

Dialogic Reading: A Shared Picture Book Reading Intervention for Preschoolers

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Preparation of this work was supported in part by grants to Grover J. Whitehurst from the Administration for Children and Families (90-CD-0957) (90-YD-0026). Views expressed herein are the authors' and have not been cleared by the grantors.

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Dialogic Reading: A Shared Picture Book Reading Intervention for Preschoolers

Over the past several decades, many studies have demonstrated that preschoolers' experience with shared reading is linked to their development of language. Correlational studies have revealed that the frequency of shared picture book reading in the home is related to preschoolers' language skills (e.g., Mason, 1980; Payne, Whitehurst, & Angell, 1994; Wells, 1985; Wells, Barnes, & Wells, 1984). Experimental work bolsters these findings; several researchers have demonstrated gains in preschoolers' vocabulary (e.g., Elley, 1989; Jenkins, Stein, & Wysocki, 1984; Sénéchal & Cornell, 1993; Sénéchal, Thomas, & Monker, 1995; Vivas, 1996) oral language complexity (McNeill & Fowler, 1999; Valdez-Menchaca & Whitehurst, 1992) and narrative skills (Harkins, Koch, & Michel, 1994; Zevenbergen & Wilson, 1996) resulting from shared picture book reading experiences. Studies also suggest a link between early experiences with shared picture book reading and later language and literacy skills (e.g., Dickinson & Smith, 1994; Stevenson & Fredman, 1990; Wells, 1985). For example, Wells (1985) showed that the amount of time children listened to stories between 1 and 3 years of age was significantly correlated with their language skills at 5 years of age and their reading comprehension skills at 7 years of age. Similarly, Stevenson and Fredman (1990) found a significant relationship between the frequency of parent-child shared reading when children were preschoolers and their reading, spelling, and IQ scores at 13 years of age.

Research that we have conducted (Arnold, Lonigan, Whitehurst, & Epstein, 1994; Whitehurst et al., 1988) as well as the work of others (e.g., Crain-Thoreson & Dale, 1999; Dickinson & Smith, 1994; Haden, Reese, & Fivish, 1996; Reese & Cox, 1999) suggest that the particular way in which preschoolers are read to is related to the language gains they obtain from the picture book reading experience. When adults give children an opportunity to be an active

participant in the reading experience by using evocative techniques during the reading (e.g., asking the child questions about the pictures or the story, encouraging the child to tell the story along with the adult), children show greater language gains than when adults just read the book to the child (Arnold et al., 1994; Whitehurst et al., 1988).

Dialogic Reading Techniques

The specific reading technique that we have developed is called *dialogic reading*. This technique, first described in Whitehurst et al. (1988), is based on the theory that practice in using language, feedback regarding language, and appropriately scaffolded adult-child interactions in the context of picture book reading facilitate young children's language development. One set of specific techniques has been developed for reading with children 2-3 years of age; another set has been developed for reading with children 4-5 years of age. Across both age groups, children are encouraged to become the teller of the story over time; the role of the adult is to prompt the child with questions, expand the child's verbalizations, and praise the child's efforts to tell the story and label objects within the book (Arnold & Whitehurst, 1994). The adult furthermore increases the standards for the child's verbalizations over time, following the principle of the zone of proximal development (Vygotsky, 1978). That is, the adult continually encourages the child to say just a little more than the child would naturally; this scaffolding is thought to lead to more rapid development in the child's language skills than would occur spontaneously.

Dialogic reading for 2-3-year-olds is taught to adults in two assignments. The second assignment is taught 2-3 weeks after the first assignment. Adults are taught seven points in the first assignment:

1. *Ask "what" questions.* Ask children to name objects pictured in the book; also ask children simple questions about the story (e.g., "What did the pigs do next?")

2. *Follow answers with questions.* Follow the child's answers to questions with further, related questions. For example, if the child is able to label an object in the book, ask questions about attributes of the object (e.g., "Yes, that's a dog. What color is the dog?").

3. *Repeat what the child says.* Repeating what the child says serves to reinforce the child's verbalization, letting the child know that he/she is correct (e.g., "Yes, that's a wagon").

4. *Help the child as needed.* Sometimes the questions asked of children are difficult for them to answer initially. A child's inability to answer a question provides a good teaching opportunity. Answer the question posed to the child and have him/her repeat your verbalization (e.g., "That's called an octopus. Can you say, 'octopus'?").

5. *Praise and encourage.* Praise the child's attempts to talk about the book. Both general (e.g., "Good job!") and specific praise (e.g., "Good talking!", "You did such a good job of naming the animals!") are encouraging to the child.

6. *Follow the child's interests.* It is not important to read all the words in the book or to talk about every picture. If the child begins to talk about a part of the story or a picture on the page, follow his/her interests and encourage him/her to talk more. The child is more likely to enjoy reading with adults if they are sensitive and responsive to his/her interests.

7. *Have fun.* One important goal of dialogic reading is that children enjoy the shared reading experience. Children do appear to enjoy dialogic reading, particularly when adults take a game-like, turn-taking approach to using the techniques. For example, children seem to enjoy when the adult reads one page, and the child "reads" the next page. If the child appears to be getting tired of the reading, read a few pages without questions or put the book aside for a later time.

