity and either neutral or positive emotions) and conflict with peers, and that 63% displayed mild antagonism. Because socio-economically disadvantaged children are at risk for poor social-emotional functioning, particularly due to inconsistent parenting and

exposure to both acute and chronic stressors (McLoyd, 1998), social-emotional development in preschool-aged children from families facing socioeconomic hardships is of pivotal concern.

According to the theory of family stress, the effects of poverty and economic hardship on less supportive, consistent, and involved parenting is mediated by psychological distress caused by negative life events, undesirable chronic conditions, and the absence of marital bonds and marital conflict (McLoyd, 1990). Thus, economic hardships influence child development indirectly through parenting practices. The progression from socio-economic hardship to parental mental distress to disrupted parenting to negative child development outcomes represent the crux of the theory of family stress (Ryan et al., 2006). Previous research supporting this theory has particularly implicated maternal depression as a key mediator of socio-economic hardship and negative social-emotional outcomes for their children. Regarding variable relations, Linver, Brooks-Gunn, and Kohen (2002) reported that maternal emotional distress was positively correlated with persistent poverty, authoritarian parenting practices, and children's behavior problems at ages 3 and 5 years. Conversely, maternal emotional distress was negatively correlated with authoritative parenting practices. Regarding developmental processes linking socio-economic hardship and children's negative social-emotional outcomes, maternal emotional distress and parenting practices have been found to mediate relations between income and children's behavior problems. More specifically, previous research has reported that maternal depression was associated with children's externalizing behavior problems both directly and indirectly through punitive

parenting (Yeung et al., 2002) and indirectly through a lack of emotional support and parental warmth (Jackson, Brooks-Gunn, Huang, & Glassman, 2000). Clearly, maternal affect in particular plays an important role in relations between socio-economic hardship and children's social-emotional outcomes. Enhancing adults' socialization of children's emotional competence, then, can combat the negative social-emotional outcomes resulting from facing socio-economic hardship.

Similar to research with socio-economically advantaged children, previous research with children facing socio-economic hardships has related maternal emotion socialization and children's emotional competence. Garner, Jones, Gaddy, and Rennie (1997) examined children's emotional expression knowledge, emotion situation knowledge, and emotional role-taking, components of emotional competence that are conceptually similar to Denham's (1998, 2005) key components of emotional competence (i.e., emotional expression, emotion understanding, and emotion regulation). Emotional expression knowledge, or the understanding, labeling, and production of emotional facial expressions (Garner et al., 1997), resembles Denham's (1998, 2005) emotional expression and emotion understanding. Emotional role-taking denotes the understanding that others' emotions can deviate from normative reactions to emotionally charged situations (Garner et al., 1997) and resembles Denham's (1998, 2005) emotional expression. Finally, emotional situation knowledge, or the understanding of normative reactions to emotionally charged situations (Garner et al., 1997), resembles Denham's (1998, 2005) emotion understanding.

In Garner et al.'s (1997) study, mother-child dyads read a wordless picture book depicting happiness, sadness, anger, fear, surprise, disgust, guilt, and excitement. Results demonstrated links between maternal dialogue and children's emotional expression knowledge, emotional role-taking, and emotional situation knowledge. Mothers' explanations of emotional causes and consequences were positively related to children's emotional expression knowledge and positively predicted children's emotional role-taking above the effects of children's emotion language during storybook reading. Mothers' statements encouraging children to demonstrate empathy during storybook reading were positively related to children's emotional expression knowledge and positively predicted emotion situation knowledge and emotional role-taking. Children's commenting about emotions and explanations of emotional causes and consequences depicted in the storybook were positively related to emotional expression knowledge. Further, children's commenting about emotions was also positively related to emotional situation knowledge and positively predicted emotional role-taking (Garner et al., 1997). Clearly, both mothers' and children's contributions to the emotional storybook discussion, and particularly mothers' emotional explanations and empathy-related statements and children's emotional comments, were related to children's emotional competence. As was the case in socio-economically advantaged families, children's participation in emotion-laden storybook discussions, and not only mothers' modeling emotional expressions, reacting to children's emotional expressions, and coaching children's emotions, contributed to the development of social-emotional competence in socio-economically disadvantaged families.

In sum, previous research illustrating the pathways through which socio-economic hardship leads to negative social-emotional outcomes for children highlights mothers' emotional distress in particular (Jackson et al., 2000; Yeung et al., 2002). Research examining maternal emotional socialization practices through storybook reading, however, has suggested positive effects on children's social-emotional development (Garner et al., 1997). Intervention methods utilizing similar emotion socialization practices within the preschool classroom context could prove particularly useful for enhancing the social-emotional skills of children facing socio-economic hardship.

Social-Emotional Development: The Roles of Preschool Programming and Teachers

The late preschool period marks an opportune time to target development of basic emotional skills (Miller et al., 2005); thus, preschool teachers can be critical agents in facilitating children's emotional competence. Pianta, Hamre, and Stuhlman (2003) presented a conceptual model of teacher-child relationships comprised of four primary components: individual characteristics of teachers and children (e.g., developmental history, biological factors), teachers' and children's own representations of teacher-child relationships, information exchange processes between teachers and children (e.g., behavioral interactions, communication), and external forces influencing teacher-child relationships (e.g., schools, communities). One potential means of enhancing the preschool social-emotional environment can include storybook reading. Based on previous research on caring, for example, McNamee and Mercurio (2007) provided six specific criteria for picture book selection in teaching children to care for themselves and others:

1. Books should be developmentally appropriate.
2. Books should have well developed plots.
3. Books should be skillfully illustrated.
4. Books should include characters appealing to children.
5. Books should emphasize caring characters who demonstrate prosocial behaviors (i.e., helping, showing compassion, being considerate, sharing, being fair, doing their share, fulfilling promises and commitments, telling the truth, showing respect, offer love and affection).
6. Books should describe caring interactions between characters (i.e., a caregiver listens to and empathizes with another character).

They also listed several titles that meet these criteria. Through discussions of caring in picture books, McNamee and Mercurio (2007) believe that teachers can demonstrate and teach children to care about themselves and others by encouraging them to feel, think, and interact “care-fully” as they develop their sense of self. Because storybook reading is a common literacy practice in preschool settings, storybook reading activities can provide opportune teaching mechanisms for facilitating social-emotional skills.

Based on Pianta et al.’s (2003) conceptualization, enhancing the social-emotional quality of the general preschool context, and particularly teacher-child relationships, could positively influence children’s social-emotional development. Despite the potential importance of preschool teachers’ roles in facilitating young children’s social-emotional development, however, little empirical research has examined teachers’ emotion socialization and its influences on children’s social-emotional functioning (Ahn & Stifter,

2006; Denham, 2005). Ahn and Stifter (2006) utilized systematic observations to examine preschool teachers' responses to children's emotional expressions. Several gender differences in teachers' responses to children's emotional expressions emerged. Teachers more frequently matched and encouraged girls' positive emotional expressions and more frequently responded to girls' negative emotional expressions with physical comfort and distraction when compared to boys' emotional displays. Although teachers more frequently discouraged boys' expressions of positive emotions, they more often responded to boys' negative emotional displays with empathy and offered suggestions for constructive emotional expressions when compared to girls' emotional displays. Although generally using developmentally appropriate practices in addressing preschool-aged children's emotional displays, teachers too infrequently taught children constructive means of expressing negative emotions (Ahn & Stifter, 2006), thus suggesting a need for teacher training focused on socializing preschoolers' positive and negative emotions.

In summary, both social and emotional facets of the preschool classroom context are imperative to young children's social-emotional development and subsequent academic success. To enhance the social-emotional quality of the preschool classroom, preschool teacher training should emphasize the socialization of children's emotional competence (Ahn & Stifter, 2006; Denham & Burton, 2003), and particularly teacher's validating children's emotions and facilitating conversations about emotions (Denham, 2005). As illustrated by McNamee and Mercurio (2007), children's books can provide useful tools for achieving these goals.

Social-Emotional Prevention and Intervention Programs

In an attempt to create positive environments supporting children's social and emotional development, several social-emotional prevention and intervention programs have been implemented previously. Two such social-emotional prevention and intervention programs will now be discussed in detail: the Preschool "PATHS" Curriculum (Domitrovich, Cortes, & Greenberg, 2007) and Denham and Burton's (1996) social-emotional intervention for at-risk 4-year-olds. These specific programs have demonstrated positive developmental outcomes for participants, include ecologically valid methods of program implementation, have an exclusive focus on preschool-aged children facing socio-economic hardships, name preschool teachers the primary facilitators of social-emotional development activities, and facilitate the socialization of children's social-emotional competence as outlined in Denham's (1998) developmental model (see Denham & Burton, 2003).

The Preschool "PATHS" Curriculum (Domitrovich et al., 2007) includes five primary objectives: developing the awareness and communication of children's own and others' emotions, teaching affective and behavioral self-regulation, promoting positive self-concepts and peer relationships, developing problem-solving skills, and creating a positive social-emotional classroom environment. The curriculum provides children developmentally appropriate instruction as well as opportunities to exercise newly acquired skills in their every-day classroom lives in order to maximize the internalization and application of these skills. Program implementation was accomplished in a highly ecologically valid manner. Over approximately 9 months of the school year, Head Start

teachers incorporated 30 weekly lessons into “circle time” and other typical classroom activities (e.g., art projects, book reading). Teachers were also provided instructional guidelines for responding to children’s expressions of emotions throughout a typical classroom day. Teachers received a total of three days of training, and each Head Start site named one to two staff members as lead PATHS coordinators to ensure treatment integrity and implementation and to address any issues that teachers experienced.

Results obtained from child-, teacher-, and parent-report measures supported the efficacy of the Preschool “PATHS” Curriculum. Child-reported measures demonstrated that children who participated in the intervention had larger receptive emotion vocabularies, demonstrated greater affective perspective-taking skills, more accurately identified emotional facial expressions, and reported less anger attribution bias compared to children in the control group. Parent and teacher reports indicated that participating children had greater emotion regulation skills as well as more social skills and more frequent social interactions than children in the control group. Further, teachers also reported that children demonstrated greater social skills (i.e., cooperation, greater interpersonal skills) and greater social independence, were more emotionally aware, and were less anxious and withdrawn than children in the control group. Because it increased children’s emotion knowledge and accuracy of understanding emotional expressions, two competencies necessary for successful social interactions, participation in the PATHS curriculum increased the likelihood of children’s successful interactions with peers in social situations (Domitrovich et al., 2007).

Denham and Burton's (1996) social-emotional intervention for at-risk 4-year-olds focused on building teacher-child relationships, teaching children to understand and regulate their emotions, and teaching children interpersonal cognitive problem solving skills. Teachers were encouraged to study each child's developmental history in order to individualize intervention techniques in implementing each program component. To achieve ecological validity, the experimental design included the participation of both at-risk and non-risk children; and program implementation integrated program activities into group and individual formats. Over 32 weeks of the school year, preschool teachers conducted an activity related to each program component 4 days per week (i.e., emotion understanding activities for 2 days, interpersonal cognitive problem solving activities for 2 days) for up to 20 minutes. Teachers were also instructed to engage children in emotional discussions following children's emotional displayed throughout the school day. Teachers assigned to the intervention condition received a total of four days of training.

Denham and Burton (1996) included both teacher-reported ratings and direct observations of children's behaviors in assessing intervention effects. Results from both measures revealed that participation in the intervention was associated with increased social-emotional competence as determined by both teachers' ratings and direct observations of children's classroom behaviors. Compared to non-participants, children who participated in the intervention demonstrated decreased anger, hostility, and sadness, and demonstrated increased peer skills and productive involvement in classroom activities. Two specific findings lend further support to intervention efficacy. Implicating

the potential value of the intervention for children facing socio-economic hardships, children with low social-emotional pretest scores appeared to benefit most from intervention participation. Also, high teacher self-ratings of implementing interpersonal problem solving and emotion understanding techniques positively predicted children's teacher-rated social competence and observed positive affect.

Several specific developmental processes drove the success of Domitrovich et al.'s (2007) and Denham and Burton's (1996) social-emotional programs. Following Denham's (1998) model linking emotional and social competence, teachers' socialization of children's emotions via modeling their own emotions, appropriately reacting to children's emotional displays, and coaching children's emotions through programming lessons and in emotional dialogues throughout the typical preschool day, were implemented into intervention and curricular programming. Each of these practices contributed to children's understandings of emotions and emotional expressions, which in turn facilitated children's social competence.

Both programs also incorporated teachers' appropriately reacting to children's emotional displays and coaching children's emotions through emotional dialogues during the typical preschool day. Previous research has demonstrated positive relations between mothers' uses of questioning and guiding language and children's understanding emotions, using emotion language, and using guiding and socializing language in discussing an emotion-laden storybook (Denham & Auerbach, 1995). Similarly, in coaching children's emotions following emotion-eliciting situations, teachers helped children to understand the causes of their emotions (i.e., emotion knowledge) and to

effectively manage the emotional experience (i.e., emotion regulation) and the emotion-eliciting situation through dialogue, thus modeling the understanding and regulation of emotions directly for children involved in the dialogue as well as indirectly for children attending to the interaction, thus reinforcing social-emotional program goals. Children's understanding of emotions and emotional expressions, in turn, facilitated social competence (Denham, 1998). Both of these components of both social-emotional programs specifically highlight the developmental processes driving their successes because they included direct and individualized teaching for children, two characteristics of successful intervention programming (Denham & Burton, 2003).

In sum, teachers' fostering social-emotional competence within the preschool classroom context is important for children's social functioning and concurrent and long-term academic success. Preschool teacher training should emphasize the socialization of children's emotions (Ahn & Stifter, 2006; Denham & Burton, 2003), and specifically teacher's coaching preschoolers' emotions (Denham, 2005), particularly for socio-economically disadvantaged preschoolers facing heightened risks for poor social-emotional functioning (McLoyd, 1998). Social-emotional intervention research should incorporate such training into preschool intervention programs. Such programs not only teaching emotion knowledge, but also teaching children how to use emotion knowledge in social interactions, can enhance children's social competence and school adjustment during the elementary school years (Miller et al., 2005).

Literacy Skills and Social-Emotional Competence

Enhancing children's emotional competence, in particular, can be an effective means of subsequently enhancing not only children's social development, but also children's academic success. Emotional competence is important for children's social development because building relationships with peers and teachers marks a key developmental achievement, and emotional competence is important for academic development because it enhances children's cognitive development and school readiness (Denham, 2005). Research demonstrating links between children's literacy and social-emotional development are first discussed, followed by a brief review of current intervention programs aiming to simultaneously enhance children's literacy and social-emotional skills.

Links Between Literacy Skills and Social-Emotional Competence

Emergent literacy research has acknowledged the importance of literacy intervention efforts aiming to improve children's academic and social-emotional environments (Pianta, 2006), and research in the social-emotional realm has linked children's verbal abilities and social-emotional development (i.e., emotion knowledge and positive emotion regulation; Miller et al., 2006). According to this research, integrating the social-emotional and academic facets of the preschool classroom context within classroom-based intervention methodology would best support the development of both academic and social-emotional competence.

Beyond these conceptual links between the academic and social-emotional components of the preschool context, empirical research has more directly linked

children's literacy and social-emotional development during the preschool period. This research has revealed both concurrent and longitudinal relations between the two constructs. Studies examining concurrent relations between social-emotional competence outcomes and preacademic success in socio-economically disadvantaged samples have implemented both variable- and person-centered data analytic techniques. First, using variable-centered canonical variance and redundancy analyses, Mendez, Fantuzzo, and Cicchetti (2002) characterized two groups of children. Children characterized by Interactive Competence demonstrated adaptability; a tendency to approach social situations; emotion regulation; good receptive and expressive language skills; and creative, cooperative, and helpful play. In addition to strong language skills, these children demonstrated emotional competence as defined by Denham (1998, 2005): The abilities to approach social situations and engage in cooperative, helpful play imply socially appropriate expressions of emotions and understanding children's own as well as peers' expressions of emotions; and the abilities to adapt to the classroom environment and regulate emotions denote the third key component of emotional competence (emotion regulation). Related to the Interactive Competence group, Coolahan, Fantuzzo, Mendez, and McDermott (2000) reported that children who engaged in positive interactive play also demonstrated competence motivation, were attentive and persistent during classroom activities, and had a positive attitude toward learning.

Mendez et al. (2002) characterized a second group of children as Overactive-Disruptive. These children also approached social situations but demonstrated high activity levels in the classroom, autonomy, and aggressive and antisocial play. Much like

the Overactive-Disruptive group, Coolahan et al. (2000) found that children who engaged in disruptive play were also hyperactive and had conduct problems in the classroom. These children demonstrated a general lack of emotional competence as defined by Denham (1998, 2005): Their antisocial play and conduct problems denote a lack of socially appropriate expressions of emotions and an inability to understand peers' expressions of emotions; and their high activity levels imply a lack of the ability to regulate emotions.

In addition to these two groups, Coolahan et al. (2000) introduced a third group: Children who engaged in disconnected play (i.e., "hovering" outside play groups, wandering, refusing play invitations) were also characterized as inattentive and passive during classroom activities and as having low levels of motivation. These children possessed some components of emotional competence as defined by Denham (1998, 2005), but apparently lacked others: Whereas they do not display behaviors implying a lack of the abilities to understand peers' emotional expressions and to regulate emotions, their disconnected play denotes a lack of socially appropriate expressions of emotions (e.g., not reciprocating social and emotional exchanges when refusing play invitations). Clearly, the work of Coolahan et al. (2000) and Mendez et al. (2002) suggests that children demonstrating social-emotional competence and active, engaged classroom behaviors have strong developmental advantages over their less socially skilled and disengaged peers.

In addition to a variable-centered approach, Mendez et al. (2002) examined relations between children's social-emotional and academic competencies from a person-

centered approach. Cluster analyses revealed six categorizations of preschoolers, among which the Prosocial-Resilient group, similar to the Interactive Competence and positive interactive play (Coolahan et al., 2000) characterizations, held the most desirable social-emotional and verbal outcomes (Mendez et al., 2002). These results, in particular, highlighted relations between children's social-emotional and verbal abilities. Additional categorizations characterized by higher verbal abilities were also characterized by high adaptability, the willingness to approach social situations, and poor self-regulation despite average teacher ratings (speculatively due to greater competence in completing structured, adult-directed versus unstructured tasks). Categorizations marked by lower verbal abilities, however, were generally characterized by elevated classroom activity levels, poor self-regulation, and low adaptability. Among these, only the Dysregulated group demonstrated a lack of competent play with peers (Mendez et al., 2002). These findings indicate that verbal abilities, in particular, are related to social-emotional competence and classroom behaviors favoring academic performance (e.g., average activity levels).

Longitudinal research has identified social-emotional competence outcomes, and particularly prosocial behaviors, that foretell later academic success within samples of mixed socio-economic status (Caprara, Barbaranelli, Pastorelli, Bandura, & Zimbardo, 2000) and socio-economically disadvantaged children (Miles & Stipek, 2006). Results from socio-economically disadvantaged samples revealed that teacher-rated prosocial behavior in kindergarten was positively correlated with third-grade literacy skills, and teacher-rated prosocial behavior in third grade was positively correlated with fifth-grade

literacy skills. Further, first-grade prosocial behavior positively predicted third-grade literacy skills, which in turn predicted fifth-grade literacy skills. Whereas shorter-term links between prosocial behaviors and literacy skills were clearly evident, longer-term linkages were not. The effect of first-grade prosocial behavior on third-grade literacy skills mediated the effect of first-grade prosocial behavior on fifth-grade literacy skills, thus suggesting that children's prosocial and literacy skills are stable from the first to fifth grades rather than directly related over time (Miles & Stipek, 2006). Although there were no direct relations between early prosocial behavior and later literacy skills in the socio-economically disadvantaged sample, direct long-term effects have been demonstrated in samples of varied socio-economic status. Caprara et al. (2000) found that after controlling for early academic achievement, self-, peer-, and teacher-rated third-grade prosocial behavior positively predicted eighth-grade academic achievement, accounting for 32% of the variance in the model.

In sum, previous research supports social-emotional skills mastery as a crucial developmental achievement for preschool-aged children from families facing socio-economic hardships. Children's peer relations are related to the quality and level of engagement in classroom activities (Coolahan et al., 2000); and children's language abilities, in particular, play significant roles in social-emotional competence and academic success (Mendez et al., 2002).

*Intervention Programs and Curricula Targeting Literacy and Social-Emotional
Development*

Improving both literacy and social-emotional skills has become a focus of recent intervention research. Currently, only three programs, the 4Rs: Reading, Writing, Respect, and Resolution intervention (Morningside Center for Teaching Social Responsibility, n.d.); the Peers Early Education Partnership intervention (PEEP; Evangelou & Sylva, 2007); and the Woven Word program (Committee for Children, 2006) specifically aim to simultaneously enhance children's literacy and social-emotional skills.

First, the 4Rs: Reading, Writing, Respect, and Resolution intervention links conflict resolution into language arts to create a caring classroom community for children ranging in age from kindergarten through grade 5. Program components cover seven units, including community building, dealing with emotions, listening, being assertive, dealing with conflict, celebrating diversity and countering prejudice, and making a difference. Each unit is based on a children's book and has two parts, including Book Talk (e.g., storybook discussion, writing, and role play) and Applied Learning (i.e., lessons on conflict resolution). Implementation of the intervention requires a substantial effort on facilitators' parts, including 25 hours of training and ongoing teaching for teachers and parent-child activities for use in the home (Morningside Center for Teaching Social Responsibility, n.d.). Research evaluating the efficacy of the 4Rs program is currently being conducted (W. Høglund, personal communication, May 1, 2008; Lovett, 2006).

The PEEP intervention (Evangelou & Silva, 2007) aims to improve children's literacy, numeracy, self-esteem, and social-emotional development from birth through age 5 years. The intervention regards listening, talking, and playing as essential to the development of emotional stability, good social skills, and satisfactory cognitive growth (PEEP, 1997; as cited in Evangelou & Silva, 2007).

Families are provided PEEP materials and the opportunity to participate in either group sessions or home visits. During PEEP group sessions, PEEP leaders model book reading techniques to parents, including varying voice tone, reading book titles and names of authors and illustrators, following text with their fingers, and asking questions to test children's comprehension while reading. Group sessions include circle time, including songs and rhymes (parents are also provided audiotapes and a songbook with the songs and rhymes for use at home); talking time, in which parents discuss their ideas, share their experiences, and offer support; story time; book sharing, home activities, including suggestions for games and activities supporting the curriculum; and borrowing time, or books and supporting materials sent home weekly. Preschool and primary school programs were also assigned a group leader or trained teacher to implement PEEP activities with children and talk with parents one day per week. The PEEP curriculum for 3-year-old children includes 24 sessions implemented over a period of approximately 1 year (Evangelou & Silva, 2007).

Evangelou and Silva (2007) evaluated the efficacy of the PEEP curriculum for 3- and 4-year-olds within a sample of children from low-income British families across the developmental period of 3 to 5 years of age. Parents attended PEEP group sessions, and

PEEP programming supplemented children's playgroups and nursery classrooms. Results indicated that PEEP participation over a two-year period had positive effects on children's literacy skills (i.e., vocabulary, verbal comprehension, and concepts about print), numeracy skills, and self-esteem (i.e., cognitive and physical competence) after controlling for gender, single-mother status, pre-intervention scores, and age. Results revealed no statistically significant effects for PEEP participation on children's social competence.

Similar to the current intervention, the Woven Word program includes the use of dialogic reading to discuss the emotional storybook content with preschool-aged children. Specifically, the program targets both emergent literacy (i.e., comprehension, vocabulary, print conventions, and oral language) and social-emotional skills (i.e., identifying emotions; attending and noticing, or maintaining task focus and resisting distractions; coping with strong emotions; planning and sequencing; and using prosocial language (e.g., listening, complimenting, turn taking, questioning) and friendship (e.g., inviting peers into activity, considering others, working cooperatively)), skills linked by children's language skills. Implementation of the program includes training teachers and parents, small-group storybook reading, and social-emotional activities during three phases spanning a total of 29 weeks (Committee for Children, 2006). No research has been conducted to date to evaluate the efficacy of the program (A. Zevenbergen, personal communication, October 1, 2007).

Each of these programs has clear and specific goals of simultaneously enhancing children's literacy and social-emotional skills, yet all three programs also require many

resources, much time dedicated to training teachers and parents on program methods, and much time dedicated to implementing program methods. Such a comprehensive approach to intervention implementation is desirable but not always feasible, particularly if preschool programs have limited funding for such endeavors. Effective intervention methods requiring minimal resources, minimal training, and minimal implementation time could prove useful for preschool programs, and particularly programs with limited resources, in readying young children for school.

Throughout the preschool day, teachers' conversations with children mark potential opportunities to simultaneously enhance children's literacy and social-emotional development. During free play, meal time, and book reading, for examples, Gest et al. (2006) found that teachers who demonstrated the highest rates and most challenging forms of talk were rated by observers as warmer and more sensitive. Further, teacher talk during book reading was rated as the richest (i.e., average use of new vocabulary; varied grammar; challenging concepts; and talk about people, places, things, and events not present) and most sensitive (i.e., availability, warmth, conversational balance, and responsiveness) when compared to teacher talk during free play and meal time (Gest et al., 2006). Because storybook reading is a common practice in preschool classrooms, and because dialogic reading techniques can successfully be implemented within varied time frames (e.g., 1 month, Whitehurst et al., 1988; 7 months, Whitehurst et al., 1994, 1999) and require minimal training (see Arnold & Whitehurst, 1994), dialogic reading can prove a time- and cost-effective means of enhancing children's literacy skills in the preschool classroom context.

In addition to enhancing emergent literacy, previous research provides evidence suggesting dialogic reading's usefulness in enhancing social skills. To investigate dialogic reading's effects on children's use of evaluative devices in narrative, Zevenbergen, Whitehurst, and Zevenbergen (2003) implemented a dialogic reading intervention in children's classrooms and homes. Evaluative information includes explicit inferences about a storybook character's state of mind or emotional state, quotes of storybook characters' speech, comments qualifying or emphasizing storybook content (e.g., "He never listened."), and comments reflecting one's own emotional reactions to storybook content (Peterson & McCabe, 1983, as cited in Zevenbergen et al., 2003). Over a period of 30 weeks, Head Start teachers in both full- and half-day classrooms read storybooks using dialogic reading techniques with groups of three to five children three times per week; and parents were encouraged to use dialogic reading techniques with their children in reading at home at least three times per week. Children also participated in a 16-week phonemic awareness program in their classrooms. Results indicated that children participating in the intervention made more references to internal states of storybook characters and had greater expressive language skills when compared to children in the control group. These findings illustrate dialogic reading techniques' uses in improving children's emergent literacy and social cognitive development across full- and half-day Head Start classrooms and suggest potential uses of dialogic reading in simultaneously enhancing children's literacy and social-emotional development.

In sum, previous research has theoretically and empirically linked children's literacy and social-emotional skills, and recent intervention research has taken a

comprehensive approach to enhancing both skill sets. A comprehensive approach, however, is not always feasible, particularly for preschool programs with limited resources. For these programs, effective intervention methods requiring fewer resources and time to implement may prove especially beneficial. Previous research has demonstrated that dialogic reading is effective in enhancing children's literacy and social cognitive development (Zevenbergen et al., 2003); thus, dialogic reading may prove a useful tool in simultaneously enhancing children's literacy and social-emotional development. Further, because preschoolers of varying age and socio-economic circumstance may participate in preschool programming at various rates throughout the academic year (e.g., participation in a full- versus half-day programming, extensive programming absences), dialogic reading research portraying positive emergent literacy and social-emotional outcomes for children with varying preschool program participation rates could prove useful for future intervention research, early childhood education programs, and curricula development aiming to simultaneously enhance children's emergent literacy and social-emotional skills.

