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The Effect of a Dialogic Reading Intervention on the Emergent Literacy Skills of Preschool Students

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THE EFFECT OF A DIALOGIC READING INTERVENTION ON THE EMERGENT LITERACY SKILLS OF PRESCHOOL STUDENTS

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THE EFFECT OF A DIALOGIC READING INTERVENTION ON THE EMERGENT LITERACY SKILLS OF PRESCHOOL STUDENTS

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Seventeen children enrolled in a preschool for four-year-old children were separated into a dialogic reading intervention group and a control group. Dialogic reading involves making children active participants in the adult-child storybook reading process. Adults prompt children to talk about the book by asking questions. The intervention group received dialogic reading in small groups for six weeks. It was found that there was no significant improvement in emergent literacy skill in the intervention group as measured by the Developing Skills Checklist, but the children in the intervention group were actively engaged in the reading process a larger percentage of the time as compared to the children in the control group.

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Statement of Problem

When children begin kindergarten, they are expected to have certain school readiness skills that will allow them to learn new skills. These skills include knowing how to listen, understanding how to hold a book and when to turn the pages. Furthermore, children must have the ability to communicate, follow instructions and have a basic understanding of letters, numbers, colors, shapes, etc. Unfortunately, many children come to school without these skills and, as a result, their learning is impeded. Whitehurst, Arnold et al. (1994) believe the reason that many children begin school without these skills is due to a lack of experience with books.

It is common knowledge that parents should read to their children because it will help children learn how to read. While the concept seems logical, few empirical studies have supported this claim without confounding variables such as socioeconomic status and parent education. It is true that, on average, children from lower SES families come to school with less experience with books than other children. In fact, Adams (1990) reported that children from low income families start first grade with approximately 25 hours of adult-child joint book reading, compared to children from middle-class families, who spend approximately 1,000 to 1,700 hours reading with an adult. This research, although interesting, does not prove that the children's lack of experience with books contributes significantly to their academic problems. Unfortunately, it would be difficult to conduct research to determine if print exposure truly causes differences in reading

ability due to ethnical concerns. Regardless of the reason for a lack of school readiness skills, it would be ideal to find an intervention that will level the playing field for all children and allow them to start school with the same skills and experience.

Empirical studies have been conducted to determine whether increasing print exposure for children from lower socio-economic status families improves their school readiness skills (e.g., Valdez-Menchaca & Whitehurst, 1992; Whitehurst, Arnold et al., 1994; Whitehurst, Epstein et al., 1994). Many of these studies have focused on one component of school readiness: communication. Other studies have broadened their view of school readiness to incorporate many aspects of emergent literacy. Currently, no research has been conducted on an English speaking preschool population to determine if increasing print exposure through a systematic intervention would improve a wide range of the children's emergent literacy skills. The proposed study will attempt to determine which emergent literacy skills can be improved by systematically increasing preschoolers' exposure to books through a reading intervention called dialogic reading.

Emergent Literacy

Emergent literacy is a concept of literacy development in children that can be seen as a developmental process occurring from infancy to school age (Whitehurst & Lonigan, 1998). Children develop skills and knowledge about reading and writing throughout the preschool years that can be viewed as precursors to the literacy instruction they receive in school (Sulzby & Teale, 1991). Whitehurst and Lonigan (1998) contrast emergent literacy with the "all or nothing" view of literacy development beginning when a child enters formal schooling. Emergent literacy proponents believe the learning that

occurs in the years from birth to kindergarten contributes significantly to learning how to read.

There are several components of emergent literacy including language, conventions of print, knowledge of letters, linguistic awareness, phoneme-grapheme correspondence, emergent reading and emergent writing (Whitehurst & Lonigan, 1998). Language, especially expressive and receptive vocabulary, is an important component of emergent literacy. Children with a limited vocabulary will have difficulty understanding words with which they are not familiar. For example, if the child sounds out the word "kite", but has no knowledge of what a kite is, that child will not understand the meaning of the word. If a child is reading words that are unfamiliar to him, he will not be able to understand the meaning of the text.

Conventions of print are another basic factor of emergent literacy and examples include reading left to right, from the top of the page to the bottom of the page, understanding which way a book opens, knowing which is the cover and how to turn the pages (Whitehurst & Lonigan, 1998). Reutzel et al. (2003) found that children who scored higher on a concepts of print test had more advanced pre-reading skills. Specifically, these students displayed the ability to consistently read environmental signs such as chain restaurant signs and familiar food labels. These skills can be developed prior to learning how to read and can ease the difficulty that some children have when beginning formal reading training (Clay, 1979).

Knowledge of letters is an essential part of emergent literacy (Whitehurst & Lonigan, 1998). Children who lack knowledge of letter names have difficulty learning

the correspondence between letter names and their sounds. Several studies indicate that letter knowledge can aid in learning of other phonological skills (Bowey, 1994; Naslund & Schneider, 1996).

Another component of emergent literacy is linguistic awareness, which involves understanding units of language. Those units of language can be anything from phonemes to words, to parts of speech, such as nouns and verbs (Whitehurst & Lonigan, 1998). Molfese et al. (2001) studied the auditory development of children from infancy through preschool. They found that children with the ability to discriminate differences in speech sounds at birth produced higher scores on a reading achievement test at age eight. Niemi et al. (1998) found that linguistic awareness training consisting of 20 minute sessions, three to four times a week for four months improved children's spelling, decoding and reading comprehension. These results were still observed four months after the intervention had ceased.

Phoneme-grapheme correspondence involves the knowledge of sounds of single letters as well as combinations of letters (Whitehurst & Lonigan, 1998). For example, children need to understand that each grapheme has a corresponding sound. If children are not aware of the sounds that certain letters make, they will not be able to decipher new words they come across in reading unfamiliar text.

Emergent reading can be seen in preschoolers when they pretend to read books, or are able to recognize signs or symbols in their environment (Whitehurst & Lonigan, 1998). Knowing that letters on a page make up words which are to be read is another form of emergent reading. Sulzby (1985) found that kindergarten students' emergent

literacy progresses throughout the year. At the beginning of the year, children were making up stories while reading storybooks based upon labeling of illustrations. By the end of the year, children were developing more complex stories.