For the second assignment, adults are instructed on the following three points:

1. *Ask open-ended questions.* In part one, the child is asked specific questions about objects in the book, attributes of the objects, and elements of the story. After the child has had practice with these types of specific questions, begin to ask the child more open-ended questions. Examples of open-ended prompts include, "What do you see on this page?" and "Tell me what's going on here." As with part one, encourage and praise any responses from the child and help the child as needed.

2. *Expand what the child says.* When the child says something about the book, repeat it and add a few more words to the child's verbalization. Then, have the child imitate what you have said. For example if the child says, "Big dog," the adult might say, "Yes, the big dog is red. Can you say that?"

3. *Have fun.* As mentioned in part one, it is important that the child enjoy the shared reading experience. Turn-taking in talking about the book helps to keep children interested in shared reading.

Dialogic reading techniques for children aged 4-5 differ from those used with younger children in that the types of questions asked of children are generally more challenging. Adults are taught how to use dialogic reading techniques with 4-5-year-olds through a single assignment that focuses on asking children specific types of questions, evaluating the child's responses, expanding the child's responses, and having the child repeat expanded utterances(Whitehurst, Epstein, et al., 1994). The acronyms CROWD and PEER were developed to help adults remember these dialogic reading techniques. CROWD refers to the five types of questions asked by adults when engaging in dialogic reading with 4-5-year-olds. These question types are as follows:

1. *Completion prompts*: These are fill-in-the-blank questions (e.g., "When we went into the car, we all put on our _____.")

2. *Recall prompts*: These are questions that require the child to remember aspects of the book (e.g., "Can you remember some of the things that Stickybeak did at school?")

3. *Open-ended prompts*: These are statements that encourage the child to respond to the book in his or her own words (e.g., "Now it's your turn to tell about this page").

4. *Wh-prompts*: These are *what*, *where*, and *why* questions (e.g., "What is this called?", "Why did Peter stay home from school?")

5. *Distancing prompts*: These are questions that require the child to relate the content of the book to aspects of life outside of the book (e.g., "Did you ever go to a parade like Susie did?")

PEER reminds adults to *prompt* the child to label objects in the book and talk about the story, *evaluate* the child's responses, *expand* the child's verbalization by repeating what the child has said and adding information to it, and encourage the child to *repeat* the expanded utterances. Although the term "evaluate" may have negative connotations, what is intended is for adults to praise the child's correct responses and offer alternative labels or answers for clearly incorrect responses. Corrections should be given to children in a way that is constructive and sensitive to their efforts to talk about the book. Children may respond well to phrasing corrections in the following ways: "Well, that looks like a horse, but we would call it a cow" or "Well, Joey might have wanted to go to the park, but remember that Joey went to the circus in the story?" One may also evaluate a child's vocabulary usage as relatively simple and take the opportunity to teach the child a more specific vocabulary word. For example, if the child says, "That's a dog," the adult might say, "Yes, that's a dog. It's a kind of dog called a 'beagle'. Can you say, 'beagle'?"

An example transcript of a parent-child dialogic reading interaction is presented in Appendix A. Although any picture book can be used for dialogic reading, books that work particularly well are those that have clear illustrations, relatively little text, and an engaging story. A list of books that work well for dialogic reading is presented in Appendix B.

Videotape Training

Videotapes were developed to teach adults the dialogic reading technique (Whitehurst, 1991, 1994a, 1994b). Two videotapes, each 15-20 minutes long, were developed to teach parents the techniques for reading with 2-3-year-old children. Another 15-minute videotape was developed to teach parents the techniques for reading with 4-5 year-olds. Lastly, a 15-minute videotape was developed to instruct teachers of 4-5-year-old children in the techniques. Each videotape explains the dialogic reading techniques, presents models of adults and children reading together using the techniques, and then "quizzes" the viewer on the techniques. These quizzes take the form of presenting an incorrect use of the technique and then questioning the viewer, "What could he/she have done instead?" The videotapes were developed in order to increase the number of individuals who could use dialogic reading techniques with their children; it is usually less costly for individuals to be trained in a technique through a videotape than for them to receive instruction from a trainer. Interestingly, Arnold et al. (1994) found greater gains in 2-year-olds' receptive and expressive vocabulary when their parents were taught the dialogic reading techniques by videotape than when they were taught the techniques individually by a trainer. Arnold et al. (1994) suggested that the relative advantage of the videotape training over direct training may be due to the modeling of parent-child reading interactions in the videotape training. Studies demonstrating the importance of model similarity in skill acquisition

(e.g., Bandura, 1977) would suggest that parents or teachers learning the dialogic reading techniques may learn the skills best if they can see other parents or teachers modeling the techniques.

Evaluation of the Effectiveness of Dialogic Reading

We have conducted a series of studies evaluating the effectiveness of dialogic reading for children from upper- and middle-socioeconomic status (SES) and low SES groups, and also evaluating the relative effectiveness of dialogic reading interventions conducted in the home versus those conducted in a preschool environment. Overall, we have found dialogic reading to impact positively upon the language and emergent literacy skills of children.