The Current Research

The enhancement of children's literacy and social-emotional skills begins long before kindergarten entry (Denham, 1998; Lonigan, 2006; Morrison et al., 2006); thus, the preschool classroom context provides a pristine opportunity to serve this purpose. The proposed intervention aimed to simultaneously enhance children's literacy and social-emotional skills through the use of dialogic reading of emotion-laden storybooks. By replicating methods previously implemented by Whitehurst et al. (1994, 1999), this

intervention aimed to enhance the development of preschool-aged children's vocabulary skills, one of the three key predictors of literacy acquisition (Lonigan, 2006), using emotion-laden storybooks. By integrating Gottman et al.'s (1997) emotion coaching techniques with Whitehurst et al. (1994)'s CROWD prompts and PEER sequence to facilitate discussions of emotion-laden storybook content (see Appendix A), this intervention aimed to enhance the development of preschool-aged children's emotional expression, emotion understanding, and emotion regulation, the three key components of emotional competence (Denham, 1998, 2005), to create positive social-emotional outcomes similar to those reported by Denham and Auerbach (1995) and Garner et al. (1997). By incorporating child-directed classroom practices promoting Denham's (1998) developmental model linking children's emotional and social competence and practices in which teachers appropriately react to children's emotional displays and coach children's emotions through emotional dialogues, this intervention named teachers the interventionists to create positive social-emotional outcomes similar to those reported by Denham and Burton's (1996) and Domitrovich et al. (2007). By examining differences between emergent literacy and social-emotional skills of children participating in full-day versus half-day classrooms, this intervention aimed to recognize the potential variability of socio-economically disadvantaged preschoolers' programming participation rates.

This research could prove helpful for preschool programs for two reasons in particular. First, it addressed important shortcomings highlighted by previous research. Regarding social-emotional and literacy development, previous research has dictated a need for promoting children's social-emotional competence by bettering early childhood

educators' emotion coaching skills (Denham, 2005) and through the implementation of interventions maintaining emotionally positive as well as cognitively enriching classroom contexts (Raver & Knitze, 2002). Regarding teacher-child relationships, previous research has dictated a need for further research investigating outcomes related to altering teacher-childhood discourse and for research investigating the psychosocial as well as the physical aspects of positive literacy environments (Makin, 2003). Further, according to Pianta (2006), intervention methods enhancing relational as well as instructional functions of the teacher-child relationship, versus one or the other, better support classroom environments in facilitating children's literacy development. The proposed intervention intended to facilitate both the academic and relational facets of teacher-child relationships by encouraging emotional communication between teachers and children with methodologies previously documented as effective in enhancing children's vocabulary skills (see Whitehurst et al., 1994, 1999).

Second, this research could prove helpful for preschool programs such that its success would offer preschool programs a cost- and time-effective means of simultaneously enhancing both children's literacy and social-emotional skills, thus allowing programs to allocate greater time and resources to achieving other educational goals. The implementation of many successful social-emotional intervention programs, such as the PATHS curricula (Domitrovich et al., 2007), require large-scale efforts and many resources. In contrast, variations of dialogic reading methods have been shown effective when implemented within a number of contexts (e.g., children's homes and preschool classrooms, Lonigan & Whitehurst, 1998), within varied time frames (e.g., 1

month, Whitehurst et al., 1988; 7 months, Whitehurst et al., 1994, 1999), and within low-income (Lonigan & Whitehurst, 1998; Whitehurst et al., 1994, 1999) preschool samples. Thus, dialogic reading makes an excellent candidate for further study. Further, Zevenbergen et al. (2003) found dialogic reading techniques effective in increasing children's references to internal states of storybook characters and increasing children's dialogue in their own narratives, thus supporting the potential of dialogic reading techniques in enhancing children's social-cognitive development.

Currently, only three programs, the 4Rs: Reading, Writing, Respect, and Resolution intervention (Morningside Center for Teaching Social Responsibility, n.d.); the PEEP intervention (Evangelou & Sylva, 2007); and the Woven Word program (Committee for Children, 2006), specifically aim to enhance both language and social emotional skills simultaneously. The 4Rs: Reading, Writing, Respect, and Resolution specifically targets children ranging in age from kindergarten through grade 5 and requires a substantial effort on facilitators' parts, including 25 hours of training and ongoing teaching for teachers and parent-child activities for use in the home (Morningside Center for Teaching Social Responsibility, n.d.). The PEEP intervention targets preschool-aged children's literacy and self-esteem development but requires a substantial time commitment for implementation, including several sessions over approximately 1 year (Evangelou & Silva, 2007). Whereas the Woven Word program, like the current intervention, is focused on increasing preschool-aged children's literacy and social-emotional skills through the use of dialogic reading techniques (Committee for

Children, 2006), no research has been conducted to date to evaluate the efficacy of the program (A. Zevenbergen, personal communication, October 1, 2007).

Because it evaluated the efficacy of an intervention aiming to enhance preschool-aged children's literacy and social-emotional skills, the current intervention research furthered the efforts of the 4Rs: Reading, Writing, Respect, and Resolution; the PEEP intervention; and the Woven Word program. Because no previous intervention has merged dialogic reading techniques with social-emotional content (J. Fischel, personal communication, September 27, 2007; G. Whitehurst, personal communication, May 1, 2007; A. Zevenbergen, personal communication, October 1, 2007), the current intervention research added to intervention literature because it may effectively achieve the goals of the Woven Word program and the 4Rs and PEEP intervention programs while minimizing required resources and maximizing preschool children's outcomes.

Research Questions

The current research integrated dialogic reading techniques (Arnold & Whitehurst, 1994; Whitehurst & Lonigan, 1998) and Gottman et al.'s (1997) description of emotion-coaching families in an intervention designed to simultaneously enhance children's literacy (i.e., vocabulary) and social-emotional (i.e., emotional expression, emotion understanding, and emotion regulation) skills. The proposed study had four research goals. First, one research goal was to examine the fidelity of intervention implementation. A second research goal was to replicate previously documented positive effects of dialogic reading on children's vocabulary skills (Whitehurst & Lonigan, 1998) using storybooks with emotion-laden content. A third research goal included testing the

efficacy of the use of a dialogic reading intervention with emotion-laden storybooks in enhancing preschoolers' social and emotional skills. Given differences in programming dosage for children who attend full- versus half-day classrooms, the fourth research goal included investigating differences in intervention effects between full- and half-day classrooms. In achieving these goals, five research questions were addressed:

1. Did teachers implement intervention methods to fidelity?
 - a. Did teachers comply with intervention methods?
 - b. What were teachers' attitudes toward intervention implementation?
2. Did a dialogic reading intervention with emotion-laden storybooks have positive effects on children's vocabulary skills?
3. Will a dialogic reading intervention using emotion-laden storybooks have positive effects on children's emotion knowledge?
4. Will a dialogic reading intervention with emotion-laden storybooks have positive effects on children's social skills?

Will a dialogic reading intervention with emotion-laden storybooks have more positive effects on the vocabulary skills, emotion knowledge, and social skills of children in full-day versus half-day classrooms?

3. Method

Rocky Mountain SER Pueblo Head Start Program Description

Program

Created in 1980, Rocky Mountain Service, Employment, Redevelopment (SER) aims to provide services to assist lower-functioning individuals and families facing serious barriers to educational and employment opportunities throughout the state of Colorado (Rocky Mountain SER, n.d.). The program includes two components: work force development centers assisting disadvantaged populations to obtain employment; and early childhood education, or Head Start program services to children and their families in southern Colorado, including Pueblo, Huerfano, and Las Animas Counties (and the cities of Pueblo, Walsenburg, and Trinidad).

Pueblo Sites

The current research project took place within the Rocky Mountain SER Head Start Program serving children and families in Pueblo County, Colorado. Demographic data for 2006 concluded that the city of Pueblo, Colorado, included approximately 100,000 residents with a median family income of \$39,429. Residents were primarily of Caucasian and Hispanic decent (U.S. Census Bureau, 2006). Federal poverty guidelines for participation in Head Start with 48 contiguous states and Washington, D.C., dictate that a single-parent family earn at or below \$10,210 annually, adding \$3,480 per each

additional adult present for larger households (Department of Health and Human Services, 2007).

The Pueblo Head Start Program included three sites, the largest housing nine classrooms (three full-day classrooms, six half-day classrooms) and offices for a majority of the program's administrative staff, the second largest housing six classrooms (two full-day classrooms and four half-day classrooms), and the smallest housing three classrooms (one full-day classroom and two half-day classrooms). The classrooms at the smallest site were additions to the Rocky Mountain SER Program during the 2007-2008 school year and represented an experimental collaboration between Rocky Mountain SER and Spann Elementary School. All half-day classrooms except those at the third site included two groups of children each, one group that attended the program during morning hours, and one group that attended the program during afternoon hours. The two half-day classrooms at the smaller site included groups that attend the program during morning hours alone. The full-day classroom at the smallest site followed a curriculum other than the curriculum in the two larger sites but was required to meet Rocky Mountain SER Head Start performance standards. This classroom was jointly funded by Rocky Mountain SER Head Start and public funds.

The full-day classroom at the smallest site was included in the current study as a no book reading control group (i.e., additional control group that did not conduct any additional storybook readings as did the intervention and book reading control groups) in an additional set of exploratory analyses. Due to the limitations affiliated with including

this group in analyses (e.g., small sample size, use of a curriculum other than the curriculum in the two larger sites), results were not included in the current study.

Classrooms

Several differences distinguished full-day from half-day classrooms in the Rocky Mountain SER Pueblo Head Start Program. Full-day classrooms included a maximum of 20 children, and children participated in program activities for approximately 6 hours per day, 5 days per week. Half-day classrooms included a maximum of 17 children, and children participated in program activities for approximately 3.5 hours per day, 4 days per week. Except for the full-day classroom at the smallest site, full-day classrooms were staffed with a lead teacher, an assistant teacher, and a teaching assistant. The full-day classroom at the smallest site was staffed with a lead and assistant teacher only. Half-day classrooms at all three sites were staffed with a lead teacher and assistant teacher only. All full-day classrooms provided children breakfast, lunch, and a snack during the day. Half-day classrooms provided children breakfast and a snack during morning programming hours, and lunch and a snack during afternoon programming hours.

Placement in full-day classrooms was offered to children whose parents either worked or attended college full-time, and placement in either a morning or afternoon half-day classroom depended primarily on individual families' schedules and access to the program's bus routes (if families weren't able to transport children to and from either Head Start site).

Classrooms in the two larger sites included at least one "foster grandparent," an older adult from the community paid to work in a classroom on a regularly scheduled

basis; and some classrooms included additional community members that volunteered on a regularly scheduled basis. Participating children's family members also volunteered in classrooms periodically.

Participants

Participants included teachers and children from 13 of 15 classrooms at the two largest Rocky Mountain SER Head Start Program sites in Pueblo, Colorado. Two classrooms, one in each of the two largest sites, were excluded from the study because they included 3-year-old children only; thus, children participating in these classes did not meet age criteria for inclusion in the research. Classrooms were assigned to either of two experimental groups: the intervention group and the book reading control group.

Teachers

Thirty-one of the 32 teachers in the 13 participating classrooms agreed to participate. One teacher, a teaching assistant in a full-day classroom at the second largest site, declined participation. She primarily supported the lead and assistant teachers in that classroom by setting tables prior to and cleaning up tables following breakfast, lunch, and snack time, and also by preparing materials for group teaching activities (e.g., distributing construction paper and stickers for art activity) and assisting children with the completion of these activities. This teacher's first language was Spanish, and her second language was English.

Twenty-seven of these teachers conducted storybook readings during the implementation of intervention methods (as part of both the intervention and book reading control groups), and 25 of these teachers agreed to be audiotaped during

storybook readings. Because teachers in each classroom determined which teacher would implement intervention methods and how frequently each teacher implemented intervention methods, each teacher's storybook reading participation varied between and within each classroom; thus, not all teachers who conducted storybook readings were audiotaped throughout the implementation of intervention methods. Rather, audio recordings were collected for teachers who conducted storybook readings on a regular basis.

Initially, a total of 30 teachers were included in the research. Throughout the course of the study, 2 teachers left the Rocky Mountain SER Head Start program, 1 prior to intervention implementation and 1 during intervention implementation. The teacher that left prior to intervention implementation was replaced, and this new teacher was trained and participated in intervention implementation. The teacher that left during intervention implementation participated in intervention implementation; so her data were included in the analyses. The final sample included 27 lead teachers, assistant teachers, and teaching assistants from 13 Rocky Mountain SER Head Start classrooms.

Complete demographic data for all participating teachers ($n = 27$) and for teachers assigned to each experimental group (intervention group $n = 14$, book reading control group $n = 13$) are presented in Tables 1 and 2; demographic findings for categories with the largest percentages of teachers are summarized here. Overall, mean teacher age was 45.26 years ($SD = 12.62$, range = 23-69); and all teachers were female. A majority of teachers were Hispanic (81.5%), and the remaining teachers were Caucasian (18.5%). Most teachers fluently spoke only English (55.6%), and 44.4% of teachers fluently spoke

both English and Spanish. Approximately half of teachers (55.6%) had earned associate's degrees, and an additional 22.2% reported a high school degree as their highest education attained. Teachers reported an average of 10.83 years of experience ($SD = 11.60$, range = 0-39) with Head Start programs run in Pueblo, Colorado, and an average of 15.13 years of experience ($SD = 11.52$, range = 2-40) in the field of early childhood education.

Children

Initially, a total of 130 children were included in the research. Throughout the course of the study, 7 children withdrew from participation for a number of reasons. Five children withdrew from the Head Start program in which the study took place. One child transferred from a full-day classroom assigned to the intervention group to a full-day classroom assigned to the book reading control group. One child transferred from a morning half-day class assigned to the book reading control group to an afternoon half-day class assigned to the book reading control group in which the maximum number of children had already been recruited (A maximum of 5 children were recruited from each morning and afternoon half-day class in order to maintain maximal participation requirements for dialogic reading methods (see Whitehurst et al., 1994, 1999)). Because including exclusively Spanish-speaking children in the study would have required teachers to read storybooks twice (once in English and once in Spanish), children who spoke solely Spanish were excluded from the research. Bilingual children were allowed to participate provided that they spoke both Spanish and English in the homes as determined by parent report on the demographic questionnaire. The final sample included one hundred twenty-two 4- and 5-year-old children eligible for kindergarten entry during

the 2008-2009 school year (i.e., children that were 5 years old by June 1, 2008) from 14 Rocky Mountain SER Head Start classrooms.

Overall, mean child age was 58.85 months ($SD = 3.51$, range = 52.53-68.83; approximately 4.90 years of age). Mean age for children participating in classrooms assigned to the intervention group was 59.00 months ($SD = 3.83$, range = 52.77-68.83; approximately 4.91 years of age), and mean age for children participating in classrooms assigned to the book reading control group was 58.73 months ($SD = 3.27$, range = 52.53-64.40; approximately 4.90 years of age). Complete categorical demographic data for all participating children and for children assigned to each experimental group (intervention group $n = 49$, book reading control group $n = 65$) are presented in Table 3; demographic findings for categories with the largest percentages of children are summarized here. The sample consisted of 66 (57.9%) boys and 48 (42.1%) girls; and a vast majority of children were Hispanic (85.1%; 7.9% Caucasian, 7% African American). Regarding family income, 38.3% earned \$10,000 or less annually, 29.0% earned between \$10,000-19,000 annually, and 18.7% earned between \$20,000-29,000 annually. Over one third of children's mothers (37.7%) had reportedly earned a high school degree or equivalent, and an additional 21.9% had not earned a high school degree or equivalent. Nearly half (43.%) of children's fathers were not present in their homes, 28% had reportedly earned a high school degree or equivalent, and an additional 18.4% had not earned a high school degree or equivalent. As determined by parent report on the demographic questionnaire, most children fluently spoke only English (94.7%), and 5.3% of children fluently spoke both English and Spanish.

Experimental Design and Procedure

Table 4 summarizes the experimental design of the study. Prior to intervention implementation, all children's vocabulary and social-emotional skills were assessed. Classrooms were divided into two experimental groups for intervention implementation: the intervention group, in which teachers implemented dialogic reading techniques while reading emotion-laden storybooks in small groups; and the book reading control group, in which teachers read the same storybooks provided to the intervention group without using dialogic reading techniques (i.e., teachers read storybooks as they would typically read). Following intervention implementation, all children's vocabulary and social-emotional skills were again assessed.

Study procedures took place from September 2007 through May 2008 and included the following sequential tasks:

- Recruiting children to participate (September through October)
- Collecting pre-intervention data (Mid October through December)
- Conducting training meetings with teachers (Mid December through Early January)
- Implementing intervention methods (January through mid April)
- Collecting post-intervention data (April through May)
- Conducting brief follow-up meeting with teachers (late May).

Each of these phases will now be discussed.

Participant Recruitment

Head Start teachers and children were recruited for participation in the research. The lead researcher talked to Head Start teachers during programming hours (i.e., during teaching preparation on Fridays for half-day teachers and before class and during nap time for full-day teachers). At the time that teachers were recruited for the study, they completed an informed consent document (see Appendix B) and a brief demographic questionnaire, and the lead researcher provided them a copy of the document for their own records.

With the consent of each classroom's teachers, a number of means of recruiting children were employed, including attending parent meetings, talking to parents during programming hours, posting informational flyers on 'parent information boards' in Head Start classrooms, and sending research paperwork home weekly in children's classroom folders until desired participant numbers were reached. Teachers were also asked to talk and pass and collect consent forms to parents as they picked up and dropped off their children. Each classroom was provided a large envelope including a list of all children eligible for participation in that classroom. Teachers were instructed to return parents' research paperwork to the envelope upon receipt. On Friday of every week during the participant recruitment phase, the lead researcher collected research paperwork from the envelope. At this time, the lead researcher also placed additional copies of research paperwork into folders of eligible children whose parents had not yet returned the paperwork.

At the time that children were recruited for the study, parents completed research paperwork, including an informed consent document (see Appendix C), a parent questionnaire accompanying Denham's (1986) Affect Knowledge Test (AKT; see Appendix D; see description in next section), and a brief demographic questionnaire obtaining information about the child (i.e., birth date, gender, child care and early childhood education history, race and ethnicity, and languages spoken) and the child's family (i.e., mothers' and fathers' education, number of adults present in the child's home, annual household income, and languages spoken in the home). At that time, parents were also provided a copy of the informed consent document for their own records.

Children whose parents submitted fully completed research paperwork were included in the study. Phone numbers were obtained for families who returned incomplete research paperwork (but had consented to their children's participation) from Head Start staff early in the participant recruitment phase. Whenever possible, the lead researcher contacted families by phone and talked to parents during pick-up and drop-off times and special events (e.g., parent-teacher conferences) to obtain any information omitted from returned research paperwork. In order to assign each classroom a maximum of two reading groups including 5 children each, a maximum of 10 children returning completed research paperwork from each classroom were included in the study. In the event that more than 10 children per classroom returned completed paperwork, the first 10 of these children were included in the study. The order in which completed paperwork was received determined participant identification assignments for data collection

purposes (i.e., first child who returned completed paperwork was listed first on his or her classroom roster, etc.).

Pre- and Post-Intervention Data Collection

Literacy skills. The Test of Preschool Early Literacy (TOPEL; Lonigan, Wagner, Torgesen, & Rashotte, 2006a) was used to assess children's baseline literacy skills. The TOPEL is a new measure composed of three subtests assessing print knowledge, definitional vocabulary, and phonological awareness, the three key emergent literacy skills predicting children's reading and writing abilities from kindergarten through the third grade (Lonigan, 2006), in children ages 3 to 5 years (Lonigan, Wagner, Torgesen, & Rashotte, 2006b). Subtest scores reflect children's competence for each key aspect of literacy, and a composite score for all three subtests reflects overall literacy. The TOPEL is useful for measuring literacy skills for research purposes and for assessing intervention-related changes in children's literacy skills (Lonigan et al., 2006b).

Because dialogic reading techniques have been shown to influence children's oral language skills (Whitehurst et al., 1994, 1999), the Definitional Vocabulary subtest of the TOPEL was administered. This subtest includes 35 items for which children identify (e.g., answer the question "What is this?") and describe important features of an object in a picture (e.g., answer the question "What does this do?"), thus yielding assessments of children's single-word oral vocabulary and definitional vocabulary (see Table 5), or a single score reflecting definitional vocabulary competence. Testing begins with the first item and continues until the final item is administered or a ceiling is reached (i.e., until the child incorrectly answers both questions for three items in a row). Children receive a

score of 0 for incorrect responses and 1 for correct responses to both the identification and descriptive questions asked by the assessor, thus yielding a possible score of 0 to 2 for each item. The subtest includes 35 items; thus, possible vocabulary scores for the subtest ranged from 0 to 70 (if the ceiling was not reached (all test items were administered)). The subtest required approximately 15 minutes to administer (Lonigan, 2006) and can stand alone as an assessment of definitional vocabulary when converted into a standard score (J. Valdespino, personal communication, February 13, 2008).

The Definitional Vocabulary subtest has demonstrated good reliability for 3-, 4-, and 5-year-old children of all ethnicities (coefficient alpha = .94, test-retest correlation of .81 for European American, African American, and Hispanic American children) and for subgroups of European American (coefficient alpha = .95), African American (coefficient alpha = .91), and Hispanic American (coefficient alpha = .97) children (Lonigan et al., 2006b).

Validity analyses revealed that the Definitional Vocabulary subtest is a useful measure for use in samples of children from deprived environments (Lonigan et al., 2006b). The corrected correlation of the TOPEL Definitional Vocabulary subtest and the Expressive One-Word Picture Vocabulary Test-2000 Edition ($r = .71, p < .0001$) provides evidence of criterion-prediction validity. Analyses assessing construct-identification validity revealed that the Definitional Vocabulary subtest scores for European American ($n = 659$), African American ($n = 136$), and Hispanic American ($n = 120$) children were within the average range when compared to the total sample used to norm the TOPEL. Consistent with test authors' expectations, Hispanic American children

residing in English-speaking homes ($n = 30$) outperformed Hispanic American children residing in bilingual homes ($n = 90$; Lonigan et al., 2006b).

Cronbach's alpha and correlations of each item and the TOPEL Definitional Vocabulary subscale were calculated for this study. Two pre-intervention TOPEL Definitional Vocabulary subtest items (identifying questions for items 4 (door) and 6 (key)) had zero variance and so were excluded from reliability analyses. Cronbach's alpha for the remaining 68 items of the subtest was .82 (see Table 6). Six post-intervention TOPEL Definitional Vocabulary subtest items (identifying questions for items 1 (bed), 3 (monkey), 6 (key), 8 (bus, school bus), 9 (boat), and 12 (teeth)) had zero variance and so were excluded from reliability analyses. Cronbach's alpha for the remaining 64 items of the subtest was .81 (see Table 6). Corrected correlations of each item and the Definitional Vocabulary subscale for both pre- and post-intervention data collection are presented in Appendix E. Pre- and post-intervention TOPEL Definitional Vocabulary subscale scores were strongly correlated ($r = .61, p < .01$).

Emotion knowledge. The Affect Knowledge Test (AKT; Denham, 1986) was used to assess children's emotional skills. The AKT is a structured measure of children's affective labeling and affective perspective-taking and consists of three subtests. Children are first asked to label happy, sad, angry, and scared emotions drawn on felt faces for a measure of expressive emotion knowledge, and then to identify which felt face feels each of the four emotions named by the assessor for a measure of receptive emotion knowledge (see Appendix F; Denham, 1986). Emotion faces are shuffled between expressive and receptive emotion knowledge questions in order to randomize the order of

questioning for each child (Denham & Couchoud, 1990). These two tasks collectively represent children's affective labeling capabilities. Following these tasks, a researcher uses emotionally expressive facial and vocal cues to demonstrate the emotions shown on each felt face for children (Denham, 2006a).

Third, children are asked to label a puppet's emotions using the four felt emotion faces after a puppeteer enacts 14 brief vignettes using emotionally expressive facial and vocal cues (see Appendix G). This task represents children's affective perspective-taking capabilities. Eight vignettes include typical scenarios that would elicit happy sad, angry, and scared responses from children (e.g., feeling scared during a nightmare), and the remaining six vignettes include puppets expressing feelings opposite what each child's mother reported the child would feel (see Appendix D). Puppets are matched to children's gender (Denham, 1986) and to children's ethnicity (i.e., Caucasian, Hispanic, African American, and Asian) to help achieve cultural sensitivity. For all three subtests, a score of 2 is assigned for correct responses, a score of 1 is assigned for incorrect responses of correct emotional valence (e.g., sad instead of angry), and a score of 0 is assigned for an incorrect response of incorrect emotional valence (e.g., sad instead of happy; Denham, 1986). Based on this scoring method, possible scores for the expressive and receptive subtests ranged from 0 to 8; and possible scores for the puppet vignette subtest ranged from 0 to 40. For analysis purposes, possible scores for affective labeling (including expressive and receptive subtest scores) ranging from 0 to 16 and possible scores for affective perspective taking (including puppet vignette subtest scores) ranging from 0 to 40 were calculated. Denham (1986) reported Cronbach's alpha values of .89 for

affective labeling, .93 for affective perspective taking, and .95 for an aggregate of affective labeling and perspective taking. The AKT requires approximately 15 minutes to administer and is a good measure for use with children from low- and middle-income families (Denham, 2006b).

For the purposes of this study, puppeteers enacted eight stereotypical vignettes (see Denham & Couchoud, 1990) and 12 nonstereotypical vignettes, half including a puppeteer's emotionally expressive facial and vocal cues and half including only an emotionally expressive facial cue (Denham, 2006a). When parents were unable to provide specific information regarding children's food preferences (e.g., They say that the child is not a picky eater and can't think of a food that the child does not like to eat) on the Parent Questionnaire (see Appendix D), the lead researcher sought this information from Head Start teachers. When parents were unable to provide a response to a specific vignette because the situation was not applicable to their children, vignettes were altered appropriately for data collection. For instance, if parents reported that they do not discipline their children with spankings, the script for the non-stereotypical vignette in which the mother puppet spanks the child puppet read only "*You did a bad thing!*" to demonstrate the mother puppet disciplining the child puppet by yelling rather than spanking. Appendix F includes an illustration of the emotion faces that were used for assessing children's affective labeling capabilities and the puppet vignette scripts.

Cronbach's alpha and correlations of each item and its corresponding AKT affective labeling or affective perspective taking score were calculated for this study. The affective aggregate was not calculated and analyzed in this study due to redundancy with

the affective labeling and affective perspective taking scores. Two post-intervention AKT affective labeling items (receptive and expressive happy items) had zero variance and so were excluded from post-intervention affective labeling reliability analyses. Table 6 includes Cronbach's alpha values for pre- and post-intervention AKT affective labeling and affective perspective-taking scores. Results indicated that reliability was lowest for post-intervention AKT affective labeling scores (Cronbach's alpha = .30); all other alpha values were .70 or higher. Corrected correlations of each item and its corresponding affective labeling or affective perspective taking score are presented in Appendix H. All pre- and post-intervention AKT score pairs were moderately correlated (affective labeling scores $r = .35$ and affective perspective taking scores $r = .29$).

Social skills. The Minnesota Preschool Affect Checklist (MPAC; Sroufe et al., 1984) was used to assess children's social skills. Children are assessed via live observational coding of a number of social and affective behavioral items. Originally, Sroufe et al. (1984) grouped individual items in a number of categories: Positive Affect; Negative Affect; Inappropriate Affect; Productive, Focused Use of Personal Energy; Unproductive, Unfocused Use of Personal Energy; Lapses in Impulse Control and Negative Responses to Frustration, Conflict, and Other Emotionally Arousing Situations; Positive Responses to Frustration, Conflict, and Other Emotionally Arousing Situations; Unusual Behavior; Social Isolation; Hostility; Skills in Leading and Joining; and Empathy and Prosocial Behavior. Scores for these categories were then aggregated into categories named Positive Affect, Negative Affect, Positive Adjustment, Negative Adjustment, and Total Adjustment. Positive Affect, Negative Affect, Positive

Adjustment, Negative Adjustment, and Total Adjustment scores were averaged across three 5-minute observations to create an overall index of each category for each child. Sroufe et al. (1984) reported strong relations between children's initiating interactions with positive affect and children's responding positively to others' overtures and social competence. MPAC is a good measure for use with children from low- and middle-income families (Denham, 2006b). Further, detailed information obtained from MPAC observations makes the coding scheme useful for pre- and post-programming assessments (Denham & Burton, 2003).

In order to obtain additional data for the purpose of this study, three observations lasting 6 minutes and 40 seconds each (versus Sroufe et al.'s (1984) 5-minute observations) were conducted to total 20 minutes of observation for each child. Observations took place on separate days during either the morning or afternoon and during free play in the classroom and on the playground or in the indoor gymnasium. Individual MPAC item scores were summed for all three observations, thus yielding a minimum score of 0 and a maximum score of 3 for each item across all three observations.

