Instructional Support for Vocabulary Acquisition Among Young Dual Language Learners

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INSTRUCTIONAL SUPPORT FOR VOCABULARY ACQUISITION AMONG YOUNG DUAL LANGUAGE LEARNERS

by

Theresa L. Kohlmeier

A dissertation submitted in partial fulfillment of the requirements for the degree of

DOCTOR OF PHILOSOPHY

in

Education

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ABSTRACT

Instructional Support for Vocabulary Acquisition Among Young Dual Language Learners

by

Theresa L. Kohlmeier, Doctor of Philosophy

Utah State University, 2018

Major Professor: Kathleen A. J. Mohr, Ed.D.
Department: School of Teacher Education and Leadership

This dissertation delineates the purpose, findings, and implications of a 6-week experimental research study on the vocabulary acquisition of 60 Spanish-speaking dual language preschoolers enrolled in a Head Start program. The purpose was to examine the effect of an explicit vocabulary intervention on the breadth and depth of target vocabulary acquisition. The intervention included word images and definitions to teach selected target vocabulary in a small-group setting before a large-group read-aloud. The children were randomly assigned to two vocabulary intervention groups: Spanish Language Intervention Group (SLIG; n = 30) or English Language Intervention Group (ELIG; n = 30).

The children’s vocabulary skills were assessed in Spanish and English, using two expressive measures and a standardized receptive measure. The results found that both intervention groups made gains in the breadth and depth of target vocabulary in both
Spanish and English. Using a *t*-test analysis for breadth of targeted vocabulary, the English Language Intervention Group scored significantly higher than the Spanish Language Intervention Group on the curriculum-based English vocabulary measure. The Curriculum-based Vocabulary Probe Test (CBVPT) measure in Spanish showed a mean difference in favor of the SLIG, but this was not found significant. CBVPT test gain scores showed that both intervention groups increased breadth of target word acquisition in Spanish and English. The findings for depth of vocabulary acquisition in English found that both intervention groups increased their word definition knowledge significantly on both measures. Both of the intervention groups had higher target vocabulary gains in the language in which they received the intervention but with increases in definitional responses across languages. The receptive vocabulary measure showed a modest increase in receptive word acquisition for both intervention groups but neither group’s gain scores was found significant. When comparing the two language intervention groups, the SLIG results show almost equal gain in English definitional vocabulary (6.01) as the ELIG group (6.66). The data also revealed children’s common use of functional definitions to describe target word depth. The results suggest that an explicit target vocabulary intervention can improve Spanish-speaking preschoolers’ depth of vocabulary knowledge of target vocabulary in Spanish and English.
This dissertation examined a combined approach to teach novel vocabulary in English and Spanish for dual language learners prior to an English storybook read-aloud in a preschool setting. The 6-week intervention study was conducted in a Head Start program in the U. S. Mountain West with 60 dual-language preschoolers randomly assigned to small groups to receive the vocabulary intervention, using images and word definitions from researcher-trained teachers, teacher assistants or parent volunteers.

The experimental design included pre- and posttest assessments of target and general receptive vocabulary in English and Spanish, as well as language exposure, instructional quality, and fidelity of treatment. Teachers demonstrated a high level of fidelity in the preteaching of vocabulary in small groups. A multiple regression analyses and t-test comparisons indicate that preschoolers made comparable gains in breadth and depth of target vocabulary in Spanish and English, with higher definitional gains of vocabulary outcomes among those receiving vocabulary instruction in Spanish. For example, the Spanish-language group provided more diverse and robust definitions for target words. The results suggest that an explicit, target vocabulary intervention can improve Spanish-speaking preschoolers’ academic vocabulary in Spanish and English. Use of the home language seemingly supported word learning in both Spanish and
English and appeared to increase linguistic awareness more than those receiving only English. The brief, small-group, vocabulary instruction was relatively easy to implement and shows promise as a curricular component available to Head Start programs. Implications for instruction and future research are included.
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experiences have served to shape my future of teaching, service and research within the field of education.

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The rapid growth of the Latino population in the U.S. has become a topic of interest for educators and researchers in recent years. The Latino child population is the largest and fastest growing in the U.S., where one in four children is Latino (Child Trends, 2013). By 2050, approximately 40% of the nation’s children is projected to be Latino (U.S. Census Bureau, 2010). Participation by Latino children in early education programs has increased by a third since 2007, reaching 52% in 2012 (Child Trends, 2013). Additionally, approximately 30% of the children in Head Start and Early Head Start programs are dual language learners (Administration of Children & Families, 2006), which means that these children continue to develop their first language(s) while acquiring English in the earliest grades.

This rapid increase of Latino children in early childhood programs includes many who are still in the process of learning their home language while learning English. A variety of terms is used to describe children who learn a language at home and then another, usually English, in school. These labels include: English Language Learners (ELLs); Spanish-English bilinguals (SEBs); English as a Second Language Learners (ESLs), or Dual Language Learners (DLLs). ELLs and ESLs are generally older, non-native English speakers, who have gained more proficiency in their native language and then learn English to master academic content in formal school settings (National Conference of State Legislature [NCSL], 2015). DLLs are defined as young children who are developing their native language proficiency while learning English
simultaneously (Office of Head Start, 2008; Paradis, Genessee, & Crago, 2011). The term, Dual Language Learners (or DLLs) is used in this study as the term pertains more directly to young Latino Spanish-speaking preschoolers who are learning English as a second language in school programs while still acquiring Spanish as their home language.

Many Latino children in the U.S. encounter multiple challenges that can place them at a disadvantage compared to other children. According to the most recent report by Child Trends (2013), nearly one third of all Latino children live below the poverty line and approximately half of the family incomes are inadequate to meet even the basic needs of the families. Latino families are more often residents of low-income neighborhoods, enrolled in poorer schools, and living in areas of higher crime (Bishaw, 2014). DLLs are reported to be among the most vulnerable for low-literacy attainment, partly influenced by low socioeconomic status (SES), parental education levels, and limited access to print in the home (Buckingham, Wheldall, & Beaman-Wheldall, 2013; Snow, Burns, & Griffin, 1998). These factors can influence young children’s overall well-being including their language development and scholastic achievement.

Although DLLs have been found to make literacy gains during preschool, they continue to lag behind monolinguals at the end of the year (Haxmmer, Lawrence, & Miccio, 2007; Páez, Tabors, & López, 2007; Tabors, Páez, & López, 2003). This condition may be multifactorial; young DLLs are in the process of learning two languages simultaneously and may come from different cultural and linguistic backgrounds with different degrees of language exposure (Hammer, Jia & Uchikoshi, 2011). Tackling the challenge of effectively educating this expanding population
requires a nuanced understanding of the related factors and several avenues of scholarly investigation.

**Language Development Challenges for Dual Language Learners**

Research has determined a disparity between the number of words in English known by DLLs and their monolingual peers (Hammer, Kameroff, Rodriguez, Lopez, Scarpino, & Goldstein, 2012 Rowe, Silverman, & Mullan, 2013). Evidence suggests that it can take a long time for DLLs to gain second language (L2) vocabulary comparable to their monolingual English-speaking peers (D. K. Oller & Eilers, 2002). These differences purportedly depend upon the age level, the language background of the child, and the type of programing (bilingual or English immersion; J. W. Oller, 2005) they receive. When DLLs are behind in vocabulary knowledge, it is often very difficult for them to catch up in the number of words known to their monolingual peers (Hammer et al., 2012 J. W. Oller, 2005; Stanovich, 1986). This challenge to acquire English vocabulary is typically addressed only in well-informed early childhood education programs.

A review of the literature evidences efficient ways to incorporate vocabulary instruction in early childhood settings (Biemiller & Boote, 2006; Hadley, Dickinson, Hirsh-Pasek, Golinkoff, & Nesbitt, 2015; Méndez, Crais, Castro, & Kaines, 2015; Neuman & Dwyer, 2011). Although instructional strategies for vocabulary development have been studied with young monolinguals, fewer investigations exist targeting DLLs’ vocabulary development and instructional approaches that might accelerate vocabulary
acquisition in their home language and English (Collins, 2010; Hammer et al., 2007). As a result, there continues to be a need to better understand the various components that shape the vocabulary outcomes of children who are learning their first language, typically Spanish, and English simultaneously.

DLLs’ language dominance plays a role in their level of Spanish and English vocabulary acquisition (Paradis et al., 2011). Young children’s language of greater proficiency is often referred to as their dominant language. DLLs who are growing up with two languages typically do not yet have equal proficiency in both languages (Paradis et al., 2011). This imbalance has to do with the amount of language input the child receives in both languages in the home, school and community. Indeed, the amount of exposure DLLs have in each language may affect how they process words. Studies have shown that DLLs process words faster in their dominant language compared to their non-dominant language (Hammer et al., 2007; Paradis et al., 2011). The level of exposure to each language in the home and school setting may contribute to vocabulary size differences between monolingual and DLLs (D. K. Oller & Eilers, 2002). Differences in the amount and quality of vocabulary input that DLLs receive in school environments can influence both the breadth and depth of word learning and L2 acquisition (Nation, 2001). With an understanding of what children know or have experienced in their home and how they use language in the classroom, teachers can build on the DLLs’ vocabulary knowledge by teaching new words (Gillanders, Castro & Franco, 2014). Importantly, learning in one language might enhance similar learning in other languages (Goldstein, 2004). For DLLs, greater proficiency in their home language could lead to a stronger
readiness to learn vocabulary in English because the L1 concept knowledge could increase the mapping (matching of word-level concepts; Alenazi, 2013) of word meanings in beginning DLLs (Goldstein, 2004; Lugo-Neris, Jackson, & Goldstein, 2010; Nation, 2001). However, more research is needed to understand how the two languages used to deliver instruction contribute to English-language acquisition.

One of the strongest predictors of reading success and optimal learning during a child’s education is sufficient vocabulary knowledge (National Early Literacy Panel, 2008). Despite the early literacy instruction that young DLLs receive in preschool, when they enter kindergarten many are still at risk of poor reading achievement (Center for Early Care and Education Research—Dual Language Learners [CECER-DLL], 2011; U.S. Department of Health & Human Services, 2013). Oral language skills have been found to be predictors of later reading achievement, particularly vocabulary, syntax and discourse (Dickinson, McCabe, Anastasopoulos, Peisner-Feinberg, & Poe, 2003). Given the important role of early vocabulary development in schooling, there is a need to focus on effective early vocabulary interventions to support this critical component in reading achievement. Concern over the reading achievement of DLLs by fourth grade (National Assessment of Educational Progress [NAEP], 2015), has led researchers to examine instructional approaches that will improve oral language development earlier in support of later reading comprehension skills (Collins, 2010; Justice, Meier, & Walpole, 2005). Fostering vocabulary acquisition within an intentional vocabulary instructional approach should be evident in every early childhood classroom for all dual language learners (Butler et al., 2010; Zepeda, Castro, & Cronin, 2011). Waiting until they have difficulties
in later grades to explicitly target literacy skills, particularly English vocabulary instruction, may not be the most efficient way to teach these children if they are at risk when they first enter school (Biemiller & Slonim, 2001; Coyne, Simmons, Kame`enui, & Stoolmiller, 2004).

Vocabulary describes children’s collection of words, which includes receptive (words they understand when heard) and expressive (words they speak), as well as prior knowledge about the words (Burns, Griffin, & Snow, 1999). By age 4, it is expected that typically developing children have a receptive understanding of nearly 3,000 words and an expressive vocabulary of approximately 2,000 words (Justice & McGinty, 2009). These words include all major word classes (e.g., nouns, verbs, prepositions, adverbs, adjectives, etc.). Young children gain vocabulary when they interact in activities that are cognitively and linguistically stimulating with adults and peers who encourage them to describe events and who help build background knowledge (Strickland & Shanahan, 2004). The size of a child’s vocabulary is related to how well that child will understand what he or she reads (Stahl & Nagy, 2006). It is more complex than naming a list of words. Word knowledge involves two forms of vocabulary development—breadth and depth--and these forms play important roles in language development (Neuman & Wright, 2014). To build reading comprehension, children will need to know many words (i.e., breadth); and also need to have an understanding of what those words mean in various contexts (i.e., depth; Cunningham & Stanovich, 1997; Marulis & Neuman, 2010). It is the interconnection or categorization of words related by a common content, the concepts that they represent, and the context in which they are read, that drives children’s
comprehension (Marulis & Neuman, 2013). However, it remains an ongoing challenge for preschool educators to promote the robust vocabulary development that is necessary for later reading comprehension, especially in relation to the language variability that exists among children in preschool classrooms today (Neuman & Dwyer, 2009). Teachers need support and strategies in their repertoire that provide explicit and engaging vocabulary activities for all learners at the early childhood level. A common understanding of the child’s home language (L1) and how it supports the acquisition of a second language (L2) could be helpful for programs that serve DLLs.

**Language of Instruction and Bridging**

DLLs rely on their existing first language (L1) knowledge when they are learning their second language (L2); this is often called transfer, bootstrapping, or bridging from the L1 to L2 (Goldstein, 2004; Paradis et al. 2011). Bridging pertains to the sharing of the processes of language learning. When DLLs already know what a word means conceptually in their L1 they can use the conceptual knowledge to more rapidly acquire vocabulary in their L2 (Bialystok, 2001; Cook, 2005; Cummins, 1981, 1991, 2001; Kroll & Stewart, 1994). Many linguistic relationships exist between Spanish and English. Lugo-Neris et al. (2010) examined bridging as an instructional support for English vocabulary acquisition and showed an increase in English vocabulary acquisition by supporting L2 with L1 word explanations during a storybook reading. The interventionist pointed to the picture in the story that identified the target word and asked the children to repeat the word in Spanish, then the word was defined or expanded upon
in Spanish, which resulted in greater growth in children’s expressive knowledge of English target vocabulary. Effective instruction in the child’s home language (L1) and English (L2) in the classroom has been shown to contribute to DLLs’ academic development because it results in strengthening the connections between the two languages (Bialystock, 2001; Cummins, 2000; Paradis et al., 2011).

The process of learning two languages is not any more difficult than learning one, however, language experiences and time do matter (Paradis et al., 2012). Rates of a DLL’s vocabulary and grammatical development depends upon how much exposure a child receives in each language. DLLs’ academic language needs are complex because they are often learning new content in their L2. This creates the added demand of learning a new language while learning new concepts in that language at the same time (Goldenberg, Hicks, & Lit, 2013; Goldstein, 2004). A rich language environment can provide strong language modeling, implicit instruction, and on-going exchange of communication that supports optimal growth in both tongues. It is also helpful when teachers make instructional modifications for DLLs. Some of these modifications are aimed at building DLLs’ English proficiency, while some are designed to give DLLs greater access to academic content via their L1. Either approach supports DLLs’ vocabulary acquisition (Rojas & Iglesias, 2013). In summary, the use of L1 to support the conceptual and semantical aspects of word learning or bridging (Gillanders et al., 2014; Lugo-Neris et al., 2010) might increase vocabulary acquisition for DLLs.

