Wordless picture books boost preschoolers' language production during shared reading

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ABSTRACT

Prior research shows that shared book reading promotes preschoolers' language and literacy skills. However, little is known about the potential role of books' features – in particular, the role of using wordless picture books compared with books with text – in children's spontaneous language production and teachers' instructional support. In this study, we transcribed verbal interactions of thirteen Colombian teachers reading to groups of children (aged 43–55 months) during reading sessions in Spanish using a wordless picture book (condition 1) and a prototypical storybook with text (condition 2). Books were matched for page length, type and theme. Using Computerized Language Analysis (CLAN), we found that in the wordless-picture-book condition children produced significantly more word tokens, word types and utterances, and teachers showed higher levels of instructional support. Regression analyses revealed a significant association between children's language production and teachers' quality of feedback during literacy instruction, suggesting that wordless picture books may boost children's language by enhancing instructional support.

1. Introduction

The development of language skills is shaped by the particularities of social interactions between children and their caregivers (Bronfenbrenner & Morris, 2006; Goldberg, 2003; Hirsh-Pasek & Golinkoff, 2012; Hoff, 2008; Hoff & Naigles, 2002; Vygotsky, 1996). For example, variations in the language environment that children are exposed to at home can explain certain differences in the rate and course of the acquisition of this domain.

In addition to the input children receive at home, they are exposed to language and instruction from caregivers at care centers from a very early age. In fact, the hours of care that children under the age of five receive outside their homes is on the rise (Girolametto, Weitzman, & Greenberg, 2003; Magee Koski, 2013). Here, we explore teacher-child interactions during shared book reading in a sample of Colombian children.

1.1. Caregiver-child interactions influence children's language development

There is widespread recognition that conversational interactions promote language development (Hoff, 2003; Hoff & Naigles, 2002; Milburn, Girolametto, Weitzman, & Greenberg, 2014). Children are exposed to linguistic input, produce their own language forms, and adults respond and provide feedback to children's productions. There is a vast literature that shows that parents' amount of child-directed speech, the complexity of their syntax and their lexical diversity significantly predict children's vocabulary comprehension and production (e.g., Hoff & Naigles, 2002; Rowe, 2008).

Studies in school settings have shown that the influence of teachers' input on children's language mirrors what has been found with parents (see Mueller & Hoff, 2008 for a review). Teachers' syntax elaboration predicts the complexity of children's linguistic productions (Justice, McGinty, Zucker, Cabell, & Piasta, 2013) and comprehension (Huttenlocher, Vasilyeva, Cymerman, & Levine, 2002). Also, it has been found that teachers' lexical diversity and vocabulary predict children's emergent literacy, word recognition abilities, receptive vocabulary and emergent writing abilities (e.g., Dickinson & Porche, 2011; Treviño, Varela, Romo, & Núñez, 2015).

In addition to teachers' language, the quality of teacher-child interactions in classrooms plays a pivotal role in language development (Cameron-Ponitz & Rimm-Kaufman, 2011; Girolametto

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et al., 2003; Justice, Mashburn, Hamre, & Pianta, 2008). The nature of these interactions includes the ways in which teachers provide instructional support. The following three dimensions of instructional support were analyzed in the present study: teachers' practices to facilitate and encourage students' language (Language Modeling dimension); teachers' practices to provide feedback to promote learning (Quality of Feedback dimension); and teachers' use of instructional discussion and activities to foster students' higher-order thinking skills (Concept Development dimension) (see La Paro, Pianta, & Stuhlman, 2004 for a discussion on teacher-children interaction quality). In high-quality interactions, adults provide systematic and functional instructions to children to explicitly teach them linguistic abilities (Justice et al., 2008). For example, Dickinson and Porche (2011) found that preschool teachers' use of analytic talk about books – such as discussing the meaning of words or the reasons for characters' actions or events in the story – predicts children's scores in receptive vocabulary. In addition, they found that teachers' corrections of the accuracy of what children said predict children's scores in narrative production, emergent literacy and receptive vocabulary. On a different study, Girolametto et al. (2003) showed that, in addition to language input, teachers' language facilitation strategies such as waiting for children to initiate interactions, maintaining extended conversations by encouraging all of them to talk, and promoting face-to-face interactions, were associated with children's increased production of multiword combinations and peer-directed utterances. In alignment with these studies, Zucker, Cabell, Justice, Pentimonti, and Kaderavek (2013) showed that the properties of teachers' extra-textual talk during shared reading have a positive long-term association with children's reading comprehension and receptive vocabulary. Importantly, existing differences in teachers' formal training are associated with variability in the properties of their language production and with the quality of literacy instruction they provide (e.g., Rice, 2003).