Five new items were added to Sroufe et al.'s (1984) Empathy and Prosocial Behavior category (see Table 7). A maximum likelihood factor analysis with the Varimax rotation procedure was conducted in order to create variable aggregates for statistical analyses. Based on rotated matrices (see Tables 8 and 9) and correlations (see Tables 10 and 11), three MPAC aggregate scores, Productive, Negative/Frustrated, and Positive, were calculated for inclusion in analyses as follows: Productive equaled (Productive and

Focused Use of Personal Energy items) – (Unproductive and Focused Use of Personal Energy items); Negative/Frustrated equaled (Negative Affect items + Lapses in Impulse Control + Positive Reactions to Frustration and Conflict items); Positive equaled (Positive Affect items – Unusual Behavior items). These specific aggregates have not before been used in previous research.

Cronbach's alpha and correlations of each item and its corresponding MPAC subscale (Positive Affect; Negative Affect; Inappropriate Affect; Productive, Focused Use of Personal Energy; Unproductive, Unfocused Use of Personal Energy; Lapses in Impulse Control and Negative Responses to Frustration, Conflict, and Other Emotionally Arousing Situations; Positive Responses to Frustration, Conflict, and Other Emotionally Arousing Situations; Unusual Behavior; Social Isolation; Hostility; Skills in Leading and Joining; or Empathy and Prosocial Behavior) were calculated for this study. Several pre- and post-intervention MPAC subscale items had zero variance and so were excluded from reliability analyses: one item was excluded from the pre-intervention analysis for the Positive Responses to Frustration, Conflict, and Other Emotionally Arousing Situations subscale; and one item was excluded from post-intervention analyses for both the Positive Affect and Unproductive, Unfocused Use of Personal Energy subscales; and several items were excluded from both pre- and post-intervention analyses for the Negative Affect, Inappropriate Affect, Lapses in Impulse Control and Negative Responses to Frustration, Conflict, and Other Emotionally Arousing Situations, and Unusual Behavior subscales.

Table 6 includes Cronbach's alpha values for pre- and post-intervention MPAC subscales. Results indicated that reliability was highest for pre-intervention Positive Affect (Cronbach's alpha = .60) and Negative/Frustrated pre-intervention (Cronbach's alpha = .58) and post-intervention (Cronbach's alpha = .57) aggregate scores. The pre-intervention Productive aggregate demonstrated the lowest reliability (Cronbach's alpha = .28). Corrected correlations of each item and its corresponding MPAC subscale are presented in Appendix I. Correlations between all pre- and post-intervention MPAC subscale and aggregate score pairs were small and mostly nonsignificant (see Table 12), likely a reflection of low pre- and post-intervention MPAC internal consistency reliability.

Training and procedures. Undergraduate research assistants were trained to collect TOPEL and AKT data. They were first provided copies of the TOPEL Examiner's Manual (Lonigan et al., 2006b) and the AKT Manual (Denham, 2006a) to review. During training meetings, these training materials were discussed, the administration of each measure was demonstrated, and all of research assistants' questions were addressed. Upon completion of training for both measures, individual meetings were set for each research assistant for pre-certification, at which time the assistants administered approximately five items from each measure to the lead researcher posing as a child. Upon successful completion of pre-certification, individual meetings were set for each research assistant for final certification, at which time the assistants administered each full assessment to a Head Start child whose parents provided consent for participation but

was not participating in the research. Upon successful completion of final certification, research assistants were allowed to collect pre-intervention data.

To ensure quality control, undergraduate research assistants were supervised while administering both assessments to Head Start children as during final certification; and feedback on their performances was provided. This supervision took place approximately half way through the data collection period (approximately the last week of November). Research assistants' questions regarding administration of the measures were also addressed as they arose. The lead researcher also collected pre-intervention data when needed.

In preparation for post-intervention data collection, a training meeting was conducted to review the administration of both measures and to answer research assistants' questions regarding administration. To ensure quality control during post-intervention data collection, undergraduate research assistants were again supervised while administering both assessments to Head Start children as during final certification; and feedback on their performances was provided. This supervision took place approximately half way through the data collection period (approximately the first full week of May). Research assistants' questions regarding administration of the measures were again addressed as they arose. Undergraduate research assistants were blind to children's group assignment and spent approximately one half day in each classroom before collecting data in that classroom. All assessments were conducted in English.

The lead researcher collected all MPAC data. This researcher has generally demonstrated satisfactory reliability with the master MPAC coder during training for

another research project. Children included in these training videotapes were of approximately the same age and socio-economic status as the children in the current study. This training included coding approximately 20 video-taped segments of a typical preschool day for all of Sroufe et al.'s (1984) original MPAC categories. For each category, all correlations of observations between the lead researcher and a master coder ranged from .34 ($p = .06$) to .89 ($ps < .05, .01, \text{ and } .001$) except for the Peer Skill category ($r = .09, ns$; see Table 13). Since this initial training, the lead researcher collected MPAC data for two large-scale research projects and trained graduate and undergraduate research assistants on the measure.

For TOPEL Definitional Vocabulary, AKT, and MPAC data collection purposes, all researchers assessed children successively according to participant identification assignments (i.e., data collection began with the smallest identification number and ended with the highest identification number). For days on which a child was absent or unavailable due to Head Start service participation (e.g., speech therapy), researchers continued collecting data successively with the next available child. On the following data collection day, researchers first collected data from previously unavailable children and then continue to successively collect data according to participant identification assignments where he or she finished the previous day. Researchers assessing children's literacy skills and emotion knowledge alternated administrations of the Definitional Vocabulary subtest and AKT with each child assessed, and they administered only one assessment per child per day. The lead researcher concurrently conducted MPAC observations according to these same guidelines. When every child was assessed once,

researchers again began successively assessing children according to participant identification assignments on the remaining assessments until all data collection was complete. Table 14 summarizes descriptive statistics for pre- and post-intervention TOPEL, AKT, and MPAC scores.

Teacher Training

Prior to training teachers, the lead researcher assigned classrooms in the two largest Head Start sites to either the intervention or book reading control experimental groups. The intervention group read altered storybooks to participating children, and the book reading control group read the same unaltered titles as the intervention group to participating children.

Because one goal of this study included replication of previously implemented dialogic reading procedures, research procedures closely resembled those of Whitehurst et al. (1994, 1999). In order to avoid contagion of half-day teachers, entire classrooms, rather than individual classes (including all teachers assigned to classrooms), were assigned to either the intervention or the book reading control group. As suggested by Head Start staff, classrooms at the largest and second largest sites were assigned to both the intervention and book reading control groups due to variations between the populations served at each site. Head Start staff requested that one specific full-day classroom at the largest site be assigned to the no book reading control group because both the classroom's assistant teacher and teaching assistant were new to the Rocky Mountain SER Head Start Program.

A matching procedure was implemented to assign classrooms at the two largest Head Start sites to the intervention and book reading control groups in order to ensure that equivalent numbers of classrooms were assigned to both groups, to ensure that both Head Start sites included classrooms assigned to both groups, and to ensure that both full- and half-day classrooms were assigned to both groups as evenly as possible (see Whitehurst et al., 1994, 1999). Within the two largest Head Start sites, full-day classrooms were randomly matched; and half-day classrooms were randomly matched. One classroom from each match was then randomly assigned to the intervention group. Following the matching procedure within each site, any remaining classrooms across sites were matched; and one of these classrooms was randomly assigned to the intervention group. Thus, both the intervention and book reading control groups included teachers and children assigned to both full- and half-day classrooms (see Appendix J).

In preparation for the implementation of the intervention, all teachers were trained during meetings focused on storybook reading methods in December. Two meetings were conducted: one with teachers assigned to the intervention group, and one with teachers assigned to the book reading control group. Table 15 summarizes the similarities and differences between teacher meetings. Teachers in both groups were informed that the research was investigating differences in teachers' reading styles across classrooms (Whitehurst et al., 1994, 1999) and that the emotion-laden storybooks were being pilot tested for use in social-emotional skills curriculum development. Meetings were held in the staff lounge at the largest Head Start site. Both the intervention and book reading control group meetings lasted between 45 to 60 minutes. Teachers were not expected to

prepare anything for meetings. Teachers received no incentive for attending training meetings but were informed during the meeting that they would be paid for each storybook reading completed and also that each classroom would receive a copy of each storybook included in the study at the end of the school year.

Intervention group. Training for teachers in the intervention group emphasized the literacy and social-emotional intervention components as well as their integration in storybook reading. Regarding the literacy component of the intervention, training included an adapted version of the Stony Brook Emergent Literacy Curriculum (Whitehurst, 1994). Specifically, the lead researcher first read and discussed the information in Appendix K with teachers. The researcher then showed teachers a portion of the Emergent Literacy Curriculum training video introducing the PEER and CROWD acronyms and demonstrating appropriate uses of the techniques in reading books with preschool-aged children (Whitehurst, 1992). Previous research has revealed that compared to direct training, video training was not only less laborious but also more effective at increasing children's literacy skills (see Arnold & Whitehurst, 1994). Regarding the social-emotional component of the intervention, training included a discussion of Gottman et al.'s (1997) description of emotion-coaching families. Specifically, the lead researcher read and discussed the information in Appendix L with teachers. Because the contents of Appendix L came directly from Gottman et al. (1997), content was directed toward parent-child relationships. This point was made, and the significance of this content to teacher-child relationships was highlighted.

To integrate the application of dialogic reading techniques and emotion-coaching practices, teachers perused *Alexander and the Terrible, Horrible, No Good, Very Bad Day*, complete with book guides adapted from Whitehurst (1994; see Appendix A) and prompts on individual pages. Teachers were also provided a full list of emotion-laden storybooks to be included in the study. The lead researcher then discussed and briefly demonstrated reading a storybook and answered teachers' questions. Teachers were instructed to read the emotion-laden storybooks using the techniques discussed with 2 groups, each including a maximum of 5 participating children, three times per week (see Zevenbergen et al., 2003). To ensure that teachers maintained compliance with research procedures, to monitor children's participation rates, and to later evaluate the fidelity of the intervention, teachers were also instructed to complete a brief log for each book reading (see Appendix M). In the 'Notes/comments about today's book' section of the log, teachers were instructed to document their own observations about the storybook itself. In the 'Notes/comments about today's book reading' section of the log, teachers were instructed to document any environmental (e.g., fire drill, distractions caused by non-participating children in the room) or child factors (e.g., temper tantrum, distractibility) that occurred during that storybook reading.

Book reading control group. Unlike the intervention group meeting, the book reading control group meeting included brief introductions to literacy development and social-emotional intervention programs. This meeting did not include training integrating literacy and social-emotional development. In order to best mirror the intervention group training meeting, training for teachers in the book reading control group included an

informational video on the importance of storybook reading for children's academic development (Idaho Literacy Project, 1991). Whereas the video shown to teachers in classroom assigned to the intervention group (Whitehurst, 1992) demonstrated dialogic reading techniques, this video included no specific storybook reading techniques. Rather, this video spoke generally regarding the role of storybook reading in children's academic success. A brief discussion of social-emotional curriculum development and perusal of the emotion-laden storybooks (without the book guides and prompts on individual pages but still including any book guides included in the books) followed, during which time the researcher answered teachers' questions. Finally, teachers were instructed to read the emotion-laden storybooks as usual with 2 groups, each including a maximum of 5 participating children, three times per week and to complete a brief log for each book reading (see Appendix M). In the 'Notes/comments about today's book' section of the log, teachers were instructed to document their own observations about the storybook itself. In the 'Notes/comments about today's book reading' section of the log, teachers were instructed to document any environmental (e.g., fire drill, distractions caused by non-participating children in the room) or child factors (e.g., temper tantrum, distractibility) that occurred during that storybook reading.

Because the Stony Brook Emergent Literacy Curriculum dictates that at least two adults per classroom must be involved in dialogic reading (Whitehurst, 1994), all head teachers, assistant teachers, and teaching assistants (employed in full-time classrooms only) were included in teacher training meetings. In order to avoid contagion of teachers assigned to the book reading control group and to minimize teachers' suspicions of

differences between intervention and book reading control group meetings, Head Start staff scheduled the two meetings and assigned teachers to each group to attend the appropriate meeting. In early January, the lead researcher met with each teacher briefly to review storybook reading instructions, to review the PEER and CROWD sequences with teachers assigned to the intervention group, and to answer teachers' questions.

Dialogic Reading Intervention with Emotion-Laden Storybooks

Procedures. Prior to the implementation of intervention procedures, each classroom was provided a large envelope including guidelines for storybook readings (the instructions provided during teacher training meetings with some additional content, see Appendix N), a weekly schedule of storybook titles for the following 3 months, a list of participating children in their classrooms, six storybook reading logs for the first week of readings, and the storybook for the first week of readings. Teachers were instructed to return the storybooks and completed storybook reading logs to the envelope during the week. On Friday of every week during the implementation of the intervention, the lead researcher collected storybook reading logs from the envelope and placed six additional logs and the storybook for the following week in the envelope. At this time, the lead researcher also collected storybooks no longer being read to further ensure that teachers in classrooms assigned to the alternate experimental group would not learn of the differences between the storybooks provided to each group (i.e., questions added to storybooks provided to intervention group versus same unaltered storybooks provided to book reading control group). To ensure that information obtained from book reading logs was accurate, teachers were periodically reminded to complete logs (and particularly the

names of participating children) before and/or immediately following each storybook reading.

Teachers in the intervention condition used dialogic reading techniques while reading emotion-laden storybooks to 2 groups including a maximum of 5 children 3 times per week (Zevenbergen et al., 2003) for approximately 3 months. Teachers in the book reading control condition were instructed to read the same emotion-laden storybooks as usual. To limit possible fatigue affiliated with children's participation (Head Start policy dictates that teachers read books to their classrooms daily), all teachers were encouraged to conduct no more than one book reading per small group of children per day. To ensure that participating children did not receive any exposure to intervention materials outside of storybook readings, all teachers were instructed to read storybooks with participating children during the implementation of intervention methods only. Teachers were asked not to read storybooks provided to them to the entire class during regularly scheduled storybook reading activities. Classrooms across all centers had the same amount of regularly scheduled storybook reading time.

If teachers fell behind in conducting storybook readings, they were encouraged to make up the readings during the following week to maintain an average of three storybook readings per week. Because full-day classrooms were in session 5 days per week, teachers in full-day classrooms were allowed to make up four book readings for 2 days (two readings (one per each small group) per day) during the following week. Because half-day classrooms were in session 4 days per week, teachers in half-day classrooms were allowed to make up two book readings for 1 day (one reading in the

morning class, one reading in the afternoon class) during the following week. The number of readings each classroom made up every week was recorded for reporting and future intervention implementation purposes.

Additional undergraduate research assistants (not collecting pre- and post-intervention data) volunteered in classrooms struggling to complete storybook readings during the implementation of the intervention in order to occupy non-participating children while teachers and participating children read intervention storybooks (see Whitehurst, 1994). To avoid non-participants' feeling neglected, these volunteers were instructed to read storybooks to non-participating preschoolers sharing classrooms participating children if teachers' believed that non-participating children felt excluded. Storybooks used in these book readings did not include those used for the intervention. The lead researcher also volunteered in Head Start classrooms to work with non-participating children, to be available to answer teachers' questions as they arose, and to be available for individual consultation at teachers' requests. The lead researcher also volunteered in classrooms when teachers were absent (i.e., scheduled time off, sick leave, and time off due to family emergencies) and in classrooms in which teachers reported the lowest storybook reading rates; thus, the lead researcher spent varying amounts of time volunteering in each classroom.

Storybooks. The lead researcher chose total of 12 different storybook titles to include in the intervention. To help ensure ecological validity, all titles were included based on commercial availability and conformity to intervention goals.

Table 16 includes the intervention booklist. Books listed under the General Emotions subheading discuss both positive and negative emotions. These titles were chosen over other available books with similar content because they include short rhyming verses for several positive and negative emotions and because they include rich, colorful illustrations depicting each emotion. Books listed under the Teaching About Emotions and Social and Relational Skills subheadings were included for the purpose of teaching children about positive and negative emotions resembling the four basic emotions of happy, sad, angry, and afraid (Denham, 1998) and teaching children about acceptable and unacceptable social norms. These books are marketed specifically for these purposes. These titles were chosen over other available books with similar content because they include several events depicting common emotion-eliciting events (e.g., feeling proud of one's artwork, feeling scared when mother leaves the child at school) and because they discuss specific emotions and ways to manage the experiences of these emotions. Books listed under the Emotional Storybook Content subheading were included to achieve ecological validity because they contain emotion-laden content but are not marketed for teaching children about emotions. These titles were chosen over other available books with similar content because they include issues of developmental significance to preschool-age children: losing an attachment object (*D.W.'s Lost Blankie*), experiencing a bad day (*Alexander and the Terrible, Horrible, No Good, Very Bad Day*), being teased (*Chrysanthemum*), and transitioning to kindergarten (*Kindergarten Rocks!*). Although these books feature events triggering negative emotions, three (*D.W.'s Lost*

Blankie, Chrysanthemum, and Kindergarten Rocks!) include positive emotional story events as well.

Following Whitehurst et al. (1994, 1999), book guides providing suggestions for implementing CROWD and emotion coaching questions, as well as hints for using CROWD questions and emotion-coaching behaviors on individual book pages, were added to books provided to classrooms assigned to the intervention group to encourage discussion of emotional storybook content (except for the books listed under the General Emotions subheading because these introduce several emotions rather than telling a story about emotions (see Whitehurst, 1994)). To maintain consistency across storybooks, guides already included in storybooks provided to classrooms assigned to the intervention group were concealed.

Fidelity of intervention implementation. To limit the potential for teachers assigned to each experimental group to learn of the differences between the books provided to teachers assigned to the intervention and book reading control groups, each classroom was provided its own book (i.e., no sharing of storybooks was necessary to implement the intervention). Further, alterations to books provided to teachers assigned to the intervention group were only included inside book covers and on book pages (i.e., were not visible on book covers); and books were kept in large envelopes or stored in secured locations in each classroom to limit their accessibility to others entering the classrooms.

To ensure that teachers maintained compliance with research procedures, to monitor children's participation rates, and to later evaluate the fidelity of the intervention,

teachers were instructed to complete a brief log for each book reading (see Appendix M). In order to maintain the explanation that the research was investigating differences in teachers' reading styles across classrooms, teachers were also audio taped during book readings at five time points: once prior to the implementation of intervention methods, once approximately at the end of January, approximately at the end of February, and approximately at the end of March during the implementation of intervention methods, and once following the implementation of intervention methods. All participating teachers who consented to audio taping ($n = 25$) were recorded reading a storybook of their choice prior to the implementation of the intervention. During January, February, and March, all lead teachers and any additional assistant teachers or teaching assistants who implemented the intervention on a regular basis were audio taped while reading an emotion-laden storybook from Table 16 (i.e., teachers and assistants completing storybook logs on a regular basis were audio taped). All participating teachers who consented to audio taping were again recorded reading a storybook of their choice following the completion of intervention implementation. During audiotaped storybook readings, children in some classrooms were slightly distracted by the presence of the digital voice recorder. In these cases, the lead researcher held up the recorder and described its function for the children in order to familiarize children with the device before the beginning of the audio taping.

Follow-Up Meeting with Teachers

Near the completion of post-intervention data collection, the lead researcher held a meeting with all participating teachers assigned to the intervention and book reading

control groups to reveal the specific goals of the research and to elicit teacher feedback on the implementation of the intervention in order to improve future intervention efforts. Meetings were held at both the largest and second largest Head Start sites to best accommodate teachers' schedules. Meetings lasted between 45 minutes to 1 hour. Teachers received no incentive for attending the follow-up meeting, but a copy of each storybook included in the study was given to teachers for each classroom during the meeting.

During this meeting, teachers were also be asked to complete the Teacher Attitudes about Social and Emotional Learning (TASEL; Ambike & Schultz, 2007), a measure intended to assess teacher attitudes towards social and emotional program implementation. The TASEL is a new measure composed of six subscales assessing teachers' perceptions of social-emotional program effectiveness (Program Effectiveness), teachers' confidence in delivering program lessons (Competence), teachers' attitudes toward time required to prepare and deliver program lessons (Time Constraints), teachers' attitudes toward program training (Training), teachers' attitudes toward administrative support for program implementation (Administrative Support), and teachers' beliefs that administrative staff consider academics a priority over social-emotional learning (Curriculum Priority). Subtest scores reflect teacher attitudes for each facet of program implementation, and a composite score for all subtests reflects teachers' overall attitudes toward social and emotional program implementation. The TASEL can be administered prior to program implementation to assess social-emotional program issues needing attention and can be administered during or following social-emotional

program implementation to assess intervention program effectiveness. TASEL subscales were calculated in this study in order to examine specific facets of teachers' attitudes toward intervention implementation, and the TASEL aggregate was calculated in order to obtain an overall measure of teachers' attitudes toward intervention implementation. The TASEL includes 28 items rated on a scale ranging from 1 (*Strongly Disagree*) to 6 (*Strongly Agree*), thus yielding a possible score of 1 to 6 for each individual item, and three additional informational questions and requires 10 to 12 minutes to administer (Ambike, 2008).

All TASEL subscales except for the Time Constraints subscale demonstrated good reliability, with estimates ranging from .87 to .91. The Time Constraints subscale demonstrated questionable reliability ($\alpha = .66$), to which TASEL authors attribute to the wording of the items composing the subscale. Namely, they hypothesized that teachers may have placed greater emphasis on the subscale item questioning whether program lessons took time from academics than on the other two subscale items (Ambike, 2008).

Validity analyses revealed that the TASEL possesses strong content validity (Ambike, 2008). Initial TASEL items were determined by literature reviews, program materials, and preschool teachers. A test of predictive validity (i.e., a linear regression analysis) revealed that TASEL subscale scores accounted for 40% of the variance in teachers' perceptions of program implementation ($F(6, 138) = 15.06, p < .01$); TASEL authors noted that predictive validity of TASEL factors still needs to be established (Ambike, 2008). Several subscales also demonstrated criterion validity. The Competence and Training subscales were moderately correlated with teachers' perceptions of program

implementation ($r_s = .31$, and $.33$, $p < .01$), the Administrative Support subscale was most strongly correlated with perceptions of program implementation ($r = .50$, $p < .01$), and the Curriculum Priority subscale was negatively correlated with teachers' perceptions of program implementation ($r = -.37$, $p < .01$; Ambike, 2008). These analyses indicate that teachers had more positive perceptions of program implementation as their confidence in delivering program lessons, their attitudes toward program training, and their attitudes toward administrative support for program implementation increased, and that teachers had more positive perceptions of program implementation as their beliefs that administrative staff consider academics a priority over social-emotional learning decreased.

For the purposes of the current study, a 20-item version of the TASEL including five of the six subscales (Program Effectiveness, Competence, Time Constraints, Training, and Administrative Support) was administered (see Table 17). Possible scores for the Program Effectiveness, Competence, and Training subscales ranged from 4 to 24; for the Time Constraints subscale ranged from 8 to 13; for the Administrative Support subscale ranged from 5 to 30; and for the Curriculum Priority subscale ranged from 1 to 6. High scores on the Program Effectiveness, Competence, Training, and Administrative Support subscales indicated positive teacher attitudes toward social and emotional learning programs; and low scores on the Time related constraints and the Curriculum Priority subscales indicated positive teacher attitudes toward social and emotional learning programs. Possible scores for a TASEL aggregate (including all subscale scores)

ranged from 37 to 117, with high scores indicating favorable teacher attitudes toward social and emotional program implementation.

The three additional informational questions were not administered to teachers, as they provided this information in a brief demographic questionnaire. The final six items of the TASEL were not administered to teachers because no additional Head Start administrative leader monitored program training or implementation (as dictated by the instructions for these specific questions). The Administrative Support subscale item *The researcher has scheduled specific times for the delivery of SDP lessons* was not administered to teachers because they were not assigned specific times for intervention implementation. Rather, teachers were allowed to implement the intervention at a time convenient for them given previously established classroom routines. The single-item Curriculum Priority subscale (including the item *The Director gives more importance to learning academics than learning social and emotional skills*) was not administered to teachers because the lead researcher, rather than the program director, was primarily responsible for intervention implementation.

Finally, wording of some TASEL items was altered slightly to better reflect the structure of intervention implementation in the current study (e.g., the term ‘Principal/Director’ was replaced with the term ‘Researcher’ to refer to the lead researcher rather than the Head Start program director because the lead researcher was primarily responsible for intervention implementation).

Cronbach’s alpha and correlations of each item and its corresponding TASEL subscale (Program Effectiveness, Competence, Time Constraints, Training, or Administrative

Support) were calculated for this study. Table 18 includes Cronbach's alpha values for TASEL subscales and the TASEL aggregate. Results indicated that reliability was lowest for the Time Constraints subscale (Cronbach's alpha = .44); all other alpha values ranged from .73 to .87. Corrected correlations of each item and its corresponding TASEL subscale are presented in Appendix O.

4. Results

Exploratory Data Analyses

Exploratory data analyses were conducted on individual variables, variable aggregates, and by each analysis to detect and correct data entry errors, major outliers, and other potential problems (e.g., skewed data distributions) for analyses. Exploratory data analyses were initially conducted on all subscale and variable aggregate scores, and follow-up analyses were conducted for aggregate scores that were altered as a result of initial exploratory data analyses. Initial exploratory data analyses revealed nine major outliers for the AKT and MPAC measures only. Stem-and-leaf plots illustrated one major outlier for pre-intervention AKT affective labeling scores and one major outlier for affective perspective taking scores. Plots revealed two major outliers for post-intervention AKT affective perspective taking scores. A stem-and-leaf plot also revealed one major outlier for post-intervention MPAC Productive Aggregate scores. In each case, major outlier values were changed to one value either above or below the most extreme value not denoted an outlier.

Exploratory data analyses following correction of these major outliers also revealed major outliers. Stem-and-leaf plots illustrated that the same values for the pre-intervention AKT affective labeling and perspective taking scores remained major

outliers. Because they had already been corrected to maintain variance across more normal data distributions, these outliers were left in the dataset.

Subsequent data distributions of all subscale and variable aggregate scores were skewed and kurtotic, but not to an extent to warrant data transformations. Bivariate scatterplots of each independent-dependent variable pair for all analyses did not reveal any significant outliers for any analysis performed.

Preliminary Data Analyses

Table 4 summarizes the experimental design of the study. Classrooms were divided into two experimental groups for intervention implementation: the intervention group, in which teachers implemented dialogic reading techniques while reading emotion-laden storybooks in small groups; and the book reading control group, in which teachers read the same storybooks provided to the intervention group without using dialogic reading techniques (i.e., teachers read storybooks as they would typically read).

Descriptive Data

Teachers completed a total of 84.4% of all possible assigned readings. Tables 19 and 20 include descriptive data for storybook readings completed for classrooms and teachers in total and for experimental groups. Overall, classrooms completed a mean of 60.77 ($SD = 15.30$, range = 26-73) of 72 possible readings (36 readings per each of 2 groups of children in each classroom); and teachers completed a mean of 29.52 ($SD = 22.20$, range = 2-73) of 72 possible readings. Table 21 includes percentages of storybook reading completed by lead teachers, assistant teachers, and teaching assistants in full- and half-day classrooms. Overall, lead teachers completed approximately 73.9% of all

storybook readings, assistant teachers completed approximately 22.5% of all storybook readings, and teaching assistants completed approximately 3.6% of all storybook readings.

To maintain teacher compliance with intervention methodology and to track children's participation rates, teachers completed a brief log for each book reading (see Appendix M). Teacher reports of children's attendance in storybook readings on this log were cross referenced with a Head Start administrative staff's reports of children's Head Start programming attendance. Approximately 4% of all teachers' attendance reports were discrepant with Head Start administration's attendance reports (i.e., teachers reported that a child participated in a storybook reading on a day that administrative staff recorded the child to be absent). Because teachers sometimes completed storybook reading logs at the end of the week (rather than after each storybook reading), these errors are believed to reflect teachers' inaccurately recording children's storybook reading participation rather than inaccurately reporting storybook reading rates. That is, it is believed that teachers were more likely to inaccurately report that individual children participated in storybook readings than to falsely report that a storybook reading took place. In these cases, participation in the discrepant storybook reading was omitted from the calculation of children's total participation in intervention storybook readings. Table 22 includes descriptive data for children's Head Start attendance and intervention participation in total and for subgroups. Overall, children participated in a mean of 25.72 ($SD = 7.25$, range = 6-36) of 36 possible readings.

Following Denham and Burton (1996), the mean score for the book reading log item *How skillfully do you think you discussed emotions with children during the storybook reading?* across approximately 72 storybook readings was 3.78 ($SD = .64$, range = 3-5, $n = 27$). Additionally, the mean length of the three audiotaped storybook readings collected during the implementation of the intervention was 10.22 minutes ($SD = 5.43$, range = 2.85-25.49, $n = 22$). Mean scores for the log item and total numbers of storybook readings conducted by teachers were weakly positively correlated ($r = .18$, ns), thus indicating that each variable provided a distinct measure of intervention implementation for analysis purposes.