In addition to rich, supportive language interactions and environments, optimal content instruction shows that effective vocabulary instruction for DLLs emphasizes
explicit and direct teaching of words, using words from books that interest children, providing multiple exposures and uses of the words in different situations (Echevarría & Short, 2010). A common instructional modification is using the child’s L1 to provide an explanation of a new word or concept. Another instructional support introduces new concepts in the primary language prior to the lesson in English, then, afterward reviews the new content again in the primary language. This approach is sometimes called “preview-review” or “preteach-reteach” (Goldenberg, 2008).

Studies cited in the National Reading Panel Report (National Institute of Child Health and Human Development [NICHD], 2000) concur that vocabulary instruction, together with other literacy components, leads to gains in reading comprehension. However, the methods must be developmentally appropriate to the learner’s age and ability. Storybook read-alouds that involve active engagement with new vocabulary is one instructional approach that is common in early childhood (Biemiller & Boote, 2006; NICHD, 2000). The relationship between vocabulary and reading comprehension is strengthened when the child is given both definitional and contextual information prior to a read-aloud (Beck & McKeown, 2007; Collins, 2010) because this helps children have multiple experiences with new words and more opportunity to process the new word meanings,

Marzano (2004) reports that the background knowledge that children already have about vocabulary, within academic content areas, is one of the strongest indicators of how well they will learn new information. Thus, it appears critical for educators to spend more time with focused vocabulary instruction for young DLLs and to build conceptual
knowledge that expands DLLs’ background knowledge and provides new words in meaningful contexts using images. Studying the acquisition of specialized vocabulary may provide valuable insight into children’s lexical and more general language learning and inform teachers of efficient ways to teach new words to young learners.

**Purpose of the Study**

This study responds to the need for research in the development of vocabulary instructional approaches and language of instruction for early childhood education teachers who teach young DLLs (August, Shanahan, & Escamilla, 2009). The two instructional approaches targeted in this study are (a) use of images, and (b) provision of short definitions of target vocabulary. This inquiry extends the existing research on vocabulary instruction for DLLs by examining language of instruction (Spanish or English) when preteaching vocabulary using the above two approaches prior to a large-group, read-aloud in English. These instructional approaches are implemented in the complementary English-Spanish version of the Read It Again-Dual Language and Literacy Supplemental Curriculum (Durán, Gorman, Kohlmeier & Callard, 2015). In this study, trained early childhood teachers, teacher assistants and parent volunteers, explicitly taught selected vocabulary prior to a storybook read-aloud. Both the breadth and depth of English- and Spanish-word knowledge acquisition were examined. Implementing an explicit targeted vocabulary instructional approach in Spanish or English to increase breadth and depth of word knowledge was designed to provide evidence that building individual word knowledge in both of languages can contribute to
furthering DLLs’ vocabulary acquisition.

Research Questions

This study focused on the effect of explicit vocabulary instruction in the child’s home language (Spanish) or English as a strategy for vocabulary acquisition and analyzed how two vocabulary instructional techniques that were pretaught in either Spanish or English prior to a storybook read-aloud supported the breadth and depth of vocabulary acquisition for DLLs. The primary and secondary research questions were:

RQ 1. What are the effects of pre-teaching vocabulary in English or Spanish and student-friendly definitions in small groups, on the Spanish and English vocabulary development of preschool Dual Language Learners?

a. What are the effects of pre-teaching target vocabulary in English or Spanish on the breadth of targeted vocabulary acquisition?

b. What are the effects of pre-teaching target vocabulary in English or Spanish on the depth (conceptual understanding) of targeted vocabulary acquisition?

c. What are the effects of pre-teaching vocabulary in English or Spanish using images and student-friendly definitions in small groups, on general Spanish and English receptive vocabulary acquisition among Spanish-speaking preschoolers?

Definitions of Key Terms

Dual language learner: Children learning two languages at the same time, as well as those learning a second language while continuing to develop their first (or home) language (Paradis et al., 2011)

Dominant language: The language of greater proficiency—dominance is seen as
a relative measure of proficiency between two languages that a child is learning (Paradis et al., 2011).

**Nondominant language:** The language of lesser proficiency (Paradis et al., 2011).

**Emergent literacy:** The process of literacy development through language development that begins at birth. Emergent literacy includes the skills, knowledge and attitudes that are presumed to be developmental precursors to conventional forms of reading and writing (e.g., shared book reading; Whitehurst & Lonigan, 1998, p. 848).

**Explicit vocabulary instruction:** Intentional planning and teaching of word labels and/or word meanings with direct instructional strategies (e.g., intentional modeling, practice and feedback; Genesee & Riches, 2006)

**Expressive vocabulary:** Expressive language is the use of words, sentences, gestures and writing to convey meaning and messages to others.

**Implicit vocabulary instruction:** Words that are taught naturally, without separate instruction or direct teaching. Words are learned in the moment, without explanation. Often young students encounter words through self-directed play and learning contexts (Clements-Stephens et al., 2012).

**Interactive instruction:** The back-and-forth communication between learners and teachers (Rowe et al., 2013).

**Language:** The method of communication that exists in the mind and can be expressed or not. Language is a system of abstract symbols organized according to basic rules. The capacity for language is innate in humans (Hulit & Howard, 2006).

**Oral language:** The ability to speak aloud and the content communicated; the
foundation for their listening, speaking, and writing that includes development of
vocabulary, phonology, and syntax (Kaiser, Roberts, & McLeod, 2011).

*Receptive vocabulary:* The words that a person can comprehend and respond to,
even if the person cannot produce those words (Hammer et al., 2007)

*Semantics:* The study and analysis of the meanings of words (Cook, Klein, &
Chen, 2015).

*Read-alouds:* The reading of a story out loud to students that includes,
discussions, questioning, thinking, and interactions with the text and illustrations
(Silverman, 2007b)

*Vocabulary:* The knowledge of words and word meanings; also known as lexicon.

*Vocabulary acquisition:* The process of learning words (Dickinson & Tabors,
2001).

*Vocabulary breadth:* The number of words in a child’s bank of words or lexicon
(Hadley et al., 2015)

*Vocabulary depth:* How well a learner understands individual words, the concept
of words in various contexts and what they mean (Hadley et al., 2015)

*Vocabulary development:* The process of acquiring or adding words and word
meanings.

*Vocabulary growth:* The rate at which one acquires vocabulary.

**Assumptions**

Several assumptions apply to this research design. First, the Head Start centers
for the proposed study were selected by the Head Start director based on the predominance of Spanish and English language speakers and bilingual (Spanish and English) teachers and teacher assistants at each center. It is assumed that the director of this Head Start program was able to determine that teachers and teacher assistants are in fact bilingual and are able to read, write and understand both English and Spanish. The second assumption is that all of the classrooms within this Head Start program were implementing the same overall general curriculum, making the instructional environments similar in many ways. The general curriculum implemented was confirmed based on the demographic data acquired and from a discussion with the education coordinator about curriculum and assessment procedures for this program. It was assumed that the participating teachers could learn and deliver the designed vocabulary intervention as intended, with the goal to support word learning among their students in the available timeframe. Finally, the researcher also presumed that this language learning could be measured by the selected assessments and that the resulting data could inform the research questions.

**Delimitations**

This study was purposefully limited to a 6-week intervention embedded in an established literacy curriculum targeting English and Spanish language acquisition. Rather than focusing on all of the literacy instructional techniques embedded into the *Read It Again-Dual Language and Literacy Curriculum* (RIA—DL; Durán, Gorman, Kohlmeier & Callard, 2015), this study utilized preteaching the target vocabulary in
Spanish or English in small groups prior to the RIA—DL read-aloud lessons (Durán et al., 2015). This a priori decision was made to narrow the study in order to measure the two instructional techniques provided in Spanish and English. Therefore, other vocabulary instructional strategies were removed from the RIA–DL large-group lessons to control for internal threats on this project. The study employed a quantitative design rather than a qualitative design to measure outcomes on children’s breadth and depth of vocabulary acquisition, and to answer the research questions. However, a qualitative design could have added more examples of child discourse in the definitional analysis.

The intervention was delivered by trained Head Start teachers, teacher assistants (TAs), and parents with a goal that they could implement the intervention procedures with fidelity. Measures were selected and conducted based on the age of the children, concern for testing fatigue, and with consideration for the length of the study. Due to the short timeframe of the study, a maintenance posttest was not conducted; therefore, it is unknown if children maintained the vocabulary weeks after the intervention had culminated.

**Summary**

The rapid increase of Latino children, who are in the process of learning two languages in early childhood programs, has created a need to understand which instructional strategies have a significant impact on early language and literacy development among DLLs. Concern over the reading achievement of DLL children has led researchers to examine instructional approaches that can increase vocabulary
acquisition in support of later reading comprehension skills.

Although research has investigated some vocabulary instructional strategies for DLLs, there is limited research examining specific instructional strategies for both breadth and depth of vocabulary knowledge. The primary aim of this current study was to examine the breadth and depth of vocabulary acquisition for young DLLs in Head Start preschool settings given explicit vocabulary instruction in either Spanish or English within small groups prior to a storybook read aloud. The present study compared the learning outcomes of L1- and L2-instructed students in two respects: breadth (the number of new Tier 2 vocabulary words in the child’s L1 and L2) and depth (the quality of understanding of these novel target words).
CHAPTER II
LITERATURE REVIEW

This chapter synthesizes research related to young children’s language development, the various instructional methods that have been applied to English and Spanish vocabulary development, and the findings from the literature that highlight the strengths and gaps in the existing research. This literature review examines the current research on vocabulary acquisition and instructional approaches that target vocabulary acquisition (English and Spanish) for low-income DLLs in preschool and kindergarten settings. For the purpose of this literature review, instructional strategies for teaching vocabulary are defined as those instructional supports and accommodations made while teaching emergent literacy skills to young dual language learners. In the following sections, some background on young DLLs and their school achievement is summarized to understand the variations within this population and identify some of the unique challenges that exist when growing up as a DLL in a majority-English-language culture like the U.S.

Early DLLs are young children who are still learning both their home language and English. DLLs fall into one of two categories. There are simultaneous DLLs (acquiring two languages at the same time) or sequential DLLs, young children who learn their home language (L1) and are later exposed to a second language (L2) sometime after the age of three (Paradis et al., 2011).

According to the latest U.S. Census Bureau (2010) report, there are 14 million households in the U.S. where English is not the primary language with at least 350
languages spoken throughout the U.S. After English, Spanish is the second most commonly spoken home language with over half of Spanish-speakers identified as speaking English “less than very well” (U.S. Census Bureau, 2010). Young DLLs in the U.S. are growing up in households with exposure to their home language and often English, typically from television, older siblings, childcare experiences or other family members (Tabors, 2008).

One important characteristic among young DLLs is the degree of variability in dual language development (Garcia & Frede, 2010; Hammer et al., 2007). Factors influencing the rate of first and second language development are both internal and external. Some internal factors include the child’s personality and level of internal motivation (Tabors, 2008). The amount and quality of home language exposure are external influences that also produce variation in language development (Barrueco, López, Ong, & Lozano, 2012). A child’s home language environment and language experiences greatly affect the rate of development in English and Spanish language skills and proficiencies (Castro, Espinosa, & Páez, 2011; Goldstein, 2012; Snow et al., 1998). Parental demographics, such as, the mother’s level of education and a family’s SES influence a DLL’s language experience (B.A. Goldstein, 2004; Hammer et al., 2007). More than 60% of DLLs come from low-income homes and the educational level achieved for many Latino mothers is below the high-school level (Capps et al., 2005). Poverty and low-parental education are major risk factors for academic underachievement (Swanson, 2009). DLLs from lower socioeconomic levels in the U.S. have demonstrated lower levels of language development in general in both their home
language and English due to poor oral language abilities (Páez et al., 2007; Zhao, Dixon, Quiroz, & Chen, 2017). DLLs often begin school already behind in language from their monolingual peers (Espinosa, 2013).

In order to become proficient in their second language, young DLLs need to develop vocabulary knowledge (typical everyday social language as well as academic vocabulary), phonology, morphology and grammar (Geva, 2006). Research with DLLs has shown that oral language and literacy skills in the first language contribute to the development of those skills in the second language (Gillanders et al., 2014; Hammer et al., 2012; Zhao et al., 2017). Children with a strong foundation in language and literacy skills in Spanish are often able to transfer those skills to English (Lindholm-Leary & Genesee, 2010; Zhao et al., 2017) because of similarities between the languages’ phonology, syntax, and semantics. With the complexity of learning two languages and the diversity within dual language learners, there is a need for varied and effective approaches to language and literacy instruction. Thus, vocabulary instruction has emerged as one approach to improving the literacy outcomes of Spanish-speaking children (Garcia & Miller, 2008 Hindman & Wasik, 2015; Uchikoshi & Maniates, 2010; Zhao et al., 2017). While examining preschool vocabulary instruction for DLLs in general, this review considers the theoretical foundations for language acquisition and the literature on use of the child’s home language or first language (L1) to bridge the child’s vocabulary to second language (L2) acquisition (Lugo-Neris et al., 2010).
Theoretical Frameworks

Three theoretical frameworks lay the foundation for this study. One theory focuses on literacy development for young children in general. Two theories are presented that premise the importance of a child’s first language (L1) in the acquisition of the child’s second language (L2) and focus on the relationship between the two languages during second-language learning (Cummins, 1981, 1991; Kroll & Stewart, 1994). Informed by relevant theories, this study will examine if DLLs might achieve greater vocabulary growth if early childhood programs consider the child’s linguistic background and English, the use of materials and strategies that engage DLLs, and explore the relationship of Spanish or English on breadth and depth of vocabulary acquisition.

Emergent Literacy Theory

From a theoretical perspective, emergent literacy is a developmental process that actually begins at a very early age (Kamil, Mosenthal, Pearson, & Barr, 2000). The emergent literacy perspective informing this study is based on early literacy acquisition which refers to a perspective of “literacy development and learning prior to formal school instruction” (Teale, & Sulzby, 1986, p. 45). Whitehurst and Lonigan (1998) describe emergent literacy as a developmental continuum, beginning early in the life of the child, rather than an all-or-none occurrence that begins when children start school.

Accordingly, children begin their literacy experiences in infancy, and their development is continuous and ever-changing (Sénéchal, LeFevre, Smith-Chant, & Colton, 2001). All young children’s emergent literacy experiences include their language socialization
patterns at home and in the community (Dickinson & Tabors, 2001).

It has been proposed that emergent literacy is composed of two distinct components: children’s conceptual knowledge (e.g., knowledge of the functions of words and their meanings) and children’s early knowledge of reading and writing (e.g., vocabulary, phonological awareness, concepts of print, alphabet knowledge; Sénéchal, 1997). Conceptual vocabulary knowledge is more than knowing the meaning of a word but having a rich understanding of what the word means and represents in different contexts. Vocabulary acquisition is initially an oral language and metalinguistic competency that children learn by being exposed from birth to the oral language skills of adults in their environment through informal (e.g., conversations) and more formal activities (e.g., book reading). Emergent literacy theory informs the field by recognizing that language development is an on-going process that is acquired through cognitive and social interactions.