The Impact of Dialogic Reading Upon the Language Skills of Children from High SES

Families

The first study evaluated the effects of dialogic reading on the language skills of 2-year-olds from upper- and middle-SES families (Whitehurst et al., 1988). In this study, all participating parents were mothers and European American. Half of the mother-child dyads were randomly assigned to the experimental condition where they participated in a dialogic reading program for 4 weeks. The other half of the dyads were assigned to the control condition. The mothers in the experimental condition were taught the dialogic reading techniques in two half-hour training sessions (i.e., parts one and two as described above) separated by 2 weeks. Mothers were taught the techniques individually through didactic instruction in the techniques, modeling of the techniques by the trainer and a research assistant who played the role of a child, and direct feedback in which the trainer played the role of a child and had the mother practice the techniques while giving her feedback about her performance. Mothers in the control group were not taught the dialogic reading techniques but were told to read to their child over the 4-week

period as they usually did. All mothers were asked to audiotape their reading sessions over the course of the study period and to record information regarding their frequency of reading over the 4 weeks.

Examination of reading frequency data revealed no difference between the experimental group and control group in frequency of mother-child reading. Analyses of the audiotapes revealed a significant increase in mean length utterance (MLU) in the children in the experimental group over the course of the 4-week period. Children in the experimental condition also showed significant gains in their expressive language skills over the course of the intervention. Specifically, children in the experimental group showed a 6-month gain in expressive vocabulary as assessed by the Expressive One-Word Picture Vocabulary Test (EOWPVT; Gardner, 1981) and a 8.5-month gain in expressive language fluency as assessed by the Expressive Language subtest of the Illinois Test of Psycholinguistic Abilities (ITPA-VE; Kirk, McCarthy, & Kirk, 1968). No significant gain was seen in children's receptive vocabulary skills as assessed by the Peabody Picture Vocabulary Test - Revised (PPVT-R; Dunn & Dunn, 1981) as a result of the intervention. Gains in children's expressive language skills were maintained at a 9-month follow-up assessment.

In a replication and extension of Whitehurst et al. (1988), Arnold et al. (1994) taught mothers to read dialogically with their 2-year-old children through either videotape training or direct training. Arnold et al. contrasted the effects of these two dialogic reading training conditions with a control condition in which mothers were told to read to their child as they usually did. As in Whitehurst et al. (1988), the children in this study were from upper- and middle-SES European-American families and the reading intervention lasted for 4 weeks. Both training conditions were found to have a significant effect on children's language skills.

Specifically, children from the videotape training group scored significantly higher than those in the control group on the EOWPVT and the ITPA-VE. Children from the direct training group scored significantly higher than those in the control group on the ITPA-VE as well. Additionally, children from the videotape training group scored significantly higher than the children from the direct training group on the EOWPVT and PPVT-R. Taken together, these results further suggest the impact of dialogic reading on the language skills of children from high- and middle-SES children. The results of Whitehurst et al. (1988) and Arnold et al. (1994) indicate that language development in high- and middle-SES children can be enhanced significantly with a relatively short (i.e., 4-week) intervention.

The Influence of Dialogic Reading on the Language Skills of Children from Low-Income Families Enrolled in Day Care

Several studies have shown that a substantial proportion of children from socioeconomically disadvantaged families enter kindergarten with language skills that are behind those of their peers from higher-income families (e.g., Carnegie Foundation for the Advancement of Teaching, 1991; Walker, Greenwood, Hart, & Carta, 1994; Whitehurst, Epstein, et al., 1994). Although there is considerable variability across families (Payne et al., 1994), many children from low-income families have been found to have relatively less access to home literacy (e.g., Feitelson & Goldstein, 1986; Harris & Smith, 1987; McCormick & Mason, 1986; Raz & Bryant, 1990) and verbal interactions with caregivers (Heath, 1982; Robinson & Rackstraw, 1967; Snow, Dubber, & deBlauw, 1982) than children from higher-income families. These home disadvantages may translate to relatively lower levels of language skill at school entry for some children from low-SES families.

Valdez-Menchaca and Whitehurst (1992) assessed the effectiveness of a 7-week dialogic reading program in accelerating the language skills of 2-year-old children from low-income families attending day care in Mexico. Children in the intervention condition were read to by a graduate student using the dialogic reading techniques. Children in the control condition were given instruction in arts and crafts by the same graduate student. The dialogic reading intervention yielded significant gains in children's expressive and receptive language skills as assessed by the EOWPVT, ITPA-VE, and PPVT-R. Specifically, at posttest, the children in the intervention condition were on average 7.3 months ahead of children in the control condition in terms of language age on the EOWPVT, 8.2 months ahead on the ITPA-VE, and 3.3 months ahead on the PPVT-R. Moreover, children who participated in the intervention condition also obtained higher scores on measures of linguistic complexity (e.g., MLU, sentence complexity, variety of use of nouns and verbs) than children in the control condition. Thus, Valdez-Menchaca and Whitehurst demonstrated that dialogic reading can significantly impact the language skills of children from low-income families.

