# Using Dialogic Reading as Professional Development to Improve Students' English and Spanish Vocabulary

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Professional development was conducted to assess the effects of dialogic reading (DR) on child outcomes related to vocabulary development in English and Spanish. Six teachers and 72 children enrolled in a state-funded public universal prekindergarten program, partnering with higher education, participated in the study. The content of the professional development consisted of research-based DR strategies and vocabulary for English-only, bilingual, and Spanish-dominant speakers. The format included in-service training workshops, consultations, and reflections within community of practice meetings. The results showed that the intervention led to an increase in vocabulary over time within and across language groups. Regardless of teacher experience and educational training, vocabulary for all prekindergarten children improved. Suggestions are offered for replicating DR techniques in early care and development settings. Findings add to the importance of providing instruction in vocabulary for low socioeconomic status prekindergarten programs as well as the role higher education can serve in partnering with public schools.

*Keywords:*   research and community partnerships, preschool curriculum, bilingualism, literacy

Many children living in the United States are from homes in which English is not the primary language. In fact, the percentage of school-age children who speak another language has increased to 10.8 million (National Center for Education Statistics, 2009). Thus, the Spanish-speaking population is young, with more preschool-age Hispanic children than any other ethnic group (Laosa & Ainsworth, 2007). On a promising note, there is evidence that high-quality prekindergarten programs can have a positive impact on the school careers of many children, especially those from low socioeconomic status (SES) families (Bowman, Donovan, & Burns, 2001; Gormley, Gayer, Phillips, & Dawson, 2005; Heckman & Masterov, 2004). As a result, there is reason to believe that prekindergarten is a window of opportunity for making improvements in the achievement

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levels of disadvantaged children, including our young dual language learners (DLLs). Given the demographic changes and the role of high-quality prekindergarten programs, there is a need to prepare early childhood educators to work effectively with young children whose home language is not English. Most teacher education programs now require students to take some courses related to the topic of diversity, but the research indicates that teachers are not adequately prepared to teach children from cultural and linguistic backgrounds different from their own (Ray, Bowman, & Robbins, 2006; Zepeda, Castro, & Cronin, 2011).

Effective teaching of young DLLs requires a focus on language and literacy development, including vocabulary development. Indeed, research on bilingualism has shown that bilingual children evidence numerous cognitive, metacognitive, metalinguistic, and sociolinguistic advantages compared with monolinguals (Bialystok, 2002; Genesee, Paradis, & Crago, 2004) as early as the preschool years (Espinosa, 2010b). Despite this research, Hispanic children have the lowest mean scores on reading proficiency compared with African American, Asian, and Caucasian children (West, Denton, & Reaney, 2000). Furthermore, research with monolingual and bilingual populations revealed that vocabulary is one of the best predictors of reading comprehension and is learned in multiple contexts in home and in school (August, Carlo, Dressler, & Snow, 2005). Unfortunately, there also is evidence that preschool through elementary school-age children, particularly those who speak Spanish, suffer from a very limited knowledge of vocabulary in English. For example, two studies (Hammer, Lawrence, & Miccio, 2008; Páez, Tabors, & Lopez, 2007) with Head Start children showed limited English vocabulary skills when youngsters in the sample were assessed as 4-year-olds, with the gap between monolingual norms and the sample persisting through first grade.

In spite of the increase in the number of young children learning English as a second language in preschool programs, there has been little emphasis on vocabulary instruction for preschool DLLs (Snow & Kim, 2007), and sometimes there is an overuse of commercial programs that lack explicit instruction in vocabulary (Neuman & Dwyer, 2009). A synthesis of the research literature (August & Shanahan, 2006) suggested specific instructional practices that foster academic outcomes for elementary students, but there appears to be a paucity of research on instructional programs for prekindergarten (Castro, Espinosa, & Paez, 2011; National Task Force on Early Childhood Education for Hispanics, 2007). This suggests that early childhood teachers may not have enough knowledge about effective instructional practices that supports language and literacy among DLLs. Early childhood educators may need to learn new knowledge and skills to facilitate language and literacy, and particularly vocabulary, among children whose language is not English (Garcia, Jensen, & Cueller, 2006; Zepeda et al., 2011).

Three university professors responded to this knowledge about the lack of research on vocabulary (Snow & Kim, 2007) and instructional programs (Castro et al., 2011; National Task Force on Early Childhood Education for Hispanics, 2007) with preschool DLLs and the need for professional development in early childhood communities (Martinez-Beck & Zaslow, 2006; Zepeda et al., 2011). Therefore, as a professional development activity, we offered a dialogic reading (DR) intervention with English- and Spanish-speaking preschool children.

The purpose of this article is to describe a professional development activity with public school preschool teachers who teach low SES preschool children with a large population of DLLs. The specific foci are threefold: (a) to describe a school–university partnership as a community of practice (CoP) in an early childhood setting, (b) to describe the impact of this support in conjunction with the DR intervention on vocabulary skills of prekindergarten children, and (c) to

offer suggestions for using DR techniques in early care and development settings and for future research.

DR is an evidence-based approach to shared book reading that has been documented (Arnold, Lonigan, Whitehurst, & Epstein, 1994; Lonigan & Whitehurst, 1998; Whitehurst et al., 1988, 1994, 1999; Zevenberger & Whitehurst, 2003) and is designed to accelerate young children's language development through storytelling. It is different from a regular read-aloud because teachers engage in a short conversation with children about the text and prompt children to spontaneously respond to the reading and/or to the teachers' comments. Although the introduction of key vocabulary terms is typical in reading instruction, the first author chose to emphasize vocabulary during this particular professional development intervention. Teachers were coached to point out the pictures in the text and to hold up play prompts when they read a key term. Previous storybook research (Roberts, 2008) supported vocabulary instruction for DLLs with picture cards and concrete objects, and Neuman and Dwyer (2009) suggested the use of concrete manipulatives to teach vocabulary to preschool children.