**Cummins’ Theoretical Model of Common Underlying Proficiency**

A key theoretical stance of dual language learning emphasizes the role and importance of the child’s L1 in the acquisition of the L2 (Cummins, 1981, 1991; Kroll & Stewart, 1994). Cummins’ Theoretical Model of Common Underlying Proficiency posits that bilingualism requires the learner to use his or her conceptual knowledge of lexical items known in the L1 as a knowledge base to facilitate L2 acquisition (Cummins, 2000). Increased language experience in one language generally influences the learning of the other language and promotes the continuing development of cross-linguistic abilities.
available for both languages (Cummins, 2000, 2001; Espinosa, 2013). Farver, Lonigan, and Eppe, (2009) conducted a study that included 94 DLLs in preschool. They compared children in two small groups for literacy instruction, one Spanish-English transitional group, where literacy instruction began with small-group instruction in Spanish and then moved to English-only instruction. The other small group of DLLs received literacy instruction in English only. The English-only and transitional models were equally effective for English language outcomes, however, the transitional group outperformed the English-only group after 21 weeks on English Definitional Vocabulary and English Print Knowledge. For the Spanish-language outcomes, only the transitional model was effective. These findings informed the field that the use of targeted Spanish literacy instruction facilitated vocabulary and print knowledge in English for Spanish-English-speaking DLLs.

**The Revised Hierarchical Model**

The bridging strategy proposed and described earlier was informed by Kroll and Stewart’s (1994) theoretical model of second language acquisition—the Hierarchical Model (RHM). This model proposes that there is a stronger reliance on L1 in the first few years of L2 learning. Kroll and Stewart hypothesize that sequential DLLs can benefit from explicit vocabulary instruction in their L1 while promoting L2 vocabulary acquisition. The RHM (Kroll, Van Hell, Tokowicz, & Green, 2010) provides a framework for understanding how levels of L1 proficiency influence the relationship between L1 and L2 vocabulary. According to this theory, when children first begin to learn a new language, their L1 lexicons mediate their access to conceptual knowledge in
L2. For instance, when children encounter a new word in their L2, they use their L1 system to access their stored knowledge (e.g., the child hears “chair,” relates it to the Spanish word “silla,” and then accesses the concept of a piece of furniture that is sat on (Peña, Kester, & Sheng, 2012). According to this theory, as children learn more vocabulary in their L2 and have more experiences using the language, the neural pathways for L2 words strengthen the child’s store of conceptual knowledge (Paradis et al. 2011; Peña et al., 2012). Therefore, it is useful to teach children in their stronger language to facilitate the acquisition of new concepts and to create a larger store of background knowledge that can be drawn upon to learn new words in the L2.

Taken together, these three theoretical models guided this research on vocabulary instruction for young DLLs. The emergent literacy theory provides a conceptual model that learning of new vocabulary and understanding the meanings of new words is a continuous process reflecting the social and academic experiences encountered. The theoretical perspectives of Common Underlying Proficiency (CUP) and the Revised Hierarchical Model (RHM) provide background supporting this investigation with DLLs because both theories see the L1 as a bank of word knowledge that the DLL can pull out of their repertoire of words as they seek to learn and understand the L2. It is hypothesized that DLLs receiving evidence-informed vocabulary approaches delivered bilingually using L1 and L2, will demonstrate receptive vocabulary acquisition in both English and Spanish as well as increased expressive vocabulary targeted in English and Spanish (Goldenberg, 2008). Theoretically speaking, DLLs’ continued development in their native language may build complex word knowledge (which limited vocabulary in
English makes difficult), and this new knowledge may translate to English language learning (August & Shanahan, 2006). Thus, exploration of vocabulary instructional strategies that offer to build complex knowledge of vocabulary in their first language may lead to enhance vocabulary growth for preschool children with limited skills in both languages.

**Literature Search**

This literature review investigates the current research examining instructional approaches that target vocabulary acquisition (English and Spanish) for dual language learners (DLLs). An electronic search of Academic Search Premier, EBSCO, Education Source, ERIC, and PsychINFO identified related research published between January 1995 and May 2017. Several significant movements occurred in the mid-1990s that affected current policy related to young learners. First, the Hart and Risley (1995) longitudinal study examined the word-learning trajectories of three groups: welfare, working-class, and professional families. The authors found differences between the sheer number of words spoken, as well as the types of messages conveyed among the three groups, such as, the differences between talking with their children and vocabulary used and the parents’ language interactions with their children. Professional families used more words and greater variety of words (nouns, verbs, adjectives and clauses), longer sentences and more questioning (Hart & Risley, 1995). In the welfare families, parents spoke less to their children, used less elaborate vocabulary, and responded in more perfunctory ways with their children. Data showed that working-class parents were
dialoging, providing frequent words and questioning, but not as often as the professional families (Hart & Risley, 1995). These findings laid the path for subsequent research in early oracy and literacy and the promotion of vocabulary instruction in the classroom.

Second, during this time the National Association of Education of Young Children (NAEYC) published a new version of the book, *Developmentally Appropriate Practice*, which reflected the current trend in early childhood education to balance direct instruction and child-selected activities in literacy instruction (Bredekamp & Copple, 1997; van Kleeck & Schuele, 2010). Third, in 1998, in the reauthorization of Head Start, Congress mandated that individual Head Start programs implement standards of learning in the areas of early literacy, language, and numeracy skills. This act highlighted the role of curriculum in meeting standards of learning that aim to promote early development and learning in children (van Kleeck & Schuele, 2010). The reauthorization act also initiated the accountability factor—that is, all children meet academic standards to be school ready. These events occurred during a time when the U.S. Congress directed that a national panel be convened to review and evaluate research on the effectiveness of various approaches for teaching children to read (NICHD, 2000). Hence, the National Reading Panel (NICHD, 2000) identified vocabulary as one of five major components of reading. The role of vocabulary and its importance to overall school success and more specifically to reading comprehension has subsequently been widely documented (Anderson & Nagy, 1991; Baker, Simmons, & Kame’enui, 1998).

**Search Terms and Inclusion/Exclusion Criteria**

The following search terms: ("child* or preschool* or “early childhood”),
(bilingual* or “dual language learners”), (“strateg* or instruct*), (“vocabulary” or “language”) were used to identify pertinent studies. The search yielded 106 journal articles. Studies were included if they met any of the following characteristics: (a) published in a peer-reviewed journal in English between 1995 and August 2016; (b) used an experimental, quasi-experimental or descriptive methodology; (c) measured some aspect of vocabulary (e.g., receptive and expressive vocabulary; and (d) included participants who were DLLs between the ages of 3-5 years, including kindergarteners, or participants who were identified as low SES.

A subsequent review eliminated 78 studies because the studies were situated strictly in elementary grades, were conducted with teachers as primary participants, were not conducted with children at risk for low SES or dual language learners, or did not pertain specifically to vocabulary but focused on another early literacy skill, (e.g., alphabet knowledge). The remaining studies were coded by (a) population, gender, setting, and language; (b) vocabulary instructional approaches/language of instruction, (c) design, (d) vocabulary measure(s), (e) metrics, and (f) findings (see Appendix A for listing of articles).

Of the potentially related articles, 29 focused on increasing young children’s receptive and/or expressive vocabulary knowledge in preschool or kindergarten classrooms. Twenty-three studies provided content on the specific use of vocabulary instructional strategies within a storybook reading framework or a specific curriculum aimed at increasing children’s breadth and depth of vocabulary knowledge (e.g., Gillanders, et al., 2014; Hadley et al., 2015). Only nine studies reviewed provided
vocabulary instructional interventions in the child’s home language and English, with 20 English-only interventions with programs serving percentages of low-SES DLLs. Of the selected sources, the study designs included 23 experimental, two quasi-experimental and two descriptive studies all conducted with center-based programs. One of the studies is a meta-analysis on the effects of vocabulary interventions (Marulis & Neuman, 2013) and one study is a systematic literature review of comprehensive reform models for language and literacy instruction (Calderón, Slavin, & Sanchez, 2011; see Table A1, in Appendix A for articles reviewed).

Nineteen of the selected studies focused specifically on preschoolers and eight studies focused only on kindergarteners. Two studies included both preschoolers and kindergarteners in their sample (Calderon et al., 2011; Marulis & Neuman, 2013). All 29 studies include a range of DLLs (from 5%–100% DLLs). A number of significant themes emerged once the coding of the studies was complete. These themes focus broadly on topics of school achievement, DLLs’ language proficiency, and language of instruction. Other themes emerged targeting the types and findings of the various vocabulary instructional methods, word selection, and depth and breadth of vocabulary knowledge.

**Reading Achievement, Language Proficiency and Dual Language Learners**

In the review of the literature, the achievement gap between Spanish-English bilinguals and their monolingual English-speaking peers emerged as a common research finding indicating the need for vocabulary instruction at the preschool level. Twenty-six
articles reviewed discuss the large and persistent gap in reading achievement between Spanish-English bilinguals and their monolingual English-speaking peers (e.g., Biemiller & Boote, 2006; Hindman & Wasik, 2015; Vadasy, Sander & Nelson, 2015). Marulis and Neuman’s (2010) meta-analysis of vocabulary interventions was directed to preschool and kindergarten-age children. The review indicates that limited vocabulary interventions are occurring in early childhood education and those interventions appear to benefit at-risk middle- to upper-middle-class children more than at-risk low-income children. The authors state this could be based on language proficiency backgrounds of middle-to-upper class children with more language exposure in the home compared to their same age DLL peers (Marulis & Neuman, 2013).

Several studies included in this review explored what predicts DLL preschoolers’ vocabulary development and include implications for instruction to reduce the identified gap in later reading achievement. Páez et al. (2007) studied the language abilities of DLLs upon entering and exiting their preschool year and found generally lower levels of DLLs’ language development in both the home language and English. The sample included 319 bilingual children from the U.S. compared to 144 monolingual Spanish-speaking preschoolers from Puerto Rico. The four subtests used in this study from the Woodcock Language Proficiency Battery (WLPB-R) included Letter-Word Identification (Identificación de Letras y Palabras), Dictation (Dictado), Picture Vocabulary (Vocabulario Sobre Dibujos), and Memory for Sentences (Memoria para Frases). The picture vocabulary scores for the bilingual children were more than two standard deviations below monolingual norms in both Spanish and English. Despite oral language
gains during the pre-kindergarten year, the DLLs continued to lag behind the monolingual children of the same age (Paéz, et al., 2007). This study added to the literature of vocabulary development for DLLs by comparing bilingual children to their monolingual Spanish-speaking peers and identifying a significant gap in language acquisition.

Hindman and Wasik (2015) recently studied the English and Spanish receptive vocabulary skills that DLLs bring to Head Start, and their receptive vocabulary gains made over the year. This study drew on the Family and Child Experiences Survey (FACES) 2006-cohort data, to explore the nature and predictors of English and Spanish vocabulary development among DLLs in Head Start (Hindman & Wasik, 2015). English receptive vocabulary was measured using the Peabody Picture Vocabulary Test-4 (PPVT; Dunn & Dunn, 2007). Spanish receptive vocabulary was measured using the parallel measure, Test de Vocabulario en Imagines Peabody (TVIP; Dunn, Padilla, Lugo, & Dunn, 1986). Spanish vocabulary gains were higher among children who spoke a mix of Spanish and English at home ($F = 0.33, p = 0.004$), relative to mostly English. Interestingly, in this study, family income-to-poverty ratio, maternal education, and Spanish language skill were not predictive of vocabulary gains. Similarly, there was no correlation of full-day classrooms, adult: child ratio, teacher experience, or Spanish-language use in the classroom. However, the authors did find that bilingual children who received higher-quality language instruction demonstrated greater learning in both Spanish and English. Those DLLs who had lower oral-language skills in English and Spanish as they entered pre-kindergarten classrooms made some gains in English and
fewer gains in Spanish upon exiting the program.

An earlier study conducted by Hammer et al. (2007), examined 191 Latino families’ parental characteristics, and children’s exposure to Spanish and English. The authors assessed children’s Spanish and English vocabulary and story recall abilities using subtests of the Woodcock–Muñoz Language Survey—Revised (Woodcock, Muñoz-Sandoval, Ruef, & Alvarado, 2005). The effect size results indicate variation in children’s English ($R^2 = .61$) and Spanish ($R^2 = .55$) vocabulary scores and story recall scores in English ($R^2 = .38$) and Spanish ($R^2 = .19$). Both sets of scores were explained by children’s exposure to, and usage of, each language as well as maternal characteristics. However, length of time in the U.S. did not correlate with English or Spanish story recall and the language that teachers used did not correlate with Spanish story recall. This study suggests that when young DLLs come to school, they display varying abilities in their two languages but the factors that contribute to these differences are not well ascertained nor understood. Variations in home language proficiency leads to DLLs who come to school with a variety of language proficiency backgrounds. The home language experiences that young DLLs have encountered in their homes and communities influence their learning of a second language (Graves, August, & Mancilla-Martinez, 2013). Several studies reviewed showed that children demonstrating higher levels of proficiency in their home language actually performed better on receptive English measures (Collins, 2010; Hammer et al., 2007; Lugo-Neris et al., 2010). However, Rowe et al., (2013) found that DLLs’ performance on English comprehension tasks was related to the level of English abilities. Comprehension tasks (e.g., making the gestures for
English words given), proved more challenging for children with lower English language abilities than for children with higher English language abilities as compared to their peers. While research has led to a better understanding of the importance of language proficiency and language exposure in the home and school it is also important to consider what might be the most effective instructional approach for bilingual learners in order to promote vocabulary acquisition and conceptual understanding. It is still unclear if English-only instructional approach is the most effective way to enhance breadth and depth of vocabulary acquisition. Further research examining specific bilingual instructional strategies and vocabulary acquisition is important to gain more understanding of the language of instruction phenomenon.

**Language of Instruction**

Much of the vocabulary instruction that DLLs in the U.S. receive is in English (Cheung & Slavin, 2012). English was the primary language of instruction for vocabulary development in 17 articles (59%) of the literature reviewed (e.g., Justice et al., 2005). Fourteen of these studies used explicit interventions only in English, including, instruction of word meanings, making word connections to experiences, and asking children what words mean. These studies showed receptive vocabulary gains in English for DLLs (Biemiller & Boote, 2006; Collins, 2010; Lipsky, 2013; Vadasy et al., 2015). Wang, Christ, and Chiu (2014) conducted a 12-week vocabulary intervention with a full-day preschool program using the Creative Curriculum (Dodge, Colker, Heroman, & Bickert, 2002) with a rainforest theme and subthemes. Although instruction was entirely in English, the use of pictures and props was among several techniques
implemented to facilitate vocabulary acquisition in English. They found a significant
effect using vocabulary-building approaches that included storybook read-alouds with
numerous word exposures and multiple readings.

Nine studies reviewed (31%) included strategic use of the child’s primary
language during vocabulary instruction either through a storybook reading; a
supplemental curriculum or via technology (e.g., Farver et al., 2009; Méndez et al.,
2015). In one study, an electronic book reading in Spanish was used to bridge the home
language and English vocabulary to increase children’s English vocabulary of target
words (Leacox, & Jackson, 2014). Studies that used a bilingual approach to teach
vocabulary showed that higher Spanish receptive language scores in preschool to be
predictive of higher English language skills in later grades (e.g., Hammer et al., 2007;
Howard et al., 2014). In their study of two different instructional methods, English-only
and Spanish transitioning into English, Farver et al., (2009) found that the English-only
and transitional literacy models were equally effective for English language outcomes,
but for Spanish-language outcomes, only the transitional model was effective. This
shows that the teaching of literacy skills in the DLLs’ home language first was equally
effective to an English-only literacy approach.