Children

Age and experimental group assignment. In order to detect statistically significant age differences between children in classrooms assigned to the intervention and book reading control groups, an independent samples t -test was conducted. Experimental group assignment (intervention group assignment and book reading control group assignment) was included as the grouping variable; and age was included as the dependent variable. Results revealed no statistically significant differences in age between the intervention and book reading control groups ($t = .40$, ns); thus, analyses assessing intervention efficacy did not control for age.

Gender and experimental group assignment. In order to detect statistically significant gender differences between children in classrooms assigned to the intervention and book reading control groups, a two-way chi square test was conducted including experimental group assignment (two levels: intervention group assignment or book

reading control group assignment) and gender. Results indicated that there was no relationship between gender and experimental group assignment ($\chi^2 (1) = .28, ns$); thus, analyses assessing intervention efficacy did not control for gender.

Pre-intervention scores and classroom assignment. In order to determine whether there were statistically significant initial differences in age, vocabulary skills, emotion knowledge, and social skills between children in half- and full-day classrooms, two independent samples *t*-tests including classroom assignment (half-day or full-day classroom assignment) as the grouping variable and either children's age or pre-intervention TOPEL Definitional Vocabulary scores as dependent variables, and two multiple analysis of variance (MANOVA) tests including classroom assignment (two levels: half-day or full-day classroom assignment) as the independent variable and children's pre-intervention AKT scores or pre-intervention MPAC scores as dependent variables were conducted.

An independent samples *t*-test including classroom assignment as the grouping variable and children's age as the dependent variable revealed no statistically significant differences in age between children in half- and full-day classrooms ($t = -.81, ns$).

An independent samples *t*-test including classroom assignment as the grouping variable and children's pre-intervention TOPEL Definitional Vocabulary scores as the dependent variable revealed no statistically significant differences in definitional vocabulary between children in half- and full-day classrooms ($t = -.81, ns$).

A MANOVA including classroom assignment as the independent variable and children's pre-intervention AKT affective labeling and affective perspective taking scores

as the dependent variables revealed no statistically significant differences in AKT affective labeling ($F(1, 112) = .09, ns$) and affective perspective taking ($F(1, 112) = .37, ns$) scores between children in half- and full-day classrooms.

A MANOVA including classroom assignment as the independent variable and children's pre-intervention MPAC Productive, Negative/Frustrated, and Positive aggregate scores as the dependent variables revealed no statistically significant differences in MPAC Productive ($F(1, 112) = 1.59, ns$), Negative/Frustrated ($F(1, 112) = .95, ns$), and Positive ($F(1, 112) = .29, ns$) aggregate scores between children in half- and full-day classrooms. Thus, analyses assessing intervention efficacy did not control for classroom assignment.

Pre-intervention scores and experimental group assignment. In order to determine whether there were statistically significant initial differences in vocabulary skills, emotion knowledge, and social skills between children in classrooms assigned to the intervention and book reading control groups, an independent samples t -test including experimental group assignment (intervention group assignment and book reading control group assignment) as the grouping variable and children's pre-intervention TOPEL Definitional Vocabulary scores as the dependent variable, and two MANOVA tests including experimental group assignment (two levels: intervention group assignment or book reading control group assignment) as the independent variable and children's pre-intervention AKT scores or pre-intervention MPAC scores as dependent variables were conducted.

An independent samples *t*-test including experimental group assignment as the grouping variable and children's pre-intervention TOPEL Definitional Vocabulary scores as the dependent variable revealed no statistically significant differences in vocabulary skills between children in classrooms assigned to the intervention and book reading control groups ($t = 1.22, ns$).

A MANOVA including experimental group assignment as the independent variable and children's pre-intervention AKT affective labeling and affective perspective taking scores as the dependent variables revealed that children in classrooms assigned to the intervention group had higher AKT affective labeling ($M = 14.37$) and affective perspective taking ($M = 36.74$) scores than children in classrooms assigned to the book reading control group ($M = 13.52, F(1, 112) = 4.90, p < .05$ for affective labeling, $M = 34.71, F(1, 112) = 5.03, p < .05$ for affective perspective taking).

A MANOVA including experimental group assignment as the independent variable and children's pre-intervention MPAC Productive, Negative/Frustrated, and Positive aggregate scores as the dependent variables revealed statistically significant differences in children's pre-intervention MPAC Productive aggregate scores ($F(1, 112) = 4.83, p < .05$). Children in classrooms assigned to the intervention group ($M = 6.65$) had significantly higher scores than children in classrooms assigned to the book reading control ($M = 6.35$) group. Differences in children's pre-intervention MPAC Positive aggregate scores approached statistical significance ($F(1, 112) = 3.45, p < .10$), with the intervention group ($M = 7.39$) again demonstrating higher scores than the book reading control group ($M = 6.62$).

Teachers

Teacher qualifications and classroom assignment. In order to determine whether there were statistically significant initial differences in the continuous variables age, Pueblo Head Start experience, total Head Start experience, and total experience in the field of early childhood education between teachers in half- and full-day classrooms, one independent samples *t*-test including classroom assignment (half-day or full-day classroom assignment) as the grouping variable and teachers' age as a dependent variable and one MANOVA test including classroom assignment (two levels: half-day or full-day classroom assignment) as the independent variable and teachers' Pueblo Head Start experience, total Head Start experience, or total experience in the field of early childhood education as dependent variables were conducted.

An independent samples *t*-test including classroom assignment as the grouping variable and teachers' age as the dependent variable revealed no statistically significant differences in age between teachers in half- and full-day classrooms ($t = .65, ns$).

A MANOVA including classroom assignment as the independent variable and teachers' Pueblo Head Start experience, total Head Start experience, and total experience in the field of early childhood education as the dependent variables revealed no statistically significant differences in Pueblo Head Start experience ($F(1, 25) = .21, ns$), total Head Start experience ($F(1, 25) = .15, ns$), and total experience in the field of early childhood education ($F(1, 25) = .18, ns$) between teachers in half- and full-day classrooms.

In order to determine whether there were statistically significant initial differences in the categorical variables ethnicity, languages spoken, education attained, and degree pursued between teachers in half- and full-day classrooms, four two-way chi square tests were conducted including classroom assignment (two levels: half-day or full-day classroom assignment) and either ethnicity, languages spoken, education attained, or degree pursued.

Results indicated that there was no relationship between ethnicity and classroom assignment ($\chi^2 (2) = 1.15, ns$), languages spoken and classroom assignment ($\chi^2 (2) = 1.66, ns$), education attained and classroom assignment ($\chi^2 (6) = 4.57, ns$), and degree pursued and classroom assignment ($\chi^2 (3) = 1.25, ns$).

Teacher qualifications and experimental group assignment. In order to determine whether there were statistically significant initial differences in the continuous variables age, Pueblo Head Start experience, total Head Start experience, and total experience in the field of early childhood education between teachers in classrooms assigned to the intervention and book reading control groups, one independent samples *t*-test including experimental group assignment (intervention group assignment and book reading control group assignment) as the grouping variable and teachers' age as a dependent variable and one MANOVA test including experimental group assignment (two levels: intervention group assignment or book reading control group assignment) as the independent variable and teachers' Pueblo Head Start experience, total Head Start experience, or total

experience in the field of early childhood education as dependent variables were conducted.

An independent samples *t*-test including experimental group assignment as the grouping variable and teachers' age as the dependent variable revealed no statistically significant differences in age between teachers in half- and full-day classrooms ($t = 1.02$, *ns*).

A MANOVA including experimental group assignment as the independent variable and teachers' Pueblo Head Start experience, total Head Start experience, and total experience in the field of early childhood education as the dependent variables revealed no statistically significant differences in Pueblo Head Start experience ($F(1, 25) = .02$, *ns*), total Head Start experience ($F(1, 25) = .12$, *ns*), and total experience in the field of early childhood education ($F(1, 25) = .00$, *ns*) between teachers in classrooms assigned to the intervention and book reading control groups.

In order to determine whether there were statistically significant initial differences in the categorical variables ethnicity, languages spoken, education attained, and degree pursued between teachers in classrooms assigned to the intervention and book reading control groups, four two-way chi square tests were conducted including experimental group assignment (two levels: intervention group assignment or book reading control group assignment) and either ethnicity, languages spoken, education attained, or degree pursued.

Results indicated that there was no relationship between ethnicity and experimental group assignment ($\chi^2 (2) = .96, ns$), languages spoken and experimental group assignment ($\chi^2 (2) = 2.38, ns$), education attained and experimental group assignment ($\chi^2 (6) = 7.24, ns$), and degree pursued and experimental group assignment ($\chi^2 (3) = .96, ns$).

Results revealed no statistically significant differences between teacher qualifications and classroom assignment nor between teacher qualifications and experimental group assignment. Thus, analyses assessing intervention efficacy did not control for teacher qualifications.

Fidelity of Intervention Implementation

Teacher Compliance with Intervention Methods

In order to determine whether and to what extent teachers' implementation of intervention methods is associated with change in children's literacy skills, emotion knowledge, and social skills, a total of eight hierarchical regression analyses were conducted. To analyze group assignment in regression analyses, an effect code was computed. The intervention group was assigned a value of 1 on the effect-coded variable, thus designating the intervention classrooms as the reference group. The book reading control group was assigned a value of -1 on the effect-coded variable, thus designating the book reading control group as the base group. Based on the effect coding scheme employed, regression coefficients represented comparisons of the mean of the intervention group with the unweighted mean (Cohen, Cohen, West, & Aiken, 2003).

Analyses included the following independent variables in the following sequential steps: (1) children's pre-intervention TOPEL Definitional Vocabulary scores, pre-intervention AKT scores, or pre-intervention MPAC scores; and the effect code for group assignment, and (2) mean scores for the book reading log item (see Denham & Burton, 1996) for each classroom, the total number of storybook readings in which children participated, and the mean length of audiotaped storybook readings for each classroom. Children's post-intervention TOPEL Definitional Vocabulary scores, post-intervention AKT scores, or post-intervention MPAC scores were included as dependent variables.

For classrooms in which more than one teacher completed intervention storybook readings, weighted mean scores for the book reading log item and audiotaped storybook reading length were calculated. The total number of storybook readings completed for each classroom teacher was first multiplied by each teacher's mean log item score and mean recorded storybook reading length. Totals for each variable were summed and then divided by the total number of storybook readings completed in each classroom.

Literacy skills. To test the effects of teachers' implementation of intervention methods in enhancing children's vocabulary skills, one hierarchical regression analysis including the following independent variables in the following sequential steps: (1) children's pre-intervention TOPEL Definitional Vocabulary scores and the effect code for group assignment, and (2) mean scores for the book reading log item for each classroom, the total number of storybook readings in which children participated, and the mean length of audiotaped storybook readings for each classroom. Children's post-

intervention TOPEL Definitional Vocabulary scores were included as the dependent variable.

Results revealed that teachers' mean scores for the book reading log, children's frequency of participation in storybook readings, and mean length of audiotaped storybook readings together predicted post-intervention TOPEL Definitional Vocabulary scores over the effects of pre-intervention TOPEL Definitional Vocabulary scores and the effect code for experimental group assignment ($\Delta R^2_{\text{step two}} = .07, p < .005$; see Table 23). Teachers' mean scores for the book reading log item positively predicted post-intervention TOPEL Definitional Vocabulary scores after partialing the effects of pre-intervention TOPEL Definitional Vocabulary scores and the effect code for experimental group assignment ($t = 2.22, p < .05$), indicating that children's post-intervention TOPEL Definitional Vocabulary scores increased as teachers' skills in discussing emotional storybook content increased, even given the effects of pre-intervention TOPEL Definitional Vocabulary scores and the effect code for experimental group assignment. The mean length of audiotaped storybook readings approached statistical significance in predicting post-intervention TOPEL Definitional Vocabulary scores after partialing the effects of pre-intervention TOPEL Definitional Vocabulary scores and the effect code for experimental group assignment ($t = 1.97, p < .10$), indicating that children's post-intervention TOPEL Definitional Vocabulary scores increased as the mean length of audiotaped storybook readings increased, even given the effects of pre-intervention TOPEL Definitional Vocabulary scores and the effect code for experimental group assignment.

Emotion knowledge. To test the effects of teachers' implementation of intervention methods in enhancing children's emotion knowledge, two hierarchical regression analyses were conducted, each including the following independent variables in the following sequential steps: (1) children's pre-intervention AKT affective labeling scores or pre-intervention AKT affective perspective taking scores; and the effect code for group assignment, and (2) mean scores for the book reading log item for each classroom, the total number of storybook readings in which children participated, and the mean length of audiotaped storybook readings for each classroom. Children's post-intervention AKT affective labeling or affective perspective taking scores were included as the dependent variable.

Regarding affective labeling, results revealed that neither teachers' mean scores for the book reading log item, nor children's participation in intervention storybook readings, nor the mean length of audiotaped storybook readings predicted post-intervention AKT affective labeling scores after partialing the effects of pre-intervention AKT affective labeling scores and the effect code for experimental group assignment ($\Delta R^2_{\text{step two}} = .01, ns$).

Regarding affective perspective taking, results revealed that teachers' mean scores for the book reading log, children's participation in intervention storybook readings, and mean length of audiotaped storybook readings together predicted post-intervention AKT affective perspective taking scores after partialing the effects of pre-intervention AKT affective perspective taking scores and the effect code for experimental group assignment ($\Delta R^2_{\text{step two}} = .07, p < .05$; see Table 24). Children's participation in intervention

storybook readings positively predicted post-intervention AKT affective perspective taking scores after partialing the effects of pre-intervention AKT affective perspective taking scores and the effect code for experimental group assignment ($t = 2.34, p < .05$), indicating that children's post-intervention AKT affective perspective taking scores increased as participation in intervention storybook readings increased, even given the effects of pre-intervention AKT affective perspective taking scores and the effect code for experimental group assignment. Neither teachers' mean scores for the book reading log item nor the mean length of audiotaped storybook readings predicted post-intervention AKT affective perspective taking scores after partialing the effects of pre-intervention AKT affective perspective taking scores and the effect code for experimental group assignment.

Results also revealed findings for one additional variable included in the first step of the analysis. Children's pre-intervention AKT perspective taking scores positively predicted post-intervention AKT affective perspective taking scores ($t = 2.85, p < .005$), indicating that children's post-intervention AKT affective perspective taking scores increased as pre-intervention AKT affective perspective taking scores increased.

Social skills. To test the effects of teachers' implementation of intervention methods in enhancing children's social skills, three hierarchical regression analyses were conducted, each including the following independent variables in the following sequential steps: (1) children's pre-intervention MPAC Productive, pre-intervention MPAC Negative/Frustrated, or pre-intervention MPAC Positive aggregate scores; and the effect code for group assignment, and (2) mean scores for the book reading log item for

each classroom, the total number of storybook readings in which children participated, and the mean length of audiotaped storybook readings for each classroom. Children's post-intervention MPAC Productive, Negative/Frustrated, or Positive aggregate scores were included as the dependent variable.

Regarding productiveness, results revealed that teachers' mean scores for the book reading log, children's participation in intervention storybook readings, and mean length of audiotaped storybook readings together predicted post-intervention MPAC Productive aggregate scores after partialing the effects of pre-intervention MPAC Productive aggregate scores and the effect code for experimental group assignment ($\Delta R^2_{\text{step two}} = .08, p < .05$; see Table 25). The mean length of audiotaped storybook readings negatively predicted post-intervention MPAC Productive aggregate scores after partialing the effects of pre-intervention MPAC Productive aggregate scores and the effect code for experimental group assignment ($t = -2.95, p < .005$), indicating that children were more productive in the classroom environment when teachers' mean audiotaped storybook readings were shorter, even given the effects of pre-intervention MPAC Productive aggregate scores and the effect code for experimental group assignment. Neither teachers' mean scores for the book reading log item nor children's participation in intervention storybook readings predicted post-intervention AKT affective perspective taking scores after partialing the effects of pre-intervention AKT affective perspective taking scores and the effect code for experimental group assignment.

Results also revealed findings for one additional variable included in the first step of the analysis. The effect code positively predicted post-intervention MPAC Productive aggregate scores ($t = 2.52, p < .05$), indicating that children assigned to the intervention group had higher post-intervention MPAC Productive aggregate scores than children assigned to the book reading control group.

Regarding negativity and frustration, results revealed that neither teachers' mean scores for the book reading log item, nor children's participation in intervention storybook readings, nor the mean length of audiotaped storybook readings predicted post-intervention MPAC Negative/Frustrated aggregate scores after partialing the effects of pre-intervention MPAC Negative/Frustrated aggregate scores and the effect code for experimental group assignment ($\Delta R^2_{\text{step two}} = .01, ns$; see Table 26).

Results revealed findings for one additional variable included in the first step of the analysis. Children's pre-intervention MPAC Negative/Frustrated aggregate scores positively predicted post-intervention MPAC Negative/Frustrated aggregate scores ($t = 2.59, p < .05$), indicating that children's post-intervention Negative/Frustrated aggregate scores increased as pre-intervention Negative/Frustrated aggregate scores increased.

Regarding positivity, results revealed that neither teachers' mean scores for the book reading log item, nor children's participation in intervention storybook readings, nor the mean length of audiotaped storybook readings predicted post-intervention MPAC Positive aggregate scores after partialing the effects of pre-intervention MPAC Productiveness/Regulation aggregate scores and the effect code for experimental group assignment ($\Delta R^2_{\text{step two}} = .02, ns$).

Table 27 summarizes statistically significant findings for teacher compliance with intervention methods. Mean scores for the book reading log item emerged as significant predictors of children's post-intervention TOPEL Definitional Vocabulary scores, suggesting that teachers' emotional discussion skills influenced children's vocabulary skills regardless of experimental group assignment and pre-intervention scores. The frequency of children's storybook reading participation significantly predicted only children's post-intervention AKT affective perspective taking scores, indicating that mere frequency to emotion-laden discussion influenced children's emotion knowledge. Finally, mean length of audiotaped storybook readings, regardless of experimental group assignment and pre-intervention scores, and also assignment to the book reading control group negatively predicted post-intervention MPAC Productive aggregate scores, indicating that shorter storybook readings and participation in the intervention group lead to children's showing greater productiveness in the classroom context.

Teacher Attitudes Toward Intervention Implementation

To assess teacher attitudes toward the implementation of the intervention, a total of six variables were computed. Five variables represented each TASEL subscale (i.e., Program Effectiveness, Competence, Time Constraints, Training, and Administrative Support), and the sixth variable represented a composite of all five TASEL subscales.

Table 28 includes descriptive statistics for the TASEL subscale and aggregate scores. Mean scores for the Program Effectiveness ($M = 22.56$), Competence ($M = 22.63$), Training ($M = 22.15$, possible score ranges = 4-24), and Administrative Support subscales ($M = 28.81$, possible score range = 5-30) were near the high end of possible

subscale ranges, indicating that teachers believed that the intervention was effective and beneficial for children's social-emotional development, that teachers were confident in their abilities to deliver program lessons, that teachers positively regarded the training they received for program implementation, and that teachers felt supported by administrative leaders during program implementation. Mean scores for the Time Constraints ($M = 9.56$) subscale were near the low end of possible score ranges (8-13), indicating that teachers had sufficient time to deliver program lessons. To assess overall teacher attitudes toward intervention implementation, one variable representing a composite of all five TASEL subscales was computed by summing scores for each TASEL subscale. The mean composite score ($M = 105.70$) was near the high end of possible score ranges (37-117), indicating that teachers generally held favorable attitudes toward intervention implementation.

Teacher feedback was also sought regarding intervention implementation. Teachers reported that non-participating children often complained about being excluded from storybook reading. Toward the end of intervention implementation, non-participating children were allowed to participate in storybook readings at teachers' discretion, provided that groups did not exceed 5 children. Teachers also felt that some storybooks, and namely *Chrysanthemum*, were too long and that reading each storybook three times within one week was too often, as evidenced by children's complaints (e.g., "We're reading this one *again*?") and distractibility during the final reading of some storybooks. During one follow-up meeting, teachers noted that the lead researcher's demonstrating a reading of an altered storybook to the group (e.g., asking questions

added to individual pages and explaining ways to implement each part of the PEER sequence while reading a few book pages) would have been helpful. A demonstration, along with an opportunity for hands-on practice in reading altered storybooks, were included in the training meeting agenda for the teachers assigned to the intervention group, but there was not enough time during the meeting to complete these tasks. Teachers reported that questions added to individual storybook pages did not distract children from the story participation during readings. Finally, teachers also agreed that having volunteers in the classroom would help them to implement intervention methods.

Research Hypotheses Testing

Intervention Effects on Emergent Literacy Skills, Emotion Knowledge, and Social Skills

In order to determine whether and to what extent participation in the intervention was associated with change in children's literacy skills, emotion knowledge, and social skills, a series of hierarchical regression analyses were conducted. All independent variables were centered before interaction terms were calculated, and centered independent variables and interaction terms including centered independent variables were included in all analyses. Centering continuous variables in regression analyses including an interaction term does not affect the estimate of the highest order interaction in the regression equation. Rather, centering creates two interpretations of each first-order regression coefficient: effects of each variable at the sample's mean and average effects of each variable across the range of the other variables. Centering continuous variables also eliminates nonessential multicollinearity between first-order regression coefficients and their interactions (Cohen, Cohen, West, & Aiken, 2003). For reading ease, centered

independent variables will simply be referred to as independent variables throughout the remaining discussion of the results. Dependent variables were not centered before inclusion in analyses. When a dependent variable is in its original scale, predicted scores are also in the units of the original scale and thus have the same arithmetic mean as the observed criterion scores (Cohen et al., 2003).

Hierarchical regression analyses included the following independent variables in the following sequential steps: (1) children's pre-intervention scores and the effect code for group assignment; and (2) a variable representing the interactions of the effect code for group assignment and children's pre-intervention scores. Children's post-intervention scores were included as dependent variables for all analyses.

Literacy skills. To test the effects of the intervention in enhancing children's vocabulary skills, one hierarchical regression analysis included the following independent variables in the following sequential steps: (1) children's pre-intervention TOPEL Definitional Vocabulary scores and the effect code for group assignment; and (2) variables representing the interactions of children's pre-intervention scores and the effect code for experimental group assignment. Children's post-intervention TOPEL Definitional Vocabulary scores were included as the dependent variable.

Results revealed that the interactions of the effect code and pre-intervention TOPEL Definitional Vocabulary scores together did not predict post-intervention TOPEL Definitional Vocabulary scores after partialing the effects of pre-intervention TOPEL Definitional Vocabulary scores and the effect code ($\Delta R^2_{\text{step two}} = .00, ns$). Only pre-intervention TOPEL Definitional Vocabulary scores significantly predicted post-

intervention TOPEL Definitional Vocabulary scores, indicating that post-intervention scores increased as pre-intervention scores increased ($\beta = .58, t = 7.11, p < .001$; see Table 29).

Emotion knowledge. To test the effects of the intervention in enhancing children's emotion knowledge, two hierarchical regression analyses were conducted, each including the following independent variables in the following sequential steps: (1) children's pre-intervention AKT affective labeling scores or pre-intervention AKT affective perspective taking scores and the effect code for experimental group assignment; and (2) variables representing the interactions of children's pre-intervention scores and the effect code for experimental group assignment. Children's post-intervention AKT affective labeling or affective perspective taking scores were included as the dependent variable.

Regarding emotion labeling, results revealed that interactions of the effect code and pre-intervention AKT affective labeling scores together did not predict post-intervention AKT affective labeling scores after partialing the effects of pre-intervention AKT affective labeling scores and the effect code ($\Delta R^2_{\text{step two}} = .01, ns$). Only pre-intervention AKT affective labeling scores significantly predicted post-intervention AKT affective labeling scores, indicating that post-intervention scores increased as pre-intervention scores increased ($\beta = .40, t(113) = 3.90, p < .001$; see Table 30).

Regarding affective perspective taking, results revealed that interactions of the effect code and pre-intervention AKT affective perspective taking scores together did not predict post-intervention AKT affective perspective taking scores after partialing the effects of pre-intervention AKT affective perspective taking scores and the effect code

($\Delta R^2_{\text{step two}} = .01, ns$). Only pre-intervention AKT affective perspective taking scores significantly predicted post-intervention AKT affective perspective taking scores, indicating that post-intervention scores increased as pre-intervention scores increased ($\beta = .37, t(113) = 3.59, p < .001$; see Table 31).

Social skills. To test the effects of the intervention in enhancing children's social skills, three hierarchical regression analyses were conducted, each including the following independent variables in the following sequential steps: (1) children's pre-intervention MPAC Productive, Negative/Frustrated, or Positive aggregate scores and the effect code for experimental group assignment; and (2) variables representing the interactions of children's pre-intervention scores and the effect code for experimental group assignment. Children's post-intervention MPAC Productive, Negative/Frustrated, or Positive aggregate scores were included as the dependent variables.

Regarding productiveness, results revealed that interactions of the effect code and pre-intervention MPAC Productive aggregate scores together did not predict post-intervention MPAC Productive aggregate scores after partialing the effects of pre-intervention MPAC Productive aggregate scores and the effect code ($\Delta R^2_{\text{step two}} = .00, ns$).

Regarding negativity and frustration, results revealed that interactions of the effect code and pre-intervention MPAC Negative/Frustrated aggregate scores together did not predict post-intervention MPAC Negative/Frustrated aggregate scores after partialing the effects of pre-intervention MPAC Negative/Frustrated aggregate scores and the effect code ($\Delta R^2_{\text{step two}} = .00, ns$). Only pre-intervention MPAC Negative/Frustrated aggregate scores significantly predicted post-intervention MPAC Negative/Frustrated

aggregate scores, indicating that post-intervention scores increased as pre-intervention scores increased ($\beta = .25, t(113) = 2.58, p < .05$; see Table 32).

Regarding positivity, results revealed that interactions of the effect code and pre-intervention MPAC Positive aggregate scores together did not predict post-intervention MPAC Positive aggregate scores after partialing the effects of pre-intervention MPAC Positive aggregate scores and the effect code ($\Delta R^2_{\text{step two}} = .01, ns$).

Classroom and Experimental Group Assignment

Because both the intervention and book reading control groups included teachers and children assigned to both full- and half-day classrooms, the final research question included slightly different independent variables than regression analyses in order to investigate differences between experimental group assignment and Head Start programming dosage. In order to determine whether there were statistically significant differences in vocabulary skills, emotion knowledge, and social skills between children in half- and full-day classrooms assigned to the intervention and book reading control groups, an analysis of covariance (ANCOVA) test and two multivariate analysis of covariance (MANCOVA) tests were conducted. Classroom assignment (two levels: half- or full-day classroom) and experimental group assignment (two levels: intervention group assignment or book reading control group assignment) were included as independent variables; children's Head Start attendance rates during the implementation of the intervention was included as the covariate; and children's post-intervention TOPEL Definitional Vocabulary scores, post-intervention AKT scores, or post-intervention MPAC scores were included as dependent variables.

This inclusion of a covariate adjusts the dependent variables to remove the effects of the uncontrolled source of variation represented by children's attendance rates during intervention implementation. ANCOVA and MANCOVA analyses, then, reduce error variance (and thus increase power) and reduce bias caused by differences among Head Start classrooms not attributable to the manipulation of the independent variables (Kirk, 1995).

Literacy skills. To determine whether there are statistically significant differences in vocabulary skills between children in half- and full-day classrooms assigned to the intervention and book reading control groups, an ANCOVA included classroom and experimental group assignment as the independent variables, children's Head Start attendance rates during the implementation of the intervention as the covariate, and post-intervention TOPEL Definitional Vocabulary scores as the dependent variable.

Results are presented in Table 33 and revealed no statistically significant differences for the interaction of classroom and experimental group assignment ($F(1, 109) = 0.03, ns$), nor for the main effect of classroom assignment ($F(1, 109) = 0.07, ns$). Results did reveal a main effect for experimental group assignment. Children assigned to the intervention group ($M = 53.88$) had significantly higher post-intervention TOPEL Definitional Vocabulary scores than children assigned to the book reading control group ($M = 51.42, p < .05$) after adjusting for Head Start attendance rates during the implementation of intervention methods ($F(1, 109) = 4.06, \eta^2 = .04, p < .05$).

Emotion knowledge. To determine whether there were statistically significant differences in emotion knowledge between children in half- and full-day classrooms

assigned to the intervention and book reading control groups, a MANCOVA included classroom and experimental group assignment as the independent variables, children's Head Start attendance rates during the implementation of the intervention as the covariate, and post-intervention AKT affective labeling and affective perspective taking scores as the dependent variables.