## PROFESSIONAL DEVELOPMENT

School–university partnerships and university-established communities of practice (defined later) can be implemented in early childhood programs. In the last decade, for example, a great deal of effort has been exerted to implement higher standards, acquire more resources, and achieve excellence in universal prekindergarten early childhood programs. This research study evolved from a partnership between a private university in the Northeast and a low-income state-funded prekindergarten program in a public school district. Research (Fuhrman & Streim, 2008; Shinners, 2006) has addressed the benefit of university–public school partnerships as ways to expand educational options for children and teachers when faculty is deeply involved in the development of community. From 2008 until the present, the university has provided and paid the salaries of one preschool teacher and one teacher assistant who teach within this public school. These individuals are not student teachers, nor are they university faculty. Rather, they are recent graduates from one of the university's programs. These teachers received weekly supervision from the first author, who also conducted teacher and parent workshops in the district.

Neuman and Cunningham (2009) introduced the terms *knowledge-focused* and *practice-focused* professional development to distinguish between approaches that both aim to increase an educator's understanding about children's language and literacy development. Knowledge-focused approaches typically involve coursework that provides credits toward a college degree or training where credits are earned toward maintaining licensure. Practice-focused approaches occur within the early educator's own classroom. They involve "observing, modeling, reflecting on, and discussing interactions between educators and teachers, and how space, materials, and routines are structured and used in early childhood settings" (Zaslow, Tout, Halle, & Starr, 2011, p. 426). This study focused on training teachers in book-reading and oral-reading strategies, a practice-focused approach to professional development. The university served as a CoP by acting as mentors and coaches for the public prekindergarten program, especially during the 8 weeks (between mid-March and early June) of this study. Because of the school's calendar and schedules, the intervention did not occur over consecutive weeks.

## Community of Practice with Dialogic Reading

The university had initiated a CoP by acting as a community-based organization partnering with the public prekindergarten program. CoPs are a form of professional development that is becoming widely known in the field of early childhood education and intervention (Buysse, Castro, & Peisner-Feinberg, 2010; Wesley & Buysse, 2004). Training and coaching are relatively short term and focused on small-scale projects or interventions. Buysse et al. (2010) are presently using this model with their intervention (Nuestros Ninós Early Language and Literacy Program) with teachers who serve DLLs in North Carolina. CoP meetings require an expert facilitator who provides useful resources and helps a group ask questions and connect and build ideas. The relationship between the facilitators and teachers is bidirectional, that is, the participants and the leader discuss issues, problems, and successes related to teaching and learning in an early childhood setting (Wesley & Buysse, 2004). This is not a university-led expert lecture as it provides for collegiality between the preschool teachers and the university trainers. This CoP model was implemented with six teachers (three teachers and three teacher assistants) and the university faculty during the DR intervention through (a) training, (b) bidirectional meetings, and (c) coaching.

## DIALOGIC READING: PROFESSIONAL DEVELOPMENT MODEL TO FOSTER VOCABULARY

An investigation was conducted as part of the teachers' professional development to assess the effects of training on DR book reading on children's language proficiency and vocabulary skills in English and Spanish. As well, teachers' levels of education and experience were considered within the frame of expanding the teachers' expertise.

Professional training and consulting were offered to six teachers involved in a university–public school partnership. The content of this professional development centered on DR techniques designed to complement The Creative Curriculum for Preschool (Dodge, 2010), an early childhood curriculum used in these prekindergarten classes, and included specific instructional strategies and supports to address the vocabulary needs of DLLs.

We examined the following research questions:

1. Do vocabulary skills in English and in Spanish of prekindergarten children improve significantly when teachers are provided with professional development to provide instruction in DR?
2. Are there differences in vocabulary skill improvement among English-speaking, bilingual and Spanish-dominant prekindergarten children when teachers are provided with professional development to provide children with instruction in DR?
3. Are there differences in vocabulary skill improvement among prekindergarten children whose teachers receive professional development to implement the DR intervention if teachers have higher qualifications and more experience?

## Intervention: Dialogic Reading

DR was the core of our professional development with this public school prekindergarten. Whitehurst and colleagues (1988) originally developed DR to train middle-SES families in storytelling

techniques to use with 2-year-old children. In an extensive review of dialogic parent–child book readings, Mol, Bus, de Jong, and Smeets (2008) reported that DR increases children's expressive language, benefits preschoolers significantly more than older children, and has greater value for low-SES families. Replication of DR strategy interventions and their effects on vocabulary learning have been studied in childcare and preschool classrooms (Hargrave & Sénéchal, 2000; Valdez-Menchaca & Whitehurst, 1992). Investigations with languages other than English report similar language and vocabulary results with native Spanish (Jiménez, Filippini, & Gerber, 2006; Valdez-Menchaca & Whitehurst, 1992), Korean (Lim & Cole, 2002), and Chinese speakers (Chow, Mc Bride-Chang, & Cheung, 2008). With the exception of the Valdez-Menchaca and Whitehurst (1992) study, DR research with languages other than English has been conducted with families, not in preschool classrooms. It was important to provide professional development and a research opportunity for these prekindergarten teachers because they serviced a large number of DLLs. There is little research on classroom outcomes, although DR has been recommended as an effective curriculum practice to help young DLL children acquire English (Espinosa, 2010b), and DR has proven to have a positive outcome on vocabulary and comprehension skills (www. whatworks.ed.gov). Therefore, preschool vocabulary development through DR was the focus of our professional development.

## METHOD

### Child Participants

Parental permission was obtained from parents of 75 preschool children. Seventy-two children (27 girls, 45 boys) completed all phases of the study and three children were eliminated because they relocated to a homeless shelter in a different school district. The universal prekindergarten program operates in a building with Grades K–2. The prekindergarten has morning and afternoon sessions. Seventy percent of the students in the school district, including children in the study, were eligible for free and reduced lunch. In the current study, child participants were categorized as English only (EO) or DLL. "DLLs are diverse in their linguistic backgrounds and may differ in terms of the amount of English that their parents speak" (Ballantyne, Sandeerman, D'Emilio, & McLaughlin, 2008, p. 4). This study's DLL sample consisted of two categories: (a) bilingual and (b) Spanish-dominant speakers. The bilingual speakers were capable of using two language systems (L1–Spanish and L2–English), whereas the Spanish-dominant children used one language system, defined as their home language (L1–Spanish). Language 2 (L2) is the child's second language (Espinosa, 2010b). The mean age of the children was determined by their chronological age (months) at the beginning of the study, which was 57.2 months (4.77 years; range = 40–64 months; $SD = 4.27$ months).