Whitehurst, Arnold, et al. (1994) showed that a 6-week dialogic reading program could positively impact upon the language skills of 3-year-olds from low-income families in the United States. In this study, children were enrolled in day care centers that served low-income families. Approximately one-half of the children were African American, one-quarter were European American, and one-quarter were Latino/Latina. Children were randomly assigned within classrooms to participate in either dialogic reading at home and in their classroom (school plus home condition), participate in dialogic reading only in their classroom (school condition), or engage in play activities in the classroom (control condition). Parents of children in the school plus home condition and the classroom teachers and aides were trained in the dialogic reading

techniques through videotape and role play with trainers. Parents received books to read to their children at home. Children in the school plus home condition and the school condition read dialogically with their classroom teachers or aides in groups of no more than five children at a time. Shared reading sessions were scheduled to occur daily for approximately 10 minutes per reading group. To manage the classroom environment during this reading time, typically the teacher or aide read with a small group of children while the other adult monitored the remaining children engaged in another activity.

The dialogic reading intervention yielded significant gains in children's expressive language skills as assessed by the EOWPVT. Children who participated in the dialogic reading conditions scored significantly higher on the EOWPVT at posttest than children who participated in the control condition. Moreover, children in the school plus home condition scored significantly higher on the EOWPVT than those in the school condition. A 6-month follow-up revealed that the children in the two reading conditions were still ahead of those in the control condition in their scores on the EOWPVT. Vocabulary gains were also seen at posttest for children who participated in the dialogic reading conditions on a test we developed assessing children's knowledge of specific, relatively uncommon, vocabulary words that were pictured in the books used in the intervention conditions. This test was not administered at the 6-month follow-up.

These positive results were tempered by findings of substantial variability across teachers in the fidelity with which they followed the intervention program. Of the five day care centers that participated in the program, one center complied only minimally with the intervention program.

Having one center comply only minimally with the dialogic reading program led to consideration of possible barriers to conducting a dialogic reading program within a day care center or preschool classroom environment. Discussion with teachers and observations of classrooms revealed that teachers may find it effortful to engage in shared reading with small groups of children unless there are more than two adults in the classroom. Although one adult can potentially read with a small group of children while the other adult monitors the remainder of the children, many times there are individual children who need the attention of one of the adults. In a classroom staffed by only two adults, if one adult is reading with a small group of children, and the other adult is attending to an individual child, there is no adult remaining to closely monitor the rest of the children. This does not mean, however, that dialogic reading is not possible within a day care or preschool classroom environment. Clearly the results of Whitehurst, Arnold, et al. (1994) show that classrooms can manage reading dialogically to small groups effectively. To increase the chances of consistent teacher-child shared reading interactions occurring within day care or preschool classrooms, classrooms may use available classroom volunteers either to conduct the shared reading interactions or assist other children in the classroom while teachers are reading with small groups of children. Possible groups from which volunteers might be obtained include parents, older elementary school and secondary school students, college students, or elderly individuals. Another potential barrier may be a philosophy held by some day care centers and preschools that direct instruction interactions such as dialogic reading are developmentally inappropriate for preschool-aged children. However, dialogic reading interactions can be quite child-directed. As mentioned above, one goal of dialogic reading is for the child to become the teller of the story. One might expect that as the teller of the story, the child will naturally follow his or her own interests in discussing the story

and the pictures in the book. Thus, individual teachers may make their dialogic reading interactions as teacher-directed or child-directed as they choose.

A final study within this series examining the impact of a dialogic reading program on the language skills of children from low-income families enrolled in day care was conducted by Lonigan and Whitehurst (1998). This study contrasted the effects of (a) a no-treatment control group, (b) a school-only reading condition, (c) a home-only reading condition, and (d), a school plus home reading condition. The children in this study were 3- and 4-year-olds; approximately 90% of the children were African American. The purpose of this study was to contrast the impact of school-only dialogic reading with that of home-only dialogic reading; this contrast was not examined in the Whitehurst, Arnold, et al. (1994) study design. The training of teachers and parents in the dialogic reading techniques and the details of the intervention program (e.g., length of program, procedures for classroom reading interactions) were similar to those in Whitehurst, Arnold, et al.

Results of the study revealed a significant impact of the dialogic reading intervention on children's expressive language abilities; however, as in Whitehurst, Arnold, et al., gains in children's language skills varied as a function of day care center compliance to the intervention program. In the high compliance centers, children in the intervention conditions scored significantly higher at posttest on the EOWPVT than children in the control condition. There was no significant difference between the three intervention conditions on the EOWPVT in these high compliance centers; however the effect size for the school plus home reading group was almost double that of the two other reading conditions. An intervention effect was also found on the ITPA-VE. Children in the three intervention conditions scored significantly higher on the ITPA-VE than children in the control condition at posttest. Moreover, children in the home-only

condition scored significantly higher on the ITPA-VE than children in each of the other three conditions. Intervention effects were also found for measures of spontaneous verbalizations (e.g., MLU, semantic complexity) when reading an unfamiliar book with a researcher. On these measures of spontaneous verbalizations, there were minimal differences found between the three intervention groups. Overall, the results of Lonigan and Whitehurst (1998) indicate that both parent-led and teacher-led dialogic reading can have positive effects on preschoolers' language skills. From the data obtained, Lonigan and Whitehurst (1998) surmised that parent-child dialogic reading may impact children's use of descriptive language more than teacher-child dialogic reading and teacher-child dialogic reading may impact children's vocabulary acquisition more than parent-child dialogic reading.

