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REPORTED BOOK-SHARING PRACTICES OF SPANISH-ENGLISH SPEECH-LANGUAGE PATHOLOGISTS WHO TARGET ACADEMIC LANGUAGE IN PRESCHOOLERS

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ABSTRACT

When an adult and a child read a book together, they interact with the book. To promote academic language use, parents and educators are encouraged to direct 60% of their talk during book-sharing sessions to the cognitive and linguistic content that preschoolers have already mastered and to direct 40% to the cognitive and linguistic content that is relatively abstract (e.g., higher level vocabulary, predictions, inferences). Past research has viewed book sharing largely through a monolingual lens. When another language is added to book sharing, the relationships among the book, the adult, and the child become more complex. To capture this complexity, we surveyed 90 Spanish-English bilingual speech language pathologists (SLPs) who treat Spanish-English preschoolers for academic language to analyze the complex relationships among the book, the adult, and the child. Our online survey was designed to evaluate the multivariate effects of a book factor (i.e., language version of books), adult factors (e.g., experience, reading behavior), and child factors (i.e., language input, existence of home reading routine). Two patterns in the data explained 90.69% of the total variance of the responses. For preschoolers receiving Spanish input, SLPs who used books written in Spanish tended to read every word of the text whereas SLPs who translated English books into Spanish tended to read only some text. For preschoolers receiving equal amounts of Spanish and English input, SLPs used dual language books or two books in each language. Only the SLPs who used translated books knew whether an adult read at home to the preschoolers. SLPs must know whether bilingual preschoolers are read to at home because preschoolers unfamiliar with book sharing discourse routines may not know how to respond. SLPs should not translate English books into Spanish because the academic language targets will likely be compromised. Alternative clinical activities are presented.

KEY WORDS: Book sharing; read aloud; speech-language pathology; preschool; bilingual; academic language

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INTRODUCTION

A book, an adult, and a child are three components that interact when an adult reads aloud to a child (Martinez & Roser, 1985; Sulzby & Teale, 1987; van Kleeck, 2003). Much has been written about how these components influence the types of extra-textual talk that accompany a read aloud (e.g., Dickinson & Smith, 1994a; Pellegrini, Brody, & Sigen, 1985). To promote the oral language skills necessary for later text comprehension and school success, parents and educators are told to direct 60% of their extra-textual talk to the cognitive and linguistic content that the child has already mastered and to direct the remaining 40% of their talk to the cognitive and linguistic content that is relatively abstract (van Kleeck, 2006b, 2014; van Kleeck, Stahl, & Bauer, 2003), such as higher level vocabulary (e.g., Beck, McKeown, & Kucan, 2013; McGee & Schickedanz, 2007; Whitehurst, Crone, Zevenbergen, Schultz, & Velting, 1999) as well as predictions and inferences about story events and character motivations (e.g., Dickinson & Smith, 1994a; van Kleeck, 2006b, 2014; Van Kleeck, Gillam, Hamilton, & McGrath, 1997). The use of these higher level cognitive and oral language skills—recently referred to as an “academic talk register”—is seen as critical to later text comprehension and school success (van Kleeck, 2014). Children’s books have proven to be a strong medium for helping preschoolers learn high level language structures and so speech language pathologists (SLPs) are encouraged to use books in therapy (e.g., American Speech-Language-Hearing Association, 2008; Justice & Kaderavek, 2004; van Kleeck, 2006b; van Kleeck et al., 2003).

The aforementioned research typically views book sharing largely through a monolingual lens. When another language is added to the book sharing process, the relationships among the book, the adult, and the child become more complex than when only one language is involved (Barrera & Bauer, 2003). Take, for example, a Spanish-English bilingual SLP who reads Eric Carle’s (1987) *Very Hungry Caterpillar* with a Spanish-English bilingual preschooler for the purpose of increasing the child’s academic language. What language version of the book (book factor) should the SLP use (e.g., Spanish

version, English version, dual language version that includes both languages on each page of the book)? Does the SLP’s language dominance and cultural affiliation influence his or her choices? Also, should the SLP read every word in the book during the read aloud or just some of the words and focus mainly on the illustrations (SLP factors)? What is the relationship of these book and SLP factors to the language input the child receives at home and school and the literacy practices in the child’s home (child factors)?

Existing bilingual research does not adequately address the complex linguistic and socio-cultural factors influencing book sharing practices (Barrera & Bauer, 2003). With scholars encouraging SLPs to use book sharing as one way of promoting the academic talk register (e.g., American Speech-Language-Hearing Association, 2008; Justice & Kaderavek, 2004; van Kleeck, 2006a, 2014; van Kleeck et al., 2003), we need to understand how bilingual SLPs actually share books with bilingual preschoolers.

In this article, we present the results of a survey—that we conducted with practicing Spanish-English bilingual SLPs—to analyze the complex relationship of the three components of a read-aloud: the story, the SLP, and the child. To couch our study in existing research, we describe the academic talk register in mainstream American culture and the role book sharing has in promoting it. We then compare aspects of the academic talk register to the social interaction patterns of Spanish-dominant caregivers and their preschoolers when sharing books. Given the influence of home literacy practices on preschoolers (e.g., Ezell, Gonzales, & Randolph, 2000; Gadsen, 2004; Sulzby & Teale, 1987) and the fact that SLPs treat across settings (e.g., private practice, universities, American Speech-Language-Hearing Association, 2016), we then identify the linguistic and sociocultural trends related to book, adult, and child factors in two bodies of research: (a) school-based literacy interventions and (b) home-based literacy programs.

The Academic Talk and Casual Talk Registers

As a new way for SLPs to consider oral proficiency, van Kleeck (2014) deconstructs oral language into two registers, casual talk and academic talk—a

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conceptualization somewhat reminiscent of Bernstein's (1964) distinction between restricted and elaborated linguistic codes. van Kleeck (2014) conceptualizes these two registers as points on a continuum that middle class Anglo European American preschoolers spontaneously learn to identify. For her, these two registers differ mainly by their degrees of formality, with casual talk being mostly informal and academic talk being mostly formal. The casual talk register is used to accomplish activities in the immediate context and to maintain relationships, a usage that lends itself to shared control of the topic (van Kleeck, 2014). The vocabulary used in casual talk typically includes high frequency and familiar words that are morphologically simple (Beck et al., 2013; van Kleeck, 2014)—words that typically developing children acquire spontaneously. The sentences produced in casual talk tend to be in the active voice, short in length and with few prepositional phrases or expanded noun phrases. Casual talk sentences often include contractions and pronouns that refer to the physical context (van Kleeck, 2014).

Conversely, the academic talk register—which is the register prevalent in school instruction—is used by adults to transmit knowledge and by children to construct and demonstrate knowledge (van Kleeck, 2014). This register is spontaneously used in the discourse patterns of middle class Americans (called in this article “mainstream culture”). In the academic talk register, the adult leads the topic and encourages the child to participate (van Kleeck, 2014; van Kleeck & Schwarz, 2011). The vocabulary is closer to written text than to oral conversation (Beck et al., 2013) and includes relatively long and morphologically complex words (van Kleeck, 2014). The sentences produced are relatively long, sometimes in the passive voice, rarely include contractions, and tend to include pronouns that refer to an earlier linguistic context rather than the immediate physical context (van Kleeck, 2014). With later reading achievement and overall school success having a strong relationship with children's ability to use academic talk in school (Scheele, Leseman, Mayo, & Elbers, 2012), van Kleeck (2014) urges SLPs to assess preschoolers for command of the academic talk register and to provide language therapy for those who do not have it.

