Dialogic Reading for Young Children with Disabilities: A Review of Literature with Suggestions for Future Research

Engelli Çocuklar için Diyaloglu Okuma: Gelecek Araştırmalar için Önerilerle bir Alanyazın Taraması

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Abstract
Dialogic reading is an evidence-based practice for preschool children who are typically developing or those considered at-risk (WWC, 2007). However, there is limited empirical evidence to determine if dialogic reading has similar effects on the language and preliteracy skills of preschool children with disabilities (WWC, 2010). This article gives an overview of the research literature regarding dialogic reading with specific emphasis on dialogic reading as an intervention for young children with disabilities. Implications for using dialogic reading as a strategy for young children with disabilities are included.

Keywords: Dialogic reading, shared interactive reading, preschool, children with disabilities, language, school-readiness, language delay, language disorder, children at-risk.

1. Introduction
Language and communication skills in preschool children account for a large proportion of variance in their later educational, social, and work skills (Kaiser, Hancock, Cai, Foster, & Hester, 2000; Kaiser, Cai, Hancock, & Foster, 2002; Warren & Yoder, 1996). Communication skill deficits are a hallmark of preschool children with disabilities,
Dialogic reading, a specific type of shared interactive reading, reduces the straight reading of storybooks by adults and invites the child into a dialogue around the shared book, improving oral language skills for children who are typically developing or at-risk (Lonigan & Whitehurst, 1998; Mol et al., 2009; Whitehurst et al., 1988; Whitehurst, Arnold et al., 1994; Whitehurst, Epstein et al., 1994; Whitehurst et al., 1999; Zevenbergen, Whitehurst, & Zevenbergen, 2003). However, limited evidence exists for the use of dialogic reading for children with disabilities (Crain-Thorenson & Dale, 1999; Dale, Crain-Thorenson, Notari-Syverson, & Cole, 1996; Fleury, Miramontez, Hudson, & Schwartz, 2013; Hargrave & Senechal, 2000; Katims, 1994).

We present an overview of the research literature around dialogic reading. First, dialogic reading will be defined with a general overview of the history of development and strategies it encompasses. Following, studies on dialogic reading for young children who are typically developing or at-risk will be reviewed in light of the strategies and skills targeted, the duration and frequency of interventions, setting, training, and outcomes assessed. Next, the research on dialogic reading for young children with disabilities will be discussed, again, paying special attention to how researchers define disability and language impairment, as well as the strategies and skills targeted, the duration and frequency of interventions, setting, training, and outcomes assessed.

The literature search was completed using three strategies to locate potential studies for inclusion. First, a computer-based search was completed using EBSCO, Galileo, Google Scholar, and ERIC from 1980 to 2015. All journals representative of English speakers, both U.S. and international, were included. The following keywords were used in the searches: dialogic reading, shared interactive reading, preschool, young children, language, literacy, emergent literacy, preliteracy, disabilities, language impairment. From the initial search results, only articles specifically referencing dialogic reading were included. Next, the reference lists of each study that met the criteria were reviewed to assist in locating additional relevant studies. Finally, in Google Scholar, the “related articles” feature was used to obtain any relevant literature for the search.

2. Dialogic Reading

2.1. Overview of Dialogic Reading

Dialogic reading, a specific type of shared interactive reading, is an intervention designed to reduce the straight reading of storybooks by adults and to engage the child in a dialogue around the shared book, thus improving the oral language skills of children (Mol et al., 2009; Morgan & Meier, 2008; Whitehurst et al., 1988; Zevenbergen & Whitehurst, 2003). Through a series of prompts, known by the acronym CROWD, and a prompting hierarchy, known by the acronym PEER, dialogic reading turns the role of the child into an active one of storyteller (Mol et al., 2009; Morgan & Meier, 2008; WWC, 2007; Whitehurst et al., 1988; Zevenbergen & Whitehurst, 2003). The prompting hierarchy (PEER) begins with the adult prompting the child using one of the CROWD strategies centered on an event or picture in the storybook. The adult then evaluates the child’s response, providing positive and corrective feedback. Following the adult expands on the child’s initial response by adding some linguistic component such as an adjective or phrase to enrich the child’s response. Finally, the adult asks the child to repeat the expanded utterance aloud. Within this hierarchy, a variety of prompts can be used: Completion prompts are used often in repetitive text elements for the child to complete an utterance when the adult begins; Recall questions are used to ask the child about an event or picture that has been read about in the book; Open-ended questions allow the child to provide a response that goes beyond the typical closed response options of yes/no; Wh-questions are used to highlight particular language features by varying what, where, who, when, and why questions related to the story; distancing questions are asked for the child to relate an event or experience in their life or environment to something in the shared storybook (Mol et al., 2009; Morgan & Meier, 2008; WWC, 2007; Whitehurst et al., 1988; Zevenbergen & Whitehurst, 2003). The prompts used by the adult will vary based on the level of the child’s