Results for emotion knowledge are presented in Table 34. Results for AKT affective labeling scores revealed no statistically significant differences for the interaction of classroom and experimental group assignment ($F(1, 109) = 0.00, ns$), nor for the main effects of classroom assignment ($F(1, 109) = 0.01, ns$) or experimental group assignment ($F(1, 109) = 1.02, ns$).

Results for AKT affective perspective taking scores revealed a statistically significant interaction of classroom and experimental group assignment ($F(1, 109) = 5.35, \eta^2 = .05, p < .05$) after partialing the effects of Head Start attendance rates during the implementation of the intervention. An interaction plot was generated in order to examine group differences in post-intervention AKT affective perspective taking scores. The plot (see Appendix P) indicated that post-intervention AKT affective perspective taking scores were higher for children in half-day classrooms assigned to the intervention group ($M = 39.13$) when compared to children in full-day classrooms assigned to the intervention group ($M = 35.87$). The plot also illustrated similar affective perspective taking skills of children in half- ($M = 38.31$) and full-day (37.53) classrooms assigned to the book reading control group.

Results also revealed a main effect for classroom assignment. Children in half-day classrooms ($M = 38.40$) had significantly higher post-intervention AKT affective perspective taking scores than children in full-day classrooms ($M = 37.38$) after adjusting for Head Start attendance rates during the implementation of intervention methods ($F(1, 109) = 6.72, \eta^2 = .06, p < .05$). Results revealed no main effect for experimental group assignment ($F(1, 109) = 0.59, ns$).

Social skills. To determine whether there were statistically significant differences in social skills between children in half- and full-day classrooms assigned to the intervention and book reading control groups, a MANCOVA included classroom and experimental group assignment as the independent variables, children's Head Start attendance rates during the implementation of the intervention as the covariate, and post-intervention MPAC Productive, Negative/Frustrated, and Positive aggregate scores as the dependent variables.

Results for social skills are presented in Table 35. Results for MPAC Productive aggregate scores revealed no statistically significant differences for the interaction of classroom and experimental group assignment ($F(1, 109) = .04, ns$). Results revealed a main effect for experimental group assignment. Children in classrooms assigned to the intervention group ($M = 6.68$) had significantly higher post-intervention MPAC Productive aggregate scores than children in classrooms assigned to the book reading control group ($M = 6.35$) after adjusting for Head Start attendance rates during the implementation of intervention methods ($F(1, 109) = 5.14, \eta^2 = .05, p < .05$). Results revealed no main effect for classroom assignment ($F(1, 109) = 0.06, ns$).

Results for MPAC Negative/Frustrated aggregate scores revealed no statistically significant differences for the interaction of classroom and experimental group assignment ($F(1, 109) = .03, ns$), nor for the main effects of classroom assignment ($F(1, 109) = 1.79, ns$) or experimental group assignment ($F(1, 109) = .04, ns$).

Results for MPAC Positive aggregate scores revealed no statistically significant differences for the interaction of classroom and experimental group assignment ($F(1, 109) = .53, ns$), nor for the main effects of classroom assignment ($F(1, 109) = .02, ns$) or experimental group assignment ($F(1, 109) = 2.61, ns$).

Findings from an additional set of exploratory analyses including the full-day classroom at the smallest site as a no book reading control group revealed different results than those reported for intervention effects on children's emergent literacy and social-emotional skills but were not reported for this study. Although merely approaching statistical significance, results suggested that the use of dialogic reading techniques while reading emotion-laden storybooks simultaneously enhanced children's literacy and social-emotional skills. Participation in the intervention group predicted positive outcomes (1) for children's vocabulary skills when compared to participation in the book reading control group and the no book reading control group (when children initially demonstrated poorer vocabulary skills) and (2) for more emotionally skilled children's affective perspective taking skills when compared to participation in the book reading control group. As previously mentioned, these results were not included in the current study due to the limitations affiliated with including this group in analyses (e.g., small sample size, use of a curriculum other than the curriculum in the two larger sites).

5. Discussion

The present study assessed the efficacy of a dialogic reading intervention with emotion-laden storybooks aiming to simultaneously enhance children's emergent literacy and social-emotional skills. Currently, only three programs, the 4Rs: Reading, Writing, Respect, and Resolution intervention (Morningside Center for Teaching Social Responsibility, n.d.); the PEEP intervention (Evangelou & Sylva, 2007); and the Woven Word program (Committee for Children, 2006), specifically aim to enhance both language and social emotional skills simultaneously. Further, no previous intervention has merged dialogic reading techniques with social-emotional content (J. Fischel, personal communication, September 27, 2007; G. Whitehurst, personal communication, May 1, 2007; A. Zevenbergen, personal communication, October 1, 2007). Thus, the current research aimed to achieve the goals of the Woven Word program and the 4Rs and PEEP intervention programs while employing dialogic reading techniques in order to minimize required intervention resources and maximizing preschool children's developmental outcomes.

Fidelity of Intervention Implementation

Teacher Compliance with Intervention Methods

Teachers' skills in discussing emotions with children, the frequency of children's storybook reading participation, and duration of storybook readings emerged as

significant predictors of children's vocabulary skills, emotion knowledge, and productiveness in the classroom irrespective of children's pre-intervention scores and experimental group assignment. Results revealed that distinct facets of the storybook reading context influenced children's outcomes.

Teachers' skills in discussing emotions with children significantly predicted children's post-intervention vocabulary skills, suggesting that teachers' reading skills, beyond children's mere exposure to literacy materials and regardless of storybook content, enhanced children's emergent literacy. Previous research has shown that mothers' engaging children in high-quality literacy interactions, including the use of interaction and teaching children during book reading, was related to children's expressive vocabularies (Britto, 2001). Further, Aydogan (2004; as cited in Farran et al. 2006) reported that children listened to and talked more with teachers who were characterized as warmer (i.e., demonstrated affection and care for children, demonstrated interest in children's activities, created a positive social environment, attempted to enhance children's self-esteem and confidence), used more responsive language, and introduced new vocabulary to children during instruction. Mirroring these positive social-emotional qualities of the classroom environment, the emotional nature of storybook content may have prompted teachers to affectively respond to children's questions and comments about the emotions depicted in the storybooks; in turn, children may have been more engaged in storybook discussions.

Regarding emotion knowledge, children's storybook reading participation, but neither mean scores for the book reading log item nor mean storybook reading length,

positively predicted children's post-intervention affective perspective taking after partialing the effects of experimental group assignment and initial affective perspective taking. It was children's frequent exposure to discussions of emotion-laden storybook content, rather than teachers' storybook reading skills, that enhanced affective perspective taking. Perhaps demographics of the sample can explain this finding. Given that socio-economically disadvantaged children are at risk for poor social-emotional functioning (McLoyd, 1998) and have been reported to demonstrate frequent negative social-emotional behaviors within the classroom context (Miller et al., 2004), mere exposure to emotional storybook content, regardless of the depth of storybook discussion, may provide sufficient stimulation to enhance emotion knowledge within socio-economically disadvantaged populations. The exposure to emotional storybook content, whether or not teachers discussed the book with children, may have enhanced children's affective perspective taking.

Although it might be expected that the same variables would predict both emotion knowledge and social skills, children's storybook reading participation predicted emotion knowledge; and the mean duration of audiotaped storybook readings predicted productiveness in the classroom. Whereas the increased frequency of children's exposure to emotion-laden storybook discussions enhanced emotion knowledge, it was shorter storybook reading duration that predicted increased productiveness within the classroom context.

Perhaps children's activity level moderates the relation between storybook reading length and productiveness, such that more hyperactive children are more focused

and independent in participating in classroom activities when storybook readings are shorter because they are more focused and engaged in storybook reading discussions. On the contrary, more hyperactive children may have become easily bored during lengthy storybook readings, thus rendering them restless during classroom activities. Collectively, findings for emotion knowledge and social skills suggest that engaging children in frequent but brief discussions of emotion-laden storybooks may best reinforce storybook lessons and thus best enhance children's affective perspective taking skills and classroom productiveness.

Results from analyses assessing teacher compliance with intervention methods did not provide evidence of intervention efficacy, but they did suggest that teachers' reading and discussing emotion-laden storybooks with children can simultaneously enhance literacy and social-emotional skills.

Teacher Attitudes Toward Intervention Implementation

Teachers demonstrated positive attitudes toward intervention implementation both quantitatively and qualitatively. The TASEL determined that teachers generally held favorable attitudes toward intervention implementation. More specifically, teachers positively regarded the training they received for program implementation, were confident in their abilities to deliver program lessons, had sufficient time to deliver program lessons, felt supported by administrative leaders during program implementation, and, perhaps most importantly, believed that the intervention was effective and beneficial for children's social-emotional development. Because teachers reported such strong positivity toward intervention implementation, social desirability

may have been at work, particularly because the lead researcher worked very closely with all teachers throughout the implementation of the intervention. Teachers were encouraged to be honest in completing the TASEL and were assured that any constructive criticism would help improve future intervention efforts, but they may still have felt the pressures of social desirability when responding.

In addition to quantitative evidence, teachers also provided qualitative evidence supporting intervention implementation during informal debriefing meetings. Generally, teachers felt that reading each storybook three times within one week was too often and also that having regular volunteers in the classroom to assist the other teacher(s) with activities including non-participating children would help them to better implement intervention methods. Still, teachers were supportive of the intervention and believed it useful in enhancing their children's development.

Because teachers play a significant role in administering intervention methods, it is imperative that they believe the intervention effective and feel that they have the necessary resources in order to implement intervention methods. Both the quantitative and qualitative research findings provide evidence that teachers supported the implementation of the current intervention, but the potential effects of social desirability on teacher reports in this study should not be underestimated. Although teachers reportedly supported the intervention, means of improving intervention methods should continually be sought, as should means of obtaining unbiased reporting from teachers.

Effects of Intervention Implementation

Intervention Effects on Emergent Literacy Skills, Emotion Knowledge, and Social Skills

Regression-based analyses were employed in order to assess effects of intervention implementation. Findings did not support intervention effectiveness for enhancing children's emergent literacy skills, emotion knowledge, or social skills. Three possible explanations may account for this lack of findings. First, it may be that the use of dialogic reading techniques while reading emotion-laden storybooks, that is, the questions added to individual storybook pages in the books provided to teachers assigned to the intervention group, was ineffective in enhancing children's emergent literacy skills, emotion knowledge, and social skills. Although research methods were theoretically (Denham & Auerbach, 1995; Garner et al., 1997; Gottman et al., 1997) and empirically supported (Whitehurst et al., 1994, 1999; Zevenbergen et al., 2003), this study was unlike previous research in that no previous intervention has merged dialogic reading techniques with social-emotional content (J. Fischel, personal communication, September 27, 2007; G. Whitehurst, personal communication, May 1, 2007; A. Zevenbergen, personal communication, October 1, 2007). The specific research methods employed may have simply missed the mark.

Alternatively, the within- and between-classroom variability with which intervention methods were implemented may have contributed to the ineffectiveness of intervention methods in enhancing children emergent literacy skills, emotion knowledge, and social skills. Intervention methods were implemented with variability both within and between classrooms. Because participating classrooms operated on both full- and half-

day schedules and because teachers were allowed to read storybooks whenever and wherever convenient in order to accommodate established classroom routines, the times and locations (i.e., inside versus outside of the classroom) of storybook readings varied both between and within classrooms. Further, teachers' storybook reading techniques in experimental groups were subject to vast variability depending on all teachers' training, storybook reading experience, and adherence to intervention methods (i.e., reading frequency for all teachers and presentation of questions added to individual storybook pages for teachers assigned to the intervention group). Perhaps this exchange of experimental control for ecological validity resulted in the lack of statistical support for intervention methods. Given the extent of both the within- and between-classroom variability possible in the study, effects of intervention methods may not have been strong enough to demonstrate positive effects on children's emergent literacy and social-emotional skills.

A second explanation could be that teachers, and perhaps particularly teachers assigned to the intervention group, did not properly implement intervention methods. A vast majority of teachers implemented intervention methods in addition to their weekly classroom routines and special events without the help of additional staff. As previously discussed, teachers reported that having additional classroom volunteers would have aided them in implementing intervention methods. Teachers may have felt that implementing intervention methods accordingly required too much of their time given their regular job responsibilities. Further, intervention group teachers may not have discussed emotional storybook content as prompted by the questions added to individual

storybook pages, thus diminishing the potential effects of the additional emotion-laden discussion on children's emergent literacy and social-emotional outcomes. No information in this study was analyzed to determine whether or not teachers implemented intervention methods properly. A closer examination of the audiotaped storybook readings, however, may provide further insight into the variability in intervention and book reading control teachers' emotion coaching storybook reading language and its effect on children's emergent literacy and social-emotional outcomes.

A final explanation may be that teachers assigned to the intervention group did properly implement intervention methods, but teachers assigned to the book reading control group also discussed emotional storybook content with children to the extent that intervention effects were diminished. Previous research has shown that mothers' engaging children in high-quality literacy interactions, including the use of interaction and teaching children during book reading, was related to children's expressive vocabularies (Britto, 2001). Further, Aydogan (2004; as cited in Farran et al. 2006) reported that children listened to and talked more with teachers who were characterized as warmer (i.e., demonstrated affection and care for children, demonstrated interest in children's activities, created a positive social environment, attempted to enhance children's self-esteem and confidence), used more responsive language, and introduced new vocabulary to children during instruction. Mirroring these positive social-emotional qualities of the classroom environment, the emotional nature of storybook content may have prompted teachers to affectively respond to children's questions and comments about the emotions depicted in the storybooks; in turn, children may have been more

engaged in storybook discussions. These possible circumstances could explain the lack of statistical significance using regression-based analytical techniques but the detection of statistically significant mean differences between the intervention and book reading control groups using ANOVA-based analytical techniques. Perhaps slighter differences between intervention and book reading control group teachers' storybook reading techniques were detectable when examining groups means but not when determining causality of intervention methods on children's outcomes.

Classroom and Experimental Group Assignment

Because both the intervention and book reading control groups included teachers and children assigned to both full- and half-day classrooms, the final research question investigated differences between experimental group assignment and Head Start programming dosage. Results revealed statistically significant findings for children's emergent literacy skills, emotion knowledge, and social skills. First, supporting the use of dialogic reading techniques during storybook reading, findings demonstrated that children in classrooms assigned to the intervention group had stronger vocabulary skills than children in classrooms assigned to the book reading control group. The same results, however, were not found for regression-based analytical techniques despite the inclusion of only slightly different variables than ANOVA-based analyses and the fact that both ANOVA- and regression-based approaches are part of the general linear model.

In order to examine whether or not ANOVA- and regression-based analyses' controlling for different variables may have lead to these varying results, ANCOVA, MANCOVA, and hierarchical regression analyses were rerun, all controlling for the same

variables. An effect code for classroom assignment (full- or half-day classroom) and children's total Head Start attendance during intervention implementation were added to regression analyses, and children's pre-intervention TOPEL, AKT, and MPAC scores were added to ANCOVA and MANCOVA analyses. Results revealed only minor revisions to findings reported in this study; thus, these new analyses were not reported.

Rather than including different control variables, these opposing findings were likely due to a fundamental difference between ANOVA- and regression-based analytic approaches: Whereas ANOVA-based analyses ignored the magnitude of differences among the categorical independent variables classroom and experimental group assignment, regression-based analyses utilized the magnitude of experimental group assignment (see Kirk, 1995). In the hierarchical regression analyses included in this study, effect codes reflecting experimental group assignment were included as independent variables, thus allowing an examination of each experimental group mean to the mean of the total sample (Cohen et al., 2003).

Like previous research, these findings support the effectiveness of dialogic reading techniques in enhancing children's emergent literacy skills. Variations of dialogic reading methodologies used in previous research have been shown effective when implemented within a number of contexts (e.g., children's homes and preschool classrooms, Lonigan & Whitehurst, 1998), within varied time frames (e.g., 1 month, Whitehurst et al., 1988; 7 months, Whitehurst et al., 1994, 1999), and within low-income (Lonigan & Whitehurst, 1998; Whitehurst et al., 1994, 1999) and language-delayed children (Crain-Thoreson & Dale, 1999). Collectively, these findings support the use of

dialogic reading techniques as cost- and time-efficient techniques for increasing children's literacy skills within preschool contexts.

Unlike the research of Whitehurst et al. (1994, 1999), intervention methods in the current study were only implemented in the preschool classroom context and only included the dialogic reading component (versus Whitehurst et al.'s (1994, 1999) implementation of dialogic reading and a phonemic program in the classroom context). Also, whereas Whitehurst et al.'s control group followed the regular Head Start curriculum, the book reading control group in the current study read emotion-laden storybooks in addition to the regular Head Start curriculum. Thus, the current study included a stricter test of dialogic reading effects on children's vocabulary skills because children assigned to the book reading control group in the current study participated in the regular Head Start curriculum as well as additional weekly storybook readings.

Regarding emotion knowledge, children attending half-day Head Start classrooms assigned to the intervention group demonstrated the greatest affective perspective taking skills of all groups following intervention implementation. Children attending full-day Head Start classrooms assigned to the intervention group, however, demonstrated the least affective perspective taking skills of all groups. Perhaps the addition of dialogic reading with emotional storybook content to the full-day classroom schedule was too taxing for children. Asking dialogic reading questions may have made readings too lengthy compared to reading storybooks as usual (as did teachers in the book reading control group), consequently leading to children's disengagement from storybook reading participation and thus not gaining social-emotional benefits. Also, children in half-day

classrooms demonstrated greater affective perspective taking skills than children in full-day classrooms regardless of experimental group assignment. Children in full-day versus half-day classrooms might tire more quickly during intervention storybook readings, particularly if teachers read toward the end of the day.

Regarding social skills, results revealed that children in the intervention group demonstrated greater productiveness during classroom activities than children in the book reading control group, perhaps because participation in the intervention group enhanced productiveness during free play within the classroom context. Conclusions drawn regarding children's social skills should be interpreted with caution, however, given the lack of strong statistical evidence for observer reliability.

Limitations and Suggestions for Future Research

Perhaps the most notable limitation of the current research is the lack of an additional control group that did not include storybook readings beyond those required of Rocky Mountain SER Head Start programming policies. Future research should include such a group in order to better assess effects of storybook reading participation on children's emergent literacy skills, emotion knowledge, and social skills.

Results revealed differences between the intervention and book reading control groups that merely approached statistical significance. These findings could be the result of the minimal intervention preparation and supervision employed. First, teachers assigned to the intervention group participated in very minimal training on intervention methods. Training included a very brief presentation of emergent literacy and social-emotional development, a brief video illustrating dialogic reading techniques, and a brief

introduction to intervention storybooks; timing permitted neither an in-depth discussion nor a demonstration of book reading techniques. Further, teacher training took place in early to mid-December; and intervention implementation began in early January. This meant that teachers completed the semester, broke for the winter holiday recess, and conducted home visits with their children's families between training and intervention implementation and may have forgotten methodological details presented during training meetings. Also, one researcher supervised intervention implementation in 13 classrooms across two sites; consequently, research resources available to teachers during intervention implementation may have been limited.

Future research including current intervention methods should include more frequent teacher training and closer supervision of intervention implementation in an effort to strengthen statistical and practical differences between the intervention and book reading control groups. A number of measures could be taken in order to achieve these goals. Regarding teacher training, for instance, additional large-group training meetings can be held throughout intervention implementation, including additional viewings of portions of the Emergent Literacy Curriculum training video (Whitehurst, 1992) followed by group discussion. This practice may strengthen statistical differences between the intervention and book reading control groups by providing teachers more frequent and intense instruction on implementing dialogic reading techniques as well as the opportunity to reflect on their own and learn from others' experiences with implementing intervention methods through discussion, thus reinforcing and building upon information presented during training meetings. In addition to large-group training, teachers should

also be engaged in individualized training throughout intervention implementation. Researchers could act as teachers' audiences as teachers practice reading an altered storybook, as well as conduct more frequent observations of teachers during storybook readings in order to continually offer them constructive performance feedback.

Regarding the supervision of intervention implementation, one or more researchers could be assigned to each classroom in order to conduct ongoing teacher training as previously discussed, to more closely monitor intervention implementation and inform ongoing training efforts, and to be more readily available to support teachers in implementing intervention methods (e.g., answering teachers' questions, helping to occupy non-participants, etc.). Researchers could provide each teacher a digital voice recorder to record all storybook readings rather than conducting recordings periodically as in the current study. Researchers could review and discuss the recordings with teachers weekly or more often if needed in order to provide ongoing teacher training and to more closely monitor intervention implementation.

Working with dialogic reading researchers to choose storybooks with emotion-laden content that are suitable for use in dialogic reading intervention research (see Whitehurst, 1994) and to compose CROWD questions included on individual storybook pages more closely mirroring dialogic reading methods implemented in Whitehurst et al. (1994, 1999) may further enhance children's vocabulary skills. Also, including fewer and simpler questions on individual storybook pages may help children initially demonstrating fewer affective perspective taking skills to more fully engage in discussions of emotion-laden storybook content and thus to gain emotion knowledge

benefits. Further, because storybook reading is a commonplace activity within the preschool classroom context, integrating the current intervention methods into larger-scale literacy skills intervention programs could enhance social-emotional skills and could more comprehensively enhance children's emergent literacy skills.

Also related to methodology, future implementations of current intervention methods should more accurately and more comprehensively assess children's social-emotional skills. Statistical analyses revealed poor internal consistency reliability for most MPAC scales. Future research should include refresher training prior to post-intervention data collection and also reliability checks throughout data collection in order to more accurately assess children's social skills. Future research should also employ additional MPAC data collectors in order to avoid potentially negative outcomes of observer fatigue. Additionally, the specific MPAC composites included in this study have never before been used in a research study and thus need to be validated and replicated. Future research should include the validation and replication of these specific composites as a research goal or should employ an alternative assessment of children's social skills. Finally, children's pre- and post-intervention emotion language was not thoroughly assessed. The AKT included only eight items assessing children's affective labeling skills, and results revealed no statistically significant findings for the AKT affective labeling aggregate. An additional assessment of children's emotion language would provide a more comprehensive examination of intervention effects on children's skills.

Finally, future research may improve intervention efforts. First, a closer examination of the audiotaped storybook readings may provide further insight into the

variability in teacher's emotion coaching storybook reading language, both within and between experimental groups, and the effects of such language on children's emergent literacy and social-emotional outcomes. Such a study could determine whether or not the within- and between-classroom variability with which intervention methods were implemented contributed to the ineffectiveness of intervention methods.

Second, future implementations of intervention methods could be altered in efforts to further simultaneously enhance children's emergent literacy and social-emotional skills. The Stony Brook Emergent Literacy Curriculum (see Whitehurst, 1992), for instance, includes interactive activities such as acting out storybook content in the classroom. Children could also create artwork reconstructing emotions and emotional contexts depicted in storybooks. In the current study, some teachers reported relating storybook content to emotions that children displayed in the classroom and also discussing content from one storybook while reading other intervention storybooks depicting similar emotions. Further integrating emotion-laden storybook content into other facets of the preschool curriculum could reinforce emotional instruction in interesting activities holding children's attention. Intervention implementation could also include storybook reading in children's homes as well as in their classrooms. Previous research by Whitehurst and colleagues (see Lonigan & Whitehurst, 1998) has demonstrated positive effects when implementing storybook reading within both contexts. Future research implementing methods in this study should attempt to replicate positive intervention effects in both contexts simultaneously in order to enhance intervention efficacy.

Education and Educational Policy Implications

Research findings have several implications for preschool education, professional development, and educational policy. First, regarding preschool education, the intervention addresses important shortcomings highlighted by previous research. Namely, research has dictated a need to promote children's social-emotional competence by bettering early childhood educators' emotion coaching skills (Denham, 2005) and through the implementation of interventions maintaining emotionally positive and cognitively enriching classroom contexts (Raver & Knitze, 2002). Further, there is a need for further research investigating outcomes related to altering teacher-childhood discourse and for research investigating the psychosocial and physical aspects of positive literacy environments (Makin, 2003).

Regarding professional development, analyses assessing teacher compliance with intervention methods first revealed that teachers' skills in discussing emotions with children during storybook readings predicted children's vocabulary skills. This finding suggested that including teacher training focused on the discussion of storybook content with children may lead to improvements in children's vocabulary skills. Next, related to children's productive involvement in classroom activities, analyses revealed that shorter storybook readings predicted children's productiveness and that teachers' using dialogic reading techniques (versus using typical storybook reading techniques) whereas reading emotion-laden storybooks predicted children's productiveness during classroom activities. These findings suggested that teacher training focused on the utilization of dialogic reading techniques during storybook readings, while keeping storybook readings

brief, may lead to children's demonstrating greater productive involvement in classroom activities.

Regarding educational policy, analyses assessing teacher compliance with intervention methods also revealed that children's participation in greater numbers of emotion-laden storybook readings predicted their subsequent affective perspective taking skills. Adding emotion-laden storybook readings to the regular Head Start curriculum may also enhance children's emotion knowledge beyond Head Start programming alone. Teachers can read emotion-laden storybooks during small group and individualized activities with children in order to achieve this goal. ANOVA-based research findings were also noteworthy for educational policy. Results suggested that when compared to children in full-day Head Start classrooms, children participating in half-day Head Start classrooms whose teachers used dialogic reading techniques while reading emotion-laden storybooks generally demonstrated the most positive social-emotional outcomes. This finding can inform policies to include additional social-emotional intervention programming in half-day classrooms in order to enhance children's emotion knowledge. By altering storybook reading practices within half-day classrooms specifically, programs could maximize positive developmental outcomes of Head Start participation in half-day classrooms in a time- and cost-effective manner.

Conclusion

Although regression-based analyses assessing intervention effects provided no evidence of intervention effectiveness, ANOVA-based analyses examining interactions of experimental group assignment and Head Start programming dosage pinpointed

statistically significant mean differences between the intervention and book reading control groups in children's emergent literacy skills, emotion knowledge, and social skills. These outcomes suggest differences between experimental groups' emergent literacy and social-emotional skills detectable when examining group means in children's outcomes but not when attempting to predict intervention effects on children's outcomes, likely due to a fundamental difference between ANOVA- versus regression-based analytic approaches: Whereas ANOVA-based analyses ignored the magnitude of differences among the categorical independent variables classroom and experimental group assignment, regression-based analyses utilized this information by including effect codes allowing an examination of each experimental group mean to the mean of the total sample (see Cohen et al., 2003; Kirk, 1995).

These statistically significant mean differences and the fact that research methods were theoretically (Denham & Auerbach, 1995; Garner et al., 1997; Gottman et al., 1997) and empirically supported (Whitehurst et al., 1994, 1999; Zevenbergen et al., 2003) warrant the potential value of future research investigating altered intervention methods. Empirically supported intervention methods merging dialogic reading techniques with social-emotional content, a feat not yet accomplished to date (J. Fischel, personal communication, September 27, 2007; G. Whitehurst, personal communication, May 1, 2007; A. Zevenbergen, personal communication, October 1, 2007), could prove valuable for achieving goals similar to those of the Woven Word program (Committee for Children, 2006) and the 4Rs (Morningside Center for Teaching Social Responsibility,

n.d.) and PEEP intervention (Evangelou & Sylva, 2007) programs while minimizing required resources and maximizing preschool children's outcomes.

Table 1

Continuous Demographic Data for Teachers Overall and for Each Experimental Group Assignment

Demographic item	All		Intervention group		Book reading control group	
	<i>M (SD)</i>	Range	<i>M (SD)</i>	Range	<i>M (SD)</i>	Range
Age (in years)	45.26(12.62)	23-69	47.64(11.31)	29-69	42.69(13.88)	23-63
Pueblo Head Start experience (in years)	10.83(11.60)	0-39	11.11(11.50)	0-39	10.54(12.18)	0-38
Total Head Start experience (in years)	11.65(11.46)	0-40	12.39(11.32)	1-40	10.85(12.01)	0-38
Total ECE ^a experience (in years)	15.13(11.52)	2-40	15.07(11.24)	2-40	15.19(12.28)	2.5-38

Note. Total teacher $n = 27$, intervention group $n = 14$, book reading control group $n = 13$.