Book Sharing and Academic Talk

Sharing books with preschoolers can be an excellent tool for teaching the academic talk register because adults can

provide the cognitive and linguistic scaffolding preschoolers need within a socially engaging activity (van Kleeck, 2006b, 2014; van Kleeck & Schwarz, 2011; van Kleeck et al., 2003). The cognitive and linguistic scaffolding that adults provide when sharing books can be classified as either eliciting a low or a high cognitive demand (Dickinson & Smith, 1994b). Examples of low cognitively demanding talk in book sharing includes labeling of objects and actions as well as direct recall of information in the book. A high cognitively demanding talk in book sharing includes analyzing characters and events, linking the text with the children's life experiences, making predictions and inferences, defining vocabulary, expanding and clarifying children's utterances, and evaluating information in the text (Dickinson & Smith, 1994b). Based on discourse patterns of mainstream American caregivers, the academic talk register for preschoolers should include approximately 60% of low cognitively demanding talk so preschoolers can be successful and approximately 40% of high cognitively demanding talk so they can be sufficiently challenged (van Kleeck, 2006b, 2014).

Because the academic talk register used in school instruction is grounded in the discourse patterns of mainstream American families who regularly read books to their children, preschoolers from culturally and linguistically diverse (CLD) backgrounds—such as Spanish-English dual language learners (DLL) from low socioeconomic status (SES) families—often are exposed to less cognitively demanding extra-textual talk than their mainstream American peers, a problem that we discuss next.

The overall experience and quality of the extra-textual talk during book sharing depends upon whether the low SES Spanish-English caregivers have an established reading routine with their children. For caregivers who have an established reading routine, book sharing does not serve an academic function in these families, but instead serves a social and affective function—a time for caregivers to engage their children (Hammer, Nimmo, Cohen, Draheim, & Johnson, 2005). These caregivers tend to demonstrate one of two reading styles: They either encouraged their children to act as the main storyteller, providing support where needed, or they led the activity by reading most of the text, asking questions, labeling vocabulary, and commenting on the story. They were also highly responsive to their preschoolers' contributions. This latter style is similar to the book sharing style of

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mainstream American caregivers (Hammer et al., 2005). However, there are important differences in the cognitive demand of the extra-textual talk between mainstream American and low SES Puerto Rican caregivers (Hammer et al., 2005). Mainstream American caregivers included approximately 60% of low cognitively demanding and 40% of high cognitively demanding extra-textual talk (van Kleeck, 2006b, 2014). Conversely, the low SES Puerto Rican caregivers included almost 100% of lower cognitively demanding talk. In other words, the extra-textual talk aligned more closely with the casual talk register than with the academic talk register. For example, Puerto Rican caregivers did not ask their children to make predictions or inferences about the text and did not link the text to their children's life experience (Hammer et al., 2005), all of which would have elicited from the children the high cognitive demand found in the academic talk register (Dickinson & Smith, 1994b; van Kleeck, 2014).

For caregivers who do not have an established reading routine with their children, book sharing can be a foreign experience (Anderson, Anderson, Lynch, & Shapiro, 2003; Kermani & Janes, 1997). Unfortunately, many of these caregivers equate book sharing with a form of punishment (Janes & Kermani, 2001), and so rarely praise their children or show positive affect during the interaction (Kermani & Janes, 1997). These caregivers also have difficulty identifying with the characters and stories in commercially available books (Kermani & Janes, 1997) because the books are not grounded in the storytelling traditions of these families (Boyce, Innocenti, Roggman, Jump Norman, & Ortiz, 2010).

Therefore, when they enter school, DLL preschoolers from homes that include book sharing as a regular practice have a different set of associations than DLL preschoolers from homes that do not. For the most vulnerable DLL population—preschoolers from migrant families—the home literacy environment has the greatest impact on children's preliteracy skills compared to the school environment (Ezell et al., 2000). For this reason, we consider whether DLL preschoolers are read to at home as an important child factor. Given the importance of the home environment on book sharing interactions (e.g., Ezell et al., 2000; Gadsen, 2004; Sulzby & Teale, 1987), we examine below both school-based and home-based literacy interventions that included book sharing and Spanish-English DLL preschoolers to identify adult factors, book factors, and additional child factors that interact during book sharing interventions.

Intervention Studies

All of the interventions including book sharing targeted extra-textual talk techniques that lent themselves to classification using Dickinson and Smith's (1994b) definitions of low and high cognitive demands. The majority of school-based interventions included all of the low and high cognitively demanding extra-textual talk categories listed above. Conversely, the majority of home-based interventions included only labeling of objects and actions (a low cognitively demanding type of talk), linking the text to the children's life experience, and expanding, recasting, and clarifying the children's utterances (both high cognitively demanding types of talk), and the broad category of asking open-ended questions, the latter of which does not fit neatly within Dickinson and Smith's (1994b) classification system. The majority of home-based book sharing interventions also included another type of extra-textual talk, managing the interaction, an activity described by Dickinson and Smith (1994b) as maintaining the children's attention and providing a positive emotional experience.

These school-based and home-based book sharing studies included Spanish-dominant or Spanish-English bilingual preschoolers who were either receiving or expected to receive the majority of their education in English. We organized these studies by the type of input children received during the book sharing interventions to highlight how adult-child interaction patterns, home literacy practices, and the type of book used mediate the success of these interventions. The four types of input children received, which we discuss next, are: (a) English only, (b) English with Spanish definitions of key vocabulary, (c) equal amounts of both Spanish and English input, and (d) predominantly Spanish input.

Children receive only English input. In the four studies in which children received only English input during the book-sharing interventions, the researchers were only concerned with pre-literacy development in English (L2) and used commercially available books written in English (O'Brien et al., 2014; Pollard-Durodola et al., 2016; Roberts & Neal, 2004; Silverman, Crandell, & Carlis, 2013). Only one study (Pollard-Durodola et al., 2016) reported on whether the children were read to at home. These studies included three school-based interventions (Pollard-Durodola et al., 2016; Roberts & Neal, 2004; Silverman et al., 2013) and one home-based intervention

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(O'Brien et al., 2014) that lasted between 12 and 18 weeks.

The school-based studies all included researcher-created English receptive vocabulary measures that were similarly constructed (Pollard-Durodola et al., 2016; Roberts & Neal, 2004; Silverman et al., 2013) while one study included a researcher-created English expressive vocabulary measure (Pollard-Durodola et al., 2016). These studies compared read-alouds with extension activities focused on vocabulary comprehension compared to read-alouds only (Silverman et al., 2013), read-alouds “as usual” (Pollard-Durodola et al., 2016), letter/rhyme instruction without books, and no read-alouds (Roberts & Neal, 2004). Across studies, children in the read-aloud with extension activities focusing on vocabulary comprehension achieved significantly higher English receptive vocabulary scores (Pollard-Durodola et al., 2016; Roberts & Neal, 2004; Silverman et al., 2013) and English expressive vocabulary scores (Pollard-Durodola et al., 2016) than children in the control conditions. The size of the effects distinguishes the type of extension activities. Introducing key vocabulary concepts using a video before conducting the read-alouds and reviewing key vocabulary before, during, and after re-readings with real objects produced a large effect (Roberts & Neal, 2004) but just re-reading the books and reviewing key vocabulary throughout the day, produced small to medium effects (Pollard-Durodola et al., 2016; Silverman et al., 2013).