Similar to emergent reading, emergent writing involves pretending to write and learning to write letters (Whitehurst & Lonigan, 1998). Children begin their emergent writing by drawing pictures, which develops into using letters and numbers along with scribbles, which do not correspond to sounds. Finally, children begin to use letters to stand for different sounds.

Emergent literacy skills, as well as other factors such as memory and rapid naming, play an important role in conventional literacy development (Whitehurst & Lonigan, 1998). Children who come to school with an interest in reading and writing will be more likely to engage in literacy development activities. Children who come to school with very few experiences with books will be at a disadvantage. Teachers will need to first develop the basic emergent literacy skills in these children instead of immediately teaching formal reading strategies. Therefore, these children will be delayed in the process of learning to read compared to children who have a strong background of emergent literacy skills.

Several interventions have been developed to improve the emergent literacy skills of children. Currently, three empirically based interventions have come to the forefront of emergent literacy research. Adult-child shared storybook reading, phonological awareness training taught in schools and play-based literacy activities are all areas that have been researched in the past 15 years (Justice & Pullen, 2003). Two adult-child

storybook reading interventions that have been developed are print referencing and dialogic reading. Dialogic reading requires an adult to ask questions about the story, have children connect the story with their experiences and encourage the child to eventually become the storyteller (Zevenbergen & Whitehurst, 2003). Print referencing involves having adults reference the print of a storybook verbally or physically. Adults are encouraged to point to the words as they are reading a story, ask specific questions and make comments about the text. Research has shown that print referencing can increase a child's ability to understand words, letter knowledge and conventions of print (Justice & Ezell, 2000).

There are several phonological awareness training programs currently published, but two which have been empirically supported are *Ladders to Literacy* and *Sound Foundations* (Justice & Pullen, 2003). These training programs usually involve posters, worksheets and group activities that specifically teach phonological awareness. These programs have been shown to improve children's knowledge of letters and phoneme-grapheme correspondence understanding.

Play-based literacy interventions have also become a popular way to improve a child's emergent literacy skills. These interventions are simple to employ and involve literacy props in play centers. For example, if a child has a grocery store center, props such as a grocery list, cash register receipt, food boxes and store signs are included in the center. This type of intervention is especially effective when adults are involved in the play and can direct the child to interact with the literacy props. It has been found that children involved in play-based literacy interventions display more linguistic awareness

and emergent reading skills than children not involved in the intervention (Vukelich, 1994).

Fostering Emergent Literacy Skills

As mentioned before, one way many emergent literacy components could be fostered is by exposing children to books, magazines and newspapers through the use of adult-child shared reading. The connection between exposure to print materials prior to school age and reading development has been researched. Scarborough, Dobrich and Hager (1991) examined the amount of adult reading, adult-child shared reading and the children's interest in books in the homes of 56 middle class children and their 112 biological parents. It was discovered that, of the 24 children considered poor readers, 22 children had at least one parent with a reading problem. The parents with reading problems were also less likely to read to their children and therefore, those children displayed less interest in books. Senechal et al. (1996) found that children's and parent's knowledge of preschool storybooks could predict the language development of young children. Children with high levels of storybook knowledge had more developed language skills than children with little to no knowledge of storybooks. Cipielewski and Stanovich (1992) found that children who engage in literacy activities on a regular basis score higher on a test of reading ability in fifth grade than children with less exposure to print.

Dialogic Reading

Previously, it was thought that simply reading to a child, without having the child interact in the story telling process, was an effective strategy for improving a child's

emergent literacy skills (Zeece & Churchill, 2001). This type of "straight" reading does not engage the child in reading the story with the adult. Instead, the adult simply reads the story to the child without asking questions, making predictions or commenting on the pictures. Eventually, it was noted that parents who engaged their children more by asking questions and making reading into a learning experience had children whose productive vocabulary was larger than children whose parents did not communicate as much (Ninio, 1980). Therefore, Whitehurst et al. (1988) developed a reading intervention called dialogic reading, in which the adult alters their reading style when reading to children. Instead of straight reading, adults are taught a style of reading that enhances the child's interactions with the adult. This technique can be implemented with an adult who has knowledge of the dialogic reading techniques, although the research on dialogic reading has tended to use either parents or teachers. Parents and teachers tend to spend the most time with children, but any caregiver can implement dialogic reading.

There are two different procedures for using dialogic reading (Zevenbergen & Whitehurst, 2003). Adults are taught one procedure for children ages two and three and another procedure for children ages four and five. For all ages, adults are required to increase their expectations for the children, and the children are expected to take over the role of storyteller over time. Training is broken down into two assignments for the two to three year olds' procedure. In the first assignment, adults are taught seven points. Two to three weeks later, adults are taught three more points (See Appendix A). These points increase the amount of communication and guidance that children receive when reading

with adults. Adults are encouraged to make the reading experience not only educational but also fun so children will learn to enjoy reading books.

Adults are taught how to implement dialogic reading in one assignment for four to five year olds, which increases the complexity of questions in order to challenge the older children (Zevenbergen & Whitehurst, 2003). With older children adults supplement the storybook reading with open-ended questions that required more talking from the child. Children are asked to fill in the blank, remember events in the book, tell their own stories, answer specific questions about the book and also relate experiences in the book to experiences in their own lives. The adults encourage these activities by using the acronym "CROWD" to remember completion, recall, open-ended, wh- and distancing prompts (See Appendix B). Another acronym, "PEER" is used to remind the adults that there are four important parts to reading. Adults should *prompt* the child to label objects in the story, *evaluate* a child's responses, *expand* upon what the child says, and encourage the child to *repeat* the expanded responses.

The dialogic reading procedure can be used when reading any book, and the children do not need to have any prior experience with books. It can be implemented in any setting, and with the help of instructional videos, anyone can learn the techniques. The techniques were developed to make every adult-child storybook reading time more effective. The goal of the program is to increase children's language ability and in turn, improve the children's pre-reading skills.