The universal prekindergarten program operates in a building with Grades K–2 and has morning and afternoon sessions. Thus, there were six prekindergarten classes (three in the morning and three in the afternoon) involved in the project, with a university serving as a community-based organization, providing services and teaching staff for two of the six classrooms. For purposes of the study, the classrooms were labeled A, B, C, D, E, and F.

The language goals of the program's instruction were primarily English instruction with home language support. DLL children's home language was supported throughout the day with, for example, songs, dances, and counting and calendar activities. The demographic profile of the

classrooms varied widely. The children's choice of language in school was 65% English, 25% bilingual (L1 Spanish speakers with moderate L2 English skills), and 10% Spanish speakers (L1) based on administration of the Pre-Idea Proficiency Test (3rd ed.; Ballad & Tighe, 2004) by bilingual graduate assistants at the beginning of the study. The bilingual graduate students had been trained by the university partners to administer the Pre-Idea Proficiency Test.

Children varied in their home language experiences. Espinosa (2010a) recommended the use of a variety of methods and assessors to provide insights about children's home language abilities, and Gutiérrez-Clellen and Kreiter (2003) noted that informal, indirect measures of observing DLL children's interactions and language usage (teacher observations) can be highly reliable in estimating a child's level of proficiency and English language usage. In this prekindergarten, at the extreme were children from home environments where family members spoke only English (39%) or only Spanish (18%). Other children came from bilingual homes where family members spoke both Spanish and English (14%). One child spoke Creole in her household. Several sources of information were used to categorize children's home language exposure: (a) parent demographic data reported to the school district, (b) teacher reports on language exposure, and (c) the Pre-Idea Proficiency Test–Oral English-Spanish Assessments. These three sources of information were cross-validated and children's language exposure was categorized as EO, bilingual, and Spanish-dominant.

## Teacher Participants

Three teachers and three assistants agreed to participate in the intervention. The professional development intervention took place in six classrooms (three in the morning and three in the afternoon) with teachers who (a) held professional certifications, (b) lived in the community, and (c) were bilingual (two of the six adults). All lead teachers met the educational requirements of state-funded universal prekindergarten programs. One teacher was certified in teaching english to speakers of other languages (TESOL). The other two lead teachers were certified to teach early childhood/childhood education. Two teaching assistants had valid teaching assistant certifications and one was early childhood certified. The TESOL teacher and the early-childhood-certified teaching assistant were the university-salaried teachers in this professional development endeavor. Years of teaching experience ranged from 1 to 20, with an average of 10 years (Table 1).

Two teaching assistants lived in the school community. "There is evidence (although not a lot of it) that ELL [English language learners] children benefit when schools systematically build connections to children's home language, literacy, and social patterns of behavior" (Espinosa, 2010a, p. 155). The teacher assistants who lived in the district recognized, understood, respected, and accepted the children's language and cultural backgrounds. Their cultural sensitivity may be based on their own ethnicity, their status as mothers and grandmothers of this category of child, their long-term residence in the community, and/or their extended number of years working in this district. They knew the families in the community and were familiar with their "common styles of interaction" and "family customs and values" (Espinosa, 2010a, p. 155).

The TESOL-certified teacher and one teaching assistant were bilingual, which was important to our training in DR because classrooms with the large populations (Classes C & E) of DLLs needed Spanish-speaking teachers or teacher assistants. Research has also shown that the roles and positive attitudes teachers assume regarding low SES children, including DLL children, have

TABLE 1
Teacher Demographics

| Teacher and Teacher Assistant | Years Experience | Language Spoken | Certification |
|---|---|---|---|
| Teacher (Classes A & B) | 15 | English | Nursery–Sixth grade Special education P–12 |
| Teacher assistant (Classes A & B) | 10 | English | Teaching assistant |
| Teacher (Classes C & D) | 3 | English & Spanish | Early childhood (B–2) & TESOL |
| Teacher assistant (Classes C & D) | 1 | English | Early childhood (B–2) Early childhood special education (B–2) |
| Teacher (Classes E &F) | 6 | English | Nursery–Sixth grade |
| Teacher assistant (Classes E & F) | 20 | English & Spanish | Teaching assistant |

*Note*. TESOL = teaching English to speakers of other languages.

promise for developing successful readers and promoting sensitivity to their language and cultural identities (Chang et al., 2007; Fumoto, Hargreaves, & Maxwell, 2007; Saracho, 2001). Fumoto et al. (2007) reported positive effects between the beginning and end of the school year in ways in which teachers perceive their relationships with children according to their levels of English. Additionally, these teachers were able to read the DR books we provided for this training in English and Spanish, supporting Saracho's (2001) claims that teachers who instruct and response to DLLs in Spanish can be effective for developing successful readers.

## Procedure

*In-Service Training.*    As stated earlier, the professional development that was offered by university faculty was a *practice-focused* approach. Teachers were trained in two components of book reading: (a) DR questioning strategies and (b) building vocabulary. The initial professional development (described later) consisted of training all preschool teachers in DR strategies during after-school faculty meetings using the Read Together, Talk Together program (RTTT; Pearson Early Learning, 2002). Teachers were provided with 16 books from the program's English and Spanish components for preschool children, whereas the RTTT English program (Kit B) provides 20 trade books and lesson plans in English. The RTTT Spanish program (Kit C) provides eight trade books and lesson plans. It was important to this investigation that teachers with bilingual children conducted the DR intervention in both Spanish and English, thus the eight Spanish titles in the prekindergarten kit were matched with versions in English (Table 2).

Specific titles were chosen because they were available in both Spanish and English. The RTTT (Pearson Early Learning, 2002) program uses the DR technique and is based on the work of Arnold et al. (1994), Lonigan and Whitehurst (1998), and Whitehurst et al. (1988, 1994, 1999).