^aEarly childhood education

Table 2

Categorical Demographic Data for Teachers Overall and for Each Experimental Group Assignment

Demographic item	<u>All</u>		<u>Intervention group</u>		<u>Book reading control group</u>	
	Frequency	Percentage	Frequency	Percentage	Frequency	Percentage
Ethnicity						
Hispanic/Latino	22	81.5	11	78.6	11	84.6
Caucasian	5	18.5	3	21.4	2	15.4
Languages spoken						
English	15	55.6	6	42.9	9	69.2
Bilingual (English and Spanish)	12 ^a	44.4 ^a	8 ^a	57.1 ^a	4	30.8
Education attained						
Associate degree	15	55.6	7	50.0	8	61.5
High school degree/GED	6	22.2	2 ^b	14.3 ^b	4 ^c	30.8 ^c
Associate degree and CDA ^d	4	14.8	3	21.4	1	7.7
Bachelor degree	2	7.4	2 ^b	14.3 ^b	0	.0
Degree pursued						
None	14	51.9	7	50.0	7	53.8
Bachelor degree	8	29.6	4	28.6	4	30.8
Associate degree	4	14.8	2	14.3	2	15.4
CDA ^d	1	3.7	1	7.1	0	.0

Note. Total teacher $n = 27$, intervention group $n = 14$, book reading control group $n = 13$.

^aOne teacher from this heading was bilingual in English and German.

^bOne teacher from this heading also held a certificate.

^cTwo teachers from this heading also held a certificate.

^dChild Development Associate credential

Table 3

Categorical Demographic Data for Children Overall and for Each Experimental Group Assignment

Demographic item	<u>All</u>		<u>Intervention group</u>		<u>Book reading control group</u>	
	Frequency	Percentage	Frequency	Percentage	Frequency	Percentage
Gender						
Male	66	57.9	27	55.1	39	60.0
Female	48	42.1	22	44.9	26	40.0
Ethnicity ^a						
Hispanic/Latino	97	85.1	38	77.6	59	90.8
Caucasian	9	7.9	6	12.2	2	3.1
African American	8	7.0	4	8.2	3	4.6
Annual family income ^{bc}						
Under \$10,000	41	38.3	19	41.3	22	36.1
\$10,000-\$19,000	31	29.0	14	30.4	17	27.9
\$20,000-\$29,000	20	18.7	9	19.6	11	18.0
\$30,000-\$39,000	11	10.3	4	8.7	7	11.5
\$40,000-\$49,000	3	2.8	0	.0	3	4.9
Mother education ^{de}						
High school degree/GED	43	37.7	22	44.9	21	32.3
Less than high school degree	25	21.9	10	20.4	15	23.1
Certificate	16	14.0	6	12.2	10	15.4
Associate degree	13	11.4	8	16.3	5	7.7
Bachelor degree	11	9.6	3	6.1	8	12.3
Not present	4	3.5	0	.0	4	6.2
Father education ^f						
Not present	49	43.0	25	51.0	24	36.9

High school degree/GED	32	28.0	14	28.6	18	27.7
Less than high school degree	21	18.4	7	14.3	14	21.5
Associate degree	7	6.1	2	4.1	5	7.7
Certificate	4	3.5	1	2.0	3	4.6
Languages spoken (children)						
English	108	94.7	46	93.9	62	95.4
English and Spanish	6	5.3	3	6.1	3	4.6

Note. Total children $n = 114$, intervention group $n = 49$, book reading control group $n = 65$.

^aOne additional child in the book reading control group classified as Native American is not included in the table.

^bOne child in the book reading control group had an annual family income over \$60,000.

^cSeven participants (6.1%) had missing annual family income data; percentages are based on remaining income data available.

^dOne child's mother earned both an associate degree and certificate (child participated in book reading control group).

^eOne child's mother earned a graduate degree (child participated in book reading control group).

^fOne child's father earned a graduate degree (child participated in book reading control group).

Table 4

Experimental Design

Experimental group	<i>n</i>	Head Start site	Pre-intervention assessments	Intervention	Post-intervention assessments
Intervention group	49	1, 2	TOPEL AKT MPAC	Dialogic reading	TOPEL AKT MPAC
Book reading control group	65	1, 2	TOPEL AKT MPAC	Typical reading	TOPEL AKT MPAC

Table 5

Test of Preschool Early Literacy Items Composing the Definitional Vocabulary Subtest

Items	Questions	Correct responses
Practice items		
A. Cat	What is this?	Cat, kitty, kitten
B. Shoe	What is this?	Shoe, boot
	What do you put it on?	Your foot
C. Cake	What is this?	Cake
	What do you do with it?	You eat it.
Test items		
1. Bed	What is this?	Bed
	What is it for?	Sleep on, lie on
2. Airplane	What is this?	Airplane, plane, jet
	What does it do?	Fly, goes up in the sky
3. Monkey	What is this?	Monkey
	Where does it live?	In the jungle, zoo, tree, Africa, forest
4. Door	What is this?	Door
	What does it do?	Open(s), close(s), shut(s), keep(s) things out
5. Telephone	What is this?	Telephone, phone
	What is it for?	To call or talk to someone
6. Key	What is this?	Key
	What is it for?	To lock/unlock door, start a car, use for opening lock
7. Turtle	What is this?	Turtle
	Is it fast or slow?	Slow
8. Bus	What is this?	Bus, school bus
	What is it for?	To ride on, drive you to school, take you to bus stop, pick up people
9. Boat	What is this?	Boat or type of boat if accurate
	Where does it go?	In the water, river, lake
10. Ladder	What is this?	Ladder
	What is it for?	To climb up
11. Pig	What is this?	Pig
	Where does it live?	In a pen, on a farm, in mud, in a zoo
12. Teeth	What are these?	Teeth

	What are they for?	To eat, bite, chew with; for talking
13. Shovel	What is this? What is it for?	Shovel To dig with, shovel with, scoop
14. Circle	What shape is this? Name another shape	Circle, round, ball Triangle, square, etc.
15. House	What is this? What is it for?	House, home To live in, sleep in, protect you from the weather
16. Squirrel	What is this? What does it like to climb?	Squirrel Tree(s), bush(es), house(s), telephone pole(s)
17. Fly ^a	What can all of these do? What do they use to fly?	Fly Wings
18. Pancake	What is this? What do you put on it?	Pancake(s) Syrup, honey, butter
19. Stove	What is this? What is it for?	Stove, oven To cook things or food
20. Ear	What is this? What is it for?	Ear(s) To hear, to listen
21. Sheep	What are these? What sound do they make?	Sheep, lamb(s) Baa
22. Envelope	What is this? What is inside it?	Envelope, letter, mail Paper, letter, card, mail, invitation, check, bill
23. Pocket	What is this? What is it for?	Pocket(s) Put hands in, hold something, put stuff in
24. Flower	What is this? Why do people grow them?	Flower They are pretty to look at, they look nice, people like the smell, to pick them, to display
25. Button	What is this? What is it for?	Button(s) To open/close shirt, button up shirt, snapping closed, buttoning
26. Fruit ^a	What is a name for all of these? What do you do with them?	Fruit(s) Eat them
27. Money ^a	What is a name for all of these? What is it for?	Money To buy things, to spend, paying, buying

28. Feather	What is this? What is it from?	Feather A bird
29. Lock	What is this? Why do we use it?	Lock To close things, lock the door or bike, to protect things, to keep people from taking things, lock things up
30. Clothes ^a	What is a name for all of these? Why do you wear them?	Clothes To keep warm, to go outside, so people can't see you without clothes on, to be comfortable
31. Farm ^a	Where could you find all of these? What is grown there?	On a farm, in the country, in a barn Corn, vegetables, animals, grass, food, hay
32. Silverware, Utensils, Cutlery ^a	What is a name for all of these?	Silverware, utensils, cutlery
33. Animals ^a	What are they for? What is a name for all of these? What do they all do?	To eat with Animals Eat, sleep, bite, live in a zoo, live outdoors
34. Pet ^a	What is a name for all of these animals? Why do people have them?	Pet(s) To play with, to keep them company, they like them, for pets
35. Handle ^a	What is a name for all of these? What is it for?	Handle(s), holder(s) To hold, to lift, to carry

^aTest booklet page includes four pictures with a common characteristic identified by the test item.

Table 6

Cronbach's Alpha Values for Pre- and Post-Intervention Test of Preschool Early Literacy (TOPEL) Definitional Vocabulary Subtest Scores, Affect Knowledge Test (AKT) Subscale Scores, and Minnesota Preschool Affect Checklist (MPAC) Aggregate Scores

Measure	Pre-intervention	Post-intervention
	Alpha(Number of items)	Alpha(Number of items)
TOPEL		
Definitional Vocabulary subtest	.82(68)	.81(64)
AKT		
Affective labeling subscale	.70(8)	.30(6)
Affective perspective taking subscale	.86(20)	.83(20)
MPAC		
Productive aggregate	.28(8)	.43(7)
Negative/frustrated aggregate	.58(17)	.57(19)
Positive aggregate	.60(12)	.48(10)

Table 7

Minnesota Preschool Affect Checklist (MPAC) Items Composing Categories Included in Denham and Burton's (1996) Principal Components Analysis

MPAC category items	Category item definitions
Positive affect	
Item 1	The child displays positive affect in <i>any manner</i> (i.e., facial, vocal, or bodily affect). The child's behaviors must match the context of a given situation.
Item 2	The child uses positive affect to <i>initiate</i> contact or to <i>engage</i> another. The child must begin or restart interaction after a substantial break.
Item 3	The child <i>directs positive affect specifically at a particular person</i> when already in contact with them. Affect is directed at a specific person. This behavior does not have to be in response to someone, but someone must be the target of the child's positive affect.
Item 4	The child displays positive affect when in a social situation but <i>does not direct it to anyone in particular</i> .
Item 5	The child shows very positive affect (i.e., The child shows exuberance, or "lights up").
Item 6	The child shows <i>ongoing high enjoyment</i> or "has a lot of fun" (i.e., sustained continuance for 30 seconds or more).
Item 7	The child uses his/her face <i>very expressively</i> to show positive affect in communicating <i>directly</i> with another. The child displays moderate intensity (i.e., not same level of intensity as in item #5) in communicating with another.
Item 8	The child shows pride in accomplishment (usually through a verbal statement).
Negative affect	
Item 1	The child displays negative affect in <i>any manner</i> (i.e., facial, vocal, or bodily affect). The child's behaviors must match the context of a given situation.
Item 2	The child uses negative affect to <i>initiate</i> contact or to <i>engage</i> another. The child must begin or restart interaction after a substantial break.
Item 3	The child <i>directs negative affect specifically at a particular person</i> when already in contact with them. Affect is directed at a specific person. This behavior does not have to be in response to someone, but someone must be the target of the child's negative affect.
Item 4	The child uses his/her face <i>very expressively</i> to show negative affect in communicating <i>directly</i> with another.
Item 5	The child uses his/her voice <i>very expressively</i> to show negative affect in communicating <i>directly</i> with another.

- Item 6 The child shows very negative affect *vigorously*.
- Item 7 The child's facial expression looks depressed or sad. The expression can be brief.
- Item 8 The child shows sustained negative affect for 30 seconds or more.
- Item 9 The child shows negative affect during pretense play or "fakes it" (e.g., feigned sadness).

Inappropriate affect

- Item 1 The child expresses *negative affect* to another child in response to the other's *neutral or positive overture*. This behavior appears inappropriate in the context.
- Item 2 The child fails to show positive affect when appropriate as defined by the context. This must be overt; the child must clearly be trying to avoid expression of positive affect.
- Item 3 The child fails to show negative affect when appropriate.
- Item 4 The child takes pleasure in another's distress.
- Item 5 The child *does not respond* when approached affectively by another.
- Item 6 The child cries in *absence* of perceived physical injury.
- Item 7 The child whines in the *absence* of perceived physical injury.
- Item 8 The child displays more silliness than the situation warrants. The silly behavior extends beyond the contexts in which it was elicited.

Reactions to frustration and conflict

- Item 1a The child promptly verbally expresses feelings arising from a problem situation, then moves on to the same or a new activity (versus withdrawing, displacing the affect onto others or objects, or staying upset).^a
- Item 1b The child shows primarily neutral or positive affect.^a
- Item 1c The child shows primarily negative affect, but the child's talking about feelings helps the situation.^b
- Item 2 The child expresses feelings arising from situation but *stays upset*.^b
- Item 3 The child tolerates frustration well.^a
- Item 4 The child negotiates with others; no actual frustration is noted.^a

Lapses in impulse control

- Item 1 The child displays context-related interpersonal aggression (verbal or physical). Someone does something to which the child responds with aggression. An emotionally arousing preceding event must be observed.
- Item 2 Object aggression: The child hits, kicks, shoves, knocks over, or throws objects *in response to an emotionally arousing problem situation*.
- Item 3 Tantrum: The child displays pronounced feelings of upset and a loss of control.
- Item 4 Unregulated anger versus a tantrum: The child's affect is not as sustained as during a tantrum. The child's *loss of control is not as great* and may be limited.
- Item 5 The child displays an inability to stop an ongoing behavior.

Item 6	The child acts pouty or sullen.
Item 7	The child displays regression or babyish behavior.
Item 8	The child stays on the periphery of activity, in corners of the room, or “shrinks” away. The child is avoidant.
Item 9	Withdrawal: The child becomes withdrawn and “shuts down.” The child can also be withdraw and remain in or leave the area.
Productive and focused use of personal energy	
Item 1	The child is engrossed, absorbed, intensely involved in activity. The child is emotionally invested in creative, productive, thematically organized, or other activity that has a positive emotional function. The child does not seem to notice what is going on around him/her.
Item 2	Independence: The child is involved in an activity that he/she organizes for himself/herself.
Unproductive and unfocused use of personal energy	
Item 1	Vacant: The child displays a very flat, unexpressive, detached face; shows no involvement in an activity; and looks “emotionally absent.”
Item 2	Listless: The child looks fidgety and uninvested in the activity but still “emotionally present;” the child stays in one area but shows little/no involvement in activities or social interaction.
Item 3	Diffuse: The child looks somewhat emotionally invested but is unable to sustain it for long in any one activity. The child may get slightly involved in one activity but then soon moves on to other activities repeatedly.
Item 4	Tension bursts: The child displays one or several undirected motor releases. The motor release is usually brief.
Item 5	Wandering: The child moves around the room with no/little involvement in social interaction or activities.
Item 6	The child is extremely active in comparison to the context.
Peer skill	
Item 1	Successful leadership: The child plays an organizing role in an activity in which another child or children “follow the lead” and participate.
Item 2	Inept attempts at leadership: The child attempts to play an organizing, directive, or leadership role to influence a peer; but the peer does not comply.
Item 3	The child smoothly approaches an already ongoing activity and <i>gets actively involved</i> . The child does not disrupt or antagonize other children as he/she approaches the activity.
Item 4	The child smoothly approaches an already ongoing activity but <i>does not get actively involved</i> . The child does not disrupt or antagonize other children as he/she approaches the activity.
Empathy and prosocial behavior	
Item 1	Interpersonal awareness: The child displays behavior reflecting knowledge or awareness of another’s emotions or mental state.
Item 2	Empathy: The child displays concern or displays an empathetic response

- to another's emotional display (usually when another is distressed).
- Item 3 The child displays helping behavior toward another child (also coded as either solicited, unsolicited, or in conjunction with Item 2.
- Item 4^c Taking turns: The child plays with a toy or participates in an activity and then allows another to do the same (e.g., plays a computer game while another child watches and then switches roles with the child). A clear beginning and end of each child's turn during an activity must be observed.
- Item 5^c Cooperating: The child jointly works with a peer or group of peers to achieve a common goal.
- Item 6 The child shares toys or other materials (e.g., crayon, pencil, play dough, etc.). The sharing should be more overt than children utilizing the same materials during parallel play.
- Item 7^c Seeking help: The child *appropriately* asks a peer or teacher for assistance when struggling to achieve a goal (e.g., reaching something from a tall shelf). The child must be observed to assess a problem situation or execute a plan in an attempt to solve a problem.
- Item 8^c Initiating and maintaining conversation: The child engages another in a conversation and guides continued conversation with the same individual (e.g., asks questions, comments to elicit a response from the other).
- Item 9^c Saying "no": The child *appropriately* declines another's request or suggestion.

Unusual behavior

- Item 1 The child displays a bizarre behavior.
- Item 2 The child displays mannerisms, stereotypes, or "quirky gestures."
- Item 3 The child displays ritualistic or repetitive behaviors.
- Item 4 The child engages in no social interaction continuously for 3 minutes or more.
- Item 5 The child displays unprovoked physical interpersonal aggression *with no preceding provocation* by the victim.
- Item 6 The child displays hazing, teasing, or another verbal or nonverbal provocation, threat, or manipulation (i.e., relational aggression).

^aPositive Reactions to Frustration and Conflict items

^bNegative Reactions to Frustration and Conflict items

^cAdditions to Empathy and Prosocial Behaviors category

Table 8

Rotated Component Matrix for Pre-Intervention Minnesota Preschool Affect Checklist (MPAC) Subscales

MPAC subscale	Component			
	1	2	3	4
Positive affect	.74	-.09	-.17	.07
Negative affect	.04	.10	.82	.09
Inappropriate affect	.22	.07	.02	-.71
Productive involvement	-.08	.82	.02	.15
Unproductive involvement	.06	-.83	.02	.12
Lapses and negative responses	-.21	-.17	.71	-.00
Positive reactions	.40	.28	.44	-.27
Unusual behavior	-.79	.09	-.06	-.05
Skills in leading and joining	.12	.02	.12	.61
Empathy and prosocial behavior	.37	.12	-.15	.60

Table 9

Rotated Component Matrix for Post-Intervention Minnesota Preschool Affect Checklist (MPAC) Subscales

MPAC subscale	Component				
	1	2	3	4	5
Positive affect	.11	.76	-.20	-.24	.13
Negative affect	.33	.27	.18	.64	-.38
Inappropriate affect	.84	-.10	.01	-.09	.05
Productive involvement	.08	.26	-.78	-.06	-.07
Unproductive involvement	.12	.18	.78	-.14	.03
Lapses and negative responses	.83	.02	.02	.13	.03
Positive reactions	-.05	-.15	-.16	.80	.20
Unusual behavior	.29	-.59	.11	-.32	-.20
Skills in leading and joining	-.06	.57	.27	.03	-.26
Empathy and prosocial behavior	.09	.06	.11	.08	.89

Table 10

Intercorrelations Between Pre-Intervention Minnesota Preschool Affect Checklist (MPAC) Subscales

MPAC subscale	1	2	3	4	5	6	7	8	9	10
1. Positive affect	-	-.08	-.03	-.05	.07	-.14 [†]	.08	-.42****	.02	.16**
2. Negative affect		-	-.03	.12 [†]	-.02	.30****	.24***	-.06	.09	-.08
3. Inappropriate affect			-	-.02	-.05	-.04	.18*	-.10	-.10	-.19*
4. Productive involvement				-	-.45	-.03	.04	.06	.04	.09
5. Unproductive involvement					-	.05	-.15*	-.06	.05	.04
6. Lapses and negative responses						-	.06	.05	-.05	-.13 [†]
7. Positive reactions							-	-.09	-.03	.05
8. Unusual behavior								-	-.09	-.20*
9. Skills in leading and joining									-	.20*
10. Empathy and prosocial behavior										-

[†] $p < .10$, * $p < .05$, ** $p < .01$, *** $p < .005$, **** $p < .001$.

Table 11

Intercorrelations Between Post-Intervention Minnesota Preschool Affect Checklist (MPAC) Subscales

MPAC subscale	1	2	3	4	5	6	7	8	9	10
1. Positive affect	-	.01	.03	.22**	.05	.02	-.11	-.27****	.16*	.02
2. Negative affect		-	.12	-.01	.11 [†]	.26***	.19*	-.10	.16*	-.10
3. Inappropriate affect			-	.01	.13 [†]	.49****	-.02	.20*	-.12 [†]	.03
4. Productive involvement				-	-.34	-.03	.04	-.08	.01	-.03
5. Unproductive involvement					-	.01	-.14 [†]	.06	.13 [†]	.05
6. Lapses and negative responses						-	.00	.11 [†]	.01	.09
7. Positive reactions							-	-.10	-.09	.10
8. Unusual behavior								-	-.08	-.05
9. Skills in leading and joining									-	-.01
10. Empathy and prosocial behavior										-

[†] $p < .10$, * $p < .05$, ** $p < .01$, *** $p < .005$, **** $p < .001$.

Table 12

Pre- and Post-Intervention Pair Correlations of the Minnesota Preschool Affect Checklist Subscales and Aggregates

Subscale or aggregate	Correlation
Subscale	
Positive affect	.17
Negative affect	.09
Inappropriate affect	.13
Productive and focused use of personal energy	-.03
Unproductive and unfocused use of personal energy	.15
Lapses in impulse control	-.05
Reactions to frustration and conflict	.20*
Unusual behavior	.19*
Peer skill	.09
Empathy and prosocial behavior aggregate	.17
Productive	.10
Negative/frustrated	.24**
Positive	.11

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

Table 13

Minnesota Preschool Affect Checklist (MPAC) Reliability for Lead Researcher

MPAC category	Correlation between master coder and lead researcher
Positive affect	.86***
Negative affect	.82***
Inappropriate affect	.67***
Productive and focused use of personal energy	.56**
Unproductive and unfocused use of personal energy	.59**
Lapses in impulse control	.70***
Reactions to frustration and conflict	.34 [†]
Unusual behavior	.41*
Peer skill	.09
Empathy and prosocial behavior	.89***

[†] $p < .10$, * $p < .05$, ** $p < .01$, *** $p < .001$.

Table 14

Descriptive Statistics for Pre- and Post-Intervention Test of Preschool Early Literacy (TOPEL), Affect Knowledge Test (AKT), and Minnesota Preschool Affect Checklist (MPAC) Scores

Scale or aggregate	<i>M</i>	<i>SD</i>	Range	Total possible score range
Pre-intervention scores				
TOPEL Definitional Vocabulary scores	47.97	7.21	28-61	0-70
AKT scores				
Affective labeling	13.83	2.03	6-16	0-8
Affective perspective taking	35.68	4.82	15-40	0-40
MPAC scores				
Productive aggregate	6.44	.76	4-8	-
Negative/frustrated aggregate	3.04	2.70	0-13	-
Positive aggregate	6.89	2.21	1-12	-
Post-intervention scores				
TOPEL Definitional Vocabulary scores	52.78	6.07	30-65	0-70
AKT scores				
Affective labeling	15.11	1.05	12-16	0-8
Affective perspective taking	38.17	2.71	29-40	0-40
MPAC scores				
Productive aggregate	6.31	.67	4-8	-
Negative/frustrated aggregate	2.61	2.25	0-11	-
Positive aggregate	6.52	1.98	1-11	-

Table 15

Differences Between and Similarities of Teacher Training Meetings

Training component	No book reading control group	Intervention group
Differences between meetings		
Literacy	Idaho Literacy Project video	Stony Brook Curriculum discussion
	-	Stony Brook Curriculum video
Social-emotional	Curriculum discussion	Emotion coaching discussion
Literacy and social-emotional	-	Altered storybook discussion
	-	Altered storybook perusal
Similarities between meetings ^a		
Research goals	Examine differences in teachers' storybook reading styles	
	Pilot testing storybooks for social-emotional curriculum development	
Intervention instructions	List of emotion-laden storybooks included in the study	
	Specific intervention method instruction	

^aNo distinction across experimental groups

Table 16

Storybook List for Intervention

Storybook title	Author	Publisher	Publication year
General emotions			
The Way I Feel ^a	Janan Cain	Parenting Press, Inc.	2000
Today I Feel Silly and Other Moods that Make My Day ^a	Jamie Lee Curtis	Harper Collins	1998
Teaching about emotions			
When I Feel Good About Myself	Cornelia Spelman	Albert Whitman & Co.	2005
When I Feel Sad	Cornelia Spelman	Albert Whitman & Co.	2004
When I Feel Angry	Cornelia Spelman	Albert Whitman & Co.	2004
When I Feel Scared	Cornelia Spelman	Albert Whitman & Co.	2004
Emotional storybook content			
D.W.'s Lost Blankie	Marc Brown	Little, Brown, & Co.	2000
Alexander and the Terrible, Horrible, No Good, Very Bad Day	Judith Viorst	Aladdin	1987
Chrysanthemum	Kevin Henkes	Greenwillow	1991
Kindergarten Rocks!	Katie Davis	Harcourt	2005
Teaching social and relational skills			
Words Are Not for Hurting	Elizabeth Verdick	Free Spirit Publishing	2004
When I Care About Others	Cornelia Spelman	Albert Whitman & Co.	2004

^aThese titles do not include recall questions for teachers assigned to the intervention group.

Table 17

Teacher Attitudes about Social and Emotional Learning (TASEL) Items Included in the Study

TASEL category items	Category item definitions
Program effectiveness	
Item 1	Programs such as SDP are effective in helping children learn social and emotional skills.
Item 2	SDP can help all kids regardless of their temperament.
Item 3	It is worth my effort to implement SDP lessons.
Item 4	SDP has helped my children to improve their social and emotional skills.
Competence	
Item 1	I deliver SDP lessons effectively.
Item 2	I understand the goals of SDP.
Item 3	I feel competent teaching SDP lessons.
Item 4	I have thorough knowledge of SDP lessons.
Time constraints	
Item 1	I don't have time in the day or week to deliver SDP lessons.
Item 2	I have enough time to prepare for SDP lessons.
Item 3	Spending time on SDP lessons takes time away from academics.
Training	
Item 1	I received sufficient training in SDP.
Item 2	The training I received provided me with sufficient knowledge about the content of the program.
Item 3	The training I received was a hands-on training where I could practice what I had learned.
Item 4 ^a	The researcher has arranged for training in SDP.
Administrative support	
Item 1 ^b	Other than at the training meeting, the researcher has discussed SDP with me.
Item 2 ^c	The researcher acknowledges teachers who do a good job delivering SDP.
Item 3 ^c	The researcher is an active supporter of SDP.
Item 4 ^c	The researcher has watched me deliver SDP lessons.
Item 5	Other teachers at my Head Start center implement SDP consistently.

^aThe term 'administrative staff' was replaced by the term 'researcher'

^bThe original TASEL item read "Other than at orientation, the Principal/Director has discussed SDP at staff meetings."

^cThe term 'Principal/Director' was replaced by the term 'researcher'

Table 18

Cronbach's Alpha Values for Teacher Attitudes about Social and Emotional Learning Subscales and Aggregate

Subscale or aggregate	Number of scale/aggregate items	Correlation
Subscale		
Program effectiveness	4	.80
Competence	4	.84
Time constraints	3	.44
Training	4	.87
Administrative support	5	.73
Aggregate	20	.83

Table 19

Descriptive Data for Intervention Storybook Readings Completed for Classrooms Assigned to the Intervention and Book Reading Control Groups

Classroom	<i>n</i>	<u>Intervention readings completed</u>	
		Number	Total number possible
All classrooms	13	790	936
Full-day classrooms	5	245	360
Half-day classrooms	8	545	576
Intervention group classrooms	6	367	432
Book reading control group classrooms	7	423	504

Table 20

Descriptive Data for Intervention Storybook Readings Completed for Teachers Assigned to the Intervention and Book Reading Control Groups

Group	<i>n</i>	Number of readings completed		
		<i>M</i>	<i>SD</i>	Range
All teachers	27	29.52	22.20	2-73
Lead teachers	13	45.23	20.72	10-73
Assistant teachers	11	16.36	11.56	2-36
Teaching assistants	3	9.67	4.04	6-14
Full-day classroom teachers	13	19.23	17.32	6-61
Half-day classroom teachers	14	39.07	22.47	2-73
Intervention group teachers	14	26.71	16.38	6-55
Book reading control group teachers	13	32.54	27.54	2-73

Table 21

Percentages of Storybook Readings Completed by Lead Teachers, Assistant Teachers, and Teaching Assistants in Full- and Half-Day Classrooms

Teacher status	Classroom type		Total
	Half-day ^a	Full-day	
Lead teachers	53.9	20.0	73.9
Assistant teachers	14.9	7.6	22.5
Teaching assistants	-	3.6	3.6

^aHalf-day classrooms did not include teaching assistants.