Additional studies that strategically combined the child’s first and second
language have promoted English and Spanish vocabulary development in DLLs (Lugo-
Neris et al., 2010; Méndez et al., 2015; Schwartz, 2014). Zhao et al.’s (2017)
longitudinal study examining relationships with vocabulary and word reading across
Spanish and English in Head Start classrooms demonstrated that Spanish vocabulary was
a significant predictor of English word reading. This suggests that supporting Spanish vocabulary learning in young DLLs might also improve their English word reading skills.

Best practices for teaching vocabulary to monolingual children is a topic well studied but with many gaps remaining, especially for younger children (Biemiller & Boote, 2006). Facilitating English vocabulary acquisition for bilingual children presents additional challenges as there is limited research about effective vocabulary instructional for DLLs. The International Reading Association (2001) recommends that new, unfamiliar material be connected to material that the bilingual child already knows. What is known about vocabulary instruction for DLLs provides information and evidence on both English and Spanish receptive and expressive language and phonological awareness (Barnett, Yarosz, Thomas, Jung, & Blanco, 2007; Durán, Roseth, Hoffman, & Robertshaw, 2013; Farver et al., 2009). The Méndez et al. (2015) and Lugo-Neris et al. (2010) studies found significantly higher posttest scores on Spanish and English receptive vocabulary assessments after implementing bilingual instructional approaches versus English-only. The Lugo-Neris et al. study found that DLLs with stronger proficiency in their first language scored better on the dependent measures. These studies have provided key findings regarding bilingual vocabulary acquisition and young DLLs, however, both studies were of short duration (five weeks and three weeks, respectively) and sample sizes were small ($N = 22$ and $N = 42$). The Méndez et al. study only assessed children’s receptive vocabulary acquisition and children’s gains in breadth of vocabulary acquisition. Both of these studies support the bilingual theoretical models of Cummins (2000) and Kroll and Stewart (1994) as they provide evidence that the child’s first
language appeared to mediate word learning in the second language (L2). However, both of these authors suggested that further research in Spanish and English instruction would help determine which factors of instruction are most beneficial. Thus, continued research concerning the language of instruction for vocabulary development in particular should be further explored to compare instruction in the child’s home language and English.

**Vocabulary Instruction for Preschoolers**

Recently there has been increased research on vocabulary instruction for preschoolers, however, considerably fewer studies on explicit literacy instruction for DLLs than for native English speakers (Calderón et al., 2011; Huennekens, & Xu, 2016; Silverman, 2007a). Providing vocabulary instruction for young DLLs when there are limited bilingual curricula, resources, and fewer bilingual practitioners is a growing concern because of increased numbers of school-aged Latinos in the U.S. More specifically, Marulis and Neuman (2010) found in their meta-analysis of 67 studies that much of the research on vocabulary instruction for preschoolers and kindergarteners focused on building children’s vocabulary skills just by increasing the amount of classroom reading. While this incidental approach to vocabulary acquisition is likely valuable for preschoolers for learning new words, a best-practices approach should include systematic and explicit teaching of vocabulary as well as opportunities to use the new words (Ballantyne, Sanders & McLaughlin, 2008; Pressley, 2001). While the Marulis and Neuman (2010) meta-analysis provides many insights into vocabulary instruction for preschoolers and kindergarteners, it does not address how to support teachers in successfully incorporating recommended instructional practices into their
daily curricula for DLLs. In their study of early literacy curricula, Neuman and Dwyer (2009) found little evidence of explicit and systematic instructional principles and minimal instructional guidance for preschool teachers on teaching new words. Much of the literature on DLLs and vocabulary instruction has typically focused on the primary and the upper grade levels.

One of the single most important ingredients to vocabulary instruction is the person who provides the intervention. Much of the research on breadth and depth of vocabulary acquisition has been conducted in English by researchers or trained graduate assistants, rather than classroom teachers (Marulis & Neuman, 2013; Neuman, 2009). There is variability in the amount and types of language and literacy activities children have experienced in the preschool classrooms. Wright and Neuman (2014) determined that vocabulary instruction is rarely emphasized in preschool and kindergarten programs. Via two separate studies centered on preschool and kindergarten curricula, they found that strategies for teaching words lacked explicit word instruction, very little review of vocabulary words, and little effort to build vocabulary background knowledge.

Fostering young children’s vocabulary learning at a young age should focus on adding new words to their lexicons but also on building rich, high-quality representations of words (Hadley et al., 2015). Various instructional strategies have been found to promote or accelerate both the breadth and depth of young DLLs’ vocabulary in both English and Spanish. These strategies fall into three broad categories: (a) providing instruction in the child’s home language (b) explicit vocabulary instruction and (c) frequent and repetitive exposure to new words. Further, research shows that both English
and Spanish vocabulary learning increases more rapidly when teachers used quality language for explaining and discussing ideas (Hindman & Wasik, 2015). Recent research indicates that the earlier vocabulary instruction is implemented, the greater the increase to both breadth and depth of vocabulary (Hadley et al., 2015; Méndez et al., 2015; Wright & Neuman, 2014). Two reasons given for beginning vocabulary instruction in preschool are (a) that early language is highly predictive of later language competence (Dickinson & Tabors, 2001; Storch & Whitehurst, 2002), and (b) the vocabulary that children build early on is likely to be of key importance as they begin formal reading. Preschoolers’ show an increase in language and emergent literacy skills in classrooms where consistent language and literacy activities exist (Hammer et al., 2015).

Much of the literature reviewed points to the need for more professional development in vocabulary instruction for preschool educators to promote both explicit and implicit vocabulary approaches for young children (Marulis & Neuman, 2013; Snow et al., 1998). Less research has used classroom teachers implementing bilingual vocabulary instruction targeting diverse preschoolers engaging in literacy. It appears that typical professional development approaches have been limited in practical strategies that support teachers’ incorporation of vocabulary instructional practices for DLLs (Neuman & Cunningham, 2009; Sawyer et al., 2016). Perhaps this is due to uncertainty of exactly how to present vocabulary instruction to language diverse students. Recently however, two pilot studies involving the feasibility and usability of the Read It Again-DL language and literacy supplemental curriculum intervention in English and Spanish found that 37 teachers successfully implemented the curriculum with 87.2 %, fidelity (Durán et al.,
The average curriculum usability for both studies found that 82.5% of teachers and assistants agreed or strongly agreed that the lessons were written clearly and 76% agreed or strongly agreed that the prescripted lessons were easy to implement in both languages. An average of 69% of the children were engaged in the RIA–DL small-group lessons based on data (i.e., Likert scale, 1 = very little engagement to 5 = 100% engaged) from in-vivo and videotaped observations. Despite positive results on the feasibility and usability of the RIA–DL curriculum in these pilot studies, the various instructional strategies were not delineated and child outcomes in oral language and literacy acquisition were not explored.

**Vocabulary Breadth and Depth**

While breadth of vocabulary development has often been studied with preschoolers, a characteristic that is rarely measured in studies is children’s depth of word processing in vocabulary acquisition (Hadley et al., 2015). The breadth of vocabulary refers to how many words a person knows, whereas, vocabulary depth, or knowing a word, involves knowing its diverse representations, meanings, and various connotations (Carlo et al., 2004; Hadley et al., 2015).

Two recent studies by Hadley et al. (2015) and Neuman, Kaefer, and Pinkham, (2016) focused on preschoolers’ depth of vocabulary acquisition and conceptual word knowledge. Using a definition task, Hadley and colleagues were able to capture the semantic and contextual information young children knew about selected words. The sample included 240 preschoolers with 22.9% Hispanic children, who understood enough English to be able to follow directions, as reported by their teacher. The study
was over two months long but only conducted in English. A multilevel regression model was used to test the vocabulary gains by level of instruction (target, exposure and control words) and the results revealed that students knew more taught words at posttest than control words, $\gamma_{100} = 0.10$, $SE = 0.01$, $p < .001$, and more exposure words than control words, $\gamma_{200} = 0.04$, $SE = 0.01$, $p < .001$ (Hadley et al., 2015). Regarding growth in depth of vocabulary knowledge with target words, the results showed significant growth in knowledge for each of the four word types (concrete nouns, verbs, abstract nouns and adjectives) from pretest to posttest ($p < .001$). In addition, they found that extended repeated interactions with new words, as well as rich explicit instruction, promoted vocabulary depth for preschoolers. However, this study did not distinguish the demographic differences among the sample group nor did this study consider the languages of the group.

Neuman et al. (2016) conducted a study to determine whether teaching science vocabulary could improve low-income preschoolers’ word knowledge, conceptual development, and content knowledge in the life sciences. Using an intervention with a thematic shared book-reading program called ScienceStart! (French, 2004), children were exposed to repeated readings of science texts and thematically related hands-on activities. The authors implemented a quasi-experimental treatment and control design with 17 classrooms and 268 low-income preschoolers; with a significant difference in the minority status of students between the two groups, $x^2(1, N = 268) = 7.40$, $p = .007$. Children in the control group were significantly more ethnically diverse than children in the treatment group, $x^2(5, N = 268) = 20.09$, $p = .001$. English was the primary language
for 97% of both groups (Neuman et al., 2016). Read-alouds, videos, and teacher questions were designed to deepen children’s understanding and provide additional information about the topic. The PPVT-IV (D. M. Dunn & Dunn, 2007) was the overall receptive measure. The target topic words were also assessed receptively with an author-developed measure where children were shown three pictures and were asked to point to the target word. Concept knowledge was assessed using two researcher-developed measures, a yes-no categorical measure and a measure of word category knowledge (e.g., which word belongs with…). Following treatment, there were significant differences for target vocabulary and concept knowledge in English. Using a Cohen’s d, the effect size was 1.10. Children in the treatment group also gained significantly on conceptual knowledge, $F(1, 262) = 8.86, p < .003$, $d = .33$. Only informational texts were used in the read-alouds in this study, compared to most vocabulary interventions that have used fictional genres (Duke, 2000).

**Storybook Read-Alouds**

Read-alouds have been studied more than any other context for teaching vocabulary to young children (Bus, Van Ijzendoorn, & Pellegrini, 1995). There has been a trend in the literature to investigate shared storybook reading as a vehicle for exposing children to novel vocabulary and thereby increasing vocabulary growth (Lipsky, 2013). Within this review, 25 studies (86%) embedded vocabulary instructional approaches into storybook read-alouds (e.g., Collins, 2010; Silverman, 2007a).

Read-alouds in preschool (Gillanders et al., 2014; Lugo-Neris et al. 2010; Sénéchal, Thomas, & Monker, 1995; Wasik, Bond, & Hindman, 2006), and kindergarten
(Lipsky, 2013) have been linked to vocabulary acquisition in monolinguals and bilinguals. Reading a book aloud without expanding on text has reported findings of small to moderate effects on vocabulary development for children with low-level language proficiency (Penno, Wilkinson, & Moore, 2002; Sénéchal et al., 1995). However, read-alouds augmented with direct explanation of the word meanings, use of visuals and repeated readings of a book over time have been found to increase receptive vocabulary more than when done implicitly (Biemiller & Boote, 2006; Collins, 2010; Vadasy et al., 2015; Wasik & Hindman, 2014). For example, Biemiller and Boote conducted two studies of DLLs in kindergarten. Study 1 examined the number of times stories were read with direct explanation of word meanings. They found little difference in children’s word meaning acquisition between two versus four readings of the same book. However, in Study 2 the researchers increased the number of word meanings during classroom reading sessions and found that teaching two reviews of each word meaning and using teacher-supplied word meanings resulted in a 22% gain in word meanings known.

Silverman (2007a) found that a group of DLLs in kindergarten were able to learn new words as easily and even faster than a group of English monolingual children when provided vocabulary instruction that included multiple methods for learning new words (e.g., defining target words, questions and prompts, acting out words, and pronouncing words). Other studies have included the use of active child participation during teacher read-alouds, such as, use of gestures and acting out words to contribute to vocabulary acquisition in English (Collins, 2010). For example, open-ended questions and multiple
exposures to words during shared reading help children know how to use those words (Beck, McKeown, & Kucan, 2002). These studies provide substantial evidence that teachers’ purposeful selection and systematic teaching of target vocabulary may boost instruction within shared book reading.

**Explicit Instruction of Vocabulary**

Explicit vocabulary instruction is directly teaching word meanings that support depth of vocabulary acquisition (Carlo et al., 2004). Studies have focused on explicit vocabulary instruction more often in early elementary school (kindergarten and first grade) to ensure that children begin to learn the vocabulary they will need for school-based language and literacy demands (e.g., Beck & McKeown, 2007; Coyne, McCoach, Loftus, Zipoli, & Kapp, 2009; Silverman, 2007a, 2007b). Marulis and Neuman’s (2010) meta-analysis indicated that vocabulary instruction is often missing in the preschool instruction. However, the authors found an overall effect size of .87 for studies that did include explicit vocabulary instruction for children who were at-risk for reading difficulties. This effect size was in comparison to interventions that relied only on implicit word learning opportunities (i.e., exposure to words through read-alouds without explicit teaching of their meanings; Marulis & Neuman, 2010). In addition, the report from the National Literacy Panel on Language-Minority Children and Youth (August & Shanahan, 2006) acknowledges that there has been considerably less research on explicit literacy instruction for DLLs than for native English speakers, and that much more research in this area is needed. Only four of the 29 studies (14%) reviewed were directed at improving vocabulary acquisition in Spanish and English for DLLs (Farver et al.,
Use of a short definition/explanation or synonym. Beck et al. (2002) used the term rich vocabulary instruction to describe teaching vocabulary that includes explanations or short definitions of word meanings in child-friendly language. Robust vocabulary instruction provides selected words with rich expansions on the meaning or explanations of the words. For example, in the Lugo-Neris et al. (2010) study, the intervention consisted of shared storybook reading sessions in English with explicit vocabulary instruction for 15-20 minutes daily. These readings of the same books were repeated 3 days a week. Teachers provided target vocabulary terms with word expansions in English and Spanish. Children received English-only vocabulary expansions with two books and supplemental Spanish vocabulary expansions with two other books. Every time the target vocabulary was used in the story, the adult provided an expansion of the word meaning (e.g., “gardeners are people who work in gardens and make them pretty”; or the adult explained that “gardeners plant trees and flowers with soil and dirt”). In the Spanish condition, a similar procedure provided the explanations in Spanish. Even though only English books were read in this study, there were significant increases between the children’s pretest and posttest scores on all three vocabulary measures. Related studies found that preschoolers and kindergarteners who received rich instruction of new words learned more target words than children who do not (Beck & McKeown, 2007, Collins, 2010; Lugo-Neris et al., 2010).