DR is based on the assumption that practice, feedback, and appropriate adult scaffolding facilitate a child's ability to become the storyteller. First, university faculty trained all teachers to use two acronyms (i.e., CROWD and PEER) as part of the DR intervention. The acronyms

TABLE 2
Weekly Spanish and English Trade Books, Targeted Vocabulary, and Play Props

| Intervention Week | Trade Book | Targeted Vocabulary | Play Props |
|---|---|---|---|
| Week 1 | *Un día de nieve*<br>*Snowy Day* | Footprints, winter, morning, branch | Peter doll, cotton batting, black beads (footprints), tree branch, bed |
| Week 2 | *Silba por Willie*<br>*Whistle for Willie* | Carton, sidewalk, traffic light, mirror | Traffic light, small carton, dog, figurines, mirror, Dr. Drew blocks |
| Week 3 | *Corduroy (Spanish)* | Escalator, shoulder, guard, lamp | Corduroy doll, figurines, doll house furniture, lamp, Dr. Drew blocks |
| Week 4 | *Un bolsillo para Corduroy*<br>*A Pocket for Corduroy* | Cave, mountainside, cage, bear | Corduroy doll, figurines, paper sack, Velcro patch |
| Week 5 | *La isla*<br>*The Island* | Island, fountain, parrot, ships | Parrot, frog, fruit, fish, goggles, boats, Dr. Drew blocks |
| Week 6 | *La silla de Pedro*<br>*Peter's Chair* | Cradle, high chair, crib, curtain | Cradle, high chair, crib, dog, curtain, figurines, paintbrush |
| Week 7 | *Abran paso a los patitos*<br>*Make Way for Ducklings* | Woods, turtle, duck, pond | Turtle, ducks, eggs, cars, policeman, Dr. Drew blocks |
| Week 8 | *El viejo y su puerta*<br>*The Old Man and His Door* | Watermelon, egg, fish, honey | Watermelon, fish, egg, honey, figurines, Dr. Drew blocks |

help teachers remember nine specific techniques (Zevenbergen & Whitehurst, 2003) related to questioning, oral language, and vocabulary. CROWD refers to five types of questions teachers ask while reading aloud. They are (a) *completion* prompts, that is, The dog is ____; (b) *recall* prompts, for example, Do you remember what the boy did?; (c) *open-ended* prompts, for example, I wonder why the girl would do that. What do you think?; (d) *wh-* prompts, that is, Who____?, What did____?, When did____?, Where was____?, and Why did____?; and (e) *distancing* prompts. PEER strategies ask the adult to prompt the child while reading aloud. They include (a) *prompting* the child to label objects in the books' pictures (pointing to an illustration, teacher says, "What is this called?") and talk about what is going on in the story (teacher asks students to retell the gist of the plot), (b) *evaluating* the child's verbalizations (teacher tells child that she/he gave a great answer because she/he said ____), (c) *expanding* the child's verbalization (child says, "The dog"; teacher says, "Which dog? What does he look like?"), and (d) *repeating* expanded verbalizations (teacher says, "Yes, the brown dog with the white spots"). Per faculty observation, teachers implemented the aforementioned prompts on a regular basis during their DR literature time without indicating that any of the prompts were more or less difficult to use with their children.

Next, teachers viewed the RTTT video during a faculty meeting. In addition, they were provided with a handout developed by one of the researchers that summarized key points in the video and described the CROWD and PEER acronyms. Following the video, teachers practiced the DR strategies with each other using a trade book from the RTTT program that was not included in the 8-week intervention. They were encouraged to practice with additional books from the RTTT program with their children the following week before officially beginning the intervention.

*Bidirectional Meetings.*    Next, to build vocabulary the teachers and researchers collaborated to select four targeted words from each story. Teachers had been provided professional development the previous year on Beck, McKeown, and Kucan's (2002) technique for expanding vocabulary through the use of a three-tiered system. The first tier consists of words that are high-frequency words or basic sight words, like *baby* and *boy*. The second-tier words are vocabulary words that frequently occur in a wide variety of texts and are used by mature language users (Beck et al., 2002). The last tier consists of words taught in the areas of science and social studies.

For this study, it was important that the university faculty and the preschool teachers together chose words children would be able to use in everyday conversations. These Tier 2 words were primarily nouns. Together, 32 targeted words were chosen from the RTTT trade books (Table 2). A picture book composed of the 32 targeted words was created for each teacher to use during the intervention. The picture book also served as an assessment (pretest and posttest) of children's rate of learned vocabulary from participating in the DR intervention. Teachers introduced pictures of targeted words before reading the book. Teachers were also encouraged to show photographs of targeted vocabulary words during reading by pointing to illustrations that depicted the vocabulary item in the story (Roberts, 2008; Wasik & Bond, 2001; Wasik, Bond, & Hindman, 2006).

Other CoP collaborations included discussing the length and content of the books that were read and jointly deciding on the appropriateness of the texts for future vocabulary lessons. Discussions about cultural sensitivity often stemmed from the teachers' personal experiences raising their own children in the same cultural milieu as that in which they teach. For example, appropriate sociocultural home/school connections were forefront in these teachers' minds. The university had initiated a CoP by acting as a community-based organization partnering with the

public prekindergarten program. Periodic working lunch discussions, casual conversations before and after the formal workday, ongoing informal coaching, and frequent observations kept interest high and DR methodology in the forefront of teachers' daily classroom activities.

*University Faculty/Coaches.*    Faculty provided teachers with prop boxes for each weekly read-aloud at the start of the study and mentioned how to use them. Eight prop boxes contained play props (Table 2) that represented objects necessary for learning vocabulary and for story comprehension. For example, the prop box for the read-aloud *The Snowy Day* (Keats, 1976) contained a Peter doll, cotton batting, a stick, black beads (representing footprints), a tree branch, and a toy bed. University faculty modeled the use of prop boxes through demonstrations of how to use the objects before and during the read-aloud.

By coaching the preschool educators to combine DR strategies with photographs and play props, the researchers hoped to foster vocabulary development in low-SES 4-year-olds in a classroom setting. This use of "realia" can support language acquisition and vocabulary learning for DLL children and is an appropriate technique (Neuman & Dwyer, 2009) for preschoolers. The concrete objects representing targeted vocabulary were important to this professional development investigation because of the DLLs in the study. Table 2 lists the title of the trade book, the targeted vocabulary, and the use of play props. Studies investigating vocabulary using informational text (Leung, 2008) and narrative text (Wasik & Bond, 2001; Wasik et al., 2006) found children learned more vocabulary words on vocabulary measures in intervention groups using story props than comparison groups that did not use story props.