The Influence of Dialogic Reading on the Language and Emergent Literacy Skills of Children Enrolled in Head Start

Given the relative academic risk of children from low-income families (Carnegie Foundation for the Advancement of Teaching, 1991), it is important to assess how shared reading interventions also impact the emergent literacy skills of children from low-income families. Emergent literacy is the skills, knowledge, and attitudes that are presumed to be developmental precursors to conventional forms of reading and writing (Sulzby, 1989; Sulzby & Teale, 1991; Teale & Sulzby, 1986). Emergent literacy thus includes skills such as letter knowledge, phonemic awareness, print awareness, and oral language skills (Lonigan & Whitehurst, 1998).

Whitehurst, Epstein, et al. (1994) and Whitehurst et al. (1999) demonstrated the positive impact of dialogic reading on the emergent literacy skills of children enrolled in Head Start. Classrooms of 4-year-olds were randomly assigned to an intervention condition, involving an add-on dialogic reading program conducted both at home and in the Head Start classrooms, or a

control condition, in which the children experienced only the regular Head Start curriculum. Children in the intervention condition also experienced an adaptation of a classroom-based sound and letter awareness program called *Sound Foundations* (Byrne & Fielding-Barnsley, 1992). Sound Foundations introduces children to letters and the relationship between specific letters and phonemes (e.g., the letter *s* and the /s/ sound). More information about this adaptation of the sound foundations program for use in combination with the dialogic reading program within Head Start classrooms can be found in Whitehurst, Epstein, et al. Parents and teachers in the intervention condition were trained in the dialogic reading techniques through videotape and role play with a trainer. The dialogic reading portion of the intervention program was conducted for 30 weeks and the letter and sound awareness portion was conducted for 16 weeks.

The dialogic reading intervention program conducted in Head Start differed from dialogic reading programs conducted in day care (e.g., Whitehurst, Arnold, et al., 1994) and only with parents (e.g., Whitehurst et al., 1988) in that hints for *wh-* prompts were added to each page of the books and hints for recall questions were added to the inside back covers of the books. Teacher and parent book guides for each book were also developed that provided hints on how to read the specific book with children (Whitehurst, 1994c). These book guides were modeled on materials developed by Karweit (1989). A lending library system was used so that books could be rotated from one intervention classroom to another on a weekly basis and all children in the intervention condition could be exposed to 30 different picture books in the classroom and home over the course of the program. Each week, children in the intervention condition were given a book on Monday to take home until Friday; children were asked to bring books back on Fridays in order that the books could be collected and brought to another intervention classroom the next

Monday. Parents were encouraged to read books dialogically with their children at least three times per week.

Whitehurst, Epstein, et al. (1994) describes the results of the initial Head Start intervention. Children were assessed on 21 language and literacy measures at the beginning and end of the Head Start year. These measures included the EOWPVT, the PPVT-R, the ITPA-VE, and 18 subscales from the Developing Skills Checklist (DSC; CBT, 1990), a measure of children's emergent literacy skills. The DSC specifically assesses children's skills in the areas of narration, letter naming, phonemic awareness, print concepts, and emergent writing. Because of the relatively large number of measures administered to each child, a data reduction procedure was used to decrease the number of statistical tests conducted in assessing the impact of the intervention program. Using principal components analysis, the data were reduced to four factors, which were named Language, Writing, Linguistic Awareness, and Print Concepts. The highest factor loadings on the Language factor were the three language tests (i.e., EOWPVT, PPVT-R, ITPA-VE) and the narrative subscale of the DSC. The highest factor loadings on the Writing factor were on the child's ability to print from right to left, the child's ability to write his or her own name, and writing mechanics (e.g., using capital and lower case letters correctly). The highest factor loadings on the Linguistic Awareness factor were on identifying sounds and letters, identifying words as same or different, segmenting sentences into words and segmenting words into syllables. The variables that loaded most highly on the Print Concepts factor were typical measures of concepts of print (e.g., identifying people reading, distinguishing between words, pictures, and numbers, identifying components of writing).

The intervention program was found to have a significant effect on the Writing and Print Concepts factor. As shown in Figure 1, these intervention effects were substantial,

corresponding to effect sizes of .516 and .624 for the Writing and Print Concepts factors, respectively. These effect sizes fall into the category of medium effect sizes (Cohen, 1988); similar effect sizes have been interpreted in other studies of Head Start children as educationally meaningful (e.g., Lee, Brooks-Gunn, Schnur, & Liaw, 1990).

Insert Figure 1 about here

Another important finding in this study was that the extent to which parents complied with the reading program at home was related to children's scores on the Language factor. This relationship is shown vividly in Figure 2. This finding bolsters the hypothesis that parent-child dialogic reading is related to children's language development in the preschool years.