Hadley et al. (2015) provided synonyms as one strategy to further demonstrate that clear information about meaning and use of words in meaningful contexts can help
support learning. In the Hadley et al. study, each target word was explained in every book reading—once when the words occurred in the text and once after each reading was completed as part of a vocabulary and book review. The explanation consisted of (a) giving attention to a word by pointing to the corresponding picture (e.g., “Look, the king is wearing spectacles”), and (b) definitional information using a synonym delivered in concise, child-friendly language (e.g., “Spectacles are glasses;” Hadley et al., 2015). These interventions were found effective, but the study included students with proficiency in one language. Such studies have not considered the bilingual nature of DLLs’ development and the roles that both L1 and L2 play in their vocabulary development. Considering a children’s development in both languages (e.g., the influence of age and timing of exposure to the L2, as well as the tasks of figuring out the rules of each language) might help to explain the different language patterns of children entering into school and may provide ideas for instructional differentiation (Iglesias & Rojas, 2012).

Use of images/pictures/visuals. Learning can be facilitated when repeated information is presented using different methods (Britsch, 2010). For example, teachers may hold their hands out wide while explaining the concept “gigantic” or they may use a picture to help describe a swan or armadillo. Studies have found that pictures or images are useful tools for teaching vocabulary to children learning English as a second language (Rowe et al., 2013). Gersten and Baker (2000) note that studies that taught vocabulary to DLLs by using pictures showed improved results over just reading the storybook aloud. Further, Nemeth and Simon (2013) studied the use of multimedia to support vocabulary
and content learning with DLLs in kindergarten, for example, adapting and creating materials and using a camera to create visuals. Gillanders et al. (2014) suggest using gestures, images, or artifacts to draw attention to a new word and to provide a multi-modal way of teaching to meet learners’ needs. Rowe et al. (2013) conducted a study of 62 preschoolers with 40% of the children coming from homes using a language other than English. These researchers studied the role of pictures and gestures as non-verbal aids in preschoolers’ novel word learning. The results showed that children who scored high on the speech and language pretest performed even better when introduced to new words with nonverbal and picture images. Collins (2010) pointed to the book illustrations when teaching target vocabulary in storybooks but did not use separate card images representing the new words. Méndez et al. (2015) used a multimodal approach to vocabulary instruction, including, visuals and a variety of ways to provide additional semantic contexts in which children could establish new word associations. Additional research examining the individual contribution of each instructional strategy and their interactions could increase the understanding of key instructional strategies for DLLs. Exploring additional ways to enhance the saliency of words for the children with limited skills in both their languages, such as using images or pictures would also be important.

**Selection of words.** Determining which words to select for a vocabulary study for DLLs is not an easy task. Robust vocabulary instruction includes rich and deep exposure to both Tier 1 (common everyday words) and Tier 2 words (synonyms, less frequent, academic words). Beck (2013) suggests choosing Tier 2 or academic words because they have more potential to add to the child’s depth of knowledge and require
deeper explanation and use in a variety of contexts. Beck et al. (2002) define Tier 1 as “mostly basic words—clock, baby, happy—rarely requiring instruction in school” (p. 16). However, for DLLs, these words might require more explicit instruction because they are learning English and might not have been exposed to such words in English in the home environment. Other word selection procedures suggest the use of high frequency words for DLLs because the higher utility words might bridge (bootstrap or connect) access and learning of new words (Vadasy et al, 2015). Studies in this review frequently targeted words within engaging texts that were most likely of interest to children, in order to engage and to increase comprehension (Leacox & Jackson, 2014). Only the Hadley et al. (2015) study examined word type with significantly different Cohen’s d pretest-posttest effect sizes for concrete nouns, verbs, abstract nouns, and adjectives. These authors suggest that future research address additional study of word types.

There is also a growing body of literature that suggests teaching cognates to help children grasp the meaning of unfamiliar words (Calderón et al., 2011; Dressler & Kamil, 2006). Cognates are words in two languages that share a similar meaning, spelling, and pronunciation. For example, the English word for giraffe is similar to the Spanish word, jirafa. In this review, only the Calderón et al. study actually discussed cognates as an intentional vocabulary instructional strategy within the Success for All language and literacy model. Children made gains in vocabulary growth with multiple exposures to words. Teaching Spanish-speaking children to take advantage of their cognate knowledge might be a useful tool to support the acquisition of English words because
DLLs might already have a conceptual understanding of the words in their home language (Calderón et al., 2003; August, Carlo, Dressler, & Snow, 2005). Findings have shown that young children do not necessarily talk about similar words but they can be helped to recognize cognates and then make use of them across languages (Patterson & Pearson, 2012). One study of bilingual children in kindergarten and first grade found that bilinguals who were dominant in Spanish recognized more cognates when compared to English-dominant bilingual children (Pérez, Peña, & Bedore, 2010). More information is needed about how children learn cognates and how cognates might facilitate vocabulary growth in Spanish-English preschool DLLs (Pérez et al., 2010). Essentially, each approach for word selection has possible strengths, but which words to choose will most likely depend on the curriculum or storybook used to teach the vocabulary.

There is a current interest and focus on a systematic selection of words designed to build children’s academic or content-area vocabulary, which they will need for later reading in school (Neuman et al., 2016). Silverman (2006a, 2007) has argued that the multidimensional features of vocabulary instruction may be critical to promoting depth of word processing and acquisition. The existing literature specifically addressing monolingual English speakers indicates that in structured settings, such as preschool classrooms, purposeful instruction in words that are likely to be unfamiliar to children relates to improved word learning (Beck et al., 2002; Neuman & Wright, 2013). However, further study on the features of repeated, explicit, vocabulary instruction in a child’s home language delivered by early childhood educators, may contribute to a better understanding of instructional approaches that best address the academic language needs.
of DLLs (Marulis & Neuman, 2013).

Summary

The majority of the studies reviewed here created multiple opportunities for preschoolers and kindergarteners to use and review word meanings within English-only instruction (Beck & McKeown, 2007; Silverman et al., 2007a, 2007b; Wright & Neuman, 2013). Several studies implemented Spanish-bridging strategies but only within English storybook reading (Leacox & Jackson, 2014; Lugo-Neris et al., 2010). Few studies with DLLs have implemented evidence-based vocabulary activities in the child’s L1, including storybook readings with explanations in L1, use of target vocabulary picture cards or explicit instruction of preselected vocabulary in the child’s L1 (Lugo-Neris et al., 2010; Méndez et al., 2015). There are only four studies in this review with preschool DLLs that specifically first employed the DLLs’ primary language to bridge vocabulary acquisition within an organized Spanish and English language and literacy curriculum (Calderón et al., 2011; Farver et al., 2009; Mendez, 2015; Zhao et al., 2017). The research reviewed provides many insights into vocabulary acquisition but rarely have studies addressed how to support teachers who work with preschool DLLs and how to successfully incorporate recommended practices into their daily curriculum.

This study adds to the previous research examining the impact of explicit vocabulary instructional approaches on the breadth and depth of English and Spanish word-knowledge acquisition in preschool DLLs. The method concentrates on teacher implementation of two specific instructional supports currently being used in the RIA–
DL and Literacy Curriculum (Durán et al., 2015): use of images and a short definition with selected vocabulary prior to a storybook read-aloud. Building vocabulary knowledge has been shown to be a significant predictor for reading comprehension for school-age children at-risk (Neuman & Wright, 2014). There has been much less attention devoted to explicit instructional approaches addressing the vocabulary breadth and depth instruction for DLLs (Calderón et al., 2011; Schwartz, 2014).

There is still uncertainty to what types of word knowledge and conceptual understanding preschool DLLs need to become successful readers. This study sought to contribute further evidence for building both expressive and receptive vocabulary by using a dual language approach of vocabulary instruction for DLLs.
CHAPTER III

METHODOLOGY

Language exposure in English and Spanish, the interplay of vocabulary intervention techniques, and strategies for targeting breadth and depth of word learning are all key elements of supporting early vocabulary acquisition for DLLs. This study examined two vocabulary instructional strategies in Spanish or English as implemented in Head Start preschool classrooms before a large-group read-aloud in English with Read It Again – Dual Language (RIA–DL; Durán et al., 2015)

Setting and Participants

Classrooms

The sample for this study was recruited from a Head Start program in the Intermountain West, serving DLL children, 3-5 years of age. This Head Start program serves over 2,400 children in 84 classrooms within a large urban city with all families living at or below the federal poverty level (Utah Community Action Program, 2015) at the time of the children’s participation. All Head Start families (with the exception of children diagnosed with a disability) must live at or below the federal poverty level to be eligible for Head Start (Improving Head Start Act, 2007). Based on the program’s community assessment, over 39% of the total population served in this program is Spanish-speaking with the majority of these families from Mexico (Utah Community Action Program, 2015).
There were 10 classrooms recruited that provided separate morning and afternoon programs. Two additional morning classrooms also participated for a total of 12 classrooms overall. The average class size was 16 children with a teacher and one teacher assistant. The program included a minimum of 3.5 hours of classroom participation, four days a week for nine months a year. The entire program used the *Teaching Strategies Creative Curriculum* (Dodge et al., 2002) and the *Teaching Strategies Gold Authentic Assessment System* (Dodge, 2011). All Head Start locations follow the federal Head Start Early Learning Framework targeting child language development related to: attending to language by others; understanding and responding to complex communication; exploring varied information based on context; fostering social communication skills; extending expressive language; and increasing complexity of vocabulary (http://eclkc.ohs.acf.hhs.gov/hslc, 2016).

Observations were conducted in each of the 12 classrooms for overall quality of language and literacy instruction using the *Early Language and Literacy Classroom Observation Tool* (ELLCO; Smith, Brady, & Clark-Chiarelli, 2008). Classrooms were observed by the researcher prior to the beginning of the intervention and rated to determine any differences in quality of language and literacy environments. All ELLCO items are rated on a 5-point Likert scale with 5 being exemplary, 3 basic, and 1 deficient. The mean total ELLCO score for all classrooms was 14.8/20 (N = 12), with scores ranging 13.4-16.3. Eighty-eight percent (11 classrooms) fell either in the fourth (strong) category or in third (basic) category with 12% (one classroom) demonstrating exemplary scores (fifth category). The average score of the *Classroom Environment Subscale*
(classroom structure and curriculum) ranged from 14-17 points with a mean of 14.4 out of 17.5 points possible. The *Language and Literacy Subscale* measured the literacy climate, books and book reading and resulted in a mean score of 14.6 (.82) with a range from 13-16.6 points (20 points possible). Specifically, two of the indicators in this particular subscale were most related to the Spanish and English intervention; *Building of Vocabulary* and *Quality of Book Reading*. The average scores of these two items were 3.80 (of possible 5 points) respectively. Overall, the quality of classroom literacy environments and instruction was similar across the participating classrooms receiving at a minimum, basic to strong scores on the subscale indicators.

**Teacher Participants**

Teachers, teacher assistants, and Spanish-speaking parent volunteers were recruited with the help of the Head Start education managers. All were invited to participate in an initial research study overview provided by the researcher in English and Spanish. Lead teachers at this Head Start program teach one-half day and serve as family liaisons the other half of the day. Teacher assistants remain in the same classroom for both morning and afternoon sessions. Two Spanish-speaking parent volunteers who help in the classrooms were invited to attend the initial overview of the study and consented to participate. Overall, there were 12 lead teachers, five teaching assistants, and two parent volunteers. Thus, one lead teacher and one assistant (or one parent volunteer) in each of the recruited classrooms consented to participate in implementing the instructional intervention.

The selected Head Start program included both full- and half-day classes. A
report from the National Institute for Early Education Research (NIEER) examined research studying full-day versus part-day preschool programs and found that full-day programs experienced greater improvement in test scores compared to peers who attended half-day programs (NIEER, 2014). With this consideration, full–day classrooms were excluded to avoid internal threats from one classroom having a longer instructional day. However, they were invited to attend the training and received all of the books and vocabulary cards that the participating classrooms received.

All 12 lead teachers had a Bachelor’s degree, all five teacher assistants had a minimum of a Child Development Associate (CDA) Credential and the two parent volunteers had a high school degree and some college credits. The average lead teacher experience was 6.9 years and teacher assistants averaged 17 years. The two bilingual parent volunteers had been volunteering in their child’s classroom for 8 months. All teachers, assistants and volunteers leading Spanish small groups were proficient readers and writers in Spanish based on the researcher’s informal observations and teacher/classroom survey (Bedore et al., 2012).

**Child Participants**

With the assistance of the Head Start program administrator and education managers, two center locations and 12 classrooms were identified as serving a large number of Latino families. A recruitment flyer describing the study was distributed to families at these two Head Start sites. The researcher then met with parents both individually and during parent meetings to discuss the study and accept signed consents. Children receiving special education services (as determined by a question on the Family
Home Language Questionnaire) were excluded from this study. Children with an Individual Education Plan (IEP) often receive additional speech and language services either at the center or off-site that might have affected the outcomes of the intervention. Initially 66 children were recruited but based on attrition due to frequent absences, the final number of participants remained at 60. The 60 child participants included 31 females and 29 males. They ranged in age from 42 months to 67 months ($M = 54.73$ months, $SD = 4.72$). The participants were determined to be Spanish and English-speaking based on parent responses on the initial Head Start registration forms and confirmed by the Family Home Language Questionnaire provided in English and Spanish as part of this study.

**Family Home Language Questionnaire**

Families of all participating children completed a home language questionnaire to gather information about children’s exposure to English and Spanish across a typical day, age of introduction to each language, and in which environments and with which people each language is used. Families also responded to questions about their country of origin and the number of adults and children living in the household. Information on the children’s exposure to Spanish and English at home was obtained from the Family Home Language Questionnaire, using selected questions from a parent questionnaire used in recent studies of Spanish-English bilingual preschool children (Language Exposure Evaluation Report in English and Spanish (LEER; Durán & Wackerle-Hollman, 2015). (see Appendices B and C).

The questionnaire was given in the language chosen by the family member
completing the form after the parent consent forms were received and prior to the fourth week of the intervention. For questions about overall use of the two languages in the home; the languages used by the reporting parent, other adults, and other children when speaking to the child; the child’s use of the two languages at home, the following response options were included: *all Spanish*; *more Spanish than English*; *equal Spanish and English*; *more English than Spanish*, and *all English* (see Table 1).