Teachers were taught how to and asked to implement the scripted DR intervention and to use pictures of vocabulary and play props. They were requested to be as faithful to the weekly protocol as possible while remaining sensitive to children's questions and answers. The RTTT lesson plans were available in English and Spanish, and three English titles were translated by a bilingual graduate assistant.

Six classes participated in this intervention, with class size ranging from 15 to 17 students. From a total population of 95 students, 72 children returned permission slips ($N = 72$) and participated in all phases of this project. Teachers implemented 1 or 2 days of whole-class DR instruction and 3 or 4 days of small-group learning based on the book of the week that had been introduced or repeatedly read through the DR method. This plan supported the child's home language, used an *additive approach* to DR, and accommodated most children who were not fully proficient in English by being sensitive to their bilingualism (Espinosa, 2010b). With the exception of Classes D and F, the language of instruction matched the majority of the population sample. Children in Classes D and F received English instruction because these groups had more English-only children than DLL children (Table 3). Teachers in both of these classrooms were Spanish-speaking and translated the vocabulary words into Spanish for Spanish-speaking children.

Specifically, the teachers for Class A, Class B, Class D, and Class F conducted all instruction in English with pictures and play props. On Day 1 the teacher was taught to read the story in English, explain and use the props that represented the vocabulary words, and show the pictures of the vocabulary terms that were in the texts to the whole class. On Days 2, 3, and 4, this process was repeated in small groups. On Day 5 the students used the vocabulary-based props as a center.

TABLE 3
Classroom Language Instruction

| Class | $n$ | Language |
|-------|-----|----------|
| A | 12[a] | English |
| B | 11[b] | English |
| C | 14[c] | Spanish & English |
| D | 12[d] | English |
| E | 13[e] | Spanish & English |
| F | 10[f] | English |

[a]Two English-only.
[b]English-only.
[c]Three English-only, 11 bilingual.
[d]Nine English-only, 1 bilingual, 2 Spanish.
[e]Six English-only, 4 bilingual, 3 Spanish.
[f]Six English-only, 2 bilingual, 2 Spanish.

In Class C and Class E (English and Spanish groups) teachers conducted the lesson in English and in Spanish with pictures and play. Over 50% of the children in these classes are DLLs. On Day 1 the teacher was instructed to read the book in Spanish, explain and use the play props, and discuss the pictures with the whole class. On Day 2, the same procedure was followed in English. For the next 3 days, in small groups students received instruction in English and Spanish and played with the props. The English and Spanish groups were different from the other groups as instruction was in English and Spanish.

## Measures

*Receptive Vocabulary.*    As a pretest measure, participants completed the Peabody Picture Vocabulary Test–Fourth Edition (PPVT-4; Dunn & Dunn, 2007; $r = .94$) and the Test de Vocabulario en Imagenes Peabody, Adaptacion Hispanoamericana (TVIP; Dunn, Padilla, Lugo, & Dunn, 1986; $r = .94$) to demonstrate composite norms to assess receptive vocabulary. Researchers have used both tests in previous bilingual studies with preschool children to determine receptive language (Dickinson, McCabe, Clark-Chiarelli, & Wolf, 2004; Hammer et al., 2008). Administration was conducted individually in both English and Spanish. Bilingual graduate assistants were trained to administer the TVIP to bilingual and Spanish-speaking children. Administration consisted of an examiner pronouncing a word and requesting a child to select a picture that matched the word from four choices. Both the PPVT-4 and the TVIP follow the same procedures with different pictures. Raw scores, standard scores, and percentiles were computed for each child.

*Pre-Idea Proficiency Test–Oral Spanish.*    Spanish-speaking participants completed the Pre-Idea Proficiency Test (3rd ed.; Ballad & Tighe, 2004) to obtain a language proficiency level. This instrument is a standardized measure developed expressly to assess English and/or

Spanish oral language skills. Previous research studies (Roberts & Neal 2004; Schrank, Fletcher, & Alvarado; 1996) have evaluated this assessment with DLL preschool populations. Test–retest reliability of .77 is reported in the technical manual. The examiner uses a storyboard and felt pieces to encourage children to respond to questions and point to appropriate items on the storyboard. Levels A and B are testing children's understanding of simple vocabulary items (father, mother, boy, girl, shoes, dog). For Levels C and D children respond to lengthier and more syntactically complex questions and test their ability to name three colors. The most difficult item for Level E asks the child to construct and retell facts from the story. Children are assigned a level from A to E based on raw scores that range from 0 to 40 and age norms. Norms for children ages 4 to 5 years old are Levels A and B, a non-Spanish speaker; Levels C and D, limited English speaker; and Level E, fluent Spanish speaker. These levels were changed to a 1–5 scale for data analysis. The Pre-Idea Proficiency Test–Oral Spanish provided important information for categorizing children as bilingual (DLL) and Spanish only (DLL).

*Free Recall Target Word Test.*    Children's ability to identify 32 targeted words chosen by the CoPs members (the university faculty and the preschool teachers) from the RTTT trade books (Table 2) targeted word knowledge was measured by the researchers at the beginning and end of the study. Previous intervention researchers (Leung, 2008; Roberts, 2008) have targeted words from children's literature for purposes of vocabulary assessment. All words were translated into Spanish by a bilingual graduate assistant. Administration was conducted individually in both English and Spanish for these students. Bilingual examiners showed the students a binder that contained a picture of the target word on an $8'' \times 11''$ piece of paper covered with a plastic jacket. One page (picture) was shown at a time to bilingual and Spanish-speaking children. For each target word, children were asked some of the following: "What is this?" "Tell me what season it is." "What body part do you see in the picture?" Bilingual and Spanish-speaking children were told to respond either in English or Spanish. Responses were scored as follows: 0 points = incorrect response; 1 point = correct response. English-speaking students used the same materials and responded to the same prompts. The only difference was that the students and the evaluator used English during this testing.