Insert Figure 2 about here

Overall, Whitehurst, Epstein, et al. demonstrates that an emergent literacy intervention composed of dialogic reading and a sound and letter awareness program can significantly impact upon the writing skills and print concepts knowledge of children enrolled in Head Start. The failure to find a significant intervention effect on the Language factor suggests that 4-5-year-olds from low income families may need one-on-one reading interactions in order to make substantial gains in their language skills through dialogic reading. When teachers are reading dialogically with groups of 4-5 children, any one child in the group simply may not have very many opportunities to practice using language. Moreover, although open-ended questions to children (i.e., allowing the child to tell the story as much as possible) may offer the best opportunity for

children to practice using language in the context of dialogic reading interactions, intervention teachers in our study did not tend to ask open-ended questions. It may be that asking individual preschool-aged children open-ended questions in the context of small-group dialogic reading leads to a situation where the other children become off-task, disrupting the reading. Although some children may benefit from reading dialogically in small groups (i.e., Whitehurst, Arnold, et al., 1994; Lonigan & Whitehurst, 1998) children's language skills are likely to be more enhanced from one-on-one dialogic reading interactions than small-group dialogic reading interactions. Thus, it is recommended that classroom teachers and volunteers engage in dialogic reading with individual children as much as possible. Additionally, it is recommended that Head Start and other similar programs focus on encouraging parents to engage in shared reading with their children.

Whitehurst et al. (1999) showed that the gains Head Start children made from the emergent literacy program were maintained through the kindergarten year. Specifically, children who participated in the intervention program obtained higher scores on tests of language abilities, knowledge of letters, phonemic awareness, and writing at the end of the kindergarten year than children who had participated in the control condition when in Head Start. These gains, however, did not translate into differences in reading scores for these same children at the end of first and second grade. Although this finding sounds discouraging, it may be that dialogic reading and other similar shared reading interventions conducted in the preschool years may yield advantages for children in the later elementary school years, when children are "reading to learn, rather than learning to read" (Whitehurst & Lonigan, 1998). That is, information learned from preschool shared reading experiences such as knowledge of the world and semantic knowledge may assist children in reading comprehension. The influence of preschool shared

reading experiences may be seen again once children have gained competence in reading decoding and are focusing on obtaining information from their reading.

Discussion

The studies on dialogic reading intervention strongly suggest that this shared reading intervention can positively impact upon the language and emergent literacy skills of preschool-aged children. Dialogic reading facilitates the language development of children from middle- and higher-income families as well as children from lower-SES families. Moreover, the effects of dialogic reading interventions are manifest whether parents or teachers read with children.

Crain-Thoreson, Dale, and colleagues have also found dialogic reading to impact positively upon children's language skills positively (Crain-Thoreson & Dale, 1999; Dale, Crain-Thoreson, Notari-Syverson, & Cole, 1996). Dale et al. (1996) found dialogic reading to be superior to a play-based language facilitation intervention in enhancing the language skills of preschool children with language delays. Similarly, Crain-Thoreson and Dale (1999) showed that children with language delays spoke more, increased their MLU, and increased their vocabulary diversity during shared reading with an adult trained in dialogic reading techniques. Importantly, Crain-Thoreson and Dale (1999) added to the dialogic reading techniques an instruction to parents to pause after asking questions of their child; the authors had observed in their earlier study that many of the parents of the children with language delays tended not to allow their children sufficient time to answer posed questions before the parent verbalized again (e.g., asking another question, answering the posed question). It is likely that nearly all children can benefit from having adults pause after asking the child a question, allowing the child ample time to respond.

Although the results of the dialogic reading studies have been encouraging, there are some challenges in implementing dialogic reading programs within community settings. First, it is often not easy for teachers to include small-group dialogic reading sessions within their curricula. Dialogic reading with a small group of preschoolers requires the full attention of one teacher; another teacher must be available within the classroom to monitor and assist other children who are not at the time involved in the reading interaction. To the extent that other adults (e.g., volunteers) can be within the classroom when teachers are reading with children in small groups or volunteers can be used for small-group reading interactions, small group reading may occur more easily in preschool classrooms.

Second, it appears that asking children open-ended questions (i.e., allowing the child to tell the story in an extended manner) in the context of classroom small-group dialogic reading may be difficult for many teachers. On the other hand, if children do not receive many opportunities within small-group classroom dialogic reading to talk at length about a book, there are not likely to be many gains in children's language abilities as a result of the classroom dialogic reading experience. Children reading dialogically in small groups with an adult may make gains in other emergent literacy areas (e.g., knowledge of print concepts); however, they may not make many gains in language skills. One recommendation is that children be given as many opportunities as possible for individual shared reading experiences with adults. The challenge facing Head Start, other preschool settings, and day care centers is how to recruit volunteers and maximize their use over the course of the day so that as many individual children can engage in shared reading with adults as possible.

A third challenge concerns parents' adherence to homedialogic reading interventions. Whitehurst, Epstein, et al. (1994) revealed that the more Head Start parents read dialogically to their children at home, the more gains children make in their language abilities. Payne et al. (1994) showed that there is substantial variability in Head Start families in the extent to which parents engage in home literacy behaviors with their children. The first author is currently conducting a study to identify family variables that predict the frequency of reading interactions in Head Start families. Factors that are hypothesized to predict home reading frequency include daily stress, the experience of major life stressors, parental psychological difficulties, low social support, and family size (Whitehurst & Lonigan, 1998). That is, some low-income parents may believe that reading with their children is important, but feel too overwhelmed with stress and daily tasks to allow time to read with their children. Relatively low adherence to dialogic reading principles may also occur when parents are unsure how to implement the dialogic reading techniques when reading with their children. In their study teaching mothers how to increase their use of praise, expansions, open-ended questions, and pauses for child initiation in shared-reading interactions with their preschoolers, McNeill and Fowler (1999) found that some mothers needed many weeks to meet a criterion of four uses of a strategy per story (i.e., approximately one use of the strategy per minute). McNeill and Fowler's study suggests that some adults may need more extensive training in order to acquire and maintain shared-reading techniques.