Table 22

Descriptive Data for Intervention Storybook Readings Completed for Children Assigned to the Intervention and Book Reading Control Groups

Group	<i>n</i>	<u>Head Start attendance</u>			<u>Number of intervention readings attended</u>		
		<i>M</i>	<i>SD</i>	Range	<i>M</i>	<i>SD</i>	Range
All children	114	-	-	-	25.72	7.25	6-36
Full-day classroom children	42	54.55	6.37	37-63	22.71	8.14	6-36
Half-day classroom children	72	40.69	6.00	20-49	27.47	6.08	11-36
Intervention group children	49	43.86	8.73	20-62	25.35	8.00	6-36
Book reading control group children	65	47.26	9.13	28-63	26.00	6.69	11-36

Table 23

Hierarchical Regression Analysis for Effects of Teacher Compliance with Intervention Methods on Post-Intervention TOPEL Definitional Vocabulary Scores

Independent variable	<i>B</i>	<i>SE B</i>	β
Step 1			
Pre-intervention TOPEL Definitional Vocabulary	.48	.06	.58****
Effect code	.76	.46	.13 [†]
Step 2			
Pre-intervention TOPEL Definitional Vocabulary	.51	.06	.61****
Effect code	.01	.69	.00
Mean scores for book reading log item	2.33	1.05	.18*
Children's storybook reading participation	-.00	.07	-.00
Mean storybook reading length	.31	.16	.23 [†]

Note. Adjusted $R^2 = .36$, $p < .001$ for Step 1; $\Delta R^2 = .07$, $p < .005$ for Step 2.

[†] $p < .10$, * $p < .05$, *** $p < .005$, **** $p < .001$.

Table 24

Hierarchical Regression Analysis for Effects of Teacher Compliance with Intervention Methods on Post-Intervention AKT Affective Perspective Taking Scores

Independent variable	<i>B</i>	<i>SE B</i>	β
Step 1			
Pre-intervention AKT affective perspective taking	.18	.05	.31****
Effect code	-.24	.26	-.09
Step 2			
Pre-intervention AKT affective perspective taking	.15	.05	.26***
Effect code	-.05	.40	-.02
Mean scores for book reading log item	.33	.59	.06
Children's storybook reading participation	.09	.04	.24*
Mean storybook reading length	-.03	.09	-.05

Note. Adjusted $R^2 = .09$, $p < .005$ for Step 1; $\Delta R^2 = .07$, $p < .05$ for Step 2.

* $p < .05$, ** $p < .01$, *** $p < .005$, **** $p < .001$.

Table 25

Hierarchical Regression Analysis for Effects of Teacher Compliance with Intervention Methods on Post-Intervention MPAC Productive Aggregate Scores

Independent variable	<i>B</i>	<i>SE B</i>	β
Step 1			
Pre-intervention MPAC Productive Aggregate	.07	.09	.07
Effect code	.04	.07	.06
Step 2			
Pre-intervention MPAC Productive Aggregate	.05	.09	.05
Effect code	.26	.10	.37*
Mean scores for book reading log item	.06	.15	.04
Children's storybook reading participation	-.01	.01	-.15
Mean storybook reading length	-.07	.02	-.44***

Note. Adjusted $R^2 = -.01$, *ns* for Step 1; $\Delta R^2 = .08$, $p < .05$ for Step 2.

* $p < .05$, ** $p < .01$, *** $p < .005$.

Table 26

Hierarchical Regression Analysis for Effects of Teacher Compliance with Intervention Methods on Post-Intervention MPAC Negative/Frustrated Aggregate Scores

Independent variable	<i>B</i>	<i>SE B</i>	β
Step 1			
Pre-intervention MPAC Negative/Frustrated aggregate	.20	.08	.23*
Effect code	.24	.20	.11
Step 2			
Pre-intervention MPAC Negative/Frustrated aggregate	.21	.08	.24*
Effect code	.20	.32	.09
Mean scores for book reading log item	-.51	.49	-.11
Children's storybook reading participation	.00	.03	.01
Mean storybook reading length	-.00	.08	-.01

Note. Adjusted $R^2 = .05$, $p < .05$ for Step 1; $\Delta R^2 = .01$, *ns* for Step 2.

* $p < .05$.

Table 27

Beta Values for Statistically Significant Hierarchical Regression Results for Effects of Teacher Compliance with Intervention Methods on Post-Intervention Test of Preschool Early Literacy Scores, Affect Knowledge Test Scores, and Minnesota Preschool Affect Checklist Scores

Independent variable	DV	APT	P	N/F
Variables added in step 1				
Pre-intervention score	.61****	.26***	-	.24*
Effect code	-	-	.37*	-
Variables added in step 2				
Mean scores for book reading log item	.18*	-	-	-
Children's storybook reading participation	-	.24*	-	-
Mean storybook reading length	.23 [†]	-	-.44****	-

Note. DV = Definitional Vocabulary, APT = Affective Perspective Taking, P = Productive, N/F = Negative/Frustrated.

[†] $p < .10$, * $p < .05$, ** $p < .01$, **** $p < .005$.

Table 28

Descriptive Statistics for Teacher Attitudes About Social and Emotional Learning Scales and Aggregate

Scale or aggregate	<i>M</i>	<i>SD</i>	Range	Total possible score range
Scale				
Program effectiveness	22.56	1.78	18-24	4-24
Teacher competence	22.63	1.52	20-24	4-24
Time-related constraints	9.56	2.87	7-16	8-13
Training	22.15	2.28	17-24	4-24
Administrative support	28.81	1.88	24-30	5-30
Aggregate	105.70	7.23	92-117	37-117

Table 29

*Hierarchical Regression Analysis for Intervention Effects on Post-Intervention Test of
Preschool Early Literacy Definitional Vocabulary Scores*

Independent variable	Zero-order r	β	F
Step 1			32.16****
Pre-intervention TOPEL Definitional Vocabulary scores	.59****	.58****	
Effect code	.19 [†]	.13 [†]	
Step 2			21.25****
Pre-intervention TOPEL Definitional Vocabulary scores	.59****	.58****	
Effect code	.19	.13	
Effect code X pre-intervention TOPEL scores	-.21	.01	

Note. Degrees of freedom = (24, 111) for Step 1; (1, 110) for Step 2. Adjusted $R^2 = .36$ $p < .001$ for Step 1; $\Delta R^2 = .00$, *ns* for Step 2.

[†] $p < .10$, * $p < .05$, ** $p < .01$, *** $p < .005$, **** $p < .001$.

Table 30

Hierarchical Regression Analysis for Intervention Effects on Post-Intervention Affect Knowledge Test Affective Labeling Scores

Independent variable	Zero-order r	β	F
Step 1			8.14****
Pre-intervention AKT affective labeling scores	.36****	.36****	
Effect code	.07	-.01	
Step 2			5.66****
Pre-intervention AKT affective labeling scores	.36****	.40****	
Effect code	.07	-.02	
Effect code X pre-intervention AKT scores	-.09	.09	

Note. Degrees of freedom = (2, 111) for Step 1; (1, 110) for Step 2. Adjusted $R^2 = .11$ $p < .001$ for Step 1; $\Delta R^2 = .01$, *ns* for Step 2.

** $p < .01$, *** $p < .005$, **** $p < .001$.

Table 31

Hierarchical Regression Analysis for Intervention Effects on Post-Intervention Affect Knowledge Test Affective Perspective Taking Scores

Independent variable	Zero-order r	β	F
Step 1			5.60***
Pre-intervention AKT affective perspective taking scores	.29****	.31****	
Effect code	-.02	-.09	
Step 2			4.33**
Pre-intervention AKT affective perspective taking scores	.29****	.37****	
Effect code	-.02	-.09	
Effect code X pre-intervention AKT scores	-.03	.13	

Note. Degrees of freedom = (2, 111) for Step 1; (1, 110) for Step 2. Adjusted $R^2 = .08$ $p < .005$ for Step 1; $\Delta R^2 = .01$, *ns* for Step 2.

† $p < .10$, * $p < .05$, ** $p < .01$, *** $p < .005$, **** $p < .001$.

Table 32

*Hierarchical Regression Analysis for Intervention Effects on Post-Intervention Minnesota
Preschool Affect Checklist Negative/Frustrated Aggregate Scores*

Independent variable	Zero-order r	β	F
Step 1			3.97*
Pre-intervention MPAC Productive scores	.24	.23*	
Effect code	.11	.11	
Step 2			2.74*
Pre-intervention MPAC Productive scores	.24	.25*	
Effect code	.11	.11	
Effect code X pre-intervention MPAC scores	-.03	.06	

Note. Degrees of freedom = (2, 111) for Step 1; (1, 110) for Step 2. Adjusted $R^2 = .05$ $p < .05$ for Step 1; $\Delta R^2 = .00$, *ns* for Step 2.

† $p < .10$, * $p < .05$.

Table 33

Analysis of Covariance Between-Subjects Effects for Group Differences on Post-Intervention Test of Preschool Early Literacy Definitional Vocabulary Scores

Independent variable or covariate	<i>df</i>	<i>F</i>	η^2
Classroom assignment	1	.07	.00
Experimental group assignment	1	4.06*	.04
Interaction of classroom and group assignment	1	.03	.00
Head Start attendance during intervention	1	.13	.00

†*p* < .10, **p* < .05.

Table 34

Multiple Analyses of Covariance Between-Subjects Effects for Group Differences on Post-Intervention Affect Knowledge Test Scores

Independent variable or covariate	<i>df</i>	<i>F</i>	η^2
<i>Affective labeling</i>			
Classroom assignment	1	.01	.00
Experimental group assignment	1	1.02	.01
Interaction of classroom and group assignment	1	.00	.00
Head Start attendance during intervention	1	1.73	.02
<i>Affective perspective taking</i>			
Classroom assignment	1	6.72*	.06
Experimental group assignment	1	.59	.01
Interaction of classroom and group assignment	1	5.35*	.05
Head Start attendance during intervention	1	1.67	.02

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

Table 35

Multiple Analyses of Covariance Between-Subjects Effects for Group Differences on Post-Intervention Minnesota Preschool Affect Checklist Scores

Independent variable or covariate	<i>df</i>	<i>F</i>	η^2
Productive			
Classroom assignment	1	.06	.00
Experimental group assignment	1	5.14*	.05
Interaction of classroom and group assignment	1	.04	.00
Head Start attendance during intervention	1	.90	.01
Negative/frustrated			
Classroom assignment	1	1.79	.02
Experimental group assignment	1	.04	.00
Interaction of classroom and group assignment	1	.03	.00
Head Start attendance during intervention	1	.76	.01
Positive			
Classroom assignment	1	.02	.00
Experimental group assignment	1	2.61	.02
Interaction of classroom and group assignment	1	.53	.01
Head Start attendance during intervention	1	.11	.00

* $p < .05$.

Appendix A

Example Book Guide Adapted from Whitehurst (1994)

Alexander and the Terrible, Horrible, No Good, Very Bad Day
By Judith Viorst

- **Summary of the story**
Nothing seems to go right on this day for a boy named Alexander!
- **Introducing the story for the first time**
 1. Read the title of the book from the cover while pointing to each word with your finger. Get children to repeat the title as you point to each word.
 2. Point to Alexander on the cover and tell the children his name. *Ask the children, “How do you think Alexander feels?” [angry or related feeling such as grouchy, frustrated, disappointed] (LABELING EMOTION)*
 3. Ask the children, “Have you ever had a bad day? *How did it make you feel?*” (DISTANCING PROMPT)
- **Reading the story for the first time**
 1. Read the words to the story on each page, moving your finger under the words as you read.
 2. After reading pages with negative events, ask children, “What happened to Alexander now?” or “What’s going on here?” Then ask children, “*How do you think that made Alexander feel?*” (LABELING EMOTION) “*Why does he feel this way?*” (DISCUSSING CAUSE OF EMOTION)
- **Recalling the story**
At the end of the book, get children to recall the story using the **recall prompts** that are pasted on the last page. Continue to ask these questions when you read the book again until the children know the answers without help.
- **Reading the book again and again**
 1. Give open-ended prompts on each page (e.g., “What’s happening on this page?” “*How does Alexander feel now?*”). (LABELING EMOTION) Do less reading of the words to the story each time you read it. Leave more to the children.
 2. Give **Wh- prompts** about objects or activities in the pictures (e.g., “What is Alexander’s lunch missing?” [dessert] “*Why is Alexander upset?*” (DISCUSSING CAUSE OF EMOTION) “What happened

when Alexander visited his daddy's office?" [Alexander played with copy machine, knocked over books on desk, played with phone]).

- **Evaluate** the children's responses.
- **Expand** if incorrect by giving correct responses.
- Ask the children to **repeat** the responses.

If the children need help in answering a Wh- question, ask that question again the next time you read the book. Good words to ask about are pasted on pages of the book.

3. Ask children, "How can Alexander tell others that he is upset?" (*DISCUSSING APPROPRIATE EMOTIONAL EXPRESSION*) "What are some things he can do to feel better?" (*DEALING WITH EMOTION*)

Note. Italics represent emotion-coaching components added to Stony Brook Emergent Literacy Curriculum, and all caps represent emotion-coaching labels.

Recall Questions

1. What is the title of this book? [Alexander and the Terrible, Horrible, No Good, Very Bad Day]
2. What are some of the bad things that happened to Alexander in the story?
 - a. [Getting ready for school - Had gum in hair, tripped on skateboard, dropped sweater in sink, didn't get a toy in his cereal box]
 - b. [At school - Teacher didn't like picture, sang too loud, left out 16 when counting, Paul told Alexander he wasn't his best friend anymore, didn't get dessert in his lunch]
 - c. [After school - Dentist found a cavity, got foot caught in elevator, fell in mud, brother Nick called Alexander a crybaby, got in trouble for punching Nick, didn't get shoes he wanted at shoe store, messed up daddy's office, had to eat lima beans for dinner, saw kissing on TV, got soap in his eyes and lost marble during a bath, had to wear railroad-train pajamas he doesn't like, Mickey Mouse night light burned out, bit his tongue, cats slept with brother Anthony]
3. *How did these bad things make Alexander feel? [angry or related feeling such as frustrated, disappointed] (LABELING EMOTION) What can Alexander do to show that he feels (insert emotions named by children)? (DISCUSSING APPROPRIATE EMOTIONAL EXPRESSION)*
4. Where did Alexander say he wanted to go? [Australia] *What are some other things that Alexander can do to feel better? (DEALING WITH EMOTION)*
5. Have you ever had a bad day?
 - a. What happened?
 - b. *How did it make you feel? (LABELING EMOTION) Why did you feel that way? (DISCUSSING CAUSE OF EMOTION)*
 - c. *It's OK to feel (insert emotions named by children). (ACCEPTING EMOTION) How can we tell people that we feel bad? (DISCUSSING APPROPRIATE EMOTIONAL EXPRESSION)*
 - d. *What things can you do to feel better when you have a bad day? (DEALING WITH EMOTION)*

Note. Italics represent emotion-coaching components added to Stony Brook Emergent Literacy Curriculum, and all caps represent emotion-coaching labels.

Appendix B

Teacher Informed Consent Form

PRESCHOOL BOOK READING STUDY

ID #: _____

TEACHER INFORMED CONSENT FORM

RESEARCH PROCEDURES

This research is being conducted to study differences in teachers' book reading styles across classrooms and to test emotional storybooks for social-emotional skills preschool curriculum development. This research is being funded by the American Educational Research Association and the U.S. Department of Education's Institute of Education Services. If you agree to participate, you will lead book reading activities with small groups of participating children 3 times per week for approximately 12 weeks. It is estimated that each book reading activity will last no longer than 20 minutes, summing to approximately 1 hour per week for approximately 12 weeks. These activities will be audio taped before and at the beginning, the middle, and the end of the intervention in order to study differences in teachers' reading styles across classrooms. Certain aspects of the project cannot be disclosed before data collection, but a full debriefing will take place at the conclusion of the project. You will also be asked to fill out one brief questionnaire during this meeting. It is estimated that this meeting will last between 30 to 45 minutes if conducted in large-group format and between 15 to 20 minutes if conducted in small-group or individual formats.

RISKS

There are no foreseeable risks for participating in this research.

BENEFITS

There are no benefits to you as a participant other than to further research in preschool teachers' storybook reading styles.

CONFIDENTIALITY

The data in this study will be confidential. Your name will not be included on the questionnaire or audio tapes. Rather, a code will be placed on the survey and other collected data. Only the researcher will be able to link your survey to your identity through the use of an identification key. Questionnaire and audio taped data will be stored in a locked and secured location, and only the researcher will have access to them. Upon the completion of all coding of the transcripts, the original and copied tapes will be destroyed.

PARTICIPATION

Your participation is voluntary, and you may withdraw from the study at any time and for

any reason. If you decide not to participate or if you withdraw from the study, there is no penalty or loss of benefits to which you are otherwise entitled. There are no costs affiliated with your participation. Upon completion of the study, you will be paid \$8.00 per book reading session completed. Because Head Start will recess for summer by the time the study is complete, payment will be mailed to you.

CONTACT

This research is being conducted by Melissa Mincic, M.A., of the Psychology Department at George Mason University. She may be reached at (703) 772-3169 for questions or to report a research-related problem. You may also contact Dr. Susanne Denham, Ms. Mincic’s academic advisor at George Mason University, at (703) 993-1378 (work) or (703) 798-5574 (home) for questions or to report a research-related problem. You may contact the George Mason University Office of Research Subject Protections at 703-993-4121 if you have questions or comments regarding your rights as a participant in the research.

This project has been reviewed according to George Mason University procedures governing your participation in this research.

CONSENT

I have read this form and agree to participate in this study

_____ Name _____ Date of Signature

_____ I agree to be audio taped.

_____ I do not agree to be audio taped.

Appendix C

Parent Informed Consent Form

PRESCHOOL BOOK READING STUDY

ID #: _____

PARENT INFORMED CONSENT FORM

RESEARCH PROCEDURES

This research is being conducted to study differences in teachers' book reading styles across classrooms and to test emotional storybooks for social-emotional skills preschool curriculum development. This research is being funded by the American Educational Research Association and the U.S. Department of Education's Institute of Education Services. If you agree to participate, you will be asked to fill out two brief questionnaires. It is estimated that approximately 15 minutes will be required to complete these documents. If your child agrees to participate, he/she will complete two tasks with a researcher and will be observed by a researcher during the preschool day at two separate time points. In the tasks, your child will answer the researcher's questions using puppets and will answer questions the researcher asks about pictures. Each questionnaire your child completes should take about 15 minutes each, and the observations will not require any time outside of the classroom.

Your child will also participate in book reading activities with his/her teacher 3 times per week for approximately 12 weeks. Each activity should last about 20 minutes. These activities will be audio taped before and at the beginning, the middle, and the end of the activity phase of the project to study differences in teachers' reading styles across classrooms. Certain aspects of the project cannot be discussed before data collection, but you will be told about these at the end of the project.

RISKS

Potential risks to your child include negative feelings from talking about emotional storybooks with teachers. The researcher will talk to teachers on a regular basis to monitor your child's participation. If you think that your child is experiencing negative feelings from the study, let a researcher or teacher know right away. Your child will be removed from the study, and the researcher will talk with Head Start staff and administrators to be sure that your child can get help from Head Start's mental health services.

BENEFITS

Your child will get small-group academic attention from teachers in the study.

CONFIDENTIALITY

The data in this study will be confidential. Your name will not be written on the

questionnaires, and your child's name will not be written on the questionnaires or audio tapes. Instead, a code will be written on the survey and other data. Only the researcher will be able to link your data to your identity with an identification key. All data will be stored in a locked and secured location, and only the researcher will have access to them. When all coding of audio tape content is done, all tapes will be destroyed.

PARTICIPATION

Your participation and your child's participation are voluntary, and you may choose to leave the study at any time and for any reason. If you decide not to participate or leave the study, you will not lose anything. There are no costs to you or your child.

CONTACT

This project is being done by Melissa Mincic, M.A., of the Psychology Department at George Mason University. You can contact her at (703) 772-3169 for questions or to report a problem with the study. You may also contact Dr. Susanne Denham, Ms. Mincic's academic advisor at George Mason University, at (703) 993-1378 (work) or (703) 798-5574 (home) for questions or to report a problem with the study. You may contact the George Mason University Office of Research Subject Protections at 703-993-4121 if you have questions or comments about your rights or your child's rights in the study.

This project has been reviewed according to George Mason University procedures governing your participation in this research.

CONSENT

I have read this form and agree to participate in this study

Name

Date of Signature

Appendix D

PARENT QUESTIONNAIRE

Name: _____

Subject # _____

Please circle the emotion you think your child would be most likely to display in the following situations: (If you have not seen a situation, try to predict what your child would feel.)

- | | | |
|--|--------------|---------------|
| 1. Coming to preschool. | Happy | Sad |
| 2. Going to the airport, seeing the airplane, etc., but also seeing a parent off on a trip. | Happy | Sad |
| 3. What is your child's favorite food, which makes him/her very happy? _____
Least favorite _____ | | |
| 4. Coming in from playing outside when you call him/her for dinner. | Happy | Angry |
| 5. Seeing a big although friendly dog. | Happy | Afraid |
| 6. Going into the water at the swimming pool. | Happy | Afraid |
| 7. Some other kids would not let him/her play. | Angry | Sad |
| 8. He/she is told that he/she has to stay home while everyone else in the family goes to get ice cream. | Angry | Sad |
| 9. A brother or sister punches him/her, and says that if he/she tells Mom or dad, they will hit him/her again. | Angry | Afraid |
| 10. Getting a spanking. | Angry | Afraid |
| 11. After doing something naughty, a parent says if they do it again, they will have to be punished. | Sad | Afraid |
| 12. Experiencing the death of a fairly close friend or member of the extended family. | Sad | Afraid |

Appendix E

Corrected Item-Total Correlations of the Pre- and Post-Intervention Test of Preschool Early Literacy Definitional Vocabulary Subtest

Items	Questions	Pre-intervention	Post-intervention
1. Bed	What is this?	-.06	-
	What is it for?	.15	.07
2. Airplane	What is this?	-.08	.02
	What does it do?	.06	-.12
3. Monkey	What is this?	-.10	-
	Where does it live?	.26	.08
4. Door	What is this?	-	.04
	What does it do?	.22	.36
5. Telephone	What is this?	-.03	.06
	What is it for?	.04	.16
6. Key	What is this?	-	-
	What is it for?	.00	.21
7. Turtle	What is this?	.13	.19
	Is it fast or slow?	.20	.32
8. Bus	What is this?	.04	-
	What is it for?	.22	.15
9. Boat	What is this?	.18	-
	Where does it go?	-.06	.01
10. Ladder	What is this?	.20	.16
	What is it for?	.11	.01
11. Pig	What is this?	.33	.28
	Where does it live?	.17	.13
12. Teeth	What are these?	-.06	-
	What are they for?	.44	.35
13. Shovel	What is this?	.32	.16
	What is it for?	.40	.11
14. Circle	What shape is this?	.27	.09
	Name another shape	.39	.26
15. House	What is this?	.11	.06
	What is it for?	.44	.42
16. Squirrel	What is this?	.44	.23
	What does it like to climb?	.11	.16
17. Fly	What can all of these do?	.17	.05
	What do they use to fly?	.29	.30
18. Pancake	What is this?	.12	.23
	What do you put on it?	.25	.10

19. Stove	What is this?	.18	.31
	What is it for?	.14	.28
20. Ear	What is this?	.30	.35
	What is it for?	.65	.45
21. Sheep	What are these?	.33	.31
	What sound do they make?	.31	.30
22. Envelope	What is this?	-.03	.22
	What is inside it?	.24	.24
23. Pocket	What is this?	.39	.45
	What is it for?	.49	.43
24. Flower	What is this?	.22	.42
	Why do people grow them?	.28	.22
25. Button	What is this?	.28	.41
	What is it for?	.30	.29
26. Fruit	What is a name for all of these?	.06	.16
	What do you do with them?	.47	.40
27. Money	What is a name for all of these?	-.07	.29
	What is it for?	.48	.39
28. Feather	What is this?	.27	.40
	What is it from?	.31	.35
29. Lock	What is this?	.30	.37
	Why do we use it?	.16	.30
30. Clothes	What is a name for all of these?	.21	.27
	Why do you wear them?	.36	.22
31. Farm	Where could you find all of these?	.51	.31
	What is grown there?	.42	.25
32. Silverware, Utensils, Cutlery	What is a name for all of these?	.09	.22
	What are they for?	.26	.12
33. Animals	What is a name for all of these?	.27	.19
	What do they all do?	.11	.07
34. Pet	What is a name for all of these	.03	.21
	Why do people have them?	.29	.16
35. Handle	What is a name for all of these?	.21	.29
	What is it for?	.20	.20

Note. Dashes indicate that items had zero variance and were removed from the scale for reliability analyses.

Appendix F

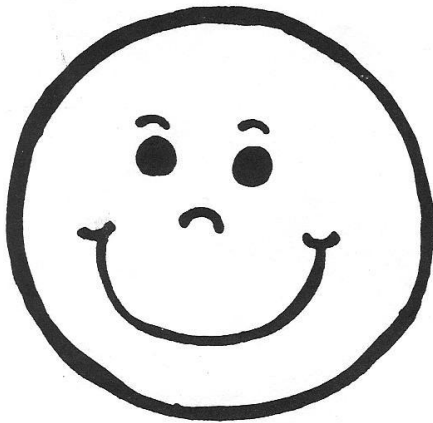
Affect Knowledge Test (Denham, 1986) Emotions Faces

The 4 Emotion Faces

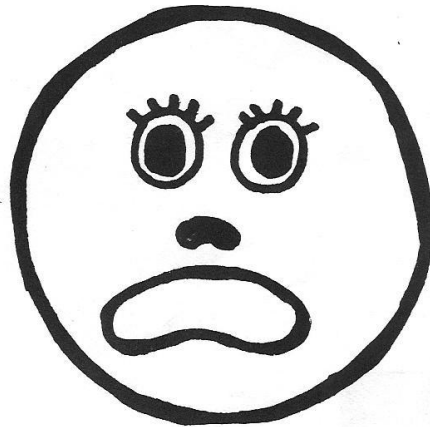
sad



mad



happy



scared

Appendix G

Affect Knowledge Test (Denham, 1986) Puppet Vignette Scripts

Puppet Situations Part 1 Script: Stereotypical

[sibs] 1. **HAPPY:**

NANCY/JOHNNY: *“Hi! I’m Nancy/Johnny. Here is my brother/sister. Ah! She/he gave me some ice cream. YUM, YUM!!”* (HAPPY)

[sibs] 2. **SAD:**

NANCY/JOHNNY: *“We are walking home.”*

SIB: *“I am going to push you down!!”*

NANCY/JOHNNY: *“Ow!! it hurts!! OWW!!”* (SAD)

[sibs] 3. **MAD:**

NANCY/JOHNNY: *“I just finished building this tower, and I feel really good about it. Doesn’t it look good?”*

SIB: *“No! I think it looks yucky. I’m going to knock it down!”* **CRASH!!**

NANCY/JOHNNY: (MAD)

[child] 4. **SCARED:** Shhhh!! Nancy/Johnny is asleep.

NANCY/JOHNNY: *“Ooh, I am dreaming. There is a tiger chasing after me!! OH NO!!”* (SCARED)

[sibs] 5. **HAPPY:**

NANCY/JOHNNY: *“Here comes Mommy. Mommy is going to take me to the zoo. Come on, Nancy/Johnny. Let’s go see the animals. Oh, I love the elephants. Here we go! Bye, bye!”* (HAPPY)

[child] 6. **SAD:**

NANCY/JOHNNY: *“I am going to go ride my Big Wheel. Where is it? Someone took it! It’s gone! Someone stole it.”* (SAD)

[child] 7. **SCARED:** Nancy/Johnny is all alone.