2.2. Dialogic Reading with Young Children Who are Typically Developing or At-Risk

Dialogic reading was founded in a seminal study by Whitehurst and colleagues (1988) where the goal was to reduce the straight reading of storybooks by adults to encourage development of children’s oral language skills. That study was then expanded to children in a childcare setting in Mexico using Spanish, where similar positive effects on children’s mean length of utterance (MLU) and expressive vocabulary skills were noted (Valdez-Menchaca & Whitehurst, 1992; Whitehurst et al., 1988). The empirical base for dialogic reading continued to grow through a series of four randomized control studies by Whitehurst and colleagues, where they evaluated strategies in home settings with parent-child dyads, school settings, with classroom teachers, and a combined home and school approach (Lonigan & Whitehurst, 1998; Mol et al., 2009; Whitehurst, Arnold et al., 1994; Whitehurst, Epstein et al., 1994; Whitehurst et al., 1999). Since that time, the research on dialogic reading has continued to expand, using the CROWD and PEER strategies to target a variety of skills, with interventions ranging in duration and frequency of reading, as well as variance in training strategies used and outcomes achieved.

Strategies and skills targeted. Dialogic reading was first developed to increase the overall oral language skills of preschool children, namely their receptive and expressive vocabulary skills and MLU (Lonigan & Whitehurst, 1998; Mol et al., 2009; Whitehurst, Arnold et al., 1994; Whitehurst, Epstein et al., 1994; Whitehurst et al., 1988; Whitehurst et al., 1999). Following in that same focus, many researchers have continued to target these skills in additional studies (Arnold, Lonigan, Whitehurst, & Epstein, 1994; Brannon, Dauksas, Coleman, Israelson, & Williams, 2013; Huebner, 2000; Huebner & Meltzoff, 2005; Kotaman, 2013; Rahi, 2013; Simsek & Erdogan, 2015; Towson & Gallagher, 2014). However, other researchers, including the founders, have expanded dialogic reading to target preliteracy skills such as phonological awareness (Callaghan & Madelaine, 2012; Elmonayer, 2013; Lacour, McDonald, Tissington, & Thomason, 2011). Frequently, interventions in dialogic reading have targeted both language and preliteracy skills (e.g., alphabet knowledge, concepts of print, rhyme, initial sound recognition) in conjunction with one another (Fielding-Barnsley & Purdie, 2002; Fielding-Barnsley & Purdie, 2003; Hay & Fielding-Barnsley, 2007; Lonigan, Allan, & Lerner, 2011; Lonigan, Anthony, Bloomfield, Dyer, & Samwel, 1999; Reese, Leyva, Sparks, & Grolnick, 2010). Additional targeted skills include improvement in reading attitudes and fictional narrative skills (Kotaman, 2013; Lever & Senechal, 2011; Zevenbergen et al., 2003).

In a unique implementation outside of book reading, Strouse, O’Doherty, and Troseth (2013) used the strategies of dialogic reading during co-viewing of educational videos between parents and their children to increase expressive vocabulary.

Dialogic reading interventions have been implemented in languages and countries beyond the United States as well. Researchers in the field of second language acquisition and English Language Learners (ELL), for example, have implemented dialogic reading to target growth of language and preliteracy skills in English when the primary language was Cantonese (Chow, McBride-Chang, Cheung, & Chow, 2008; Chow, McBride-Chang, & Cheung, 2010) and Spanish (Cohen, Kramer-Vida, & Frye, 2012; Tsybina & Eriks-Brophy, 2010). Researchers in rural Bangladeshi have also implemented dialogic reading in Banglato improve native expressivelanguage skills for preschool children (Opel, Ameer, & Aboud, 2009). Similarly, dialogic reading was implemented in Mexican childcare centers to improve language skills in the primary language of Spanish (Valdez-Menchaca & Whitehurst, 1992). Researchers in Turkey have compared dialogic reading to traditional reading on the improvement of at-risk kindergarten children’s receptive and expressive language skills (Simsek & Erdogan, 2015). In Egypt, dialogic reading was implemented to promote phonological awareness skills in kindergarten students (Elmonayer, 2013).

Duration and frequency. Quality and frequency of dialogic reading are important (Mol et al., 2009). Generally, intervention times for implementing dialogic reading for children who are typically developing or at-risk have ranged widely, from four weeks (Arnold et al., 1994; Briesch, Chafouleas, Lebel, & Blom-Hoffman, 2008; Opel et al., 2009; Simsek & Erdogan, 2015; Strouse et al., 2013; Whitehurst et al., 1988) to one school year (Lonigan, Farver, Phillips, & Clancy-Menchetti, 2011; Lonigan, Purpura, Wilson, Walker, & Clancy-Menchetti, 2013; Reeseet al., 2010; Whitehurst, Epstein et al., 1994; Whitehurst et al., 1999; Zevenbergen et al., 2003). The majority of the studies have implemented the strategies for 6 to 12 weeks (Brannon et al., 2013; Chow et al., 2008; Chow et al.,
Setting. Dialogic reading is most often implemented with children who are at risk or typically developing in the home or school setting. Researchers have predominantly trained parents of preschool children to implement the strategies of dialogic reading in the home (Arnold et al., 1994; Blom-Hoffman, O’Neil-Pirozzi, & Cutting, 2006; Blom-Hoffman, O’Neil-Pirozzi, Volpe, Cutting, & Bissinger, 2007; Brannon et al., 2013; Briesch et al., 2008; Chow et al., 2008; Chow et al., 2010; Fielding-Barnsley & Purdie, 2002; Fielding-Barnsley & Purdie, 2003; Huebner, 2000; Huebner & Meltzoff, 2005; Huebner & Meltzoff, 2005; Kotaman, 2013; Lever & Senechal, 2011; Lonigan et al., 1999; Lonigan & Whitehurst, 1998; Whitehurst & Lonigan, 1998; Whitehurst et al., 1999), or twice a week (e.g., Chow et al., 2008; Chow et al., 2010; Lever & Senechal, 2011; Lonigan & Whitehurst, 1998; Lonigan et al., 2013; Simsek & Erdogan, 2015). Although length of each reading is not typically reported, some studies have stated average reading times of 5 to 10 minutes (Huebner, 2000; Lonigan & Whitehurst, 1998; Rahn, 2013; Whitehurst, Arnold et al., 1994), to 12 minutes (Briesch et al., 2008; Valdez-Menchaca & Whitehurst), and up to 15 to 20 minutes (Lever & Senechal, 2011; Lonigan et al., 2013; Simsek & Erdogan, 2015; Tsybina & Eriks-Brophy, 2010).

