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# Increasing opportunities to respond to print during storybook reading: Effects of evocative print-referencing techniques

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ABSTRACT

This study employed a multiple baseline design to determine whether brief training and observational learning enabled teachers to increase their use of evocative references to print during whole-class storybook reading. Evocative print references require children to respond to teachers' questions or directives about print and, as such, were conceptualized as opportunities to respond (OTRs). Framed within this conceptualization, the study examined whether teachers' use of print-focused OTRs increased children's engagement during book reading and accelerated acquisition of print awareness skills. Book reading was observed twice weekly during baseline and intervention phases and coded for teachers' use of print-referenced OTRs and children's level of engagement. Print-knowledge skill probes were administered weekly to 33 children from low-income backgrounds. Results showed gains from baseline to intervention in teachers' use of evocative print references, children's engagement, and performance on skill probes. Findings are discussed in terms of using book reading to promote development of print awareness in children who are behind their peers in early literacy skills.



## 1. Introduction

Early literacy development encompasses a range of skills related to young children's knowledge about written and oral language. Children's understanding of print, in particular, is a strong predictor of later reading ability (Adams, 1990; Shanahan & Lonigan, 2012; Snow, Burns, & Griffin, 1998). To become proficient readers, young children require facility with the code-related aspects of language. Specifically, they must be able to recognize and understand the form and function of print, identify letters of the alphabet, recognize words as discrete elements of print and speech, and grasp the relationship between spoken and written language. Termed *print awareness*, this set of skills comprises a key foundation for young children's early literacy development. Although many children acquire print-awareness skills prior to kindergarten, some children, especially those from low socioeconomic backgrounds, are often behind their peers with regard to the development of these skills (Neuman & Celano, 2001; Zill & West, 2001).

### 1.1. Book reading and print awareness

Reading storybooks aloud to children is regarded as a potentially effective context for strengthening print awareness (Ezell & Justice, 2005; Mol, Bus, & de Jong, 2009). Story time is a common activity in most early childhood programs, irrespective of the curriculum, age or number of children, thus supporting its relevance and application across diverse settings (Wasik & Bond, 2001). Moreover, teachers are able to enhance the effectiveness of their book reading without major adjustments in either staffing or classroom structure, thus minimizing resistance to implementation and maximizing acceptability and sustained use of evidence-based, book-reading practices (Blewitt, Rump, Shealy, & Cook, 2009; Justice, Kaderavek, Fan, Sofka, & Hunt, 2009).

Book reading represents a unique early learning context because children are exposed to oral and written language simultaneously (Ezell & Justice, 2005). Reading aloud promotes children's vocabulary and language development primarily through adults' use of meaning-related interactions that stimulate oral language, such as describing illustrations, discussing novel concepts, or making connections to children's prior knowledge (Fletcher & Reese, 2005; Mol et al., 2009; Senechal, 1997). Although less frequently studied, the benefits of book reading for strengthening print-knowledge skills have also been documented (Dale, Crain-Thoreson, Notari-Syverson, & Cole, 1996; Justice & Ezell, 2002; Mol et al., 2009).

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Code-focused interactions during book reading expose children to print which, in turn, contributes to their knowledge about print and book concepts (Hindman, Connor, Jewkes, & Morrison, 2008; Justice & Ezell, 2004; Zucker, Ward, & Justice, 2009). When adults make explicit references to print while reading books (e.g., pointing to and saying the names of letters), children's attention is drawn to print and their awareness of how print functions is enhanced.

Despite the well-established benefits of storybook reading, research demonstrates that the actual frequency of shared book-reading experiences varies widely, especially between children from low-income versus middle- or high-income backgrounds (Hammer, Nimmo, Cohen, Draheim, & Johnson, 2005; Weigel, Martin, & Bennett, 2006). Although 50% of parents in a representative U.S. sample reported reading daily to their preschool-age child, there were notable differences between low- and high-income families. Specifically, only 40% of family members in low-income households reported reading daily (compared to 56% in high-income households), and 13% reported never reading to their child (U.S. Census Bureau, 2010). Naturalistic observations also reveal that many caregivers and teachers rarely engage children in interactions about print when reading books aloud (Diehl & Vaughn, 2010; Zucker et al., 2009). Without explicit training, preschool teachers, particularly those in programs that serve children from low-income backgrounds, seldom use book reading as a context for emphasizing print concepts or focusing on letters and words (Aram & Biron, 2004; Hindman et al., 2008; Zucker et al., 2009). Shapiro, Anderson, and Anderson (1997) found that teachers point to and discuss pictures in books rather than features of print by a ratio of 10:1. Not surprising, the degree to which children learn about print or expand their knowledge of book concepts through "read-alouds" depends on the extent to which teachers incorporate an explicit emphasis on print during book reading (van Kleeck, 2003).