Future Directions

Although dialogic reading impacts children's development of print concepts and writing skills (Whitehurst, Epstein, et al., 1994), the most consistent gains found have been in the domain of expressive language. While well-developed expressive language skills are likely to

facilitate literacy development, the literature suggests that literacy acquisition requires more than just expressive language skills. Specifically, phonemic awareness, letter knowledge, familiarity with print concepts, vocabulary, and decontextualized language skills all appear to be important components of successful reading in the primary school years (e.g., Bryant, MacLean, Bradley, & Crossland, 1990; Dickinson, 1991; Paul & Smith, 1993; Reese, 1995; Stevenson & Newman, 1986; Tunmer, Herriman, & Nesdale, 1988; Wagner, Torgesen, & Rashotte, 1994; Whitehurst & Lonigan, 1998). Thus, programs that are effective in facilitating the development of these skills in at-risk preschoolers are needed as well. An emerging literature is detailing the effectiveness of programs targeting some of these literacy skills. For example, Peterson, Jesso, and McCabe (1999) showed that teaching low-income mothers to encourage their preschoolers to tell narratives resulted in significant gains in the children's vocabulary and decontextualized language skills. The effects of their year-long intervention were maintained one year after the end of the program. In the domain of phonemic awareness, the work of Byrne and Fielding-Barnsley (1991, 1995) has revealed that preschoolers exposed to their Sound Foundations program, which teaches children phonemes in the initial and final positions of words, demonstrated greater phonemic awareness than children in a control condition who were exposed to storybook reading and a semantic categorization program. These gains were maintained in part through the second grade (Byrne & Fielding-Barnsley, 1995).

In looking toward future research in the domain of shared-reading interventions, we advance the following questions:

- 1) What specific components of shared reading contribute the most to positive outcomes in children's language and emergent literacy skills? Furthermore, do the key components vary as a function of child age? A nascent literature is linking specific adult reading behaviors (e.g.,

describing pictures, using decontextualized speech, asking questions after the reading is completed) to specific gains in children's language, story comprehension, and print concepts skills (e.g., Dickinson & Smith, 1994; Haden et al., 1996; Reese & Cox, 1999). In a naturalistic observation study, Dickinson and Smith (1994) found that a performance-oriented style in preschool teachers was associated with greater gains in children's receptive vocabulary skills as compared to more interrupting (i.e., posing questions to children throughout the reading of the text) reading styles. Reese and Cox (1999) found a parental "describer" reading style focused on describing and labeling pictures to be superior to a "comprehender" reading style focused on story meaning and making inferences in increasing children's receptive vocabulary and print concepts knowledge over the course of a 6-week study. On the other hand, Haden et al. (1996) showed a significant relationship between mothers' use of the comprehender reading style with their preschoolers and the children's story comprehension skills 2 1/2 years later. The results of these studies suggest that there may be specific relationships between individual shared reading strategies and the domains in which children make gains in their language and emergent literacy as a result of shared-reading experiences (Reese & Cox, 1999). Moreover, the impact of dialogic reading and similar shared-reading programs may be seen in some areas of emergent literacy (e.g., vocabulary) immediately while the impact on other areas of literacy may not be evidenced until children are older (Whitehurst & Lonigan, 1998; Whitehurst et al., 1999).

2) How might text type relate to what children learn from shared reading experiences with a particular book? Several researchers have identified variability in parent-child verbal interactions depending upon the type of picture book read. For example, Pellegrini, Perlmutter, Galda and Brody (1990) found that low-income mothers interacted more with their children when reading expository texts as compared to narrative texts. Neuman (1996) showed that text

type (i.e., highly predictable, episodic predictable, and narrative) influenced the types of verbalizations demonstrated by low-income parents and their preschoolers during shared book reading. Specifically, Neuman found that predictable text was related to the child reading along with the text and the provision of feedback (e.g., corrections and confirmations) from the parent, while narrative text was related to distancing types of statements or questions and recall questions. Interestingly, Neuman also found that type of text interacted with the reading proficiency of the parent to predict the amount of talking by the parent and the child while reading the book; low reading proficiency parents and their children talked more while reading the predictable texts and high reading proficiency parents and their children talked more while reading the narrative texts.

3) What accounts for the variability in results across shared-reading studies?

Examination of study findings reveals variability across studies in the specific language and emergent literacy skills (e.g., receptive language, expressive language, knowledge of print concepts) that were positively influenced by the dialogic reading intervention. Recent studies suggest that the emergent literacy skills that children bring to the shared reading intervention are related to the specific gains they make over the course of the intervention. For example, in their study of children with language delays, Dale et al. (1996) found that preschoolers with relatively more advanced language skills responded to a dialogic reading intervention with improvements in their grammatical competence whereas preschoolers with relatively less advanced language skills responded to the intervention with growth in their expressive vocabulary. In a similar vein, Reese and Cox (1999) found that adult reading style interacted with children's initial receptive vocabulary and story comprehension skills to predict how much the children's receptive vocabulary and print concepts knowledge were enhanced by a reading intervention. It may be

that variability in results across our studies is also related to variability in children's initial language skills across the studies.