1.2. Learning from shared book reading

One of the classroom activities that foster teacher-student interactions is *shared book reading* – a method based on reading aloud while engaging children in conversation (Milburn et al., 2014). Prior research shows that this activity promotes preschoolers' language and literacy skills, including vocabulary, oral narrative skills and comprehension (Dickinson, Griffith, Michnick, & Hirsh-Pasek, 2012; Zucker et al., 2013. See Milburn et al., 2014; for a review). It has been shown that caregivers provide an enriched linguistic input during book-reading compared to other activities because language in texts is more complex and diverse than parents' spontaneous utterances (Cameron-Faulkner & Noble, 2013; Montag, Jones, & Smith, 2015).

There is substantial variability in teachers' ability to engage children in conversation during shared book reading (Girolametto, Weitzman, & Greenberg, 2006; Massey, 2004; Zucker, Justice, Piasta, & Kaderavek, 2010). The kinds of reading strategies and interventions used by teachers have been a subject of considerable research (e.g., Dickinson et al., 2012; Girolametto et al., 2003, 2006; Milburn et al., 2014; Wasik, Bond, & Hindman, 2006). There are, nevertheless, a few studies – mostly using data from Western high-income countries (Mason, Peterman, & Kerr, 1988) – that have explored how certain features of books, such as type and genre, influence the nature of shared book reading in the classroom. For example, Mason et al. (1988) described the reading style of teachers while they read either a storybook with text, an informational or a picture-phrase book[1] to kindergarten children. Teachers' demands and frequency of questions varied depending on the book genre. Moschovaki, Meadows, and Pellegrini (2007) also found differences in interaction patterns across different genres of books when teachers read information and fiction books to preschoolers. Specifically, they found that fiction books elicit more affect (e.g., more dramatization and personal engagement) than information ones.

Studies with parents also have shown that book genre influences language productions during shared book reading. For example, Hammett-Price, van Kleeck, and Huberty (2009) found that parents produced a greater number of extra-textual utterances and more cognitive-demanding feedback when reading an expositive text to preschoolers compared to a narrative one. On a different study, Nyhout and O'Neill (2013) showed that mothers produced more and longer sentences, greater variability of verbal tenses, and a greater number of references to mental states while reading narrative texts to toddlers when compared to expository texts.

In addition to its genre, books' pictorial, textual and stylistic properties influence child-teacher interactions and language production. For example, the benefits of using picturebooks in the teaching environment have been extensively studied in the literature (see Kümmerling-Meibauer, Meibauer, Nachtigäller, & Rohlfing, 2015). Book textual properties and stylistic aspects also influence reading strategies. For example, Dynia, Justice, Pentimonti, Piasta, and Kaderavek (2013) studied the relationship between educators' productions and certain features of text language (number of words and mean utterance length), font characteristics (shape, size and color), and the presence of labels and letters in illustrations. They found that the length of sentences influenced the reading style adopted by the teachers. Specifically, short sentences together with salient font and label features produced a greater number of references to printed aspects of the book.

1.3. Benefits of wordless picture books

The literature shows that the book genre and the textual properties influence the kind of reading strategies adopted by the reader. But what if the book does not have any text? Wordless picture books are those in which words are almost absent and the visual image carries the weight of the meaning and the function of the narrative (Nières-Chevrel, 2010). Unlike the case of books with words, when reading wordless picture books, the reader has to make meaning from the images (see Arizpe, 2013, for a complete review on meaning-making from wordless picture books). Most studies agree that wordless picture books increase the active participation of the reader (Beckett, 2012; Bosch, 2010; Bosch & Duran, 2009; Nikolajeva & Scott, 2001; Ramos & Ramos, 2012), partly because readers are expected to engage more actively to co-construct meaning (Arizpe, 2013).

In educational settings, wordless picture books have been used to aid children in the process of developing pre-reading skills, such as sequential thinking, visual discrimination and inferential thinking (Knudsen-Lindauer, 1988). These books have been used with pedagogical goals, including promoting emergent literacy, second language learning, creative writing and reading comprehension (Chen & Pan, 2009; Gorman, Fiestas, Pena, & Clark, 2011; Henry, 2003; Jalongo, Dragich, Conrad, & Zhang, 2002). Some of these studies suggest that wordless picture books encourage not only the reader but also the child in active engagement, promoting higher levels of story verbalization (Graham, 1998; Nikolajeva & Scott, 2001; Nodelman, 1988). For instance, Caspe (2009) found that wordless picture books enhanced preschoolers' print-related

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[1] Picture-phrased books are thematically structured books that contain ready-made or simple phrases accompanied by pictures.