Dialogic reading could not only improve language ability, but it would increase the amount of print exposure that the children were receiving. A lack of print exposure at

a young age can impact a child's reading development. Without print exposure, children are not able to develop their word knowledge and vocabulary, which will cause them to have reading comprehension problems when trying to read difficult material (Stanovich et al. 1996). Although the majority of the research on dialogic reading has consistently found improvements in children's expressive language, a few studies have looked into other areas of emergent literacy, such as print concepts (Fielding-Barnsley & Purdie, 2003). It is possible that dialogic reading is effective in improving areas of emergent literacy that have not yet been researched. Therefore, the present study measured the changes of a wide range of emergent literacy skills in children exposed to a dialogic reading intervention.

Dialogic reading is only one intervention used to improve emergent literacy skills of children and is not necessarily the best. In fact, Justice and Pullen (2003) stress the importance of incorporation a variety of interventions to improve emergent literacy skills in children. Unfortunately, time and budget constraints do not always allow the implementation of a multitude of interventions. Therefore, if a teacher chooses to use dialogic reading, more empirical research is necessary to determine if the intervention is effective. The research concerning dialogic reading initially focused on improving the expressive and receptive vocabulary of children. Eventually, other areas of emergent literacy were measured, such as phonemic awareness and concepts of print. Still, more research into the effectiveness of dialogic reading on improving children's emergent literacy skills and therefore improving their ability to learn how to read needs to be conducted.

Review of Literature on Improving Emergent Literacy Skills

The first study into the effectiveness of a systematic adult-child storybook reading interventions was conducted by Whitehurst et al. (1988). The study was designed to determine if a dialogic reading intervention could improve one area of emergent literacy, language. Whitehurst et al. (1988) specifically looked at improving children's expressive and receptive vocabulary.

Thirty typically developing, middle-class children between the ages of 21 and 35 months and their families where recruited for the study. During their first visit to the university at which the research was conducted, parents of the children in the experimental group were trained in dialogic reading techniques while their children were screened for language and developmental disorders. All children used in the data collection scored in the average range for expressive and receptive language and performance skills on the Denver Developmental Screening Test. After two weeks, the parents of the children in the experimental group returned to the university to receive further training. The training consisted of having the parents listen to an explanation of dialogic reading, watching a role playing session and then participating in a role playing session. The parents were then given handouts to remind them of how to implement dialogic reading. The parents were asked to read to their children for four weeks and audiotape three to four of their reading times each week. These audiotapes were reviewed to determine if the dialogic reading technique was being implemented correctly, which the experimenters found to be true. Parents were also contacted each week to

remind them to read to their children and a calendar was distributed for the parents to record their reading sessions.

After the experimental session was complete, all children were tested using the Illinois Test of Psycholinguistic Abilities, the Peabody Picture Vocabulary Test-Revised, and the Expressive One Word Picture Vocabulary Test. These tests were designed and chosen to measure the children's expressive and receptive vocabulary skills. Children in the dialogic reading group produced scores which were 8.5 months ahead of the control group on the Illinois Test of Psycholinguistic Ability and 6 months ahead of the control group on the Expressive One Word Picture Vocabulary Test. The experimental group also displayed a mean length of utterance of 2.55 versus 2.04 for the control group. All of these findings were statistically significant. During follow up testing nine months later, the experimental group still scored 6 months ahead of the control group on the two tests of expressive language, although the findings were no longer considered statistically significant because of a reduction in sample size. The study conducted by Whitehurst et al. (1988) was the first to empirically support the use of dialogic reading to improve language skills in preschoolers.

Although dialogic reading was found to be effective with parents and children, it had yet to be tested using a teacher to implement the procedure. The use of teachers as administrators of the intervention would strengthen the intervention, such that more children would be able to participate in the dialogic reading program. Valdez-Menchaca and Whitehurst (1992) further studied the effects of improving language development in preschoolers by implementing a dialogic reading program at a day-care in Tepic, Mexico.

Twenty Spanish speaking two year olds from low income families participated in the program. Parents of the children, while literate, reported that they rarely read to their children. All but two of the children were reported to own no books, and only having access to comic books and magazines. The day care center did not provide books for children to look at, nor did it offer story time. Children in both groups were pre-tested using the Denver Developmental Screening Test (DDST), the Peabody Picture Vocabulary Test – Revised (PPVT-R) and the Expressive One Word Picture Vocabulary Test (EOWPVT). Children were matched based upon their scores on these tests. Children in the experimental group were read to individually by the teacher using dialogic reading techniques. The teacher was trained on dialogic reading techniques by the experimenter. Five books were used throughout the procedure, with the teacher choosing the book the first two weeks or the intervention and the students choosing the book the following weeks. Children in the control group were involved in activities that included such tasks as completing puzzles and cutting paper. After the intervention, children were again tested with the PPVT-R, EOWPVT and Illinois Test of Psycholinguistic Abilities was also administered. Again, these tests were chosen because they measure the expressive and receptive vocabulary skills of preschoolers. Children in the dialogic reading group scored significantly higher on all the tests as compared to the control group. The significance of the study is that dialogic reading was shown to be effective in improving the language skills of preschoolers in a low-income setting where the teacher is the adult role instead of the parent.

Whitehurst, Arnold et al. (1994) expanded the Valdez-Menchaca and Whitehurst study by providing the dialogic reading in a group setting. In this study, training for dialogic reading was administered by videotapes, which allowed the training to be more efficient. Both of these changes improved the efficiency of the dialogic reading program and could allow the program to be distributed to several preschools and day care centers.

Again, the focus of the study was to determine if children's expressive and receptive vocabulary was improved by the dialogic reading intervention. Seventy-three three year olds from low-income families were included in the study. Children were separated into three groups; school reading, school plus home reading and a control group. The parents and teachers involved in the intervention were trained using a videotape. During the six week intervention, students in the school only group were included in dialogic reading for about 10 minutes each day. Children in the school plus home condition were involved in dialogic reading with their parents outside of school, as well as involved in the school dialogic reading sessions. Children in the control group were engaged in play groups lasting about 10 minutes and supervised by a teacher or teacher's aide. The PPVT-R, EOWPVT and the ITPA were used to measure progress of the children in each group. Whitehurst, Arnold et al. (1994) found that the children in the intervention groups showed a significant improvement in their expressive and receptive vocabulary abilities after a few weeks of dialogic reading. Although Whitehurst, Arnold et al. (1994) found significant improvement in language abilities, they still had not determined whether other components of emergent literacy improved during the intervention.