Training. As dialogic reading for children who are typically developing or at-risk has most often been implemented in the home environment, training has become a critical point of focus to ensure fidelity of implementation. Although training parents and teachers in the strategies of dialogic reading initially began as face-to-face training, it has evolved to a more standardized practice. Materials such as video training and curriculums complete with specific storybooks and implementation guidelines have been created (Arnold et al., 1994; Blom-Hoffman et al., 2006; Blom-Hoffman et al., 2006; Brannon et al., 2013; Fielding-Barnsley & Purdie, 2002; Fielding-Barnsley & Purdie, 2003; Hay & Fielding-Barnsley, 2007; Huebner, 2000; Huebner & Meltzoff, 2005; Huebner & Payne, 2010; Kotaman, 2013; Lacour et al., 2011; Lonigan & Whitehurst, 1998; Reese et al., 2010; Strouse et al., 2013; Towson & Gallagher, 2014; Tsybina & Eriks-Brophy, 2010; Whitehurst et al., 1988). Less frequently, dialogic reading is implemented the classrooms of preschool children (Cohen et al., 2012; Elmonayer, 2013; Lever & Senechal, 2011; Lonigan et al., 1999; Lonigan, Farver et al., 2011; Lonigan et al., 2013; Opel et al., 2009; Rahn, 2013; Simsek & Erdogan, 2015; Valdez-Menchaca & Whitehurst, 1992). Often, the most effective results for children were found when dialogic reading was implemented in both school and home setting simultaneously and when it was implemented with high fidelity (Lonigan & Whitehurst, 1998; Mol et al., 2009; Morgan & Meier, 2008; Whitehurst, Arnold et al., 1994; Whitehurst, Epstein et al., 1994; Whitehurst et al., 1999; Zevenbergen et al., 2003).

Training via video can be effective in parent retention of strategies, with parents showing maintenance of the CROWD and PEER strategies up to 12 weeks and two years following initial exposure to training (Blom-Hoffman et al., 2007; Huebner & Payne, 2010). However, other researchers found that parents may require supplemental trainings to learn certain skills with integrity (Briesch et al., 2008). When comparing video training in person to video training materials mailed to the home, researchers noted significantly better outcomes with in person training (Huebner & Meltzoff, 2005). After being trained by video, parents were most successful in using the strategies of “wh-questions” and evaluation of children’s responses and less likely to implement recall questions, expansion of children’s utterances, and solicitation for children to repeat that expansion (Briesch et al., 2008). In a further expansion of training materials, the Literacy Preschool Express Curriculum (LEPC) has been created featuring ten
thematic units centered on dialogic reading and strategies to enhance phonological awareness in young children across one school year (Lonigan, Farver et al., 2011).

Although standardized training materials are available, researchers have also used their own methods of training for parents. When implementing dialogic reading in different languages or in English, researchers provided parents with books and “hints” for prompt questions and the prompting strategy (i.e., PEER) provided as a written supplement (Chow et al., 2008; Chow et al., 2010). Additionally, researchers have developed their own video training for dialogic reading supplemented with written information (Fielding-Barnsley & Purdie, 2002; Fielding-Barnsley & Purdie, 2003; Hay & Fielding-Barnsley, 2007; Huebner & Meltzoff, 2005). Other researchers describe use of professional development (e.g., training workshops, consultation, community of practice meetings) and review the research on the importance of reading to children to train adults to implement dialogic reading (Cohen et al., 2012; Elmonayer, 2013; Kotaman, 2013; Lacour et al., 2011; Tsybina & Eriks-Brophy, 2010; Valdez-Menchaca & Whitehurst, 1992).

Although there is some consistency in the materials used for training, there is variability in the time allotted for training. This information is not consistently provided, trainings were reported as brief as 30 minutes (e.g., Brannon et al., 2013; Towson & Gallagher, 2014) and as long as two hours (e.g., Kotaman, 2013) and up to five days (e.g., Opel et al., 2009). Booster sessions halfway or periodically through the intervention period for some studies were also noted (Huebner, 2000; Huebner & Meltzoff, 2005; Tsybina & Eriks-Brophy, 2010). In implementation of the LEPC curriculum, Lonigan and colleagues (2011) utilized weekly in class mentoring of teachers in addition to 6 half-day workshops distributed across the school year.