4) What are the long-term effects of dialogic reading and other shared-reading interventions for children from middle- and higher -income families and children from low-SES families? Relevant outcome variables may include children's reading comprehension skills in late elementary school and secondary school, referral to special education services, and educational attainment (e.g., completion of high school). We plan to follow up the Head Start children who have participated in our studies to learn more about long-term effects of our intervention program.

Given the importance of reading skills for children's academic success (e.g., Echols, West, Stanovich, & Zehr, 1996), studies of parent-child and teacher-child shared reading should continue. Studies that identify ways best to encourage teachers and parents to read with children and studies that help identify ways that shared reading can be integrated relatively easily within the preschool classroom environment and the day-to-day life of parents and children are needed as well as studies that demonstrate the effectiveness of shared-reading interventions. Given the risk to children who begin school with language and emergent literacy skills that are behind those of their peers, research in the area of shared reading must continue.

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Appendix A

Example Transcript of a Parent-child Dialogic Reading Interaction

Parent and child are reading The Snowy Day by Ezra Jack Keats (1962)

Parent: "The Snowy Day."

What's he doing here?

Child: Sliding.

Parent: Yeah.

He's sliding down a hill.

Can you say that?

Child: He's sliding down a hill.

Parent: Good.

"One winter morning Peter woke up and looked out the window. Snow had fallen

during the night. It covered everything as far as he could see."

What does he see outside his window?

Child: Snow!

Parent: That's right.

There's lots of snow outside.

Child: Yeah.

Parent: "After breakfast he put on his snowsuit and ran outside. The snow was piled up very high along the street to make a path for walking."

Your turn.

What's happening on this page?

Child: He's making steps in the snow.

Parent: That's right.

He's making footprints.

Child: Footprints.

Parent: Do you remember when we played outside in the snow?

Child: Yeah.

And we made snowballs.

Parent: You remember.

We made lots of snowballs.

I remember that you made footprints all around the yard too.

Child: Yeah.

Parent: "Then he dragged his feet s-l-o-w-l-y to make tracks. And he found something sticking out of the snow that made a new track."

What do you think it was that made the new track?

Child: A dog?

Parent: Well, it looks like it might be something else that makes the track.

Let's see what it is next.

"It was a _____."

Child: Stick!

Parent: Yes.

"It was a stick -- a stick that was right for smacking a snow-covered _____."

Child: Tree.

Parent: Okay.

What happens next?

Child: He got snow on his head.

Parent: That's right.

And now it looks like he's going somewhere else.

"He thought it would be fun to join the big boys in their snowball fight, but he wasn't old enough -- not yet. So he made a smiling snowman, and he made angels."

You tell the story now.

What is he doing on these pages?

Child: He's going up and going down.

Parent: Yes.

Here it says that he is pretending to be a mountain climber.

Can you say that?

Mountain climber.

Child: Mountain climber.

Parent: Good.

And remember?

We saw this picture before.

What is he doing here?

Child: Sliding down a hill.

Parent: Very good.

Appendix B

Recommended Books for Dialogic Reading

- Bond, M. (1996). Paddington's ABC. New York: Puffin.
- Bridwell, N. (1985). Clifford takes a trip. New York: Scholastic.
- Caines, J. (1993). I need a lunch box. New York: Harper Trophy.
- Dubanevich, A. (1983). Pigs in hiding. New York: Four Winds Press.
- Duke, K. (1984). Guinea pigs far and near. New York: E. P. Dutton.
- Duke, K. (1988). What would a guinea pig do? New York: E. P. Dutton.
- Edwards, H. (1988). Stickybeak. Milwaukee: Gareth Stevens.
- Freeman, D. (1972). A pocket for Corduroy. New York: Viking.
- Gackenbach, D. (1983). A bag full of pups. New York: Houghton Mifflin.
- Grossman, B. (1991). Donna O'Neeshuck was chased by some cows. New York: Harper
- Hill, E. (1989). Spot's baby sister. New York: G. P. Putnam and Sons.
- Johnson, A. (1990). Do like Kyla. New York: Orchard.
- Keats, E. J. (1962). The snowy day. New York: Viking Penguin.
- Kimmel, E. (1990). I took my frog to the library. New York: Viking Penguin.
- Numeroff, L. J. (1985). If you give a mouse a cookie. New York: Harper Collins.
- Rosen, M. (1997). We're going on a bear hunt. New York: Little Simon.
- Saunders, D., & Saunders, J. (1990). Dibble and Dabble. New York: Bradbury Press.
- Sendak, M. (1991). Chicken soup with rice. New York: Harper Trophy.
- Shaw, N. (1991). Sheep in a shop. Boston: Houghton Mifflin.
- Slobodkina, E. (1987). Caps for sale. New York: Harper Collins.
- Yee, W. H. (1996). Eek! There's a mouse in the house. Boston: Houghton Mifflin.
- Zion, G. (1976). No roses for Harry. New York: Harper Trophy.

Figure Captions

Figure 1. Standardized factor scores at posttest of the intervention and control groups.

Figure 2. Standardized language factor outcome scores as a function of parental compliance with the home dialogic reading program.