Whitehurst, Epstein et al. (1994) studied the effects of dialogic reading on four year old children involved in the Head Start program, but in this study, a phonemic awareness training program was also implemented. The focus of the study was to determine if the emergent literacy skills of expressive and receptive vocabulary, emergent writing, linguistic awareness and conventions of print were impacted by the dialogic reading intervention and the phonemic awareness training program. The children in the intervention condition were given 30 weeks of dialogic reading in the classroom and at home along with 16 weeks of phonemic awareness training. This differed from the previous studies involving dialogic reading in that the intervention time was much longer. Parents and teachers were trained in dialogic reading techniques during one session at the beginning of the year. Children were provided with a new book every week during the intervention along with a book guide that encouraged the parents to read the book at least three times that week. The phonemic awareness training was conducted using a program adapted from the Sound Foundations curriculum. Children were involved in the phonemic awareness training from February until June.

Using several measures, including the PPVT-R, ITPA, EOWPVT and the Developmental Skills Checklist, Whitehurst, Epstein et al. (1994) compiled data on the children's expressive and receptive vocabulary skills, emergent writing, linguistic awareness and conventions of print. Children in the intervention group scored significantly higher on writing and conventions of print after the intervention. In a follow-up study, Whitehurst et al. (1999) found that children in the intervention group retained their improvements through kindergarten. Although Whitehurst, Epstein et al.

(1994) found that the preschoolers improved their writing skills and conventions of print skills, the study was confounded by the addition of the phonemic training which the preschoolers received. It is not possible to determine whether the phonemic training, the dialogic reading intervention or a combination of the two impacted the children's writing and conventions of print skills.

Implementing dialogic reading to enhance the expressive and receptive language development of preschoolers has been supported through research, but research has yet to prove consistently that dialogic reading improves other early literacy skills, such as letter knowledge, book conventions and phonemic awareness (Valdez-Menchaca & Whitehurst, 1992; Whitehurst et al., 1988; Whitehurst, Arnold et al., 1994). These studies that have only implemented a dialogic reading intervention have not measured these skills of emergent literacy. Many proponents of literacy development believe that reading to children is critical in the development of early literacy skills in preschoolers (Honig & Shin, 2001).

Currently, one of the few studies that has specifically tested early literacy skills development other than expressive and receptive vocabulary, when using an intervention of dialogic reading without a supplemental phonemic training program is Chow and McBride-Chang (2003). Chow and McBride-Chang tested the effectiveness of dialogic reading on emergent literacy and language development on Hong Kong preschoolers using the Preschool and Primary Chinese Literacy Scale (PPCLS) and the Peabody Picture Vocabulary Test – Third Edition (PPVT-III). The PPCLS tested what would correspond to letter knowledge and linguistic awareness in English speaking students.

The PPVT-III tested the expressive and receptive vocabulary skills of preschool children. The intervention group, consisting of 29 students with a mean age of 5.31 years, was given eight books with recall and questioning prompts developed by the researchers. The typical reading group, which consisted of 29 students with a mean age of 5.3 years, received eight books without recall and questioning prompts. The control group, which consisted of 28 students with a mean age of 5.32 years, received no books and parents were asked to continue their normal reading habits. A significant improvement was found in the scores of the intervention group on both the PPCLS and the PPVT-III after an eight week intervention. Chow and McBride-Chang (2003) was the first study to test the effects of a dialogic reading intervention on letter knowledge, linguistic awareness, and receptive and expressive vocabulary of preschoolers without the aid of a phonemic training program.

Fielding-Barnsley and Purdie (2003) studied the effectiveness of a dialogic reading program on the emergent literacy skills of conventions of print, expressive and receptive vocabulary, phoneme-grapheme correspondence and linguistic awareness of children considered at-risk for developing reading disabilities. These children were considered at risk if one or more of their family members had a reading disability. The experimental group consisted of 26 children with a mean age of 70.2 months and the control group consisted of 23 children with a mean age of 70.5 months. All children were assessed using several measures. The Peabody Picture Vocabulary Test (PPVT-III) was used to measure the children's receptive vocabulary skills. A rhyme recognition test used to measure children's linguistic awareness required children to pick out words that

sounded the most similar out of a group of four words. A concepts about print test measured the children's knowledge of books by assessing whether children knew book conventions, such as reading left to right, hold the book correctly and knowing that words, not pictures tell the story. Finally, recognition of initial consonant sound and alphabet (RICSA), which was developed by Fielding-Barnsley (2000), required the children to circle a letter out of a list of five and report which sound they hear at the beginning of a word. This test was used to measure children's phoneme-grapheme correspondence abilities.

Research assistants provided dialogic reading training to parents via videotapes which were developed during pilot studies by Fielding-Barnsley (2000). The videotapes contain film of families performing good dialogic reading practices, from which the families involved in this study could model. Each of the families also received written instructions to supplement the videotapes. Families were then provided with eight books and were asked to read each book at least five times during the intervention. After the eight week intervention, children in the intervention group scored significantly higher on the PPVT-III, initial consonant, rhyme and concepts of print tests. This study supports the idea that dialogic reading is effective, not only for expressive and receptive language development, but also for other emergent literacy skills such as linguistic awareness and phoneme-grapheme correspondence abilities.

Although the study by Fielding-Barnsley and Purdie (2003) supports the concept of using dialogic reading to enhance the emergent literacy skills of preschoolers, the effectiveness of dialogic reading on the emergent literacy development of English

speaking preschoolers has not been fully investigated. A wider range of emergent literacy skills should be tested to determine exactly what skills can be enhanced using dialogic reading.