In reviewing studies in the best ways to train adults, it was found that both parents and teachers implemented the strategies of dialogic reading equally well and that video based training was as or more effective as training parents and teachers face-to-face (Arnold et al., 1994; Blom-Hoffman et al., 2006; Blom-Hoffman et al., 2007; Lonigan & Whitehurst, 1998; Mol et al., 2009; Whitehurst, Arnold et al., 1994; Whitehurst, Epstein et al., 1994; Whitehurst et al., 1999). While training parents in these strategies improves interaction and overall parent-child reading styles, parents may require more than one training session to implement all aspects of dialogic reading with fidelity (Briesch et al., 2008; Huebner, 2000).

Outcomes assessed. Dialogic reading interventions predominantly positively affect the skills targeted (Reese et al., 2010). The original intent on reducing the straight reading of storybooks by adults to provide an interactive experience between adults and children is seen consistently across studies. Most commonly, dialogic reading positively affects children’s receptive and expressive vocabulary skills and overall language skills (Arnold et al., 1994; Brannon et al., 2013; Hay & Fielding-Barnsley, 2007; Huebner, 2000; Kotaman, 2013; Lonigan et al., 1999; Lonigan, Farver et al., 2011; Lonigan & Whitehurst, 1998; Lonigan et al., 2013; Mol et al., 2009; Morgan & Meier, 2008; Strouse et al., 2013; Towson & Gallagher, 2014; WWC, 2007; Whitehurst, Arnold et al., 1994; Whitehurst, Epstein et al., 1994; Whitehurst et al., 1988; Whitehurst et al., 1999). Preliteracy skills, such as concepts of print, and final sound recognition have also been positively affected (Fielding-Barnsley & Purdie, 2002; Fielding-Barnsley & Purdie, 2003). When implemented in other languages other than English, such as Cantonese, Spanish, or Bangla, dialogic reading promotes general language development, expressive vocabulary, phonological awareness, and print knowledge (Chow et al., 2008; Chow et al., 2010; Cohen et al., 2012; Elmonayer, 2013; Opel et al., 2009; Simsek & Erdogan, 2015; Tsybina & Eriks-Brophy, 2010; Valdez-Menchaca & Whitehurst, 1992).

Dialogic reading strategies are also found to have a positive impact on children’s attitudes toward reading, their confidence with text, and to increase time engaged in storybook reading with their parents (Brannon et al., 2013; Hay & Fielding-Barnsley, 2007; Huebner & Payne, 2010; Kotaman, 2008). Additionally, dialogic reading was found to be as effective as activity based instruction in promoting the vocabulary development of young children at-risk for language deficits (Rahn, 2013).

Dialogic reading also seems to affect the more complex language structures such as narratives. Researchers have found that dialogic reading improves children’s use of decontextualized language, evaluative devices, and references to internal mental states during narrative construction as well as added to the overall length of these narratives (Lever & Senechal, 2011; Zevenbergen et al., 2003).

Assessments used. Detecting change in children’s skills following a dialogic reading intervention has varied from standardized to researcher developed tools. Standardized assessments (e.g., PPVT, EOWPVT) were used in earlier studies of dialogic reading, and continue to be used as part of a larger test protocol in later studies (Arnold et al., 1994; Chow et al., 2008; Chow et al., 2010; Cohen et al., 2012; Fielding-Barnsley & Purdie, 2002; Fielding-
Barnsley & Purdie, 2003; Huebner, 2000; Huebner & Meltzoff, 2005; Kotaman, 2013; Lever & Senechal, 2011; Lonigan et al., 1999; Lonigan, Allan et al., 2011; Lonigan & Whitehurst, 1998; Lonigan et al., 2013; Rahn, 2013; Reese et al., 2010; Simsek & Erdogan, 2015; Strouse et al., 2013; Tsybina & Eriks-Brophy, 2010; Valdez-Menchaca & Whitehurst, 1992; Whitehurst, Arnold et al., 1994; Whitehurst, Epstein et al., 1994; Whitehurst et al., 1988; Whitehurst et al., 1999; Zevenbergen et al., 2003). While change was detected in children’s language skills using standardized measures in some studies, there was also a need for ‘near-transfer’ measures of vocabulary growth due to their increased specificity to the targeted skills in the intervention. These near-transfer assessments allowed researchers to see growth specifically related to the vocabulary words targeted through dialogic reading (Cohen et al., 2012; Fielding-Barnsley & Purdie, 2002; Fielding-Barnsley & Purdie, 2003; Lever & Senechal, 2011; Lonigan & Whitehurst, 1998; Mol et al., 2009; Rahn, 2013; Strouse et al., 2013; Tsybina & Eriks-Brophy, 2010; Whitehurst, Arnold et al., 1994; Whitehurst, Epstein et al., 1994; Whitehurst et al., 1999) as well as in phonological awareness skills (Elmonayer, 2013). Curriculum based assessments have also been utilized in more recent studies due to their increased sensitivity to small increments of change (Brannon et al., 2013; Lacour et al., 2011; Rahn, 2013).