The one home-based intervention study measured English receptive vocabulary using a standardized norm-referenced test when comparing a read-aloud treatment group to a no treatment group (O'Brien et al., 2014). Caregivers had limited oral English proficiency and were receiving literacy instruction as part of the intervention. The caregivers' reading levels in English or Spanish were not reported. Given that part of the caregiver training consisted of having the caregivers practice reading the books in English, it is unclear how fluent they were and whether they read every word of the text or just some of the words and focused mainly on the illustrations. O'Brien et al (2014) found a significant but small effect and only for the preschoolers who had low English receptive vocabulary prior to intervention.

Therefore, read-aloud interventions that include only English input significantly improve Spanish-English bilingual preschoolers' receptive vocabulary. The

differences in the magnitude of effect were attributed to the type of extension activities and either the receptive measure used or the intervention agent (educator vs caregiver). The differences in effect sizes between the school-based and home-based interventions are likely due to differences between the trained research staff and caregivers who administered the interventions.

Children receive English input with Spanish definitions of key vocabulary. In the two studies that had adults provide children with English input as well as Spanish definitions of key vocabulary during the book-sharing interventions, the researchers were concerned with creating conceptual understandings of L2 (English) key vocabulary through L1 (Spanish) support (Leacox & Jackson, 2014; Lugo-Neris, Jackson, & Goldstein, 2010). These school-based interventions lasted only 2 to 4 weeks and used commercially available books written in English. Only one study reported that very few children were read to at home (Lugo-Neris et al., 2010) while the other did not report on home book-sharing practices. The three researcher-created vocabulary measures were: (a) English receptive vocabulary, (b) English expressive vocabulary, and (c) bilingual expressive definitions. These studies compared the conditions of read-alouds in English with embedded Spanish definitions of key vocabulary to either read-alouds in English only (Leacox & Jackson, 2014) or read-alouds in English with English definitions (Lugo-Neris et al., 2010). The only significant result occurred for bilingual expressive definitions when read-alouds with embedded Spanish definitions of key vocabulary were compared to read-alouds in English (Leacox & Jackson, 2014). So, preschoolers could define the new vocabulary in Spanish but could not identify or name the words in English, which was the point of the intervention. It is unclear whether the non-significant results for the English outcomes were due to (a) the type of input the children received, (b) the relatively short duration of the interventions, and/or (c) the small number of participants, which was 24 preschoolers in each study.

Children receive equal amounts of English and Spanish input. In the two studies in which children received equal amounts of English and Spanish input during the book sharing interventions, the researchers were concerned with supporting the development of both languages through book sharing (Roberts, 2008; Tsybina & Eriks-Brophy, 2010). Both of these studies were home-based literacy interventions that recruited different populations and had different purposes. Roberts (2008)

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included two cohorts of families that were Spanish-dominant (32%) and Hmong-dominant (68%) and tested whether having parents share books in L1 (Spanish and Hmong) for six weeks or books in L2 (English) for six weeks increased English receptive vocabulary. Roberts used commercially available books in English, in Spanish, and books translated from English into Spanish and Hmong because not enough books were available in the families' L1. These translated books were "not necessarily aligned with the cultural backgrounds" of the families. (Roberts, 2008, p. 109). Roberts did not report the caregivers' reading ability in L1 or English but did indicate that many caregivers had low English proficiency. Caregivers who could not read were encouraged to "engage in storybook reading by talking about the pictures and telling a story" (Roberts, 2008, p. 110). Roberts reported that only the first cohort of children demonstrated significantly higher English receptive vocabulary with a medium effect compared to when caregivers read books in L1. Unfortunately, Roberts (2008) did not test the effect of the intervention on the children's L1 receptive vocabulary; so we do not know whether the intervention impacted L1 vocabulary development.

Tsybina and Eriks-Brophy (2010) measured change in their intervention in both English and Spanish. They tested the effect of equal input during a book-sharing intervention on preschoolers who were all Spanish-English bilingual with significant expressive language delay (e.g., 5th percentile to 35th percentile). The education attainment of caregivers ranged from high school diplomas to post-secondary education. Tsybina and Eriks-Brophy used commercially available English books and Spanish books and designed their study with a treatment group and a no treatment group. The treatment group received 60 book sharing sessions with half conducted by the caregivers in Spanish using commercially available books written in Spanish and half conducted by the researcher in English using commercially available books in English. Preschoolers in the treatment group demonstrated significant increases with large effects for both English and Spanish receptive vocabulary compared to preschoolers in the no treatment group.

The results, therefore, for using equal amounts of English and Spanish during book sharing interventions collectively indicate positive results for vocabulary development. These two studies also introduce two

additional factors related to the books used in book sharing interventions: (a) the language version of the book and (b) how much of the text in the storybooks is read aloud. Both studies included English books and Spanish books, while only Roberts (2008) included English books translated into Spanish. Also, an unknown number of caregivers in Roberts used only the illustrations to tell the stories of the books. Note that Sulzby and Teale (1987) found notable differences in how preschoolers retold stories based on whether the stories were read or translated. Because of the different measures used, these studies cannot explain how differences in the amount of text read impacts acquisition of vocabulary and other higher level structures (e.g., syntax, inferencing). Given Sulzby and Teale's (1987) findings, two important questions arise from these studies: a) Is it common practice among bilingual language interventionists to translate storybooks in therapy and this practice, in turn, raises the question b) how does translating storybooks alter the input the child receives compared to reading most or all of the text?

Children receive mostly or only Spanish input. In the ten studies that had adults provide children with mostly or only Spanish, there were three separate goals: (a) prevent Spanish language loss for children educated in English only preschool programs; (b) change the discourse patterns caregivers use when sharing books with children so that the caregivers' discourse patterns are more similar to the discourse patterns used in the U.S. public schools; and (c) simply ground shared reading practices within the storytelling and literacy practices already established in families that do not have a regular book sharing routine.

The one school-based intervention study we found attempted to prevent Spanish language loss. It tested whether a relatively short and intense treatment (i.e., 5 days a week for 15 to 30 minutes a day for 16 weeks) could prevent language loss of Spanish in bilingual DLL preschoolers who attended English-only preschool programs (Restrepo et al., 2010). The study included three outcomes measured in Spanish only: (a) sentence length measured in mean length of T-unit (number of main clauses and subordinate clauses), (b) sentence complexity using a subordination index, and (c) grammaticality using the number of grammatical errors per T-unit. These outcomes were measured at baseline, immediately after, and four months after the intervention. Very few of the preschoolers were read to at home. All of the books used in the supplemental Spanish intervention were

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commercially available and written in Spanish. The study compared: (a) preschoolers who received the English only instruction supplemented by the Spanish intervention to (b) preschoolers who received just the English-only instruction in the classroom. Although the children showed no significant difference between experimental conditions immediately after intervention, children who received the supplemental read-aloud instruction in Spanish achieved significantly higher scores on sentence length and complexity, with large and medium effects respectively four months after the intervention.