The purpose of the present study is to determine whether a dialogic reading program in a preschool class could improve a wide range of children's emergent literacy skills. It has already been determined that language development can be enhanced by dialogic reading (Fielding-Barnsley & Purdie, 2003; Valdez-Menchaca and Whitehurst, 1992; Whitehurst et al., 1988; Whitehurst, Arnold et al. 1994; Whitehurst, Epstein et al. 1994), but these studies have not consistently measured other areas of emergent literacy such as linguistic awareness, knowledge of letters, convention of print and emergent writing. It has been established that children at risk of developing reading problems usually have at least one family member with a reading problem and, in turn, that family will engage in less shared reading time than other families (Scarborough, Dobrich & Hager, 1991). By providing dialogic reading in preschool, we would be able to overcome some of the deficiencies in shared reading time that could occur in the home.

Currently, dialogic reading studies primarily focused on measuring the expressive and receptive language development of preschoolers after exposure to a dialogic reading intervention. Only a few studies have tested other areas of emergent literacy to determine whether dialogic reading improves areas other than language development. One of these studies included a phonemic awareness training program along with the dialogic reading intervention, which confounds the effects of dialogic reading on other areas of emergent literacy (Whitehurst, Epstein et al., 1994). Another study focused on non-English

speaking children (Chow & McBride-Chang, 2003). No study has thoroughly determined which areas of emergent literacy are enhanced by implementing a dialogic reading program in a preschool without the implementation of a supplemental phonemic awareness training program. Fielding-Barnsley and Purdie (2003) tested children's vocabulary, phonemic awareness, phonological awareness and alphabet knowledge, and concepts about print, but their sample included children with a mean age of about 70.3 months. If children are deemed at risk, it is necessary to implement an intervention as early as possible to counteract the effects of their delays. In the present study, students enrolled at a preschool for four year old children were tested on a variety of skills to determine whether dialogic reading can not only improve language skills, but also letter identification, phonemic and linguistic awareness, print concepts, emergent writing and emergent reading. The present study is the first to determine whether a dialogic reading intervention, implemented at school, can improve preschoolers' emergent literacy skills before they have the potential to fall behind in kindergarten.

In the present study, children enrolled in a parochial school preschool for four-year-old children were split into two groups. Dialogic reading techniques were used during the normal reading time for the intervention group. No dialogic reading techniques were used during the reading time of the comparison group. Prior to the intervention, children were tested with 18 subtests of the Developing Skills Checklist. This test measures a wide variety of emergent literacy skills such as writing, language, linguistic awareness and print concepts by asking children to decode words, name letters, rhyme, write messages as well as other tasks designed to measure emergent literacy.

After six weeks, the children in both groups were tested using the same subtests from the Developing Skills Checklist. It was hypothesized that the children in the dialogic reading group would make significantly more gains in emergent literacy skills post-intervention. This trend was seen in the study conducted by Fielding-Barnsley and Purdie (2003).

Method

Participants and Setting

All of the twenty-four children enrolled at a metropolitan parochial preschool for four-year-old children were recruited for the present study. Twelve students were enrolled in the morning preschool and twelve students were enrolled in the afternoon preschool. A consent form and welcoming letter was sent home with each student. The welcoming letter was written by the principal of the school inviting the parents to allow their children to participate in the study. Any parent not returning the consent form was contacted during parent teacher conferences and encouraged to allow their children to participate.

Children who had parental permission to participate in the experiment were assigned to an intervention and a control group. The intervention group consisted of ten children (six females and four males) in the morning preschool class with a mean age of 60.21 months or 5.02 years. Five children were Caucasian and five children were African-American. The control group consisted of seven children (three females and four males) in the afternoon preschool class with a mean age of 60.49 months or 5.04 years. Four children were Caucasian and three children were African-American. The preschool teacher reported that there was no reason to believe that the two groups differ in any way.

Data was not collected on children whose parents do not want their children to participate, but those children still received the same reading services as their classmates.

The intervention was administered in the preschool classroom at an urban parochial school. The preschool teacher administered the dialogic reading intervention to the morning preschool class and read to the afternoon class as usual. The dialogic reading intervention was administered during the morning preschool's normal story time, which is between 10:00 A.M. and 10:20 A.M., Monday, Wednesday and Friday. No other reading programs were occurring in the preschool during the six weeks of the study.

Materials

Children were tested pre- and post-intervention using 18 subtests from the Developing Skills Checklist (DSC) (CTB Macmillan/McGraw-Hill, 1990). The DSC contains several sections not applicable to emergent literacy, such as mathematical concepts and application, memory and socio-emotional scales. Therefore, only the 18 subtests applicable to emergent literacy were used. These 18 subtests measured the emergent literacy skills of language, writing, linguistic awareness and print concepts. The subtests which assess the children's language are "tells a story in a sequence" and "identifies function of words-numbers". The subtests used to assess children's writing are "print in left to right progression", "print first name", "draw a person", "write message mechanics" and "write message quality". The subtests "identifies sounds and letters", "blends consonant-vowel-consonant words", "identifies same-different sounds", "segments words", "segments sentences" and "rhyming" assess children's linguistic awareness. The subtest "names letters" is used to assess letter knowledge. Finally,

subtests "names letters", "holds book-turns pages", "identify people reading", "distinguish word-pictures-numbers", "identifies function of word-numbers" and "identify components of writing" are used to assess children's print concepts. The DSC was chosen primarily because it was used previously to test the emergent literacy skills of preschoolers (Whitehurst, Epstein et al., 1994).

The Developing Skills Checklist is a test designed to measure the progress of behaviors and skills the children usually develop between preschool and kindergarten. The reliability coefficients for internal consistency and standard error of measurement range from .81 to .95 on all the subtests that will be used in the proposed study (Clarke, 1995). There has been no data collected on test-retest reliability.