Depending on the specific skills targeted during an intervention, researchers have used other assessments, including book identification, telephone interviews with parents, spelling, children’s preliteracy experiences, child participation in reading, children’s attitudes toward reading, narrative tasks, story comprehension, and spontaneous language during book reads (Chow et al., 2008; Chow et al., 2010; Fielding-Barnsley & Purdie, 2002; Fielding-Barnsley & Purdie, 2003; Huebner, 2000; Huebner & Meltzoff, 2005; Huebner & Payne, 2010; Kotaman, 2013; Lonigan & Whitehurst, 1998; Opel et al., 2009; Reese et al., 2010; Valdez-Menchaca & Whitehurst, 1992; Zevenbergen et al., 2003).

As part of the original studies on dialogic reading, the longitudinal effects were also evaluated. It was found that dialogic reading had positive effects on children’s oral language skills that carried over to the end of kindergarten, but not beyond to the first and the second grade (Whitehurst et al., 1999). Further research in longitudinal effects appears warranted.

Summary. There is a strong literature base for dialogic reading with children who are typically developing or at-risk. Initiated by Whitehurst and colleagues (1988), dialogic reading was first evaluated in the home setting between parents and their children with positive effects found in expressive vocabulary and MLU. Since the seminal study, research was expanded into classrooms, where teachers were trained to implement these strategies in small groups, or in a combination of home and school interventions (Lonigan & Whitehurst, 1998; Mol et al., 2009; Whitehurst, Arnold et al., 1994; Whitehurst, Epstein et al., 1994; Zevenbergen & Whitehurst, 2003). In an initial series of four-randomized control studies, positive change was affected on children from both middle class and low socioeconomic backgrounds (Lonigan & Whitehurst, 1998; Mol et al., 2009; Whitehurst et al., 1988; Whitehurst, Arnold et al., 1994; Whitehurst, Epstein et al., 1994; Zevenbergen & Whitehurst, 2003). This line of research was expanded to children in Mexican child-care settings, whose primary language was Spanish, where similar gains in expressive vocabulary and oral language were found (Valdez-Menchaca & Whitehurst, 1992; Zevenbergen & Whitehurst, 2003). Within the home setting, researchers have found that dialogic reading can positively impact the attitudes children have toward reading as well as their language skills (Kotaman, 2008). Additionally, researchers looking at the longitudinal effects of children receiving exposure to dialogic reading intervention in Head Start programs on second grade language skills found that the effects were still significant at the end of kindergarten, but not beyond (Mol et al., 2009; Whitehurst et al., 1999; Zevenbergen & Whitehurst, 2003). In looking at longitudinal effects of training parents in these strategies, parents continued to use dialogic reading strategies up to two years later, resulting in increased child involvement in book reading (Huebner & Payne, 2010).

Training of adults, either parents or teachers, in the strategies of dialogic reading vary. In an attempt to standardize training, Arnold and colleagues (1994) created a short video presentation of the CROWD and PEER strategies and found it to be more effective than training adults in a more traditional fashion. The effectiveness of this video training was further substantiated by additional studies specifically evaluating the training as well as others (Blom-Hoffman et al., 2006; Blom-Hoffman et al., 2007). The standardization of training has allowed for wider distribution of dialogic reading strategies.

Expansions of dialogic reading in both strategies and outcomes assessed are continuing to develop. The impact of dialogic reading has gone beyond expressive vocabulary to evaluate the effect on narrative skills of children in both preschool and kindergarten (Lever & Senechal, 2011; Zevenbergen et al., 2003). Results of these studies suggest that dialogic reading positively affects children’s use of evaluative devices, improved use of decontextualized language, references to mental states and emotions, as well as generally increased length of narratives (Lever &
Senechal, 2011; Zevenbergen et al., 2003). Recently, a curriculum based in dialogic reading with the addition of preliteracy skill training has been developed and effects were positive for expressive language, phonologic awareness and print knowledge (Lonigan, Farver et al., 2011). Flynn (2011) has also specifically laid out for teachers how to effectively implement dialogic reading strategies in a classroom setting.

2.2. Dialogic Reading for Young Children with Disabilities

While there is a limited research base for the use of dialogic reading for preschool children with disabilities, six studies have been identified as using this specific strategy (Crain-Thorenson & Dale, 1999; Dale et al., 1996; Fleury et al., 2013; Hargrave & Senechal, 2000; Katims, 1994; Author, Submitted). The U.S. Department of Education’s What Works Clearinghouse has accepted two of these (Crain-Thorenson & Dale, 1999; Dale et al., 1996), concluding that dialogic reading has potentially positive effects for communication skills in children with disabilities (WWC, 2010).