We found five studies that attempted to change the caregivers' discourse patterns. The success of these studies depended upon whether the family already included book sharing as a cultural practice (Wasik, Dobbins, & Hermann, 2001). When the caregivers already had an established book sharing routine prior to the intervention, both the caregivers and the children made progress adapting their discourse patterns when using commercially available Spanish books (Brannon & Dauksas, 2014; Rodriguez-Brown & Mulhern, 1993) and books made by the researcher based on common family routines (Ijalba, 2015). For example, compared to caregivers who did not receive training, caregivers who received training significantly and largely increased the frequency with which they posed questions during book reading (Brannon & Dauksas, 2014). Also, caregivers modeled reading and writing more often, engaged in literacy activities more often and visited the library more often at the end of the intervention (Rodriguez-Brown & Mulhern, 1993) than they had done prior to intervention. As a result, preschoolers showed large and significant increases in expressive and receptive vocabulary in both Spanish and English (Ijalba, 2015).

In studies with caregivers who did not engage in book sharing prior to the intervention (Eldridge-Hunter, 1992; Kermani & Janes, 1997) or studies that did not report home book-sharing practices (Baker, Piotrkowski, & Brooks-Gunn, 1998), attrition rates ranged from 33% to 50%, a large proportion that suggests caregiver dissatisfaction. The majority of caregivers in these studies had weak Spanish language skills (Boyce et al., 2010) and had none to limited education in Spanish (Kermani & Janes, 1997). So caregivers were likely not reading the books to the children but rather telling them the story using the illustrations. For year one of their study, Kermani and Janes (1997) cited two reasons for their high attrition rate (> 40%). First, although they included

Spanish-speaking trainers, few were native speakers and few understood and/or valued the cultural practices of the families. The lack of native Spanish-speaking trainers in year one resulted in miscommunications between the trainers and caregivers. Second, many caregivers had difficulty identifying with the commercially available Spanish storybooks used in the intervention because the stories and characters in the books were dissimilar from their own experience. For the caregivers who remained in these high attrition studies, researchers found the caregivers were successful at highlighting vocabulary when sharing books but were unsuccessful at modeling targeted scaffolding techniques. Specifically, they did not connect the story to their children's lives (Eldridge-Hunter, 1992), make predictions about the story (Eldridge-Hunter, 1992; Kermani & Janes, 1997), or reason about the text (Kermani & Janes, 1997), all of which elicit the higher cognitively demanding talk prevalent in the academic talk register.

Studies that attempted to ground book sharing in established family storytelling practices, instead of increasing levels of academic talk during book sharing, included Spanish-dominant caregivers who did not read books to their children (Kermani & Janes, 1997) and Spanish-dominant caregivers who "had low levels of education and weak language skills in their first language according to the Woodcock-Muñoz Language Survey" (Boyce et al., 2010, p. 349). Two studies used homemade storybooks that chronicled family stories (Boyce et al., 2010; Kermani & Janes, 1997) while one study used commercially available books written in Spanish (Wessels, 2014). When compared to caregivers who did not receive training, caregivers receiving training that used homemade storybooks significantly increased the frequency of eliciting responses from their children with a moderate magnitude of change (Boyce et al., 2010). Importantly, when Kermani and Janes (1997) changed from using commercially available (Year 1) books to homemade storybooks (Years 2 and 3) and also increased the number of native Spanish speaking tutors, their attrition rate dropped from more than 40% in Year 1 to 10% in Years 2 and 3. Although their intervention no longer focused on changing the discourse patterns of the caregivers to match the mainstream American discourse patterns as it had in Year 1, Kermani and Janes were successful at getting families to link book sharing with the cultural practice of storytelling in Years 2 and 3. After participating in a similar book-sharing study, caregivers

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reported that they had established a 4 to 5 day a week book sharing routine with their preschoolers and had learned that sharing books provides opportunities for conversation and fun (Wessels, 2014).

Summary. Our review of the school-based and home-based book sharing interventions that included Spanish-English DLL preschoolers identifies complex relationships among the three components of read-alouds—the book, the adult, and the child (Martinez & Roser, 1985; Sulzby & Teale, 1987; van Kleeck, 2003). The adult factors are: (a) whether the adult is fluent in Spanish, including whether the adult understands and values the family and child’s culture, and (b) how much of the text the adult actually reads during book sharing. The child factors are (a) the type of language input the child is given and/or requires and (b) whether the child is read to at home. The book factors are: (a) the language version of the books and (b) whether the books are commercially produced or homemade.

When preschoolers received (a) English input with English books, (b) equal amounts of English and Spanish input with books in both languages, and (c) Spanish input from a native Spanish speaking SLP, DLL preschoolers showed significant gains in English vocabulary (O’Brien et al., 2014; Pollard-Durodola et al., 2016; Roberts, 2008; Roberts & Neal, 2004; Silverman et al., 2013), in Spanish vocabulary (Tsybina & Eriks-Brophy, 2010) and in Spanish sentence complexity (Restrepo et al., 2010). However, when preschoolers received English input with English books and key vocabulary were defined in Spanish, they did not show significant increases in English vocabulary (Leacox & Jackson, 2014; Lugo-Neris et al., 2010).

In the reviewed studies, the success of book sharing interventions with only Spanish input depended upon whether book sharing was an established family practice and whether commercially available or homemade books were used. When the family culture included book sharing as a regular practice, caregivers successfully adapted their discourse patterns to those modeled in interventions that used commercially available books (Brannon & Dauksas, 2014; Rodriguez-Brown & Mulhern, 1993). When the family culture did not include book sharing, researchers abandoned efforts to change caregivers’ discourse patterns and, instead, focused on helping caregivers associated book sharing with established family storytelling practices (Boyce et al.,

2010; Eldridge-Hunter, 1992; Kermani & Janes, 1997). In this situation, it is critical for the interventionist to identify with and value the cultural practices of the family, a behavior which is most easily accomplished by native Spanish-speaking interventionists (Kermani & Janes, 1997). Two important unanswered questions raised by this research concern how much of the storybook text adults read during book sharing and whether translating English books into Spanish for intervention is a widespread practice. At this time, the answers to these questions are not known. If, however, interventionists read less than the full text and if translating English books is a widespread practice, it will be important to understand how both of these practices affect the quantity, quality, and type (i.e., low or high cognitive demand) of extra-textual talk DLL preschoolers receive during book sharing interventions. In other words, are preschoolers consistently being exposed to the academic talk register or do these practices cause the SLP to fall unintentionally into the casual talk register?

The school-based and home-based literacy interventions all describe decisions made by researchers, so do not necessarily reflect the practices of experienced bilingual SLPs. Our purpose is to elucidate how these adult factors, child factors, and book factors interact in the practice of experienced Spanish-English bilingual SLPs when they use storybooks to treat Spanish-English bilingual preschoolers to improve their academic talk register. Because published studies used homemade books to link book sharing with family storytelling practices—and not to promote the academic talk register—we excluded homemade books as a book factor in our survey. We also added a setting variable as an adult factor because we thought that the setting in which the SLP works might affect which books are used in book-sharing interventions.

Research Questions

Our research questions were:

- (1) What patterns do SLPs report concerning their experience, reading behavior during read-alouds, language dominance, cultural affiliation, and work setting (SLP factors)?
- (2) What patterns do SLPs report concerning the type(s) of language input they provide children and whether they know if the children are read to at home (child factors)?

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- (3) What patterns do SLPs report concerning the language version of the books they select when treating academic language in children (book factors)?

METHODS

Ethics Statement

All experimental procedures and forms were approved by the Texas State University Institutional Review Board.