**Table 1**

*Parent-Reported Group Demographic Characteristics*

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Spanish language intervention group SLIG % (n = 30)</th>
<th>English language intervention group ELIG % (n = 30)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Family education level</td>
<td></td>
<td></td>
</tr>
<tr>
<td>≤ 6th grade</td>
<td>16%</td>
<td>10%</td>
</tr>
<tr>
<td>≤ 12th grade</td>
<td>30%</td>
<td>16%</td>
</tr>
<tr>
<td>H.S. diploma/GED</td>
<td>30%</td>
<td>40%</td>
</tr>
<tr>
<td>Some college</td>
<td>23%</td>
<td>13%</td>
</tr>
<tr>
<td>AA degree</td>
<td>0%</td>
<td>1%</td>
</tr>
<tr>
<td>Bachelors/license</td>
<td>1%</td>
<td>20%</td>
</tr>
<tr>
<td>Country of origin</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mexico</td>
<td>73%</td>
<td>80%</td>
</tr>
<tr>
<td>U.S.</td>
<td>7%</td>
<td>7%</td>
</tr>
<tr>
<td>Central America/other</td>
<td>10%</td>
<td>8%</td>
</tr>
<tr>
<td>No response</td>
<td>10%</td>
<td>5%</td>
</tr>
<tr>
<td>Average # of years lived in the U.S.</td>
<td>15</td>
<td>17</td>
</tr>
<tr>
<td>Native language</td>
<td>Spanish</td>
<td>Spanish</td>
</tr>
<tr>
<td># of children under 18</td>
<td>46</td>
<td>46</td>
</tr>
<tr>
<td>Language Exposure</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mostly Spanish</td>
<td>60%</td>
<td>76%</td>
</tr>
<tr>
<td>Mostly English</td>
<td>3%</td>
<td>0%</td>
</tr>
<tr>
<td>English and Spanish</td>
<td>37%</td>
<td>24%</td>
</tr>
</tbody>
</table>
Design

Identification numbers were assigned the children as consents were returned to the researcher and used to record information on an Excel spreadsheet. Once all of the consent forms were received, an online tool, Research Randomizer (Urbaniak & Plous, 2017) was employed to assign an equal number of participants to the two groups (Spanish or English). Thirty-three DLLs were randomly assigned to Group 1 (Spanish Language Intervention Group-SLIG) and 33 DLLs to Group 2 (English Language Intervention Group-ELIG). The teachers were then provided the list of children who were randomly assigned to each small group within their respective classrooms. Depending on the number of DLLs in each participating classroom, Spanish and English small groups ranged from two to six children per group. After attrition, 30 children participated in each group (N = 60) and completed the assessments that provided the data for the planned analyses.

Procedures

Vocabulary Condition and Duration

Using two vocabulary strategies bundled together (i.e., image cards with developmentally appropriate definitions, six targeted vocabulary words in English and Spanish were pretaught for three children’s trade books for a total of 18 words taught to each group across 6 weeks. Targeted vocabulary was selected from the three RIA–DL trade book lessons and were pretaught in isolation using picture image cards with the word and a child-friendly definition on the back.
For the first daily lesson, the instructor showed the children the trade book beforehand and said in Spanish or English, “Estas palabras nuevas son del libro, (titulo) que vamos a leer juntos en el grupo grande hoy/These new words are from our storybook called (Give title) that we will read together later in large-group circle time.” Identical procedures were followed for the language groups (SLIG & ELIG), with all six targeted vocabulary words previewed using the same two vocabulary strategies with the same images and definitions, with one exception. In *The Little Red Hen* bilingual version (Hen & Jaga, 2002) that was selected for the RIA–DL curriculum, the word *bundle* was omitted in the Spanish translation. The developers chose the word *granjero/farmer* in the Spanish text as this was not considered common for all children (Durán et al., 2015). (See Table 2.)

Each of the four daily small groups conducted each week followed a daily script for each small-group lesson. Only the language of intervention was different (Spanish or English, see Figure 1).

### Table 2

**Vocabulary Intervention Procedures for Small-Group Instruction**

<table>
<thead>
<tr>
<th>Steps</th>
<th>Procedures</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Preparation: Teachers became familiar with the trade book being read for the week and reviewed the six target vocabulary cards with images and child-friendly definitions that align with the lesson.</td>
</tr>
<tr>
<td>2</td>
<td>Setting: Children sat at a table comfortable for children and a teacher, or on a rug or outside on the grass with the teacher.</td>
</tr>
<tr>
<td>3</td>
<td>During small-group lessons, Group One (SLIG) received Spanish instruction (preteaching of vocabulary) prior to the large group read-aloud in English and Group Two (ELIG) received the English pretaught vocabulary before the large-group read-aloud in English.</td>
</tr>
<tr>
<td>4</td>
<td>Large-group read-aloud in English followed the daily small-group vocabulary intervention scripts (see Figure 1).</td>
</tr>
</tbody>
</table>
Day 1: The vocabulary images were presented by the teacher or assistant, who named the object on each card and read the short, child-friendly, definition on the back of the card. The teacher said: “We are going to learn new words from our book today. This is a flea. A flea is a very small insect that bites and lives on other animals (modeling). Can you say flea?” (Practicing). The teacher made connections through distancing (connecting to children’s experiences). For example, “Has anyone ever seen a flea on a dog or cat at home?” The teacher pointed to the image “flea” on the card and asked children to name it, ask for the definition and or ask what happens when a flea bites? The teacher continued to show the images and provide the short definition for each target vocabulary from the book.

Day 2: The teacher reviewed each of the target book vocabulary. For example, she said, “Remember our new words (shown on each card or without the cards)? “This is a flea” and had the children repeat the definition “Who remembers what a flea is?” This format continued for each of the target vocabulary words (in English or Spanish, depending on the small group). Then, the teacher provided the image and asked, “What is this?” to reinforce and extend on children’s responses (e.g., “Yes, look at the flea’s legs. You are right, Mario, the flea has short front legs”) and add real-life examples in different contexts, for example, “Fleas like to live on cats.” When a child didn’t name the image, the teacher would model the new word and ask the child to repeat it.

Day 3: During the small group intervention, the teacher reviewed the vocabulary with the children and allowed each child in the small group to pull a card out of a bag/basket and name the target vocabulary and talk about it. The teacher prompted by asking “What is this? The teacher waited for the child’s response and when needed prompted the child “Can you tell me about it? What do you remember about_______?” If the child didn’t name the image, the teacher modeled the new word (naming it) and then described it and prompted the child again. With no response, the teacher said, “This is a flea and a flea is … (definition provided).

Day 4: During the small-group intervention, the teacher reviewed the vocabulary with the children by laying the cards out in the circle with the image upside down. A child was called to get one card and turn it over. The teacher prompted a response by asking “What is this image? The teacher waited for the child’s response or prompted as needed; “Can you tell me about it? What do you remember about_______?” Every child in the small group had the chance to pick up a card and name the target vocabulary and talk about it. If the child didn’t name the image, the teacher modeled the new word and asked the child to repeat it. If the child didn’t respond, the teacher labeled the image (naming it), then described and prompted the child one more time to name the image.

Note. See Appendix D for daily script in Spanish.

Figure 1. Steps of the daily small-group vocabulary intervention.

Large-Group Read-Aloud Procedures with the RIA-Dual Language Program

The two small-group instructional approaches studied in Spanish or English were implemented prior to a large-group read-aloud in English only using the RIA—DL Curriculum read-aloud lessons (Durán et al., 2015); adapted from the Read It Again – Pre-K! (Justice & McGinty, 2009). This read-aloud supplemental curriculum was
developed to adjoin a program’s existing preschool curriculum to focus on language and literacy. The RIA–DL 4-day instructional sequence is designed with a foundation of dialogic reading, an evidence-based practice reviewed by the What Works Clearinghouse (U.S. Department of Education, 2007). At the beginning of each lesson, for example, the teacher provides an introduction, helping children to “get set” with the storybook. In the proceeding steps of each daily lesson children are engaged with the story through the read-aloud and other literacy activities (including phonological awareness, narrative, and print awareness). For this study, the lessons were modified to remove vocabulary activities as part of the dialogic reading. It was important to this study that DLLs were receiving just the vocabulary intervention in small groups prior to the read-aloud. (See RIA_DL Modified Lesson in Appendix E). The RIA–DL read-aloud occurred on the large rug area in the classroom with an average of 12 children participating in the group on a daily basis.

**Materials: Books and Words for Instruction**

The book reading and explicit target vocabulary intervention tasks were developed around three common fictional trade books that are available in English and Spanish and supplied to each classroom (see Table 3). The storybooks were read twice, three weeks apart (i.e., Week 1 and 4; Week 2 and 5, Week 3 and 6). The curriculum authors of RIA–DL first identified target vocabulary as words from the selected story with high utility that could be explained with a simple definition and words considered Tier 2 and Tier 3 words (Beck et al., 2013), or less common English words for DLLs. There were six target words directly selected from the storybooks, for a total of 18 words
<table>
<thead>
<tr>
<th>Book</th>
<th>Week/language</th>
<th>Target words (nouns in English and Spanish)</th>
<th>Target words (verbs in English and Spanish)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Tier I</td>
<td>Tier 2</td>
</tr>
<tr>
<td>The Little Red Hen (La gallinita roja; Ottolenghi, C., 2007)</td>
<td>Week 1 and 4</td>
<td>wheat</td>
<td>cart</td>
</tr>
<tr>
<td></td>
<td></td>
<td>flour</td>
<td></td>
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<tr>
<td></td>
<td></td>
<td>Spanish</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>trigo</td>
<td>carretilla</td>
</tr>
<tr>
<td>The Napping House (La casa adormecida; Wood, Wood, Leebaert, Shaylen, &amp; Shaylen, 2014)</td>
<td>Weeks 2 and 5</td>
<td>English</td>
<td>to snore</td>
</tr>
<tr>
<td></td>
<td></td>
<td>pulga</td>
<td>roncar</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Spanish</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>cisne</td>
<td>trasero</td>
</tr>
<tr>
<td></td>
<td></td>
<td>foca</td>
<td></td>
</tr>
<tr>
<td>Is Your Mama a Llama? (Es tu mamá una llama?; Guarino, Madigan, &amp; Kellogg, 1989)</td>
<td>Week 3 and 6</td>
<td>English</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>swan</td>
<td></td>
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<tr>
<td></td>
<td></td>
<td>seal</td>
<td></td>
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<tr>
<td></td>
<td></td>
<td>Spanish</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>cisne</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>foca</td>
<td></td>
</tr>
<tr>
<td>Total words by language and tier</td>
<td></td>
<td>English 5</td>
<td>English 2</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Spanish 5</td>
<td>Spanish 2</td>
</tr>
</tbody>
</table>
from the English and Spanish book versions. Target words represented concrete nouns and verbs (see Appendix F). Adjectives and adverbs were excluded in this research project based the limited number of adjectives and adverbs in the three trade books used during the 6-week intervention. Similar to the selection criteria of the Justice et al. (2005) study on vocabulary learning, six words from three books were chosen based on the following criteria.

1. Tier 1, Tier 2 and Tier 3 words (majority of words are novel Tier 2 & 3 (content focused), with only six (3 Spanish and 3 English Tier 1 words).
2. Words are judged as unlikely known by preschool children.
3. Target words needed to occur in the storybook text in a nondirective manner (i.e., the context provides no or little assistance in denoting the word’s meaning; Beck et al., 2002).

**Descriptive Measure**

Teacher and classroom demographics were collected using a classroom language survey during the first two weeks of the intervention (Appendix G). Teacher demographic data were collected for the following factors: age, job position, educational background, certification/license, ethnicity, native language(s), gender, and the number of years in the current position. Classroom demographic data collection targeted: the number of children, the teacher-to-child ratio, number of DLLs, and how many years each child had attended Head Start. Also gathered were data regarding language(s) spoken in the classroom and languages used for instructional purposes.

**Dependent Measures**

*Receptive One Word Picture Vocabulary Test—Spanish bilingual edition*
(ROWPVT-SBE). The ROWPVT can be administered in either Spanish or English or both languages (Brownell, 2001). This standardized instrument was used to assess general vocabulary knowledge and examine the breadth of receptive vocabulary knowledge. The ROWPVT-SBE examines a child’s overall ability to label items regardless of language by accepting answers in both English and Spanish and was normed with a bilingual sample in the U.S. The test involves presenting items to the child, who is shown four images and asked to match a given word to the appropriate object, action, or concept picture. The child is first asked to identify pictures for labels presented in his or her dominant language, but if he or she does not seemingly know the word, then he or she is asked to pick the correct picture in his/her non-dominant language. Test-Retest reliability is .92, with a Cronbach’s alpha of .97. Testing was initiated in the child’s dominant language as determined by information from the home language questionnaire that was coded numerically and analyzed to determine the language most spoken and heard during the child’s day to determine the child’s dominant language, Spanish or English.

Curriculum-Based Vocabulary Probe Test in English and Spanish. This study used an author-developed measure that assessed children’s knowledge of the target words in the intervention conditions, the Curriculum-based Vocabulary Probe Test (CBVPT) in English and Spanish. The National Reading Panel Report (NICHHD, 2000) suggests that specific vocabulary growth is best assessed through researcher-developed measures because they are more sensitive to gains achieved through instruction than are standardized tests (Coyne et al., 2009).
Eighteen target vocabulary picture cards (images) were selected directly from the three storybooks in the RIA–DL supplemental curriculum. Six 4 x 5 picture cards were prepared with real photos retrieved online from istock images for the target words for each book. This allowed an evaluation of children’s abilities to name the target vocabulary when prompted with different but similar pictures of the target vocabulary. The verbal prompt used for the expressive CBVP was “¿Qué es esto/a?/What is it?.” If the child did not respond within three seconds, then the prompt was repeated one time. This measure was developed and administered in a prior study of the Read-it-Again – DL (Durán, Gorman, Kohlmeier, & Callard, 2015). The result of a Cronbach’s alpha conducted prior to the intervention implementation for that study documented internal consistency of English .97 and Spanish .98. Examples of the CBVPT Expressive measure items and score sheet in English are provided in Appendices H & I). Children’s oral responses yielded raw score totals for both English and Spanish.

**New Word Definition Test–Modified (NWDT-M).** A measure of vocabulary depth indicates a child’s conceptual understanding of individual words, which has been shown to provide a picture of children’s ability to understand what is being read to them and what they read (Ouellette, 2006). To measure children’s depth of knowledge of target words, a measure adapted by Hadley et al. (2015) from Blewitt, Rump, Shealy, and Cook’s (2009), the New Word Definition Test, was administered at pre- and posttest, first in English and then in a Spanish version that was back-translated by the bilingual researcher. This measure provides decontextualized information about the word that indicates understanding of the word in other contexts and provides an indication of
conceptual learning (Neuman & Dwyer, 2011). The NWDT-M is an informal definition task wherein children are asked to tell the examiner what they know about a word and the examiner codes the amount of semantic and contextual information that children provide for each target word. The NWDT-M includes 10 information categories to score children’s responses: super/subordinate, perceptual features, function, part/whole, synonym, antonym, gesture/act out, basic context, meaningful context and use of story context. Superordinates/subordinates, function and perceptual features are used with nouns only. Each information unit is worth 1 point except for basic context worth a 0.5 point. The story code is only used if it is a posttest to tag how much children are using the story to explain the words. All categories are clearly defined in the instructions (Appendix J). Both of the test forms delineate minimally acceptable internal consistency at pretest (Spanish: Cronbach’s α = .542; English: Cronbach’s α = .468) and posttest (Spanish: Cronbach’s α = .829, English: Cronbach’s α = .75).

Children were asked to explain the target nouns and verbs orally or by using gestures. For each target word, children were asked, “What is a ___?/Que es?” and a follow-up question, “Can you show me or tell me anything else about ___?/Me puedes decirme algo más de esta palabra?” If a child said he/she didn’t know or did not respond to a question, then the examiner marked DK/NR and moved on to the next word. All children’s responses were recorded in writing at the time of assessment by trained data collectors. The coding scheme documents children’s use of any word, short phrase or gesture that is equivalent to the word being explained (see Appendix J). This assessment included the same 18 target nouns and verbs used in the CBVP-T expressive measure in
English and Spanish.