To examine the convergent validity of this target word measure, raw scores from the PPVT–4 and the TVIP were correlated. These correlations were positive; however, it was only statistically significant for PPVT-4 ($r = .55, p < .001$) and TVIP ($r = .32, p = .12$). The nonsignificant correlation of the TVIP could have been due to a lack of power, as 47 children were administered the PPVT, but, due to numbers of EOs and DLLs in the sample, only 25 children were administered the TVIP.

*Fidelity.*    Vartuli and Rohs (2009) discussed the importance in early childhood research of using "fidelity measures to assess adherence to curriculum and explore fidelity outcomes" (p. 503). The researchers observed and recorded treatment fidelity for each weekly lesson. A 10-item Likert scale with a 5-point scale was used to measure procedural fidelity to the intervention (Figure 1). The instrument was developed by faculty specifically for this study to capture the degree teachers implemented RTTT lesson plans, explicitly taught targeted vocabulary words, and used all materials in accordance with their training. It was similar to other procedural fidelity tools rating teachers' level of implementation of instruction (Pence, Justice, & Wiggins, 2008; Wasik et al., 2006).

Teacher Name & Code: _____

Date: _____ Week & Book _____

**Directions:** Using the following 1-5 scale, please indicate, by circling the most correct response, the degree to which you agree with each statement below:

**Routine Activities**

1.  All students can see the teacher while reading aloud the story.

| 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|
| strongly agree | agree | neutral | disagree | strongly disagree |

2.  Teacher has all weekly vocabulary words, story and props readily available.

| 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|
| strongly agree | agree | neutral | disagree | strongly disagree |

3. All materials are used in general accordance with the weekly reading such as vocabulary words and story props are shown as targeted word is read.

| 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|
| strongly agree | agree | neutral | disagree | strongly disagree |

4. Teacher calls children's attention to and/or makes an explicit mention of the vocabulary words while reading aloud the story.

| 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|
| strongly agree | agree | neutral | disagree | strongly disagree |

5.  Teacher ensures that children are involved in dialogic, small-group reading with play props when applicable.

| 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|
| strongly agree | agree | neutral | disagree | strongly disagree |

**Teaching Activites**

6. Teacher uses most interaction strategies of PEER (prompt, evaluate, expand, repeat).

| 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|
| strongly agree | agree | neutral | disagree | strongly disagree |

7. Teacher uses most interaction strategies of CROWD (completion, recall, open ended, Wh.,distancing)

| 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|
| strongly agree | agree | neutral | disagree | strongly disagree |

8. Teacher allows sufficient time (pause) for children to respond to questions/prompts.

| 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|
| strongly agree | agree | neutral | disagree | strongly disagree |

9. Teacher enhances word awareness (verbally and with play props when applicable)

| 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|
| strongly agree | agree | neutral | disagree | strongly disagree |

10. All components of the dialogic reading intervention are completed (small groups, play)

| 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|
| Strongly agree | agree | neutral | disagree | strongly disagree |

FIGURE 1   Procedural fidelity and quality of instruction of dialogic reading techniques.

The scale ranged from *strongly agree* to *strongly disagree* (*strongly agree* $= 1$, *strongly disagree* $= 5$). Survey items 1–5 were designed to assess Fidelity to Routine or organizing the lessons, and items 6–9 were designed to assess Fidelity to Teaching, delivering the instruction. Two of the university professors observed each classroom on both dimensions once per week for the entire 8 weeks.

Interrater reliability was calculated by randomly selecting 25% of the observations for comparison between raters, resulting in 95% agreement. With respect to Fidelity to Routine, the internal reliability was assessed at Time 1 and Time 8. When all five items were included in the scale, the reliability was low (Cronbach's $\alpha = .31$); therefore, the first item, which measured whether students could see the teacher, was removed from the scale. This resulted in an acceptable level of reliability for Time 1 (Cronbach's $\alpha = .81$) and Time 8 (Cronbach's $\alpha = .80$). Thus, we created a 4-item fidelity measure with scale scores that could range from 4 (indicating a high level of fidelity) to 20 (indicating a low level of fidelity). To examine level of fidelity, this 4-item scale score was compared with 12 (a scale score at the midpoint of the measure, to represent a moderate level of fidelity). At Time 1, teachers' fidelity was not significantly different from this moderate level of fidelity, $t(3) = -.42$, $p = .70$, indicating a moderate level of fidelity to the intervention. At Time 8, teachers' fidelity was significantly different from 12, $t(4) = -3.51$, $p = < .05$, indicating a greater than moderate level of fidelity to the intervention. Finally, a paired sample $t$ test was used to measure change in fidelity over time. This was not significant, suggesting teachers' level of fidelity did not change over the course of the study, $t(2) = 1.57$, $p = .26$.

With respect to Fidelity to Teaching, internal reliability was assessed at Time 1 and Time 8. As with Fidelity to Routine, the internal reliability was low (Cronbach's $\alpha = .56$) when all items were included in the scale. Item 10, which assessed whether all components of the DR intervention were included, was eliminated from the scale because the university faculty felt they had not provided sufficient scaffolding for the use of prop boxes. This resulted in an acceptable reliability level for Time 1 (Cronbach's $\alpha = .90$), but reliability could not be computed for Time 8 as there was no variability in scale scores. To examine levels of fidelity we compared scale scores with a score of 12 (a score that would indicate a moderate level of fidelity). This test was significant at Time 1, $t(3) = -3.81$, $p < .05$, indicating a greater than moderate level of fidelity. However, a similar test could not be computed at Time 8 due to lack of variability in scores. A closer examination of scores revealed that all teachers had scale scores of 4, indicating the highest level of fidelity. Finally, to examine whether levels of fidelity changed over the course of the study, a paired samples $t$ test was conducted to compare levels of fidelity at Time 1 with levels of fidelity at Time 8. This test was not significant, indicating stability in fidelity over time, $t(2) = 2.52$, $p = .13$.