Survey Instrument

A web-based survey was developed to reveal the preliteracy practices of experienced bilingual SLPs who treat preschoolers for the academic talk register. We field tested the survey with Communication Disorders faculty and attendees of the 2016 Texas Speech and Hearing Association convention. From our preliminary evaluation of these results along with both face-to-face and electronic discussions with many of the participants, we further refined the survey. In this article, we only discuss the results from the portion of the survey that concerned the bilingual SLPs use of storybooks to treat the academic talk register. This portion of the survey included 14 items with yes-no, multiple choice, and Likert-type questions.

Surveys were administered through SNAP, a web-based survey program that incorporates the security, access, and permissions required by Institutional Review Board (IRB) guidelines. This project was exempt from full board review. The survey took approximately 15 minutes to complete and all responses were anonymous. The first screen of the survey was a consent form. Participants indicated consent by clicking a button on the survey. No personal or identifying information was collected from the participants and they were allowed to skip questions. Only completed surveys were saved on the secure server for analysis.

Participants

Our target populations for the survey were Spanish-English bilingual SLPs who had treated Spanish-English bilingual preschoolers within the last three years for the oral language skills necessary for later text comprehension (i.e., the academic talk register). Our inclusion criteria excluded researchers and supervisors who did not actually treat preschoolers because we wanted to know what practitioners actually do rather than what they were instructed to do. We reached out to potential respondents four ways. First, we conducted an

advanced search in the ASHA membership directory for members who indicated expertise in bilingualism and early intervention (speech, not audiology). This advanced search identified 2,024 members who had made their contact information available. Note that the directory does not indicate which members are Spanish-English bilingual nor those who serve preschoolers. We personally emailed each of these members one time inviting them to participate in the survey. Second, we posted an invitation to participate on the listserv for the Cultural and Linguistic Diversity ASHA special interest group 14. Third, we asked contracting firms specializing in hiring bilingual SLPs to send an electronic invitation to their work force. Fourth, we posted invitations to participate on university and personal Facebook pages.

To estimate our return rate, we used demographic data for ASHA members who provide bilingual services (American Speech-Language-Hearing Association, 2016) and the ASHA Schools Survey (American Speech-Language-Hearing Association, 2014). As of March 2016, 6,594 ASHA members were Spanish-English bilingual SLPs and 7.40% of all bilingual SLPs (not just Spanish-English bilinguals) listed preschool as their primary employment facility. We estimate that 487 ($6,594 \times .074$) Spanish-English bilingual SLPs treat Spanish-English preschoolers. Given that our survey had 90 respondents, we estimate our return rate to be 18.48% (i.e., 90/487). It is unknown how many Spanish-English bilingual SLPs actually treat Spanish-English bilingual preschoolers for the academic talk register. However, the ASHA School Survey (American Speech-Language-Hearing Association, 2014) indicates that the majority (93.10%) of the preschool population who receive SLP services in preschools are treated for articulation and phonological disorders. Therefore, we think our estimated return rate of 18.48% is very conservative.

The 90 SLPs meeting our inclusion criteria were predominately female (85 females, or 94.44%) with a mean age of 41.43 years ($SD = 10.30$ years, low = 25 years, high = 64 years). Almost all of the respondents held a master's degree in SLP as their highest degree while only two respondents held a doctoral degree as their highest degree. The respondents had treated children who were Spanish-English bilinguals for an average of 10.94 years ($SD = 7.16$, low = 3 years, high = 33 years). The majority (85.56%) of the respondents worked in either Head Start or another school setting (i.e., public school, private school) and 97.78% worked with preschoolers

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from low SES backgrounds. Within the last three years, they had treated an average of 35.87 Spanish-English preschoolers ($SD = 39.18$ preschoolers, low = 2 preschoolers, high = 260 preschoolers) for the academic talk register. They read storybooks aloud to preschoolers on average each week 5.87 times ($SD = 9.38$ times, low = 0 times, high = 52 times) and they read to an average of 4.40 preschoolers at one time ($SD = 9.23$ preschoolers, low = 1 preschooler, high = 75 preschoolers).

Analysis Plan

We explored the relationship of the book, SLP, and child factors we identified in the book sharing intervention research using multiple correspondence analysis (MCA, Abdi & Valentin, 2007)—a multivariate technique appropriate for categorical data. MCA was used to determine the major sources of variance in the data and to identify outliers. We used the implementation of MCA in the [R] ExPosition package (Beaton, Chin Fatt, & Abdi, 2014) along with in-house scripts written with the [R] statistical software (R Development Core Team, 2016). MCA represents the relationship between the variables and the variance among individual participants by creating new variables (called factors) that can then be used to plot maps of the data. In these maps, variables close to each other are highly correlated while variables far apart are not correlated.

For the variables in our analysis, we used the following four variables: (a) type of book (i.e., English only, Spanish only, English storybooks translated into Spanish, dual language books, two copies of the same book with one book in each language), (b) the SLP's reading behavior (i.e., read every word, read few to some of the words, use only the illustrations), (c) the number of preschoolers the SLP has treated for the academic talk register, and (d) child factors (i.e., language input the SLP provides the children, whether the children are read to at home). Because MCA analyzes categorical data, we binned our third active variable—the number of preschoolers the SLP has treated for the oral language skills necessary for later text comprehension—into four levels: 1 to 10 preschoolers, 11 to 20 preschoolers, 21 to 49 preschoolers, and 50 to 260 preschoolers (this transformed it into a qualitative variable).

MCA can also plot in these maps supplementary variables (also called “out of sample”) that were not used to compute the factors but whose relationship to the active variables (i.e., the ones used to compute the factors) can

then be assessed. Levels of the supplementary variables that are plotted close together and close to levels of the active variables are interpreted as being highly correlated while variables that are plotted relatively far apart are not correlated. For the supplementary variables in our analysis, we used the following three variables: (a) the SLPs' cultural affiliation (i.e., American, Hispanic, both American and Hispanic), (b) the SLPs' language dominance (i.e., English, Spanish, equal proficiency), and (c) the setting in which the SLP worked (i.e., Head Start program, public and/or private school, private practice and/or home health, other settings).

Reliability

To find meaningful patterns in the data, MCA requires the frequency of levels within categorical variables to be roughly balanced. To meet this requirement, we recoded the response options of five survey questions. The response options for these questions were initially either numeric or in a Likert-type scale with either a four-point or a five-point scale. See the Appendix for the affected questions, their original response scales, and their recoded response scales. Two graduate students, who were blind to the purpose of the study, independently recoded the response scales for the five questions. They achieved perfect reliability (Kappa value of 1) on each recoded response scale.

RESULTS

MCA Analysis of the Active Variables

The variables in our analysis were: (a) type of storybook (i.e., English only, Spanish only, English storybooks translated into Spanish, dual language books, two copies of the same book with one book in each language), (b) the SLP's reading behavior (i.e., read every word, read few to some of the words, use only the illustrations), (c) the number of preschoolers the SLP had treated for the academic talk register, and (d) child factors (i.e., whether the children are read to at home). We had intended to include the type of language input the preschoolers received as one type of child factors. Unfortunately, the levels for this variable were very unbalanced because the majority of the respondents provided more Spanish input than English input. Because MCA is very sensitive to outliers, we decided to treat language input as a supplementary variable. The results of the MCA for the active variables are shown in Figure 1 and the key for the variable abbreviations are shown in Table 1.

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Figure 1. Multiple correspondence analysis of the active variables. The horizontal axis explains 66.43% of the variance. The vertical axis explains 24.26% of the variance. Dark blue = experience; magenta = SLPs' reading behavior; cyan = family read; lime green = book type.