To reduce the chance of a familiarity effect of the expressive measures (CBVP-T & NWDT-M), the order of vocabulary presentation was counterbalanced with Form A and a Form B in English and Spanish. The order of presentation of words was randomized for Form B. Children who were pretested with Form A were then posttested with Form B. Measures were administered individually by either an English-speaking data collector (i.e., for assessments in English), or a Spanish-speaking data collector for all Spanish measures.

**Correlation**

Pearson product-moment correlation coefficients between the posttest researcher-made probe scores and corresponding standardized scores on the Spanish and English CBVP-T were computed to examine the strength of the association between researcher-made probe, the NWDT-Modified and the standardized receptive vocabulary measure. Table 4 demonstrates the correlation coefficients for each test pair. The results showed a strong positive correlation among all three measures.

**Control Measures: Classroom Level**

To control for language and literacy differences in the classroom environments and overall instructional quality before implementing the intervention, the Early Language and Literacy Classroom Observation (ELLCO; Smith, Dickinson, Sangeorge, & Anastasopoulos, 2002) was completed twice. The ELLCO was administered prior to the first week of intervention and then again after the fourth week to confirm that all
Table 4

**Correlation Coefficients of Researcher-Made and Standardized Measures**

<table>
<thead>
<tr>
<th></th>
<th>Post NWDT E</th>
<th>PostNWDT S</th>
<th>PostCBVP E</th>
<th>PostCBVP S</th>
<th>PostROWPVT</th>
</tr>
</thead>
<tbody>
<tr>
<td>PostNWDT S</td>
<td>-.054</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PostCBVP E</td>
<td>.507**</td>
<td>-.253</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PostCBVP S</td>
<td>-.011</td>
<td>.733**</td>
<td>-.274*</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PostROWPVT-SBE</td>
<td>.360*</td>
<td>.372*</td>
<td>.219</td>
<td>.372*</td>
<td></td>
</tr>
<tr>
<td>Language group</td>
<td>.048</td>
<td>-2.20</td>
<td>289*</td>
<td>.237</td>
<td>.036</td>
</tr>
</tbody>
</table>

*Note.* PostNWDT E = Post New Word Definition T – M, English
PostNWDT S = Post New Word Definition T – M, Spanish
PostCBVP E = Post Curriculum-based Vocabulary Probe - English
PostCBVP S = Post Curriculum-based Vocabulary Probe - Spanish
PostROWPVT-SBE = Post Receptive One Word Picture Vocabulary Test—Spanish Bilingual Edition

* Significant at the .05 level (2-tailed).
** Significant at the .01 level (2 tailed).

classroom literacy experiences in each classroom were still similar in nature. The ELLCO has 19 dimensions and two subsections, a general classroom environment subscale and a language and literacy environment subscale. Each ELLCO item is rated on a 5-point Likert scale (1 lowest to 5 highest). The ELLCO has an inter-rater reliability of $M = .88$ and Cronbach’s alpha = .90 (Smith et al., 2002).

**Administration of Measures**

Prior to the 6-week intervention, three bilingual data collectors attended a 2-hour training provided by the researcher. This included an overview of the measures and their objectives, as well as, time for practice. The data collectors received training and practice until fidelity was met on each measure.

All consented DLLs were pretested using the *CBVPT* and NWDT-M. Bilingual data collectors tested in English or Spanish with a different examiner for English than
Spanish. The CBVPT-E was administered at a different time than the CBVPT-S. After the expressive measures were administered, the ROWPVT was administered to all consented DLLs. Each child’s level of exposure in English and Spanish (based on the home language questionnaire) was considered to determine what language to begin the testing. If the child was Spanish-dominant, the testing began in Spanish. If the child was English dominant the testing was first conducted in English.

**Training Procedures for Preteaching**

**Treatment intervention.** One week prior to the small-group intervention (pre-teaching in English or Spanish) implementation, the researcher conducted a 2-hour training with all participating teachers, teacher assistants and parent volunteers. The initial training was conducted in English and included an overview of the treatment procedures (Days 1-4) with modeling and use of vocabulary cards with definitions and the 4-day scripts. During training, participants practiced in teaching pairs and were observed by the researcher using a small-group fidelity of implementation checklist. Participants were required to meet fidelity of implementation criteria for each daily intervention script before moving forward. The researcher also followed up with a visit to each classroom to deliver the materials for the six weeks and to review the small-group scripts in both English and Spanish.

**Implementation Adherence and Fidelity**

Participating teachers, teacher assistants and parent volunteers were videotaped weekly preteaching small groups in Spanish or English, using the images and short
definitions, following the script planned for that day. Participants were provided feedback by the researcher on fidelity of implementation and coached to improve implementation as necessary during weekly individual meetings at each site. The 12 interventionists taught the small-group target vocabulary lessons four days a week during the 6-week intervention period. Observations of 43 ELIG and 33 SLIG small-group lessons (N=76) were video recorded by the researcher weekly. The two parent volunteers conducted small-group sessions in more than one classroom, thus the SLIG group had 10 fewer video recordings. The amount of small-group instruction time was recorded based on the video recordings. The average of instructional minutes for small-group ELIG sessions was 4.52 (1.64) minutes and 4.88 (2.21) minutes for SLIG instruction. An independent t test revealed no significant difference between instructional time of the groups overall.

**Small group interobserver agreement (IOA).** The researcher and data coder conducted Exact Agreement IOA (Cooper, Heron, & Heward, 2007) with 36 (45%) of the weekly videos. This meant that the same participants and codes were used to observe that the fidelity checklist steps occurred within the recorded time or did not occur. (Videos from a previous study were used for training and practice on IOA.) The 36 (45%) small-group videos were viewed and coded independently. IOA was calculated as percent of total agreement for the first nine items on the fidelity checklist with .90 exact agreement. A separate checklist item examined the percentage of child engagement during the intervention. The researcher and data coder observed the videos independently and scored group engagement on a scale from 1 (little engagement) to 5
(entire group engaged most of the time). These two values were compared and the average of total values was taken. For example, if one data collector scored child engagement as 5 and another scored it as 3, the agreement was scored as 4 or the average of the two scores. An example of the fidelity of implementation protocol for the small-group instructional intervention is in Appendix K.

The small-group fidelity results for each language group indicated that teachers, teacher assistants (TAs) and parent volunteers taught using the correct book and image cards with definitions 100% of the time. All lesson scripts were implemented entirely in the target language for each group, either English or Spanish and all of the materials were provided for each lesson. However, one checklist item, “Did teacher’s use the correct daily script (Day 1, 2, 3 or 4) when teaching the small group?” indicated that the Spanish interventionists (teachers, TAs and parents) followed the correct daily script 81% of the time and those teaching small groups in English 94% of the time. Child engagement data were collected during the language interventions and measured on a 5-point scale with 1 being approximately 20% of the children (in groups of 3-5) attending for the entire session, and 5 indicating that “the entire group attended most of the time during the session.” Children, on average, were reportedly engaged (4.9) during the Spanish instruction more than when lessons were conducted in English 4.7 with a range of scores from 3-5 (see Appendix K for engagement item scoring). An independent $t$ test was used to compare child engagement of the two language groups. This difference was found significant in favor of the SLIG, ($M = 4.9, SD = .21$) vs. ELIG ($M = 4.7, SD = .10$); conditions, $t(41)=2.37, p = 0.02$. The results of the fidelity of implementation provide
evidence that the variance of the dependent measures can be attributable to the intervention.

**Large group RIA–DL–weekly lessons.** A separate 1-hour training for all teachers and assistants was conducted on the RIA–DL: Modified Version (Read-Aloud in English without vocabulary instruction). This included:

a. A PowerPoint presentation to prepare teachers to implement the supplemental curriculum.

b. A preview of the materials.

c. Practicing lesson implementation with the scripts for a sample of lessons.

d. Fidelity of Implementation Checklist review and discussion of weekly researcher observation schedule.

e. Teachers familiarized themselves with research protocols.

f. The classroom visits, testing procedures, teacher and classroom surveys and schedule were discussed.

g. All teachers had access to the six RIA–DL modified lessons on a Google drive with the scope and sequence of vocabulary for each week and with images and vocabulary definitions. The researcher was also available three times a week to answer questions, give feedback and address concerns.

h. Fidelity of implementation as documented by the researcher was at 90% before intervention. The large-group fidelity form is in Appendix L.

All participating classrooms followed the modified 6-week read-aloud lessons of the RIA–DL supplemental language and literacy curriculum. To reduce cross contamination of the small-group treatment intervention, the two small groups (English and Spanish) were conducted at different times or separated as far as possible in the classroom in different learning areas defined by shelves. For the large-group RIA–DL-Modified English read-aloud lesson, all DLLs joined their classmates and together
received the read-aloud lesson with the same storybook. In order to control for extraneous variables, all classrooms used the same curriculum, followed the same classroom schedule, and read the same three trade books.

**Large Group Fidelity**

For purposes of internal validity, the researcher observed the participating teachers or teacher assistants in vivo, at least three different times over the 6-week intervention, delivering one of the storybook lessons in large group. Thirty-eight large group daily lessons (13%) out of 288 large-group daily lessons (all taught in English) were observed by the researcher using a fidelity of implementation checklist (Appendix L). The large group read-aloud included the entire classroom of children (DLLs and non-DLLs). The lead teacher conducted all but three observed read-alouds. The average group size was 12 children. The average duration of the whole-group read-alouds was 14.68 minutes, with a range of 10.11-19.26 minutes with 96.4% fidelity. In addition, the researcher provided teachers and teacher assistants with verbal feedback on the fidelity of implementation with the goal to continue accurate read-aloud implementation.

**Data Collection Procedures.**

The university’s institutional review board required that all researchers be certified to conduct research with human participants. All data collectors completed the Collaborative Institutional Training Initiative (CITI) Certification Test. Training of data collectors included following the CITI certification ethical principles for assessment, privacy and confidentiality, data collection activities, scoring and entry procedures, and
fidelity of implementation requirements. All measures required 90% fidelity on all test administration procedures within three consecutive attempts. Feedback was provided after the first and second attempt for every English and Spanish protocol as needed. The researcher and one other trained data collector randomly selected and independently scored 100% of the assessment protocols to check for scoring reliability.

**Analysis Procedures**

The language of intervention effects was examined in terms of vocabulary breadth (number of words learned; Research Question 1a) and depth (conceptual word understanding; Research Question 1b) of the target vocabulary. Children’s general receptive vocabulary acquisition was also measured to determine whether learning target vocabulary augmented overall vocabulary acquisition (Research Question 1c). The dependent variable pretest scores were subtracted from the posttest scores to calculate each DLL’s gain score. Paired sample $t$ tests were conducted to evaluate the mean difference of the pre- and postscores within each of the intervention groups (SLIG and ELIG) on the three dependent measures given in English and Spanish to the two groups. To analyze the posttest score differences between the intervention groups, independent $t$ tests were conducted to determine the differences between gains.

Five separate multiple regression models were conducted, in which the posttest scores were the response $Y$; the independent variable was the language of preteaching the two vocabulary techniques; along with the covariates of pretest scores, age, and the scores of the treatment fidelity measure (see Table 5). These predictor variables were
Table 5

Multiple Regression Model

<table>
<thead>
<tr>
<th>Child sample</th>
<th>Vocabulary scores</th>
<th>Regression equations</th>
</tr>
</thead>
<tbody>
<tr>
<td>N = 60</td>
<td>Receptive ROWPVT-Spanish-English</td>
<td>$Y_{post} = B_0 + B_1X_{pre} + B_2X_{age} B_3X_{Langrp} + B_4X_{fidel}$</td>
</tr>
<tr>
<td></td>
<td>Bilingual</td>
<td></td>
</tr>
<tr>
<td>N = 60</td>
<td>Expressive CBVPT-English Version</td>
<td>$Y_{post} = B_0 + B_1X_{pre} + B_2X_{age} B_3X_{Langrp} + B_4X_{fidel}$</td>
</tr>
<tr>
<td>N = 60</td>
<td>Expressive CBVPT-Spanish Version</td>
<td>$Y_{post} = B_0 + B_1X_{pre} + B_2X_{age} B_3X_{Langrp} + B_4X_{fidel}$</td>
</tr>
<tr>
<td>N = 60</td>
<td>Expressive NWDT-M – English</td>
<td>$Y_{post} = B_0 + B_1X_{pre} + B_2X_{age} B_3X_{Langrp} + B_4X_{fidel}$</td>
</tr>
<tr>
<td>N = 60</td>
<td>Expressive NWDT-M – Spanish</td>
<td>$Y_{post} = B_0 + B_1X_{pre} + B_2X_{age} B_3X_{Langrp} + B_4X_{fidel}$</td>
</tr>
</tbody>
</table>

included in this model based on correlational outcomes for each measure and to control for possible influences on vocabulary outcomes, as previous research has indicated that these variables can influence children’s vocabulary growth (Collins, 2010; Robbins & Ehri, 1994). Although these analyses focused on children within classrooms, separate multiple regression models were chosen as the statistical model rather than a multilevel model because the sample size would not allow for the estimation of variance and covariance parameters in addition to regression coefficients that a multilevel model requires (Peugh, 2010). An a priori medium effect size of $f^2 = 0.15$ was used in conjunction with alpha = .05 and 80% power with testing one independent variable—preteaching vocabulary (Spanish vs. English)—in conjunction with three covariates suggested a total sample size of 54 was needed. Based on the scope of this research project and considering the sample size of 60, power was sufficient based on a G*Power.
analysis, Version 3.1, for the multiple regression model conducted (Faul, Erdfelder, Buchner, & Lang, 2009). The effect size statistics for multiple regression used the adjusted $R^2$ in order to provide a more accurate effect size based on the small sample size in each small group.
CHAPTER IV
RESULTS

The purpose of this research study was to examine the effects of a small-group intervention preteaching target vocabulary in English or Spanish prior to a large-group English read-aloud lesson for DLLs. Sixty Spanish-speaking DLLs in a Head Start program (\(M\) age = 54.73 months, \(SD = 7.09\)) were randomly assigned to receive a vocabulary intervention in Spanish (Spanish Language Intervention Group, SLIG; \(n = 30\)) or English (English Language Intervention Group, ELIG; \(n = 30\)) prior to a large-group read-aloud in English. Children’s expressive and receptive vocabulary skills were assessed in Spanish and English before and after the 6-week intervention. Head Start teachers, teacher assistants and parent volunteers were trained to follow a daily script to preteach a set of six novel vocabulary words extracted from three trade books (18 words total), using both images and short definitions. The language of intervention effects was examined in terms of vocabulary breadth (number of words learned; Research Question 1a) and depth (conceptual word understanding; Research Question 1b) of the target vocabulary. Children’s general receptive vocabulary acquisition was also measured to determine whether learning target vocabulary augmented overall vocabulary acquisition (Research Question 1c). Following are the descriptive statistics for each of the dependent measures. Subsequently, the results of the gain score comparisons for the two language groups are provided as well as the results of the multiple regression analyses that identify the significant predictors of performance on expressive and receptive vocabulary measures in English and Spanish.
Descriptive Statistics

The overall mean age of the student sample was 54.73 (SD = 7.09) months with a range of 41-66 months SLIG and 42-66 months for the ELIG. As shown in Table 6, the age means of both groups were equivalent. The SLIG and ELIG were also similar in terms of family characteristics, country of origin and native language as determined by the *Family Home Language Questionnaire* completed by a family member, as reported in Chapter III, Table 1.