Six books, including *No Roses for Harry*, by Gene Zion, *Curious George Visits the Zoo* and *Curious George Visits the Ice Cream Shop* by H. A. Rey, *The Very Grouchy Ladybug* by Eric Carle, *Chicka Chicka Boom Boom* by Bill Martin, Jr. and *Underwear* by Mary Elise Monsell, were used for the study. These books were chosen by the principle investigator because they had interesting pictures with many objects that could stimulate communication between an adult and a child. For example, one book called, *No Roses for Harry*, had very detailed pictures that supplement the story. These pictures can increase the amount of interaction between the adult and child because the adult can ask many questions about what is happening in the story. The words were also easy to see and the books can be read in one sitting. Each Monday a new book was introduced then used until Friday.

Design and Procedure

The children whose parents returned permission forms were tested by a graduate student using 18 subtests of the Developing Skills Checklist (DSC). The initial score on the DSC subtests provided baseline scores to which post-intervention scores could be compared.

The preschool teacher was trained by the principle investigator on the dialogic reading technique. The principle investigator had studied the dialogic reading technique outlined in Zevenbergen and Whitehurst (2003) and had practiced the technique on several occasions. Dialogic reading training consisted of one training session in which dialogic reading techniques developed for four and five year olds and described by Zevenbergen and Whitehurst (2003) was taught. The training focused on learning the CROWD acronym and practicing the technique. The CROWD acronym is used to remind dialogic reading administrators to use five prompts; completion, recall, open-ended, wh- and distancing prompts (See appendix B). The training included verbal instruction on dialogic reading, an observation of correct dialogic reading techniques and a role playing session, in which the preschool teacher practiced the technique.

Every Monday for six weeks, the children in both groups were introduced to a new book. The book was randomly selected by the researcher from a set of six books. The morning preschool class was involved in the dialogic reading program. The preschool teacher would use the techniques learned through the dialogic reading training to enhance the reading process for the children. The afternoon preschool class was read to without the use of the dialogic reading techniques.

Prior to the intervention, the teacher was observed reading to students. From this observation, guidelines were prepared. The teacher then attended to these guidelines while reading to the control group. This ensured that children in the comparison group received the same reading style during the intervention as they were receiving before the intervention. For example, before reading the teacher would typically ask the children questions about the book and discuss how the book was related to what they were learning in school. While reading, the teacher would read the book straight through without involving the children in the reading process by asking questions. She would answer any questions that the children asked during the story. After the story was complete, the teacher would ask a few more questions about the story and answer any more questions that the children asked. This information was incorporated into the guidelines to ensure reading consistency in the control group.

Once a week, the preschool teacher was observed while reading to both the intervention and the comparison group. The information gathered from these observations was used to determine treatment integrity. The teacher used the dialogic reading technique while reading to the morning class and read as usual to the afternoon class. The teacher received feedback after each session and if necessary, she was asked to make changes to her technique. This occurred only once after the first observation because the teacher was not attending to the guidelines while reading to the control group. Instead, she was reading the book without asking or answering any questions. After she was corrected, she changed her technique and was not asked to make any other changes.

The children in both the intervention and the comparison groups were videotaped once a week. The videotapes were used to gather qualitative data on the children's participation and attitudes about the reading intervention. The videotapes were also used to measure the children's active engagement in the reading process. Active engagement was operationally defined as looking at the book, reader or person asking or answering a question, having their body oriented to the book, reader or person asking or answering a question, or asking and answering question, making comments and joining along in the reading of the book. Active engagement was not making comments or asking questions about topics not involved in the book, looking away from book, reader, or person asking or answering a question or having body turned away from book, reader, or person asking or answering a question.

Data Analysis

The children's total raw scores from the DSC were used to determine if their emergent literacy skills were significantly improved by the dialogic reading intervention. A 2 (group: control versus intervention) X 2 (test: pre-test versus post-test) mixed design ANOVA was used to compared the means of the intervention group's scores and the control group's scores on the pre- and post-test. The alpha level was set at .05.

The videotape footage was used to determine if the children in the intervention group were more actively engaged in the reading process than the children in the control group. First, active engagement was operationally defined as looking at the book, reader or person asking or answering a question, having their body oriented to the book, reader or person asking or answering a question, or asking and answering question, making

comments and joining along in the reading of the book. Active engagement was not making comments or asking questions about topics not involved in the book, looking away from book, reader, or person asking or answering a question or having body turned away from book, reader, or person asking or answering a question. The videotapes from the first, third and fifth week were used for the observation. The first two minutes of the video were skipped in each observation then the observers would watch the next five minutes of the video. Every thirty seconds the video was paused and the observers counted the number of children actively engaged at that moment. There were a total of eleven observations for each video from each observer, except for one video in which the teacher was done reading after the ninth observation. Because children would move out of and into view, the observation was always recorded as number of children engaged out of number of children in view. A percentage was then calculated for each observation. For example, if there were six children actively engaged and eight children were in view, that observation would be coded as having observed 75% of the children actively engaged. These percentages were then averaged for each video. Two trained graduate students watched a sample of the videotapes and observed the number of children actively engaged every thirty seconds for five minutes during the first, third and fifth week of the intervention. Inter-rater reliability was then calculated by dividing the total number of agreements by the total number of possible observations.

Results

The purpose of this study was to determine if a dialogic reading intervention would improve the emergent literacy skills of preschool students enrolled in a preschool

for four-year-old children. The children's total raw score on the DSC were used to measure their emerging literacy skills. A total raw score was obtained by combining all raw scores from 18 subtests into one total score. For the pre-test, children in the intervention group produced a mean score of 42.20 and the children in the control group produced a mean score of 44.57. For the post-test, children in the intervention group produced a mean score of 46.20, while children in the control group produced a mean score of 50.29 (Table 1). When a 2 X 2 (group x test) repeated measures ANOVA was conducted, it was found that there was a significant main effect for test, $F(1,15) = 8.36$, $p = .01$, such that the children performed better on the post-test than on the pre-test, collapsing across the control and intervention groups. There was there no significant main effect for group, $F(1,15) = .44$, $p = .52$, nor was there a significant interaction between test and group, $F(1,15) = .26$, $p = .62$.

The videotape footage was observed to determine if children in the intervention group were more actively engaged in the reading process. Overall, the children in the intervention group were actively engaged 88.07% of the time, while the children in the control group were actively engaged 73.22% of the time. Inter-rater reliability was calculated as 79.69% by dividing the number of agreements by the total number of observations possible.