Defining language impairment or disability status. Researchers implementing dialogic reading vary in their definition of disability. Two studies evaluated dialogic reading for children with mild-moderate language delay as defined by scores of greater than one standard deviation below the mean on one standardized measure of receptive vocabulary skills (Crain-Thorenson & Dale, 1999; Dale et al., 1996). Similarly, Hargrave and Senechal (2000) defined their participants as having “poor vocabulary skills” as measured by a lag of at least 13 months on a standardized measure of expressive vocabulary skills. They specifically excluded children with learning disabilities or “more significant impairments” (Hargrave & Senechal, 2000). The remaining three studies evaluated children with Autism Spectrum Disorder (ASD) (Fleury et al., 2013) and children in self-contained and inclusive preschool classrooms with a wide range of mild to moderate developmental disabilities, including intellectual disability, behavioral and physical disorders, and speech and language disorders (Katims, 1994; Author, Submitted). In implementing dialogic reading for children with ASD, all participants were able to communicate verbally with at least two to three word phrases (Fleury et al., 2013) and for children with significant developmental delays, all children had a minimum of one word (Author, Submitted).

Strategies and skills targeted. Studies in dialogic reading for children with disabilities often incorporate additional strategies to the core foundation of dialogic reading: including supplemental library centers, use of repeated reads, and pause time (Crain-Thorenson & Dale, 1999; Dale et al., 1996; Fleury et al., 2013; Katims, 1994; Author, Submitted). Similar to studies using dialogic reading for children who are typically developing or at-risk, these interventions aimed to improve oral language skills, including receptive and expressive vocabulary, and concepts about print (Crain-Thorenson & Dale, 1999; Dale et al., 1996; Fleury et al., 2013; Hargrave & Senechal, 2000; Katims, 1994; Author, Submitted). In addition to the skills, these studies also sought to improve children’s on-task behavior, verbal participation, and engagement with books (Fleury et al., 2013; Katims, 1994).

Pause time. Pause, or wait time, has been incorporated into some of the interventions in dialogic reading (Crain-Thorenson & Dale, 1999; Dale et al., 1996; Fleury et al., 2013; Author, Submitted). When implementing dialogic reading at home, researchers have instructed parents to “slow down and give your child time to respond” (Crain-Thorenson & Dale, 1999, p. 32) or have allowed a five second interval prior to another adult utterance (Fleury et al., 2013; Author, Submitted). In two studies, utterances by the adult within two seconds of the prior utterance were coded as “insufficient time to respond”, suggesting the need for children with disabilities to have more time to process language presented to them (Crain-Thorenson & Dale, 1999; Dale et al., 1996). When specifically instructed to increase the time between a prompt and another utterance, adults made significant changes in their use of pause time (Crain-Thorenson & Dale, 1999). The strategy facilitated children’s linguistic performance and verbal engagement (Crain-Thorenson & Dale, 1999; Dale et al., 1996).

Duration and frequency. Intervention periods within the six studies ranged in duration from six weeks to one school year. Katims (1994) implemented dialogic reading across one school year, introducing 49 books systematically through small group reading. In contrast, Hargrave and Senechal (2000) implemented their intervention in 20 sessions across four weeks, or five book readings per week. In a series of two studies, Crain-Thorenson, Dale and colleagues (1996, 1999) designed an 8 week intervention for parent-child dyads and a 6-11 week intervention for implementation in both home and school settings, with reading in the school setting occurring
four times per week. In a single case design, five storybooks were read across the intervention phases, with a total of nine reading sessions across five weeks (Fleury et al., 2013). Author (Submitted) implemented dialogic reading in the classroom three times per week for six weeks.

**Setting.** Dialogic reading has been evaluated for use between parents and children with disabilities in the home setting (Dale et al., 1996) as well as in preschool classrooms (Fleury et al., 2013; Hargrave & Senechal, 2000; Katims, 1994; Author, Submitted), with one study comparing home versus school implementation (Crain-Thorenson & Dale, 1999). While Fleury and colleagues’ (2013) study took place in preschools, the intervention took place in a small intervention room adjacent to the children’s classroom. Within the interventions in the preschool setting, dialogic reading was implemented in small groups of eight or less (Hargrave & Senechal, 2000; Katims, 1994; Author, Submitted) or individually with either a teacher or researcher (Crain-Thorenson & Dale, 1999; Fleury et al., 2013).

**Training.** Researchers implemented the intervention of dialogic reading in two studies (Fleury et al., 2013; Author, Submitted), while the remaining four studies trained either parents or teachers to implement the intervention with the participants (Crain-Thorenson & Dale, 1999; Dale et al., 1996; Hargrave & Senechal, 2000; Katims, 1994). Training included workshops in which video training was supplemented by practice and written materials (Crain-Thorenson & Dale, 1999; Dale et al., 1996; Hargrave & Senechal, 2000; Katims, 1994) with one study providing a second training session half-way through the intervention period (Crain-Thorenson & Dale, 1999).

**Outcomes assessed.** Within the limited research base, dialogic reading has been found to effectively produce changes in adult behavior, resulting in more questions that are open-ended and more wh-questions asked (Crain-Thorenson & Dale, 1999; Dale et al., 1996). Similar to dialogic reading in children who are typically developing, parents and teachers implement the strategies equally well (Crain-Thorenson & Dale, 1999; Dale et al., 1996). Changes in children’s language and behaviors have been described as higher levels of verbal engagement during book reading, more interest in books generally, and increased receptive and expressive vocabulary and overall oral language skills (Crain-Thorenson & Dale, 1999; Dale et al., 1996; Fleury et al., 2013; Hargrave & Senechal, 2000; Katims, 1994; Author, Submitted). To capture these changes in the participants’ skills, researchers used standardized assessments (e.g., PPVT, EOWPVT), researcher developed tools (e.g., near-transfer vocabulary assessments), coding of child language and MLU, and observation (Crain-Thorenson & Dale, 1999; Dale et al., 1996; Fleury et al., 2013; Hargrave & Senechal, 2000; Katims, 1994; Author, Submitted).