## RESULTS

University professors provided professional development for prekindergarten teachers using DR techniques. The first goal of the study was to examine changes in children's vocabulary over time as a result of teacher professional development. The authors addressed the research question of whether the vocabulary skills of prekindergarten children would improve when provided instruction in DR by teachers trained in DR methodology. At Time 1, as assessed by the free recall target word test, children were able to identify, on average, 10.31 of the 32 target words

($SD = 3.64$). By the end of the intervention, this had increased to 16.94 ($SD = 5.22$). A within-subjects analysis of variance (ANOVA) with time as the repeated measures variable, revealed that this difference was statistically significant, $F(1, 70) = 227.37$, $p < .001$, $\eta^2 = .76$. These results suggest that the vocabulary skills of prekindergarten children do improve when teachers are trained to provide instruction in DR.

Next, the researchers examined whether there were differences in vocabulary skill improvement among EO, bilingual, and Spanish-dominant prekindergarten children when provided with instruction in DR by teachers trained in this method. To examine this, we conducted a mixed ANOVA. Time was the repeated measures variable, and language group (EO, bilingual, Spanish-dominant) was the between-subjects variable. We found a significant interaction $F(2, 68) = 3.43$, $p < .05$, $\eta^2 = .09$, suggesting a different degree of vocabulary change depending on children's language group. In other words, this finding suggests that how much children's vocabulary skills improved varied with which language they spoke. To examine which groups of children demonstrated the greatest improvements in vocabulary skills over time, we conducted follow-up tests of simple effects, examining the degree of vocabulary change over time in each language group. The results of these tests can be found in Table 4. From the analyses it can be seen that, although all participants demonstrated increases in vocabulary over time, the greatest increases were seen in the EO groups of participants.

In addition to these primary analyses examining our research questions, we conducted supplemental analyses. Because the books used with the DR techniques were read in either English alone (Classes A, B, D, and F) or in English and Spanish (Classes C and E), we examined whether the amount of change in vocabulary over time varied depended on whether children were read the books in just English or in English and Spanish. To address this, we conducted a mixed ANOVA, with time as the repeated-measures variable and language in which the books were read as the between-subjects variable. We found no significant interaction between time and language of reading, suggesting that the degree to which children's vocabulary improved did not differ depending on whether they were in a class that heard the books in just English or English and Spanish, $F(1, 69) = 0.85$, $p > .05$, $\eta^2 = .01$.

Because there were seven children from Classes D and F whose language did not match the instruction language of the class, we recomputed our analyses without the data from these seven children. We found the same pattern of results as earlier. Specifically, there was still a significant improvement in vocabulary over time, $F(1, 63) = 232.77$, $p < .05$, $\eta^2 = .79$. The amount of improvement over time did not differ depending on the language of instruction in the classroom, $F(1, 62) = 1.82$, $p > .05$, $\eta^2 = .03$.

TABLE 4
Change in Vocabulary over Time, Across Language Groups

| Group (n) | F | $\eta^2$ | Time 1 M (SD) | Time 2 M (SD) |
|---|---|---|---|---|
| English only (47) | 193.51*** | .81 | 11.00 (3.82) | 18.40 (5.14) |
| Bilingual (18) | 266.78*** | .67 | 8.89 (2.95) | 14.33 (4.55) |
| Spanish only (7) | 29.72** | .83 | 9.43 (3.10) | 13.86 (3.58) |

$*p < .05$. $**p < .01$. $***p < .001$.

Next, the researchers turned to the possible role that teacher training might play. Specifically, we examined whether there were differences in the degree to which children's vocabulary changed over time depending on whether they were in a class where the teachers were provided professional development by the university. Given both the differences in teachers' training and in their years of experience (Table 1), the researchers felt it was possible that teacher background might make a difference in children's vocabulary growth. To examine this, the researchers conducted an additional mixed ANOVA, again with time as the repeated-measures variable. The authors included teacher background as the between-subjects variable. The investigators found no significant interaction, suggesting that the degree to which children's vocabulary changed over time did not differ with the background of their teacher, $F(1, 69) = 1.68$, $p > .05$, $\eta^2 = .02$.

## DISCUSSION

This study focused on professional development in DR techniques aimed at increasing vocabulary skills of low-SES prekindergarten children. The results suggest a significant improvement in vocabulary skills when teachers are trained to provide students with explicit classroom instruction in DR. Prekindergarten curricula often do not provide specific training in vocabulary instruction (Neuman & Dwyer, 2009) and teachers are not prepared to provide the types of instruction our young DLLs need to develop higher academic achievement (Zepeda et al., 2011). This school–university partnership allowed for bidirectional collaborative meetings and coaching related to enhancing vocabulary with a large population of DLLs as reported in this study.

Our analyses are consistent with previous findings on DR but also extend these findings by sampling DLLs and classroom interactions. With the exception of Valdez-Menchaca and Whitehurst's (1992) study with Mexican 2-year-olds, there is no recent empirical literature using DR techniques with Hispanic 4-year-olds. Teachers were trained to use DR techniques using eight storybooks. After professional development, using large- and small-group repeated readings, English and Spanish instruction, four targeted words weekly, and concrete materials, low-SES preschool children's vocabulary improves.

As previously discussed, the sample consisted of monolingual English (EO) speakers, bilingual speakers (DLL), and Spanish-dominant (DLL) speakers. Another main finding with regard to vocabulary growth based on language groups indicated that the EO group had the greatest increase in vocabulary learning. These findings are consistent with the previous research (Collins, 2010; Roberts, 2008) with English language learners and storybook reading. A possible explanation for this finding is that the DLL children in the study were *sequential* bilingual (Tabors & Snow, 1994) language learners. They had acquired proficiency in their first language (Spanish) and were learning to speak a second language. According to Espinosa (2010b), "sequential bilingual children may have different patterns of development than monolinguals in certain aspects of language development including vocabulary, early literacy skills, and interpersonal communication" (p. 71).

Findings indicate that differences in previous teacher training and years of experience did not change the amount of vocabulary children learned in this study. This concurred with Neuman and Cunningham's (2009) findings that improvement in language and literacy practice occurred when teachers took coursework and were coached, regardless of the teachers' previous educational

and experiential backgrounds. Coursework alone was not effective (Neuman & Wright, 2010). The university professors brought their expertise of DR to the public school program, offering the teachers coaching and mentoring, two professional development practices that appear to demonstrate improvements in child outcomes (Klein & Gomby, 2008).