These findings have led to efforts among researchers to train adults to increase their use of verbal and non-verbal references to print when reading books to children (Piasta et al., 2010). Research demonstrates that adults (parents, teachers) can be trained to focus children's attention on print during book reading. Moreover, there is evidence that when adults use print-referencing strategies during book reading, children make significant gains on tasks measuring print concepts and alphabet knowledge. By pointing to, posing questions about or making comments related to print, teachers help young children acquire an understanding about the form and function of written language (Justice, Pullen, & Pence, 2008; Justice, McGinty, Piasta, Kaderavek, & Fan, 2010; Lovelace & Stewart, 2007; Piasta, Justice, McGinty, & Kaderavek, 2012; Ziolkowski & Goldstein, 2008).

### 1.2. Implementation of print-referencing

Although research confirms that book reading is an appropriate context to foster print awareness and that a print-referencing style effectively promotes print knowledge development, questions remain about optimal implementation of a print-referencing approach. The first question relates to *implementation dosage*, or the amount and type of training and support necessary for teachers to implement print-referencing during book-reading with fidelity (Wasik, Mattera, Lloyd, & Boller, 2013). Research in early childhood intervention indicates that one dose of implementation support is generally not effective; instead, support that is delivered in more intensive ways (e.g., greater frequency) is associated with better outcomes for both teachers and children (Halle et al., 2010). Across multiple studies evaluating the efficacy of print-referencing, varying levels of implementation dosage have been applied. In one study, for example, 85 preschool teachers received professional development aimed at increasing their use of print referencing over a 30-week period (Piasta et al., 2010). The training included one full-day and one half-day workshop (11 h total), a self-guided training manual, and written feedback regarding the use of print-referencing. In another study, 24 preservice teachers received training immediately prior to reading two books to a child during one book-reading session (Ezell & Justice, 2000). Training involved viewing a brief (7 min) video demonstrating the use of five types of print references during book reading. Although the experimental training in each study led to a significant increase in adults' use of print-referencing, it is difficult to draw conclusions about optimal intervention dosage given the differences in both the amount of training and duration of the book-reading intervention. In the current study, a model of teacher training and support was implemented that sought to minimize explicit training time while maximizing ongoing support through observational learning and performance feedback.

Questions also remain about the type of print-referencing techniques that elicit children's engagement and academic responding during book reading. Justice, Weber, Ezell, and Bakeman (2002) compared the response-eliciting power of different types of print references used by parents during one-on-one book reading with preschool-age children. They found that children exhibited higher levels of interaction with print in response to parents' use of questions (e.g., "What letter is this?") and directives (e.g., "Point to the letter S.") than to parents' comments about print (e.g., "This is the letter S."). In effect, children were more responsive to evocative (i.e., requiring a response) than to non-evocative print references. This finding is consistent with other research demonstrating that the use of evocative techniques is effective in eliciting children's responses to similar literacy activities (Aram & Biron, 2004; Blewitt et al., 2009).

### 1.3. Print referencing and opportunities to respond

One way to interpret the differential benefit of evocative print references is through the concept of *opportunity to respond* (OTR; Greenwood, Hart, Walker, & Risley, 1994). Providing frequent opportunities for students to respond has positive effects on both academic outcomes and engagement behaviors among students (Moore Partin, Robertson, Maggin, Oliver, & Wehby, 2010; Skinner, Belfoire, Mace, Williams-Wilson, & Johns, 1997). When teachers provide a high rate of OTR during instruction, they increase the likelihood that students will demonstrate on-task behavior, be cognitively and behaviorally engaged in the activity, and provide a greater number of correct responses (Simonsen, Myers, & DeLuca, 2010). Framed within an OTR perspective, an evocative print-referencing strategy may be conceptualized as an OTR because it prompts children to respond and provides an explicit opportunity for children to focus on and interact with the code-related aspects of print in books. Although the accuracy and quality of responses to an OTR may vary across individual children, research demonstrates that the modeling of correct responding by peers or participation in accurate unison responding afforded by frequent OTRs has significant benefits for all children compared to less frequent OTRs (Moore Partin et al., 2010).

The concept of OTR is closely intertwined with *intervention dosage* (Wasik et al., 2013) and, more specifically, with the application of a print-referencing intervention (Breit-Smith, Justice, McGinty, & Kaderavek, 2009; McGinty, Breit-Smith, Justice, Kaderavek, & Fan, 2011). According to Wasik et al., intervention dosage reflects how much of an intervention is delivered and how much opportunity for practice is provided within an intervention session. McGinty et al. examined two dimensions of intervention dosage during a 30-week, print-referencing intervention: (a) number of intervention sessions, and (b) number of print references