**Summary.** The U.S. Department of Education’s What Works Clearinghouse (WWC, 2010) has accepted two research studies for dialogic reading for children with disabilities based on their use of randomized control designs (Crain-Thorenson & Dale, 1999; Dale et al., 1996), concluding that dialogic reading has potentially positive effects for communication skills in children with disabilities. Dale and colleagues (1996) compared dialogic reading to a non-book language focused intervention within the home setting using 33 parent-child dyads. The children ranged in age from three to six years and presented with mild to moderate language delays (Dale et al., 1996). The authors examined if dialogic reading was more effective in changing parent language and if it positively affected the expressive language skills of the young children with language delays. Results of video coded transcriptions indicated that the parents who implemented dialogic reading asked significantly more wh- and open-ended questions and imitated their children’s utterances more than the comparison group. The children in the intervention group showed a higher rate of response to questions posed, used a higher number of different words, and increased in their MLU. It was also noted that differential effects occurred for children in that children with a lower MLU made gains in verbal engagement and vocabulary, while children with a higher MLU increased in their grammatical skills (Dale et al., 1996). In the second accepted study, Crain-Thorenson & Dale (1999) evaluated if training parents and teachers in dialogic reading, with the additional components of pause time and repeated reads, had positive effects on children’s receptive and expressive language skills. Following an 8-week intervention, there were no significant differences between groups for changes in adult language, however, there were significant changes to adult speech within groups. Children were noted to demonstrate growth in their language skills, but were not significantly different from the comparison group (Crain-Thorenson & Dale, 1999).

The research in dialogic reading for children with disabilities remains limited and narrow. Katims (1994) implemented dialogic reading daily in a group setting, while simultaneously systematically introducing 49 storybooks into the classroom library center across one school year. The preschool children with mild-moderate
learning and behavioral difficulties moved from low-level browsing to higher level reenactments with books in the library center and made significant gains on concepts of print (Katims, 1994). Hargrave & Senechal (2000) examined the benefits of dialogic reading for children with “poor vocabulary” (e.g., excluding children with documented learning disabilities or more involved disabilities) in childcare centers across four weeks in small groups of eight children. Teachers were trained via video-training and found to implement the strategies of dialogic reading successfully, changing their behaviors in questioning. Children in the intervention group made significant gains on concepts of print (Katims, 1994). Hargrave & Senechal (2000) pointed out that dialogic reading strategies can be readily incorporated into daily routines (e.g., during circle time, mealtime, or during PA time). In overnight centers, use of repeated reads, and pause time (Crain-Thorenson & Dale, 1999; Dale et al., 1996; Fleury et al., 2013; Hargrave & Senechal, 2000; Katims, 1994; Author, Submitted). Studies range in duration from six weeks to one school year and often incorporate additional strategies to the core foundation of dialogic reading; including supplemental library centers, use of repeated reads, and pause time (Crain-Thorenson & Dale, 1999; Dale et al., 1996; Katims, 1994; Author, Submitted). Within the limited research base, dialogic reading has been found to effectively produce changes in adult behavior, resulting in more questions that are open-ended and more wh-questions asked (Crain-Thorenson & Dale, 1999; Dale, et al., 1996). Similar to dialogic reading in children who are typically developing, parents and teachers implement the strategies equally well (Crain-Thorenson & Dale, 1999; Dale, et al., 1996). Changes in children’s language and behaviors have been described as higher levels of verbal engagement during book reading, more interest in books generally, and increased expressive vocabulary and overall oral language skills (Crain-Thorenson & Dale, 1999; Dale et al., 1996; Fleury et al., 2013; Hargrave & Senechal, 2000; Katims, 1994; Author, Submitted).

3. Implications

Given that dialogic reading is an evidenced based strategy for children who are typically developing and those at risk and research continues to show potentially positive effects for children with disabilities, the following implications for classroom teachers are offered. Dialogic reading strategies can be readily incorporated into daily preschool instruction as story time is a naturally occurring activity. However, teachers should take thoughtful consideration of the vocabulary words and language concepts they wish to target through dialogic reading, matching these targeted skills to their students’ instructional level as much as possible. This selection of targeted words and skills could be facilitated through daily or weekly data collection, allowing teachers to adjust the prompts in dialogic reading as needed. Additionally, dialogic reading strategies are often effective when paired with repeated reads, allowing children familiarity with the text in which to scaffold these newly targeted skills.

Preschool children with disabilities make positive gains in response to explicit instruction (Cole & Dale, 1986). The prompting hierarchy implemented in dialogic reading allows for repeated practice and exposure to novel words in a natural context. This structured learning facilitates the learning of novel words embedded within the storybooks presented (Author, Submitted).