Discussion

The purpose of this study was to determine if a reading intervention called dialogic reading, developed by Whitehurst et al. (1988) would improve the emergent literacy skills of preschoolers. It was hypothesized that the children in the intervention

group would have a greater improvement of emergent literacy skills than the children in the control group. This hypothesis was based upon the research conducted by Fielding-Barnsley and Purdie (2003) which found that using a dialogic reading technique in a kindergarten classroom could improve some emergent literacy skills. Based upon the results of this study, a six week dialogic reading intervention administered by a teacher did not significantly improve the emergent literacy skills of the preschoolers involved in the reading intervention over and above the control group. This discussion will examine reasons why significant results were not found, such as problems with the DSC, confounds associated with non-random assignment, and other limitations.

Developing Skills Checklist

The Developing Skills Checklist (DSC) was used to measure the emergent literacy skills of preschoolers involved in this study. Previously, Whitehurst, Epstein et al. (1994) used the DSC to determine if participants' emergent literacy skills were improved by a combination of a dialogic reading intervention and a phonemic awareness training program. In that study, Whitehurst, Epstein et al. found that participants' emergent writing and concepts of print were significantly improved after the dialogic reading intervention and phonemic awareness training program. Because a phonemic awareness training program was used in conjunction with the dialogic reading intervention, it is not possible to determine whether the reading intervention, phonemic training program, or a combination of both produced the significant results.

The present study used the DSC to measure the emergent literacy skills of preschool students involved in a dialogic reading intervention as compared to students

receiving the standard reading time with their teacher. While administering the DSC, it was noted that there were several areas of the test that could possibly confound the results.

Scripts. In order to promote consistency between administrations, the DSC provides scripts to which the administrator must adhere. These scripts are used to increase the reliability of the test and can ease the administration by allowing the test-giver to rely on the pre-written material. While giving the test, it became apparent that certain phrases could be misinterpreted by the children, thus causing the score to be lower than expected. For example, the test asks the child to write a message to anyone they would like. The script instructs the child that they "can pretend to write", which caused confusion for several of the children. If the children would have considered scribbling as pretending to write, they could receive one point for message quality and up to six points for message mechanics. Many of the children considered waving their pencil above the paper as pretending to write. These children could have scored a total of seven more points if they would have interpreted the instructions differently.

A Priori Knowledge. A priori knowledge is essential to understanding the directions given during the DSC. The writers of the test assume that children understand the meaning of words used in the directions. This was not the case in the present study. Children without a complete understanding of certain words were at a disadvantage for four of the items. For example, children were asked to tell the administrator the last sound of a word. Many children responded by providing the first sound of the word. It

could not be determined if children truly did not know the last sound of the word, or if they did not understand the difference between first and last.

Difficult Instructions. One area in which almost all of the students struggled was the segmenting words and sounds section. In this section, children are required to choose one block for each part of a word they hear. The instructions required the administrator to demonstrate the task with a sample word. Unfortunately, each time the task was demonstrated, the word only had two parts, so many children thought that they were only to take two blocks. In one section, the sample was the word "mother" with the administrator taking one block for "mo-" and another block for "-ther". Almost all of the children completed the first task correctly, which required the children to take one block for "ta-" and another block for "-ble" for a total of two blocks for the item "table". Unfortunately, most children took only two blocks for all the other items that were more than two syllables. It is believed that if the demonstrations of the sample items would have been varied to contain more that just two part words, the children would have understood the instructions better.

Overall, it seems as though the DSC does not accurately measure the constructs it was intended to measure. Instructions which are confusing to young children and a dependence on a priori knowledge to complete certain tasks make this test unsuitable for measuring emergent literacy in young children. Unfortunately, there has not been a test developed that can accurately measure emergent literacy in preschoolers. The Diagnostic Indicator of Basic Emergent Literacy Skills (DIBELS), which is one of the foremost tests

for measuring literacy skills, does not include a test for preschool students. Maybe this is because one cannot accurately measure emergent literacy that early.

Cost Effectiveness

With school budgets getting tighter and tighter, it will be necessary to find the most effective interventions which use the least resources. Many of the past research into dialogic reading required parents to be trained in the dialogic reading technique so each child could receive one-on-one reading time. This could limit the amount of children able to participate in the intervention to the children whose parents were willing to coming to the training sessions. Further, Scarborough, Dobrich and Hager (1991) found that the majority of children with reading difficulties involved in their research had at least one parent with reading difficulties. If parents were the only people trained to use dialogic reading, it could be that the children needing the intervention the most would not receive the best quality intervention possible. The present study tested whether an intervention conducted in a group setting by a trained teacher could be as effective as individual dialogic reading interventions. The results derived from the DSC do not support the idea that group administered dialogic reading is as effective in improving emergent literacy skills in preschoolers as individually administered dialogic reading interventions, but one must remember that the DSC is not without its flaws. Any interpretation using results derived from the DSC should be made cautiously.

The other problem that schools are faced with is the limited resources of time and money needed to properly implement interventions. It is more difficult to promote a reading intervention that takes a whole school year as opposed to a reading intervention

that could be completed in six weeks. Fielding-Barnsley and Purdie (2003) found that an eight week intervention was effective in improving the emergent literacy skills of phoneme-grapheme correspondence, language and linguistic awareness of children with a mean age of 70.2 months. Conversely, Whitehurst, Epstein et al. (1994) found significant improvement in the emergent literacy skills of emergent writing and concepts of print in four year old students after a school year-long dialogic reading intervention in conjunction with a semester long phonemic awareness training program. It is possible that the four year olds need a longer intervention to obtain the same results as the five year olds. If schools are very concerned about limited resources, it could be beneficial for them to wait until kindergarten to implement a dialogic reading intervention.