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Table 1.
Variable abbreviations and names for the SLP, child, and book factors included in the MCAs.

Abbreviation	Variable Names
Adult variables	
Active variables	
Exp	Experience
2-10.prek	SLPs who have treated two to 10 preschoolers for academic talk (AT).
11-20.prek	SLPs who have treated 12 to 20 preschoolers for AT.
21-49.prek	SLPs who have treated 23 to 42 preschoolers for AT.
50-260.prek	SLPs who have treated 50 to 260 preschoolers for AT.
Read	How SLPs read books aloud
Few.some	SLPs who read only a few to some words, relying mostly on the illustrations.
Every.wd	SLPs who read every word or almost of every word.
Supplementary variables	
Dom	SLPs' dominant language
Eng	SLPs who are dominant in English.
Equal	SLPs who are equally proficient in English and Spanish
Span	SLPs who are dominant in Spanish
Culture	
Amer	SLPs who identify with American culture.
Both	SLPs who identify with both American and Hispanic culture.
Hisp	SLPs who identify with Hispanic culture.
HS	Head Start
Y	SLPs who have served preschoolers for the AT in Head Start programs
N	SLPs who have not.
OS	Other school setting
Y	SLPs who have served preschoolers for AT in other school programs.
N	SLPs who have not.
PP.HH	
Y	SLPs who have served preschoolers for AT in private practice/home health.
N	SLPs who have not.
Other	
Y	SLPs who have served preschoolers for AT in other settings.
N	SLPs who have not.
Child variables	
Active variables	
Family.Rd	Whether the families read aloud to the preschoolers
Y	Yes, the family reads aloud
N	No, the family does not read aloud
Supplementary variables	
Input	Language Input
more.Eng	SLPs who provide children with English input.
Both	SLPs who provide children with both English and Spanish input.
more.Span	SLPs who provide children with Spanish input.
Book variables	
Active variables	
Book	Book Type
Span	Books written in Spanish
Eng	Books written in English
Trans	Books written in English translated into Spanish
2.Dual	Dual language books or One book in English and one in Spanish

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The plotted locations of the factor scores for the active variables are color coded by variable. MCA provides several metrics to use when interpreting the primary and secondary sources of variability. Factor scores, the metric we used, can be positive or negative and indicates the location of the variables on the map. The larger the factor scores, the closer MCA plots the variables towards the extreme ends of the horizontal and vertical axes. For the horizontal axis, the negative factor scores indicate data on the left side of the axis while positive factor scores indicate data on the right side of the axis. For the vertical axis, the negative factor scores indicate data on the bottom part of the axis while positive factor scores indicate data on the top part of the axis.

The map's horizontal axis plots the primary source of variability in the data and represents 66.43% of the total variance of the data. The map's vertical axis plots the second major source of variability in the data and represents 24.26% of the variance. Together, Axes 1 and 2 explain 90.69% of the variance. Variables plotted at the extreme ends of the axes help explain the patterns of variability. Variable factor scores plotted at the center of the graph are commonly occurring and so these do not contribute to the variability in the data.

The primary source of variability (66.43%) represented by the horizontal axis reflects differences in: (a) the SLPs' reading behavior, (b) the number of Spanish-English bilingual preschoolers the SLP has treated for the academic talk register, (c) the type of book SLPs select for read-alouds, (d) whether the family reads aloud to the preschooler. The left side of the horizontal axis is defined by SLPs who have treated between 50 and 260 DLL preschoolers for academic language ($F = -.16$) and who tend to translate children's books written in English into Spanish for read-alouds ($F = -.26$). These SLPs also tended to know that the families of their clients read aloud to them at home ($F = -.16$). The right side of the

horizontal axis is defined by SLPs who have treated between 12 and 20 DLL preschoolers for academic language ($F = .17$) and who do not know whether the preschoolers are read to at home ($F = .21$). These SLPs tend to use children's books written in Spanish ($F = .14$) and tend to read every word of the text during book-sharing ($F = .23$).

The second source of variability (24.26%) represented by the vertical axis reflects different levels of the same variables mentioned above. The bottom part of the vertical axis is defined by SLPs who have treated between 11 and 20 DLL preschoolers for academic language ($F = -.14$) and who use children's books written in Spanish for read-alouds ($F = -.16$). The top part of the vertical axis is defined by SLPs who have treated between 50 and 260 DLL preschoolers for academic language ($F = .16$) and who tend to use either dual language books or two books (i.e., one in English, one in Spanish) for read-alouds ($F = .19$). These SLPs also did not know whether the preschoolers are read to at home ($F = .13$).

MCA Analysis with Supplementary Column Variables

The supplementary column variables in our analysis were: (a) the SLP's cultural affiliations (i.e., American culture, Hispanic culture, both American and Hispanic cultures), (b) the SLP's dominant language (i.e., English, Spanish, equal proficiency in English and Spanish), (c) the setting(s) in which the SLP works (i.e., Head Start, public or private school, private practice, and other settings), and (d) the type of language input the Spanish-English bilingual preschoolers received (i.e., more Spanish, an equal amount of English and Spanish). The results of the MCA with the supplementary variables projected into the variance space created by the active variables are shown in Figure 2. They are represented by the black dots on the graph.

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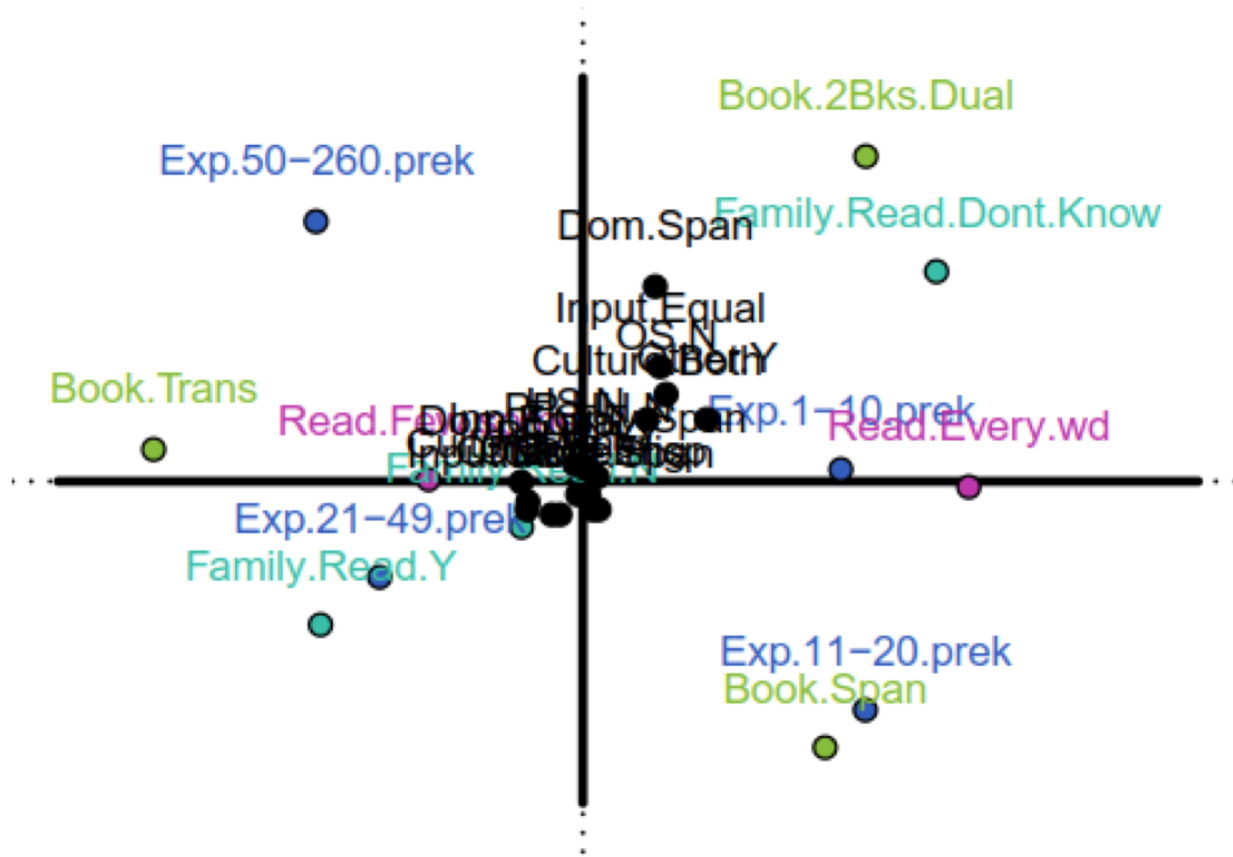