## SUGGESTIONS FOR USING DIALOGIC READING TECHNIQUES AND FUTURE RESEARCH

DR is particularly applicable as a supplement to an existing prekindergarten curriculum because well-established techniques have been implemented for teaching parents, caregivers, and classroom teachers (Zevenbergen & Whitehurst, 2003). The DR protocol, CROWD and PEER, shows promise for use in other preschool classrooms as a method for teachers to scaffold questioning techniques, oral language, and vocabulary. The teachers in the present research used a published program (RTTT; Pearson Early Learning, 2002), but these acronyms can be applied to most read-aloud books (see Appendix: Dialogic Reading Lesson Planner). We provided training to a prekindergarten program with DLL children, but we believe the features of DR are replicable and important for use with all prekindergarten children. Following are several features of DR important to children's learning:

- Select predictable books with short reading times to allow children to interact and respond to the story. While interacting with the children consider their comprehension and adapt expectations accordingly.
- Align the selection of storybooks with the monthly classroom theme and prekindergarten curriculum.
- Identify three to five vocabulary words that are key to understanding the text and use multi-sensory materials such as pictures and story props to illustrate the book's meaning.
- Write the prompts in advance and place Post-it notes inside the book.
- Allow time for extended explanations and opportunities for practice during whole-group and small-group repeated readings.

Ongoing research may include a video training on DR strategies for parents. Research (National Institute for Child Health and Development Early Child Care Research Network, 2002) suggests that parents and the home environment have a larger impact on child outcomes than early childhood programs do. Whitehurst and colleagues have found that the DR intervention has a greater effect on vocabulary and children's language when both teachers and parents actively use the technique with children (Arnold et al., 1994; Hargrave & Sénéchal, 2000; Whitehurst et al., 1994). Teachers and university faculty might consider developing several video training sessions for parents and inexperienced educators to teach them this method, which could possibly increase collaborative relationships between parents and professionals and influence intervention efforts, particularly for culturally and linguistically diverse learners. University faculty could send DVDs home with children if parents were unable to attend a training session.

Teaching educators to make permanent changes in instructional practices is neither quick nor easy and coaching appears to be a promising approach for producing positive changes in teachers and improvements in child outcomes (Klein & Gomby, 2008). Hanft, Rush, and Shelden (2004)

described components of coaching noted to be particularly helpful to teachers: (a) independent and/or shared observation, (b) action, (c) self-reflection, (d) feedback, and (e) evaluation of the coaching process/relationship. Questions remain about which component is more effective, and measures are needed to assess teacher attitudes toward professional development, more specifically, the coaching process.

Undoubtedly, the ongoing nature of professional training involves time and cultivating positive relationships between the teacher and the trainer. Our university–prekindergarten partnership has built a strong relationship between university faculty and teachers, which we believe supported our professional development intervention. Questions remain about the influence university–school partnerships have on prekindergarten programs and what components are most effective for influencing teacher behaviors.

In summary, there is a growing emphasis placed on professionals in the early childhood workforce to raise student educational attainment in Head Start, prekindergarten, and state quality rating systems. Yet, there is also a paucity of research on effective instructional programs for prekindergarten (Castro et al., 2011). The findings reported here provide a rationale for examining professional development about instructional programs and interventions that target vocabulary for our young DLLs. We can build on and strengthen our early childhood communities through university–public school partnerships that offer practice-focused approaches to professional development.

## ACKNOWLEDGMENTS

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## APPENDIX

### Dialogic Reading Lesson Planner

Use this form after you have read a book through at least once. It can be used while reading almost every page of a book. Use this planner as a guide for preparing questions, but more important, listen to the children talk and follow what is being told by the children. Have vocabulary pictures and props available as you read each story. The book needs to be read at least three times.

**Name of Book**: *The Snowy Day* by Ezra Jack Keats

**First Reading**
Introduce the book by showing the cover, naming the title by pointing to each word, stating the author, and asking the class what they think the book may be about. Show pictures and toy props of the targeted vocabulary and mention that these words are in the story.

**Second and Third Reading**
**CROWD (completion, recall, open-ended, wh-, and distancing prompts**). Use these prompts to begin the PEER sequence.

Completion—Before Peter comes into his house, he puts a_____in his pocket.
Recall—What does Peter do after he eats breakfast?
Open-ended—What is happening in this picture?

Wh- questions—Who helps Peter take off his socks?

> Outside of Peter's house, what is on top of everything else?
> Where does Peter go after his mother helps him with his socks?
> When does Peter dream that the sun melts all the snow?
> Why doesn't Peter play with the bigger children?

Distancing—Have you ever played in the snow? What did you do?

**PEER techniques (prompt, evaluate, expand, repeat)**

Prompt—Ask, "Do you remember this boy's name?" Show Peter doll. Say, "Peter is in bed. What time of day is it when you first get up from bed?" Show picture of morning and play prop of bed.

Evaluate—Example: Teacher says, "Maria gave a great answer because she said that it was morning."

Prompt—Teacher says, "What is this called? What does this picture tell us about what is going on in the story?" Student might say, "These are footprints. Peter is walking in the snow." Show props, cotton batting and black beads and pictures of footprints and winter.

Evaluate—Teacher says, "Angel gave a great answer because he said that these are footprints."

Expand—Teacher may say, "What do the footprints look like? How many are there in the picture?"

Repeat—Teacher says, "Yes, there are many deep footprints in the picture. They look like the bottom of a shoe."

Prompt—What did Peter find as he walked in the snow? Show picture of branch and hold up the stick play prop.

Evaluate—Teacher may say, "Yes, Mario, Peter found a stick."

Expand—Peter found a stick and what is he doing with the stick?

Repeat—Yes, he is making tracks in the snow.

Continue using these techniques with the following prompts:

> Prompt—What was Peter looking for before he went to bed? Show bed play prop.
> Prompt—What happened to the snowball?
> Prompt—What is Peter's dream about?
> Prompt—Look at the last picture, what do you think Peter and his friend will do the next day in the deep snow?