NANCY/JOHNNY: *“It’s really dark in here. There’s no one around. 000000.”* (SCARED)

[mom/child] 8. **MAD:**

NANCY/JOHNNY: *“I don’t like to eat cabbage!!”*

Mom: *“You have to eat it, and that’s that!”*

NANCY/JOHNNY: *“Ugh! No! No!”* (MAD)

Puppet Situations Part 2 Script: Nonstereotypical

1. [mom/child] Here come Nancy/Johnny and her/his Mommy.
 - A. **HAPPY: Nancy/Johnny:** *“We are coming to school I like it here – We have so much fun!”*
 - B. **SAD: Nancy/Johnny:** *“We are coming to school I don’t like it here. I miss my mommy. Don’t go, Mommy!”*
2. [mom/child]
 - A. **HAPPY: Nancy/Johnny:** *“We’re going to the airport. Mommy is going on a trip Its really fun to see all the planes. WOW!”*
 - B. **SAD: Nancy/Johnny:** *“We’re going to the airport. Mommy is going on a trip I don’t want mommy to go. Don’t go!!”*
3. [mom/child]

Nancy/Johnny: *“Hi, Mommy. What are you cooking?”*

 - A. **MAD: Mom:** *“[[favorite food]”*
Nancy/Johnny: *“Ugh! Yuck! I won’t eat it!”*
 - B. **HAPPY: Mom:** *“[Least favorite food]”*
Nancy/Johnny: *“Yum, yum. That sounds great!!”*
4. [mom/child]

Mom: *“Come in for dinner Nancy/Johnny!”*

 - A. **HAPPY: Nancy/Johnny:** *“I am swinging But I’m hungry & Mommy’s food is good. I will go in. Okay, Mommy.”*
 - B. **MAD: Nancy/Johnny:** *“I am swinging I wanna swing. I wanna stay outside!! No, no I won’t come in!”*
5. [child]
 - A. **SCARED: Nancy/Johnny:** *“Here comes a big dog He looks mean; his teeth are big.”*
 - B. **HAPPY: Nancy/Johnny:** *“Here comes a big dog He looks nice; his big teeth are smiling at me.”*

6. [sibs]
- A. **HAPPY: Nancy/Johnny:** *“We are going to the swimming pool; it’s a hot day. The pool is so much fun! The water feels good!”*
- B. **SCARED: Nancy/Johnny:** *“We are going to the swimming pool; it’s a hot day. I don’t like this water! It’s too deep! I don’t want it on my face-Let me out of here!”*
7. [sibs]
- Nancy/Johnny:** *“We are playing blocks. We’re building a house.”*
- Sib:** *“I’m going to play with Jimmy, and you can’t come. P00 P00 on you!”*
- A. **MAD:** (Nancy/Johnny behaviorally expresses the emotion)
- B. **SAD:** (Nancy/Johnny behaviorally expresses the emotion)
8. [mom/child]
- Mom:** *“We are going to get some ice cream at the ice cream store, but you have to stay home. Bye, Bye.”*
- A. **MAD:** (Nancy/Johnny behaviorally expresses the emotion)
- B. **SAD:** (Nancy/Johnny behaviorally expresses the emotion)
9. [sibs]
- Sib:** *“You are a bad brother/sister.” [punches] “If you tell Mommy or Daddy I hit you, I will do it again, harder.”*
- A. **MAD:** (Nancy/Johnny behaviorally expresses the emotion)
- B. **SCARED:** (Nancy/Johnny behaviorally expresses the emotion)
10. [mom/child]
- Mom:** *“You did a bad thing.”* Mom gives child a spanking.
- A. **MAD:** (Nancy/Johnny behaviorally expresses the emotion)
- B. **SCARED:** (Nancy/Johnny behaviorally expresses the emotion)

11. [mom/child] Nancy/Johnny has Mother's pen and uses it.

Mom: *"Nancy/Johnny, I told you never to use my pen. If you do it again I will have to punish you."*

A. **SAD:** (Nancy/Johnny behaviorally expresses the emotion)

B. **SCARED:** (Nancy/Johnny behaviorally expresses the emotion)

12. [mom/child]

Mom: *"Grandpa died and you won't ever be able to see him again."*

A. **SAD:** (Nancy/Johnny behaviorally expresses the emotion)

B. **SCARED:** (Nancy/Johnny behaviorally expresses the emotion)

Appendix H

Corrected Item-Total Correlations of the Pre- and Post-Intervention Affect Knowledge Test Affective Labeling and Affect Perspective Taking Scores

Aggregate	Pre-intervention correlation	Post-intervention correlation
Affect labeling		
Expressive variables		
Happy	.49	-
Sad	.49	.07
Angry	.32	.03
Afraid	.16	.09
Receptive variables		
Happy	.36	-
Sad	.45	.31
Angry	.44	.22
Afraid	.59	.44
Affect perspective taking		
Stereotypical vignettes		
1. Happy	.29	.06
2. Sad	.40	.10
3. Angry	.35	.23
4. Afraid	.51	.43
5. Happy	.24	.11
6. Sad	.60	.44
7. Afraid	.62	.30
8. Angry	.44	.36
Non-stereotypical vignettes		
1. Happy/sad	.42	.40
2. Happy/sad	.53	.52
3. Angry/happy	.47	.48
4. Happy/angry	.24	.48
5. Afraid/happy	.54	.29
6. Happy/afraid	.56	.73
7. Angry/sad	.31	.22
8. Angry/sad	.51	.37
9. Angry/afraid	.41	.63
10. Angry/afraid	.45	.56
11. Sad/afraid	.62	.62
12. Sad/afraid	.57	.66

Note. Dashes indicate that items had zero variance and were removed from the scale for reliability analyses.

Appendix I

Corrected Item-Total Correlations of the Pre- and Post-Intervention Minnesota Preschool Affect Checklist Subscales

Subscale	Pre-intervention correlation	Post-intervention correlation
Positive affect		
Displays positive affect in any manner	.70	.70
Initiates contact or engages another	-.01	-.04
Directs affect at a particular person	.46	.38
Displays affect in social situation	.46	.25
Shows very positive affect	.19	.04
Shows ongoing enjoyment	.11	.08
Uses face very expressively	.12	-
Shows pride in accomplishment	.09	-.01
Negative affect		
Displays negative affect in any manner	.63	.62
Initiates contact or engages another	-	-
Directs affect at a particular person	.21	.27
Uses face very expressively	.19	-
Uses voice very expressively	-.02	-.01
Shows negative affect vigorously	.17	.15
Facial expression looks depressed or sad	.05	.14
Shows sustained negative affect	-.14	-.13
Shows affect during pretense play	.30	.32
Productive and focused use of personal energy		
Is intensely involved in activity	.04	.54
Displays independence	.04	.54
Unproductive and unfocused use of personal energy		
Displays vacant expression	.06	.19
Displays listlessness	-.04	.03
Displays diffuse behavior	-.05	-.07
Displays tension bursts	-.12	.01
Displays wandering	-.06	-.04
Extremely active in context	-.08	-
Lapses in impulse control		
Displays interpersonal aggression	.50	-.04
Displays object aggression	.50	.53
Displays a tantrum	-	-.02
Displays unregulated anger	-	.53
Displays inability to stop behavior	-	-

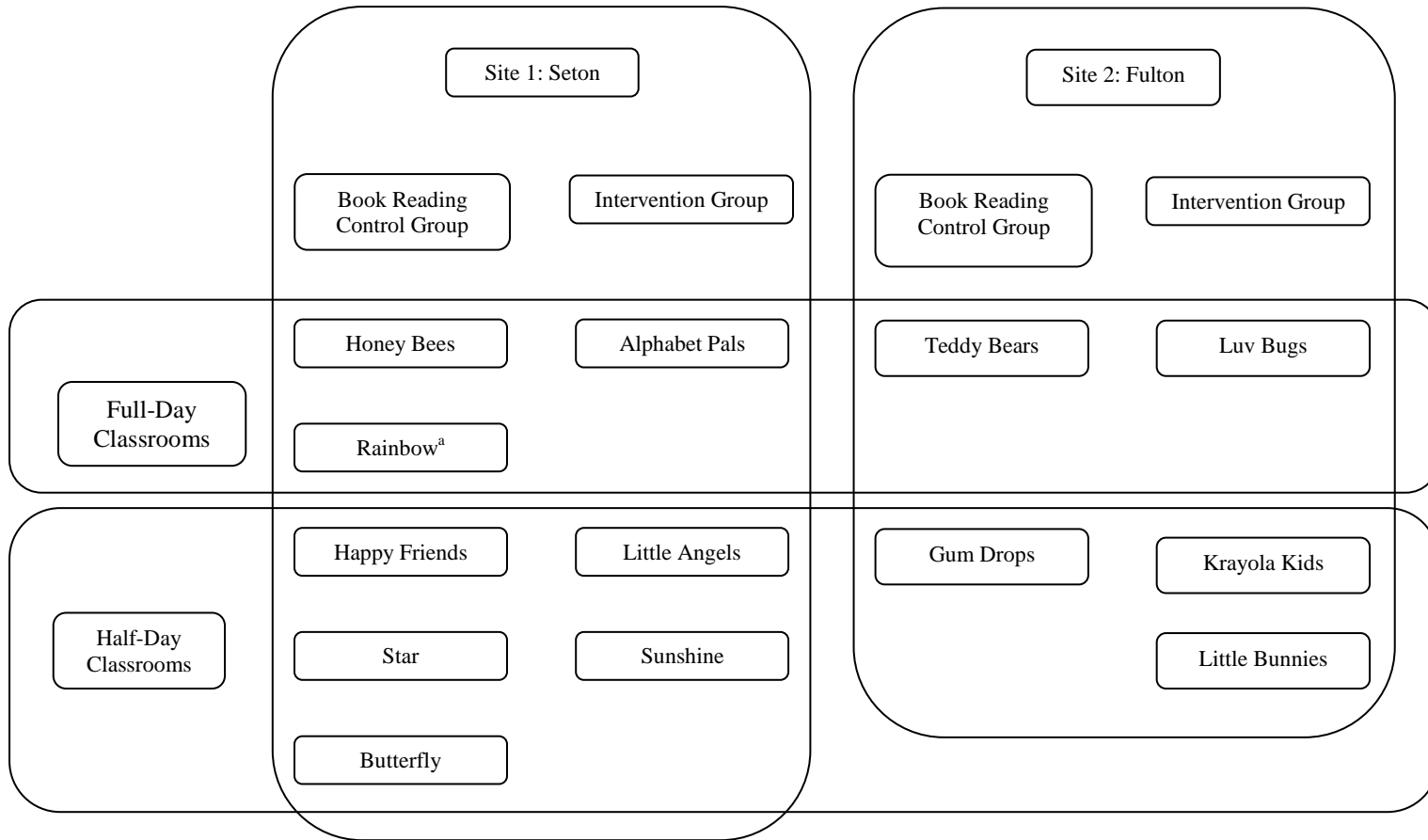
Acts pouty or sullen	-.02	.38
Displays regression or babyish behavior	-	-
Is avoidant	-	-
Displays withdrawal	.63	-.02
Reactions to frustration and conflict		
Promptly verbally expresses feelings	.90	.91
Shows neutral or positive affect	.28	.32
Shows negative affect	.47	.60
Expresses feelings but stays upset	-	.03
Tolerates frustration well	.15	-.01
Negotiates with others	-.10	-.02
Unusual behavior		
Displays bizarre behavior	-	-
Displays “quirky gestures”	.19	.06
Displays ritualistic or repetitive behaviors	-	-
Engaged in no social interaction	.18	-.00
Displays unprovoked aggression	.10	-
Displays relational aggression	.14	-.08

Note. Dashes indicate that items had zero variance and were removed from the scale for reliability analyses.

Appendix J

Classroom Assignment to Experimental Groups

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^aClassroom assigned to book reading control group as per Head Start staff request

Appendix K

Stony Brook Emergent Literacy Curriculum

Interactional Techniques

Traditional classroom shared reading has the teacher reading a story while the children listen passively. The teacher can't read the story if children are interrupting; so the operative rule becomes sit still and be quiet. Imagine how it would be if you wanted to learn to fly an airplane but you weren't allowed to touch the controls. When children share a picture book with a teacher, they are learning how to read. They need to touch the controls. That means they need to talk about the book, to read the pictures and the structure of the story to you. This emergent reading lays the foundation for formal reading instruction in first grade.

The essence of dialogic reading is a reversal of roles between adult and child. When most adults share a book with a preschooler, they read and the child listens. In dialogic reading, the adult helps the child become the teller of the story. The adult becomes the listener, the questioner, the audience for the child. No one can learn to play the piano just by listening to someone else play. Likewise, no one can learn to read just by listening to someone else read. Children learn most from books when they are actively involved.

Dialogic reading makes the child the teller of the story, the reader of the book. Children simply do not have enough opportunity for active responding in large groups. Reading to a large group at one time is acceptable on the first occasion that a book is introduced—the teacher will need to do the reading then in any case. Thereafter, the book should be read with groups as small as possible. When groups exceed four or five children, it becomes difficult for any single child to have enough opportunities to respond actively to the book.

The fundamental reading technique in Dialogic Reading is the PEER sequence. This is a short interaction between a child and the adult. The adult prompts the child to say something about the book, evaluates the child's response, expands the child's response by rephrasing and adding information to it, and repeats the prompt-evaluate sequence to make sure that the child has learned from the expansion.

Prompt
Evaluate
Expand
Repeat

Except for the first reading of a book to children, PEER sequences should occur on nearly every page. Sometimes you can read the written words on the page and then prompt the child to say something. For many books, you should do less and less reading of the written words in the book each time you read it. Leave more to the child.

Prompts are not always necessary. If a child says something spontaneous about a book, then follow that by evaluation, expansion, and repetition. This is just a PEER sequence without the initial prompt. The child begins it instead of the adult.

There are five types of prompts that are used in dialogic reading to begin PEER sequences. You can remember these prompts with the acronym CROWD.

C ompletion
R ecall
O pen-ended
W h-
D istancing

For **completion prompts**, you leave a blank at the end of a sentence and have the child fill it in (e.g., Roses are red, violets are blue, sugar is sweet, and so are _____). These are typically used in books with rhyme or books with repetitive phrases. Completion prompts provide children with information about the structure of language that is critical to later reading.

Recall prompts are questions about what happened in a book a child has already read (e.g., What happened to the red engine?). Recall prompts work for nearly everything except alphabet books. Recall prompts help children in understanding story plot and in describing sequences of events. Recall prompts can be used not only at the end of a book, but also at the beginning of a book when a child has been read that book before.

Open-ended prompts focus on the pictures in books (e.g., Tell me what's happening on this page). They work best for books that have rich, detailed illustrations. Open-ended prompts help children increase their expressive fluency and attend to detail.

Wh- prompts are usually what, were, when, why, and how questions (e.g., What is this called?). Like open-ended prompts, Wh- prompts focus on the pictures in books. Their primary function is to teach children new vocabulary.

Distancing prompts ask children to relate the pictures or words in the book they are reading to experiences outside the book (e.g., Rotten Ralph did things he shouldn't do. Have you ever done anything you weren't supposed to do?). Distancing prompts help children form a bridge between books and the real world, as well as helping with verbal fluency, conversational abilities, and narrative skills.

Remember that dialogic reading interactions are PEER sequences. You **prompt** the child, **evaluate** the response, **expand** what the child has said, and **repeat** the prompt/evaluate sequence to test what the child has learned. You start a peer sequence with one of the types of prompts from the CROWD collection: completion, recall, open, Wh-, or distancing. Remember that dialogic reading is not only the questions (the prompt), it is also how you follow up the child's answer—the whole PEER sequence.

Once you have become accustomed to reading dialogically, you will become skillful at constructing your own prompts. Books will contain hints for prompts on each page and at the end of the book.

You will need to make up your own open-ended and distancing prompts. *They are very important. Don't forget them.*

Dialogic reading is just children and adults having a conversation about a book. Children will enjoy dialogic reading more than traditional reading as long as you mix up your prompts with straight reading, vary what you do from reading to reading, and follow the child's interest. Keep it light. Don't push children with more prompts than they can handle happily. Keep it fun!

Bookends—Introducing Books

The CROWD prompts and PEER sequences we have described to you for dialogic reading should be used while reading a book with a small group of children for repeated readings spread out over several days. Your procedures should differ when you read the book the first time, and after children have mastered the book. We call these bookends because they come at the beginning and end of the classroom curriculum for a book.

The first reading of a book should consist much more of straight reading than prompting so that children can be exposed to the story that the book conveys. Children should be oriented to the book the first time with a few comments about the cover and title.

Scheduling Dialogic Reading

Each child in a classroom should receive at least 10-15 minutes of dialogic reading time 3 days per week. Children are exposed to a single book at least 3 times over a 5-day period. One book will be provided to you each week. All lead teachers, assistant teachers, and teaching assistants are welcome to read books with participating children.

The first day of a week-long sequence of dialogic reading is devoted to introducing the book. The next 2 days are devoted to small-group dialogic reading. You may read with children for the remaining 1-2 days of the week if you wish.

Each small group should have no more than 5 children in it. A typical reading session should last for 10-15 minutes per group. One model for small group reading involves a floating assistant who moves from classroom to classroom to manage children who are not involved in reading while the teacher or assistant conducts the small group reading sessions. This is the model that will be used for this study.

Reference

Whitehurst, G. J. (1994). *The Stony Brook emergent literacy curriculum*. Unpublished manuscript.

Appendix L

Emotion Coaching Families

The Meta-Emotion Interview

Gottman, Katz, and Hooven (1997) developed the Meta-Emotion Interview and administered it to mothers and fathers. The interview includes questions about four major components:

1. Parent's and child's sadness
2. Parent's and child's anger
3. Hard and easy emotions for parent
4. Parent's perceptions of child's emotion regulation abilities and problems

Based on their interviews with parents, they characterized three groups:

Awareness of one's own emotion is being able to talk about the emotion in a differentiated manner (differentiating various types and intensities of the emotion), particularly that the subject experiences this emotion, has no problem distinguishing this emotion from others, answers questions easily, without hesitation or confusion, talks at length about the emotion, and shows interest and excitement about this emotion.

Awareness of the child's emotion is noticing when the child has the emotion, having no problem distinguishing this emotion from others, being descriptive of the child's emotion, having insight into the child's experience of the emotion, being descriptive of some part of the remediation process (e.g., what makes child feel better), knowing the cause of the child's emotion, being able to talk at length and easily about the child's experience, and being interested in the child's experience.

Coaching the child's emotion involves helping the child to verbally label the emotions begin felt, showing respect for the child's experience of this emotion (i.e., accepting the emotion), when the child is upset, the parent talking to the child, intervening in situations that caused the emotion, at times comforting the child during the emotion, teaching the child appropriate rules for expressing the emotion, educating the child about the nature of the emotion, teaching the child strategies for dealing with the emotion, and for soothing the intense levels of the emotion.

Emotion-Coaching Families

Emotion-coaching parents are doing the following five things:

1. The parent is aware of the child's emotion.

First, the parent is aware of the child's emotion. This generally means being aware of relatively lower intensity emotions. A child does not have to be weeping for a parent to detect the signs of sadness, nor be enraged for the parent to detect the signs of anger. It appears to be important to emotion-coaching parents to connect with their children when their children are being emotional before the negative emotion escalates to a high intensity.

2. The parent sees the child's emotion as an opportunity for intimacy or teaching.

Second, emotion-coaching parents see the child's negative emotion as an opportunity for intimacy or teaching. This is in marked contrast to emotion-dismissing parents, who see the child's negative emotion as an unreasonable demand that they fix the world so the child will never be unhappy, who see the negative emotion as toxic, to be changed as quickly as possible, and whose major lesson is that their children should minimize, endure, and get over the negative affective state quickly.

3. The parent helps the child to verbally label the emotions the child is having.

Third, the emotion-coaching parent empathizes with the child's emotion, is understanding and accepting about it, and communicates a genuine understanding of why having this emotion at this time in this situation makes sense to the parent. In this empathizing, the parent may soothe the child, calm the child, and use affection. It needs to be emphasized that it is not easy to do this empathizing when the parent is actually the target of the negative affect. Thus, this part of emotion coaching may require the parent to be nondefensive.

4. The parent empathizes with or validates the child's emotion.

Fourth, the parent helps the child to verbally label the emotions that he or she is feeling. This need not involve standard labels (angry, afraid, sad), but they involve putting the feelings into words ("You felt that the way the teacher treated you was unfair").

5. The parent helps the child to problem solve.

Fifth, the parent helps the child problem solve. In this problem solving, emotion-coaching parents often set limits ("It's OK to be angry, but it's not OK to hit your brother") and describe appropriate behavior and consequences for inappropriate behavior. At times the parent will also help the child decide what they would wish would happen in this situation (goals), and what might work to accomplish these ends (strategies).

Emotion coaching is embedded in a constellation of parenting variables that involve: (a) avoid derogating and insulting the child, or using negative trait labels, and (b) using authoritative (warmth, limit setting, structuring) and responsive parenting practices.

Reference

Gottman, J. M., Katz, L., & Hooven, C. (1997). *Meta-emotion: How families communicate emotionally*. Mahwah, NJ: Erlbaum.

Appendix M

Preschool Book Reading Study Log

Teacher name: _____ Date: _____

Book read: _____ Time started: _____

Participating children:

1. _____
2. _____
3. _____
4. _____
5. _____

Your opinion of today's book:

1	2	3	4	5
Didn't like at all		Didn't like, didn't dislike		Very much liked

Notes/comments about today's book:

Your opinion of children's level of engagement during book reading:

1	2	3	4	5
Not at all		Engaged at times		Very much engaged

How skillfully do you think you discussed emotions with children during the storybook reading?

1	2	3	4	5
Not very skillfully		Somewhat skillfully		Very skillfully

Notes/comments about today's book reading: _____

Time ended: _____

Appendix N

Guidelines for Weekly Storybook Readings

Instructions

1. Read storybooks using the techniques discussed with groups of up to five children three times per week. *This totals six storybook reading sessions per week for each classroom. Half-day classrooms have up to five children participating in each class. Full-day classrooms have up to ten children participating.*
 - *You are welcome to conduct these book reading sessions wherever you'd like, whether it be in an isolated corner of your classroom or somewhere outside the classroom (e.g., Seton library, outdoors).*
 - *For full-day classrooms, it may be best to include five children in the a.m. book reading group and include the remaining children in the p.m. book reading group in the event that any participating child leaves Head Start before the end of the day. This can help to ensure maximum participation from all children.*
 - *For full-day classrooms, please do your best to complete these from Monday through Thursday. I will come around to each classroom on Friday to check in, collect book reading logs for the week, and give you new book reading logs for the following week.*
2. Conduct only one book reading session per small group of children per day.
 - If you fall behind in storybook readings, you can make up the session during the following week to maintain an average of three storybook reading sessions per week.
 - Read storybooks with participating children only. Do not to read the storybooks I provide you to the entire class during story time.

Throughout Storybook Reading Period

1. I will provide each teacher one book plus book reading logs on Fridays.
2. I and additional volunteers will volunteer in classrooms to help occupy non-participating children.
 - Can read stories to non-participants if you believe that they feel left out.
 - Scheduling of book readings can help ensure more extensive coverage.
3. Three additional audio tapings during book reading sessions will be conducted to investigate differences in teachers' reading styles across classrooms.
 - a. Beginning of January (*Approximately 01/14-01/25*)
 - b. Mid-February (*Approximately 02/11-02/22*)
 - c. Late March (*Approximately 03/17-03/26*)

And, most importantly, please, please let me know if there is anything I can do to help you achieve these goals, pretty please!

I am more than happy to help however I can!

Note. Italics represent content added to instructions provided during teacher meetings.

Appendix O

Corrected Item-Total Correlations of the Teacher Attitudes about Social and Emotional Learning Subscales

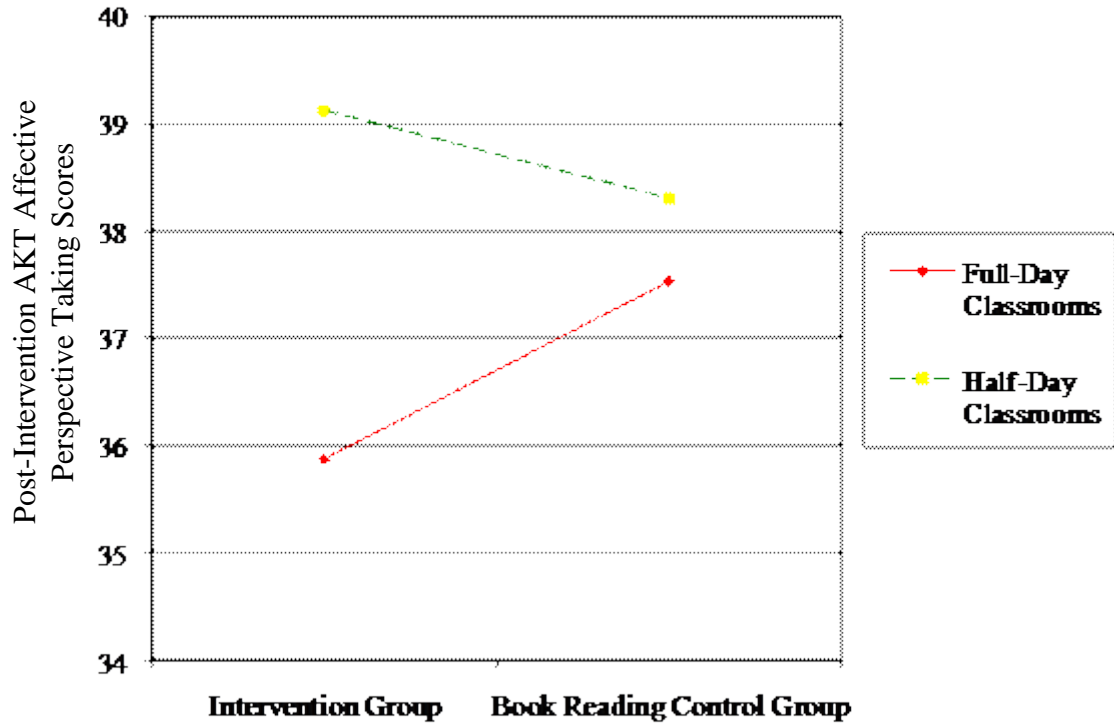
Subscale	Correlation
Program effectiveness	
Programs are effective in helping children.	.81
SDP can help all kids regardless of their temperament.	.43
It is worth my effort to implement SDP lessons.	.69
SDP has helped my children to improve their skills.	.56
Competence	
I deliver SDP lessons effectively.	.66
I understand the goals of SDP.	.73
I feel competent teaching SDP lessons.	.79
I have thorough knowledge of SDP lessons.	.59
Time constraints	
I don't have time in the day or week to deliver SDP lessons.	.53
I have enough time to prepare for SDP lessons.	-.13
Spending time on SDP lessons takes time away from academics.	.50
Training	
I received sufficient training in SDP.	.73
The training I received provided me with sufficient knowledge.	.84
The training I received was a hands-on training.	.76
The researcher has arranged for training in SDP.	.82
Administrative support	
Other than the training, the researcher has discussed SDP with me.	.63
The researcher acknowledges teachers who do a good job.	.53
The researcher is an active supporter of SDP.	.63
The researcher has watched me deliver SDP lessons.	.50
Other teachers implement SDP consistently.	.54
TASEL aggregate	
Programs are effective in helping children.	.77
SDP can help all kids regardless of their temperament.	.44
It is worth my effort to implement SDP lessons.	.57
SDP has helped my children to improve their skills.	.52
I deliver SDP lessons effectively.	.49
I understand the goals of SDP.	.56
I feel competent teaching SDP lessons.	.62
I have thorough knowledge of SDP lessons.	.47
I don't have time in the day or week to deliver SDP lessons.	.06
I have enough time to prepare for SDP lessons.	.58

Spending time on SDP lessons takes time away from academics.	.05
I received sufficient training in SDP.	.62
The training I received provided me with sufficient knowledge.	.72
The training I received was a hands-on training.	.68
The researcher has arranged for training in SDP.	.70
Other than the training, the researcher has discussed SDP with me.	.47
The researcher acknowledges teachers who do a good job.	.31
The researcher is an active supporter of SDP.	.47
The researcher has watched me deliver SDP lessons.	.46
Other teachers implement SDP consistently.	.83

Note. Dashes indicate that items had zero variance and were removed from the scale for reliability analyses.

Appendix P

Interaction Plot for AKT Affective Perspective Taking: Classroom Assignment and Experimental Group Assignment



List of References

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Curriculum Vitae

Melissa S. Mincic graduated from Trinidad High School, Trinidad, Colorado, in 1998. She received her Associate of Arts with a concentration in Psychology from Trinidad State Junior College in 2000, her Bachelor of Arts in Psychology with a minor in Professional Writing from the University of Colorado at Colorado Springs in 2002, and her Master of Arts in Applied Developmental Psychology from George Mason University in 2007. She graduated Valedictorian from Trinidad State Junior College and graduated Magna Cum Laude and with High Distinction in Psychology from the University of Colorado. In 2000, Ms. Mincic was listed in Who's Who Among Students in American Junior Colleges; was named part of the All-Colorado Academic Team; and was named Trinidad State Junior College's Student of the Year, Student Leader of the Year, and Student Scholar Athlete of the Year. In 2004, she was selected as a William A. Morrill Public Service Fellow and worked at Caliber Associates, Inc., in Fairfax, Virginia. In 2006, she was selected as one of George Mason University's two Outstanding DBS Doctoral Students. In 2008, she was selected as a Postdoctoral Fellow in the Early Childhood Special Education Leadership Program in School of Education and Human Development's Center for Evidence-Based Practices in Early Learning at the University of Colorado Denver. Ms. Mincic was awarded an AERA/IES Dissertation Fellowship Grant to complete her dissertation research and has also co-authored journal articles published in *Death Studies* and *Aging and Mental Health*.