Figure 2. Multiple correspondence analysis with the supplementary variables projected into the variance space created by the active variables. The horizontal axis explains 66.43% of the variance. The vertical axis explains 24.26% of the variance. Dark blue = experience; magenta = SLPs' reading behavior; cyan = family read; lime green = book type; black = all the supplementary variables.

The majority of the supplementary variables are plotted near the intersection of the two axes and so do not explain the variance created by the active variables, with the exception of (a) the input the SLP provides the preschoolers and (b) the dominant language reported by the SLP. These two variables help explain the secondary source of variability (24.26%) plotted along the vertical axis. At the top of the vertical axis, SLPs who used dual language storybooks or two storybooks of the same story, with one book written in Spanish and one English, reported Spanish as their dominant language ($F = .12$) and provided an equal amount of Spanish and English language input to the preschoolers they served for the academic talk register ($F = .07$).

Outliers

Preliminary MCA analyses identified five respondents as outliers, which we excluded from the analyses shown in Figures 1 and 2. Four of the respondents were the only respondents in the study to provide more English input than Spanish input. Two of these SLPs used books written in English while the other two used books written in Spanish. The fifth outlier was a respondent who provided Spanish input and translated books written in English into Spanish but used only the illustrations to tell the story during book-sharing sessions.

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DISCUSSION

Although the literature often states that the adult, the book, and the child interact (Martinez & Roser, 1985; Sulzby & Teale, 1987; van Kleeck, 2014), the complexities of these interactions have not been analyzed for practicing Spanish-English bilingual SLPs who use book sharing in language intervention. Book-sharing can be used clinically for several purposes (Justice & Kaderavek, 2004; van Kleeck, 2006a). Our specific interest here was in how Spanish-English bilingual SLPs use books to increase the academic talk register, which is the register naturally occurring in mainstream American families and the register used in U.S. schools to acquire knowledge and display knowledge (van Kleeck, 2006a, 2006b, 2014; van Kleeck & Schwarz, 2011). The academic talk register is a more formal use of language than talk used in casual conversation. It includes about 60% of talk that places relatively low cognitive demands and about 40% of talk that places relatively high cognitive demand on preschoolers. The vocabulary includes some relatively long and morphologically complex words that are common in written but not conversational language (Beck et al., 2013; van Kleeck, 2014). Sentences are relatively long and include pronouns referring to the linguistic context instead of just to the physical context.

The published school-based and home-based intervention studies that included book sharing identified several adult, child, and book factors that were likely important to the book-sharing interventions Spanish-English SLPs use with preschoolers. The SLP factors were: (a) how the SLPs read the story, (b) their language dominance, and (c) their cultural affiliation. We added to these the setting in which the SLP worked and the number of Spanish-English DLL preschoolers they had treated for the academic talk register. The book factor was the language version of the books, which included whether the books were translated from English to Spanish. The child factors were: (a) the type of language input the child received and (b) whether they were read to at home regularly.

Our results indicate two key findings that concern the language input DLL preschoolers receive, type of book used, and how the SLP reads the story. We found that the majority of bilingual SLPs in our study provide Spanish input to the preschoolers they serve for the academic talk register. The largest pattern in the data (66.43% explained variance) concerns the type of book and how the SLP reads the book during the Spanish intervention. SLPs who

used books written in Spanish tended to read every word of the text whereas SLPs who translated English books into Spanish tended to read few to some of the words and rely more on the illustrations.

The second largest pattern in the data (24.26% explained variance) concerns the type of book, the type of input the child received, and whether the child was read to at home. SLPs who used dual language or two books (one in Spanish and one in English) provided the children with equal amounts of Spanish and English input. Only the SLPs who translated English books into Spanish knew whether the preschoolers were read to at home.

Clinical Implications

We were surprised to find that (a) many of the Spanish-English bilingual SLPs in our study did not know whether the DLL preschoolers they serve were read to at home and (b) that many of these SLPs translate English books into Spanish for language therapy. The home-based book-sharing intervention studies that provided DLL preschoolers with mostly or only Spanish input show that using commercially available books in an intervention that places some relatively high cognitive demands on preschoolers are only successful if book sharing is an established family practice (Brannon & Dauksas, 2014; Rodriguez-Brown & Mulhern, 1993). DLL preschoolers who are not familiar with book sharing may not know how to respond and, so, may not respond adequately to the SLPs' requests for predictions, inferences, and definitions of key vocabulary. In other words, the SLPs' data may under-represent or misrepresent what DLL preschoolers can actually do (Quiroga, Lemos-Britton, Mostafapour, Abbott, & Berninger, 2002; Schick, 2015). Therefore, we suggest SLPs ask their clients' caregivers about the book sharing practices in the home to determine whether book sharing is an appropriate activity to begin working on the academic talk register. By using the internet search terms "home literacy survey parents," practicing clinicians can find several freely available home literacy surveys that they can use to determine whether book sharing is an appropriate activity for building the academic talk register.

If DLL preschoolers are not read to at home, we suggest that SLPs not use commercially available books for this purpose. Below, we have listed several alternative activities that the SLPs in our study use to treat the academic talk register.

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- Create narratives with repeated themes and higher level vocabulary based on semi-structured play with toys.
- Create barrier games that incorporate higher level vocabulary.
- Make predictions while playing board games.
- Use culturally appropriate photographs to create stories with higher level vocabulary.
- Use video.
- Use cause and effect cards.
- Make predictions during crafts and cooking activities.
- Use sequencing cards that include cards with alternative endings.

We were also surprised to learn that Spanish-English bilingual SLPs are translating English books into Spanish. We wonder how translating books effects the SLPs' ability to model and elicit the academic talk register. Specifically, what happens to the higher-level vocabulary and morphologically complex words in translation? Does the sentence length shorten and the sentence structure become less complex in translation? Although we could not find studies directly addressing these questions, studies on the different types of oral translation and critiques of written translations of storybooks provide some insight.