Time of Day of Instruction

Because the children were enrolled in either a morning or afternoon class, it was not possible to remove the confound of time of day that the reading instruction was administered. Research has shown that time of day of instruction may impact children's emergent literacy development (Davis, 1987). Davis compared the reading achievement of children given reading instruction in the morning to children who received reading instruction in the afternoon. Results from the Comprehensive Test of Basic Skills showed that children receiving reading instruction in the morning scored significantly lower on reading achievement than children receiving reading instruction in the afternoon. It is possible that the time of day the intervention was administered affected the results of the present study, but future research would need to be conducted to support or refute this theory.

Interest in Reading

Research into interest in reading is difficult to complete. Many ways in which researchers try to operationally define interest in a young child depends upon such things as how many books they own, or how often they read books with a parent. These ways to define interest in children do not look at the child's interest, but more often look at how well the child is supported when learning to read. Research into the children's interest would be more beneficial when trying to create a correlation between early reading interest and later reading achievement.

This study attempted to measure interest in reading by operationally defining active engagement in the reading process and measuring that active engagement in both the intervention and the control groups. It was found that children in the intervention group were actively engaged a larger percentage of the time compared to the control group. It is not known whether the larger percentage of children actively engaged in the intervention group was due to the intervention or other factors such as the personality characteristics of the children, the children's prior experience with the book, the other occurrences on the videotaping days, or the teacher's attitude towards the children. Future research could be conducted to control for these variable to see if the intervention was causing the active engagement or whether it was a combination of several variables. It is also not known whether this active engagement in reading extended to other reading activities outside the intervention, but that would be an interesting area for future research.

It should be noted that when the children in the intervention class were asked what their favorite book was, they voted *No Roses for Harry,* which was one of the books used in the intervention, as their favorite book. The control class could not decide on a favorite book. The teacher administering the intervention also mentioned several times that the children in the intervention group were very excited about the new reading style and liked to share in the reading process. The afternoon group would often be disappointed that they would have to read the same book all week and did not find the reading time as exciting as the intervention group.

Limitations and Suggestions for Future Research

Dialogic reading has been found to improve the expressive and receptive language skills of children in several studies, but few studies have supported the notion that dialogic reading could improve other emergent literacy skills in preschoolers. Unfortunately, it was difficult to find a quality test designed to measure emergent literacy skills in preschoolers. Therefore, any study trying to measure emergent literacy skills in preschoolers is limited by the validity and reliability of the test. Once a test has been developed to accurately measure emergent literacy skills in preschooler, research on the effects of any intervention to improve emergent literacy skills will be more reliable.

Previous research into emergent literacy in preschoolers has utilized a year-long intervention. This is not only time-consuming, but could be very expensive. Although a six week intervention did not produce significant results, research into an optimal length for the intervention is needed. It is possible that an effective intervention is somewhere in between six weeks and one year. It would also be interesting to see if the time of year

in which the intervention occurred could have some different results. It could be possible that an intervention is more effective in the fall than in the spring because the children are more focused on school and are not looking forward to summer break yet.

Due to constraints of resources, a convenient sample was used. The children in the preschool could not be randomly assigned to conditions because they were already enrolled in either the morning or afternoon class. Also, the intervention could only be administered in either the morning or afternoon class because the sample size would have been lowered dramatically by using only the morning or afternoon class. The teacher also did not have time to read to two different groups of children during each half-day session. Future researchers should attempt to use randomly assigned participants and run both the intervention and control groups during the same time of day. This could be accomplished by using an after-school program in which children were randomly assigned to either an intervention or a control group and the teacher read to both groups within a short amount of time.

Conclusions

Overall, much more research into whether dialogic reading is an effective intervention for preschool students is needed. It is not possible to determine if preschool aged children would benefit from a six week dialogic reading intervention at this time. Although it was observed that the children in the intervention group were actively engaged in the reading process more than the control group, which was expected, it cannot be determined as to whether it was the intervention that caused those results or a variety of other factors that were not controlled for that produced that effect. Directions

for future research should focus first on developing a test which accurately measures emergent literacy in preschoolers, then should try to separate the effects of the intervention from the confounds of time of day the instruction occurred, non-random assignment, children's personality characteristics, teachers expectations and time of year in which the intervention occurs. Next, the optimum intervention length should be established to allow children to get the maximum benefit from the intervention without wasting time and energy. If an eight-week intervention is as effective as a twelve week intervention, this knowledge could save schools and daycares precious resources.

Maybe, most importantly, the teacher implementing the intervention was pleased with the results. She has adopted the reading practice and is glad that the children are so excited about story time. Convincing teachers that this intervention is easy and rewarding may be the first step in increasing the use of the intervention once it has been proven to be effective in preschoolers.

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Table 1

Means and Standard Deviations for Total Raw Score

	Pretest		Posttest	
	Mean	SD	Mean	SD
Intervention Group	42.20	9.89	46.20	12.37
Control Group	44.57	9.57	50.29	9.05

Appendix A

Dialogic Reading Procedure for Adults Working with Two to Three Year Old Children

First Assignment:

1. Ask "what" questions.
2. Follow answers with questions.
3. Repeat what the child says.
4. Help the child as needed.
5. Praise and encouragement.
6. Follow the child's interests.
7. Have fun.

Second Assignment:

1. Ask open-ended questions.
2. Expand what the child says.
3. Have fun.

Adapted from Zevenbergen & Whitehurst (2003). Dialogic reading: A shared picture book reading intervention for preschoolers. In A. van Kleeck, S. A. Stahl (Eds.), *On reading books to children: Parents and Teachers* (pp. 179-180). Mahwah, NJ: Lawrence Erlbaum Associates.

Appendix B

Dialogic Reading Procedure for Adults Working with Four to Five Year Old Children

Five types of questions that are to be used when engaging in dialogic reading:

1. Completion prompts: Fill in the blank questions (e.g., "When we went into the car, we all put on our _____")
2. Recall prompts: Questions that require the child to remember aspects of the book (e.g., Can you remember some of the things that Sticky-beak did at school?")
3. Open-ended prompts: 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: What, where, and why questions (e.g., "What is this called?" "Why did Peter stay home from school?")
5. Distancing prompts: 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?") (Zevenbergen and Whitehurst, 2003 p. 180)