4. Future Research Suggestions

Several ideas for future research in the area of dialogic reading with young children with disabilities are clear. Future research should include replication with an increased sample size and more diverse populations, longer duration of intervention, different measurement tools including evaluation of skills beyond vocabulary growth, evaluating the effectiveness of pause time within the intervention, and evaluating the components of dialogic reading that may account for the most change in children’s outcomes. Determining the most effective way to train teachers to use dialogic reading with young children with significant disabilities should also be evaluated.
The size and representativeness of the samples in prior studies limits the generalization of these results to all preschool students with disabilities. Inclusion of participants from different regions of the country and with larger numbers of students is important. Including children with ASD or severe or profound intellectual disabilities may also be advantageous. It will be beneficial to also recruit participants with languages other than English so that it can be determined if dialogic reading is equally, more, or less beneficial to students who are ELL. Future researchers should define the population by minimum or maximum scores on particular language assessments in order to determine for which children dialogic reading is most beneficial as well as to cater the scripted prompts more appropriately to the language levels of the participants. Similarly, evaluating if dialogic reading for children with disabilities functions differently in self-contained versus inclusive settings should be investigated.

The range in intervention periods using dialogic reading are vast (i.e., five weeks to one school year). While some researchers noted change in standardized assessments, other noted an upward trend with no significant gains observed. Future studies should attempt to determine optimal intervention periods necessary for young children with disabilities to demonstrate growth that can be measured beyond near transfer assessments.

Measurement of targeted skills should be varied and include representation from standardized, curriculum based, and researcher developed assessments. This will allow for measures of oral language skills that can pinpoint growth in areas such as syntax, morphology and mean length of utterance. Prior research in dialogic reading have incorporated narrative analysis (Lever & Senechal, 2011; Reese et al., 2010; Zevenbergen et al., 2003), ‘book reading interaction’ (Lonigan & Whitehurst, 1998), spontaneous language (Valdez-Mechaca & Whitehurst, 1992), verbal participation (Fleury et al., 2013), response to prompt type (Fleury et al., 2013), mean length of utterance (Crain-Thoreson & Dale, 1999; Dale et al., 1996; Whitehurst et al., 1988), and CHAT coding of videoed interactions during book reading (Crain-Thoreson & Dale, 1999; Dale et al., 1996). Incorporating one or more of these assessments may yield more meaningful results at growth in oral language skills beyond receptive and expressive vocabulary. This would involve the need for audio or video recording for the purposes of transcription of child and adult language during dialogic reading.

In addition to additional varied measures for language skills, empirically evaluating the effectiveness of pause time is another area for future research. While its effectiveness has been reported in outcomes of prior research, it was not in and of itself evaluated (Bellon, Ogletree, & Harn, 2000; Browder, Mims, Spooner, Ahlgrim-Delzell, & Lee, 2008; Colmar, 2011; Colmar, 2014; Ezell et al., 2000; Justice, Kaderavek, Bowles, & Grimm, 2005; Koppenhaver, Erickson, & Skotko, 2001; Mims, Browder, Baker, Lee, & Spooner, 2009; Pile, Girolametto, Johnson, Chen, & Cleave, 2010; Author, Submitted; van Kleeck et al., 2006; Yoder et al., 1995; Ziolkowski & Goldstein, 2008). Pause time could be manipulated as an independent variable in future research of dialogic reading with young children with disabilities.

Dialogic reading was developed as a set of prompts (i.e., completion, recall, open-ended questions, wh-questions, and distancing questions) to be implemented with a specific prompting hierarchy (i.e., prompt, evaluated, expand, repeat). In reviewing the literature on dialogic reading, both with children who are typically developing and those at risk, as well as with children with disabilities, all aspects of dialogic reading have been implemented during interventions. It is of interest to evaluate which components of dialogic reading may be responsible for the variance in children’s growth in language and preliteracy skills. While many studies of shared interactive reading incorporate similar prompts as in dialogic reading, few if any, require a specific prompting hierarchy beyond responding to the child and possibly evaluating the response. Therefore, it would be of interest to evaluate if the expansion and repeating components of dialogic reading account for more variance in children’s outcomes than do the other components.

The majority of studies using dialogic reading with children with disabilities have trained teachers and parents to read to their children with positive outcomes (Crain-Thoreson & Dale, 1999; Dale et al., 1996; Hargrave & Senechal, 2000; Katims, 1994) and specific measures of fidelity for adult implementation were not reported. Although training methods vary, it is of interest to evaluate what levels of professional development and ongoing coaching support may be necessary for classroom teachers to implement dialogic reading with fidelity.

5. Conclusion

In summary, dialogic reading has empirical support to be a valuable intervention for young children who are typically developing, at-risk, and potentially effective for those identified with a range of disabilities. While there is vast variability in the intervention period, training of teachers and parents, skills targeted and assessed, measurements used, and the participants and settings, there is consistency in the evidence that dialogic reading is a
powerful tool that can positively affect the skills targeted in a wide variety of populations. Research in using dialogic reading with children who are typically developing and those considered at-risk is well established, however, research for young children with disabilities is limited. Future research is necessary to build the empirical evidence of dialogic reading for this population.

References


Author (Submitted). Dialogic reading: Language and preliteracy outcomes for young children with disabilities.