There are different ways to translate information, including simultaneous translation, consecutive translation, and paraphrasing (Christoffels & De Groot, 2004). In simultaneous translation, the interpreter switches between two languages, simultaneously processing one language and verbally producing the other. This means that both languages are activated at the same time. In consecutive translation, the interpreter processes a phrase in one language and then translates that whole phrase into the other language. This means that only one language is activated at a time, which presumably makes the task somewhat less cognitively demanding for the interpreter (Christoffels & De Groot, 2004). A similarity between simultaneous and consecutive translation is that the interpreter tries to find grammatically equivalent sentence structures to those in the source information. However, neither type of translation is able to give a word-for-word translation because languages generally differ in word order (Christoffels & De Groot, 2004).

In paraphrasing, the interpreter relays the basic meaning of the information but uses different words and sentence structure than was present in the source. This means that the interpreter has to comprehend the message before reformulating it into the other language. Paraphrasing also places a high vocabulary demand on the interpreter because the paraphraser often retrieves synonyms of words contained in the source information (Christoffels & De Groot, 2004).

When Christoffels and DeGroot (2004) compared these three types of translation on sets of recorded sentences, they found that when interpreters paraphrased information, the meaning of the sentences was compromised more than when interpreters simultaneously and consecutively translated the information. Christoffels and DeGroot (2004) suggest that paraphrasing is more difficult than the other two conditions because the paraphraser changes the grammatical structure of the content instead of finding a grammatical equivalent of the information being translated. Recall that the SLPs in our study who translated books written in English into Spanish read few to some of the words in the text. We surmise from this that these SLPs were either engaged in consecutively translating or paraphrasing the children's books. Regardless of the translation method used, vocabulary and sentence structure are both affected in some way.

Creating written translations of picture books poses a more complex challenge than translating sentences for two reasons that relate directly to the academic talk register. First, the translator has to maintain the relationship between information contained in the text and in the illustrations. (Oittinen, 2003). For example, when the book is translated, do the illustrations provide the same level of support to the text as the original text did (Oittinen, 2003)? If the illustrations provide more support, there will be less opportunity for the children to make predictions and inferences about the story. Second, the sentence structure of translated picture books is often very different from the original. In her analysis of three written translations (German, Finnish, and Swedish) of Sendak's (1964) *Where the Wild Things are* penned by professional translators, Oittinen (2003) found that the translators consistently shortened sentences and reduced the complexity of sentences in comparison to the original English version of the book. With professional translators struggling to balance the information between text and illustrations as well as maintaining sentence complexity

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after spending hours creating translations for one book, we doubt that practicing clinicians with large caseloads can adequately attend to these issues when translating books for therapy. For these reasons, we suggest bilingual SLPs use one or more of the alternative activities listed above in place of using translated books.

Study Limitations

There are three major limitations of our study. First, it is currently unknown how many bilingual SLPs treat DLL preschoolers for the academic talk register. Given that the data published by ASHA's Office of Multicultural Affairs, we contend that our estimated return rate of 18.48% is conservative. Given the later reading achievement and overall school success (Scheele et al., 2012) is strongly associated with children's command of the academic talk register, we hope ASHA's Office of Multicultural Affairs will modify its existing survey instrument to include the percentages of SLPs who treat preschoolers and school-aged children for the academic talk register.

Second, we did not ask the SLPs about whether they were using books with a narrative arch or expository texts when treating for the academic talk register. Although this is an important question and the information would have been nice to have, we did not ask this question because we did not see how the distinction between narrative and expository texts would interact in a materially different way with the adult and child factors of interest in this study.

Third, we did not ask the SLPs how they translated the books. Were they writing out a translation of the stories, silently reading a sentence in English and simultaneously orally translating it (simultaneous translation) into Spanish, reading a sentence in English and then translating it into Spanish (consecutive translation), or reading a block of text (e.g., paragraph) and paraphrasing the content? We chose to not ask this question in the survey because we thought the way SLPs translate books would depend on the difficulty of the text. For example, if an SLP was translating Eric Carle's (1987) *Very Hungry Caterpillar*, the SLP might attempt to translate the book simultaneously or consecutively because the text includes relatively short sentences with simple vocabulary. However, if the SLPs were translating Piper's (1990) *Little Engine that Could*, which contains lots of text per page with complex sentences and complex vocabulary, the SLPs might paraphrase blocks of text to relay the

meaning of the passage. As discussed next, we think this issue is better treated in a different kind of study than in a survey.

Future Studies

There are two related lines of research emerging from our survey. One line will focus on whether the degree of challenge present in the vocabulary and syntax of children's books written in English is maintained when the books are translated into Spanish. We will look at this question across texts with different levels of difficulty and across different types of translation (i.e., written, simultaneous, consecutive, paraphrasing). If the degree of challenge in vocabulary and syntax is compromised in translation, Spanish-English bilingual SLPs could be providing DLL preschoolers with language more aligned with the casual talk register than the academic talk register.

The related line of research will examine how Spanish to English translation of children's books during book sharing sessions affects the cognitive challenge of the extra-textual talk bilingual SLPs provide DLL preschoolers. We also will look at this question across the difficulty level of books and the different types of translation. We hypothesize that as the cognitive challenge facing the SLPs increases, they will produce extra-textual talk more aligned with the casual talk register than the academic talk register. The purpose of both lines of research is to produce evidence-based guidelines that bilingual SLPs can use when translating English books for language therapy meant to increase preschoolers' use of the academic talk register.

Conclusion

Although the interaction of the book, the adult, and the child in monolingual book sharing is complex, the interaction of these factors in bilingual book sharing is vastly more complex. The results from this study clearly identify which SLP, book, and child factors interact in the academic language interventions Spanish-English bilingual SLPs provide DLL preschoolers. It is incumbent upon SLPs to find out whether the DLL preschoolers are read to at home. If they are not, we suggest that the SLPs use other activities to increase the academic talk register. We also suggest that SLPs refrain from translating English books into Spanish because it is unknown how translation affects the quality and quantity of cognitively demanding extra-textual talk that is the hallmark of the

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academic talk register. In future studies, we will determine whether and how the process of translating books compromises the text of children's books and the extra-textual talk bilingual SLPs provide the DLL preschoolers they treat.

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1 **Appendix: Summary of Recoded Survey Question Response Scales**

Recoded Survey Questions	Original Scale	Recoded Scale
Of the total number of Spanish-English bilinguals you treated in the last 3 years for the oral language skills that are necessary for later text comprehension, how many were <i>preschoolers</i> ?	Numeric	2-10 preschoolers 12-20 preschoolers 23-42 preschoolers 50-260 preschoolers
In the last 3 years when you read books aloud to the preschool Spanish-English bilinguals you treated for the oral language skills that are necessary for later text comprehension, which category below best describes the type of storybook you used:	Spanish books English books Translated books Dual language books One English book & one Spanish book	Spanish books English books Translated books Dual language books or 2 books
In the last 3 years when you read books aloud to the preschool Spanish-English bilinguals you treated for the oral language skills that are necessary for later text comprehension, which category best describes how you read the books aloud:	Every word or almost every word Some text Few words Illustrations only	Every word or almost every word Few to some words Illustrations only
During the last 3 years, which category best describes your cultural identification?	Strongly Hispanic culture Moderately Hispanic culture Both Hispanic and American culture Moderately American culture Strongly American culture	Hispanic culture Both Hispanic & American cultures American culture
Of the total number of preschool Spanish-English bilinguals you treated for the oral language skills that are necessary for later text comprehension during the last 3 years, how often did you treat these children in the following settings? The settings were Head Start, other schools, private practice and/or home health, and other settings, which included community clinics, university clinics, and any other setting we did not list.	Very often Often Not often Never	Yes (treated in this setting) No (did not treat in this setting)

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