Three dependent variables were used to measure the children’s acquisition of Spanish and English target vocabulary: (a) number of target words (breadth); (b) expressive definitions of target words (depth); and (c) children’s general receptive vocabulary growth. The ROWPVT – SBE uses conceptual scoring and considers the total number of concepts for which a child has a word in at least one language and does not yield individual scores for English and Spanish (Bedore, Peña, & García, 2005). The average raw scores for each of the dependent measures and the standard deviations (SD) by language of instruction group are presented for each dependent variable in Table 7.

Table 6

<table>
<thead>
<tr>
<th>Language group</th>
<th>N</th>
<th>Age in months</th>
<th>Males</th>
<th>Country of origin (% Mexico)</th>
<th>Native language</th>
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<td>6.98</td>
<td></td>
<td>73 Spanish</td>
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<tr>
<td>English language intervention</td>
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<td>6.95</td>
<td></td>
<td>80 Spanish</td>
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</table>
Table 7

Descriptive Statistics for SLIG and ELIG Groups for English and Spanish Measures

<table>
<thead>
<tr>
<th>Variable</th>
<th>SLIG</th>
<th>ELIG</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Pre-intervention</td>
<td>Post-intervention</td>
</tr>
<tr>
<td>Curriculum-based vocabulary probe Test—English a</td>
<td>.70</td>
<td>.20</td>
</tr>
<tr>
<td>Curriculum-based vocabulary probe Test—Spanish a</td>
<td>.73</td>
<td>1.26</td>
</tr>
<tr>
<td>New word definition test—English b</td>
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<td>1.28</td>
</tr>
<tr>
<td>New word definition test—Spanish b</td>
<td>1.75</td>
<td>2.11</td>
</tr>
<tr>
<td>Receptive one word picture vocabulary test a</td>
<td>39.53</td>
<td>13.94</td>
</tr>
</tbody>
</table>

a Mean raw scores
b scores for word categories used in definitional responses

The SDs indicate significant variability in performance for both SLIG and ELIG. Large SDs are often common in language measures in bilingual intervention research because of the differences in language exposure (English or Spanish) for Spanish-English bilinguals (Durán, Hartzheim, Lund, Simonsmeier, & Kohlmeier, 2016). Homogeneity of variance testing showed that both the English- and Spanish-language intervention groups had equal variance on this and all measures at pretest.

The results indicate that both groups increased knowledge of the target words presented in their language small groups, while a smaller increase in general receptive vocabulary is also noted.

RQ1a: Breadth of Targeted Vocabulary Acquisition

The independent t test for equality evaluated the differences between the means of the pretest scores for CBVPT-E and CBVPT-S and found them equivalent. A Levene’s
test evaluated the assumption that the population variances for the two groups were equal. Therefore, the groups were comparable on the targeted measures at the beginning of the study. In comparison, the posttest mean score difference for the language intervention groups on the English CBVPT measure was 1.63, showing the ELIG on average scored higher on the English measure than the SLIG. This difference was significant with a t-value of, $t(58) = -2.33$, $p = .023$. The posttest scores for both groups on the Spanish CBVPT measure showed a mean difference of 2.37 in favor of the SLIG, but this was not shown as significant with a t-value of $t(58) = 1.95$, $p = .055$. However, it is worth noting that the difference for the CBVPT-S is nearing significance at the $p=.055$ level.

Gain scores for both the English and Spanish intervention groups were analyzed to answer the research question “does preteaching of vocabulary prior to a read-aloud have an effect on DLLs’ breadth of vocabulary acquisition?” Gain scores were calculated by subtracting raw pretest scores from raw posttest scores for the CBVPT measures. The CBVPT-pre-post gain score by number of words acquired are provided by the language of intervention in Figure 2.

**English Language Intervention Group**

Paired $t$ tests were conducted to explore pretest and posttest mean differences. The results indicate that children in the ELIG receiving small-group vocabulary instruction in English named three to four more target words in English at posttest (ELIG, mean gain = 3.43). On the Spanish CBVP-T measure, the ELIG had a mean gain of 2.93 words. Thus, ELIG named about three more Spanish target words, despite receiving no instruction of these words in Spanish. Based on a paired sample $t$-test analysis, the ELIG
Figure 2. Curriculum-Based Vocabulary Probe Test gain scores.

Gains were found significant on the English CBVP-T, \( t(29) = 6.62, p < .001 \) and the Spanish CBVP-T, \( t(29) = 4.30, p < .001 \). For the ELIG, and using a Cohen’s \( d \) effect size calculation, the results obtained on the English CBVPT indicate an effect size of 1.2, which is classified as a large effect size (Cohen, 1988). The Spanish CBVPT results indicate an effect size of .79, or medium effect size (Cohen, 1988).

**Spanish Language Intervention Group**

On the Spanish CBVPT, the paired \( t \)-test results show that children in the SLIG demonstrated increased Spanish vocabulary acquisition improving target word acquisition by about five words in Spanish (mean gain = 5.53). On the English CBVPT, the SLIG mean gain was 1.70 words indicating that the SLIG increased English target word acquisition by about two words. The SLIG demonstrated higher gains in expressive
Spanish target vocabulary than the ELIG in English target vocabulary gains even though the Spanish-vocabulary instruction was limited to approximately five minutes of daily small-group instruction and the ELIG received explicit English instruction in small-group and implicit instruction during the English large group read-aloud. Based on a paired sample \( t \)-test analysis, the SLIG gains were found significant on the English CBVPT, \( t(29) = 3.44, p < .001; \) Cohen’s \( d \) is .64, or medium effect size (Cohen, 1988 and SLIG gains for the Spanish CBVPT were also found significant, \( t(29) = 6.50, p < .001; \) Cohen’s \( d \) is 1.2, or large effect size. Conducting an independent \( t \)-test to compare the overall gain scores by language intervention group found that SLIG demonstrated slightly higher overall word gain but the combined gains in English and Spanish CBVPT measures between groups were not statistically significant, \( t(58) = .75, p = .454 \)

**RQ1b: Depth of Targeted Vocabulary Acquisition**

The NWDT-M was used to elicit children’s definitions of the target words and their responses were coded into 10 categories (i.e., super/subordinate, function, perception, part/whole, synonym, antonym, gesture, basic context, meaningful context, connection to story). Prior to the intervention, independent \( t \)-test results for equality of means found the scores on the depth of vocabulary measures in English and Spanish comparable for both intervention groups, thus the groups performed similarly in both languages. Conducting an independent \( t \) test on the language group means at posttest showed that both groups performed better on the measure in the language of intervention. On the English NWDT-M, a mean difference of -1.03, indicated that the ELIG group
provided slightly more categorical responses on average than the SLIG but this was not found significant; \( t(58) = -4.86, p < .629 \). While the independent t-test found a posttest Spanish NWDT-M mean difference of 3.73 in favor of the SLIG, there were no significant mean score differences; \( t(58) = 1.87, p < .066 \).

Gain scores were calculated by subtracting raw pretest scores from raw posttest scores for the NWDT-M measure. Gain scores (in points for use of definitional categories) for the English and Spanish intervention groups were analyzed to answer the research question “does preteaching of vocabulary prior to a read-aloud have an effect on DLLs’ depth of vocabulary acquisition?

**English Language Intervention Group**

On the English NWDT-M, the ELIG mean gain was 6.66 points. On the Spanish NWDT-M, the ELIG mean gain score was 5.28 points. The results show that the ELIG gained conceptual word understanding of the target words in both languages as measured by expressive definitions, but the gains were greater in English, the language of intervention and the language of instruction in the Head Start program. A paired-sample \( t \) test found the English NWDT-M ELIG results to be significant at \( t(29) = 5.61, p < .001 \) and the Spanish NWDT-M ELIG results were also found to be significant, \( t(29) = 5.51, p < .001 \). Using Cohen’s \( d \), the effect sizes were large at 1.0 for the ELIG on the English and Spanish measures.

**Spanish Language Intervention Group**

On the English NWDT-M, the SLIG had a mean gain score of 6.01. On the
Spanish NWDT-M, the SLIG had a mean gain score of 9.73. The results of the NWDT-M indicate that the SLIG also increased in the conceptual word understanding of the target words in both languages with larger gains in Spanish. On the English NWDT-M, the SLIG gain score was significant at $t(29) = 3.95, p < .001$; Cohen’s $d = .73$ or medium to large effect size. On the Spanish NWDT-M, the SLIG gain score was also found to be significant, $t(29) = 6.74, p < .001$; with a large effect size of 1.25.

As expected, both of the intervention groups had higher target vocabulary gains in the language in which they received the intervention with increases in definitional responses across languages. However, when comparing the two language intervention groups, the SLIG results show almost equal gain in English definitional responses (6.01) as the ELIG group (6.66), who received explicit English vocabulary instruction in small groups along with the storybook read-aloud in English. In Spanish definitional responses, the SLIG results show a gain of 9.73. The ELIG had a gain of 5.28 without any Spanish vocabulary instruction in Spanish. Figure 3 shows the results of the Spanish and English definitional response gains in depth of word knowledge for each language intervention group. Using and independent $t$ test, the combined gains in English and Spanish NWDT-M between groups were not statistically significant, $t(29) = 1.3, p = .177$.

**Analysis of Definitional Responses**

To analyze the definitions provided by the children of the target vocabulary on the NWDT-M the responses were coded into one of the following 10 categories: super/
Figure 3. New Word Definition Test–Modified test gain scores.

subordinate, function, part/whole, perceptual, synonym, antonym, gesture, basic context, meaningful context and connection to storybook. This allowed for the analysis of the semantic content and contextual information. Each information unit (appropriate response) per category is worth 1 point except for Basic Context category, where an information unit is worth 0.5 of a point (Hadley et al., 2015). For example, if children provided more than one response that fit into a single category (e.g., in the functional category, children gave more than one purpose or function for the target word “flour) they were given a point for each appropriate response. Also, if children gave a response that fit within multiple categories, (e.g., children defined the target word with function and perceptual definitions) then they were given more than one point for a response. Individual categorical responses ranged from NR (no response) to six categories of responses. The aim here was not to assess if children could provide a correct definition
of the word but rather to assess how their knowledge of the words could be categorized both semantically and contextually to examine understanding of the target vocabulary (Hadley et al., 2015). Children in the SLIG expressively defined Spanish words at posttest using more categorical responses, as delineated below, than did the children in the ELIG on the English NWDT-M.

**NWDT-M Nonresponses**

When examining the results for the English version of the NWDT-M, pretest findings showed that the total number of don’t know or nonresponses (NRs) for the ELIG was (68.2%). The Spanish intervention group had 79% of their responses as don’t know or no response on the English NWDT-M version. However, at posttest the number of nonresponses on the English NWDT-M declined for both groups. The ELIG had 23 fewer nonresponses on the English NWDT-M posttest, a 10% decline. The SLIG nonresponses declined comparably by 21 nonresponses or 9%.

For the Spanish version of the NWDT-M, the ELIG group had 68% don’t know or nonresponses at pretest and the SLIG group had 77.4% don’t know or nonresponses. At posttest, the ELIG and the SLIG number of nonresponses decreased in the Spanish version by notably different proportions. The ELIG reduced the number of NRs by 8 responses or 3.4% from pre- to posttest while the SLIG reduced their NRs by 75 or 26.6% at posttest (see Figures 4 and 5).

**English NWDT-M Definitional Response Categories**

As noted above, responses on the NWDT-M are categorized by type. Across
Figure 4. New Word Definition Test-M: English pretest and posttest data
Figure 5. New Word Definition Test-M: Spanish pretest and posttest data
intervention groups, more responses fell into the categories of Function, Synonym, Perceptual and Basic Context, with fewer responses in the categories of Super/subordinate, Part-Whole and Antonym. The Function category was the most frequently used category for ELIG and SLIG children’s responses to the NWDT-M in Spanish and English pre-and post-intervention. Function includes a process or purpose for something. For example, a common definitional response in English for the word “flour” was, “to make cakes and cookies and the response in Spanish for “harina” was “para hacer pasteles y galletas y tamales/to make cakes and cookies.” Synonyms (any word or short phrase that was equivalent to the word being explained and provided decontextualized meaning information) were the second-most-common type of definitional response for both intervention groups. For example, in English, for the target word “flea,” a child responded, “a bug that bites you and dogs and cats” and for “herd,” “a group of cows.” The third-most-common categorical response used on the NWDT-English measure was Basic Context, where a child used minimal context or a typical association (e.g., sickle the grass, or cat’s claw). The fourth most-common category was gestures, actions or facial expressions (e.g., using a clawing motion for claw, or cutting motion for sickle). The fifth was Part/Whole, where children described a part of the target word, or described the whole word that the target word is part of (e.g., “it has flippers”; {seal} and “it is in the water {swan}).

On the English NWDT-M at posttest, the findings indicate that the SLIG children (Spanish Group) provided as many or more responses as the English Group counterparts on 6 of the 10 definitional response categories. Further examination of total points by
group found that from pre- to posttest, the Spanish Group increased their total points by 177, meaning that they were able to define more target words, using more categorical responses in English. The English Group increased their overall total of responses by 138 points (see Figure 4). An independent sample $t$ test by language groups was conducted to compare total point results of the language groups at posttest. The results found that the differences between the two intervention groups on the English NWDT-M at posttest were not significant, $t(58) = .438$, $p = .663$.

**Spanish NWDT-M Response Results**

The English group increased their definitional responses on the Spanish NWDT-M from the pretest in all but two categories (Connecting to Story & Antonyms), using more Part/Whole word definitions and more responses that provided some Basic Context. The SLIG’s word definition scores also increased from preintervention with notable increases in the Function, Synonym and Gesture responses to define the novel Spanish vocabulary. The overall word definition total points increased for the SLIG children by 257.5 word responses that fit into the word definition categories. The ELIG children increased their Spanish word definitional responses by 147 points from pre-to posttest (see Figure 5). These results show that the SLIG students were able to better communicate their word knowledge in Spanish.

**RQ 3: General Receptive Vocabulary Acquisition**

The effect of the small-group target language intervention on children’s receptive vocabulary was measured with a standardized measure, the Receptive One Word Picture
Vocabulary Test-Spanish Bilingual Edition (ROWPVT-SBE), and answers the research question “Did use of the images and short definition of words have an impact on the children’s general receptive vocabulary?” This measure provides a combined score of Spanish and English responses for each child. Bilingual scoring credits children with a correct response in either language to reflect the children’s overall language system (e.g., English and Spanish; Peña et al., 2011). If a child responds by pointing to the correct picture when assessed in Spanish, then it is considered correct. If the child does not respond to the Spanish prompt, then the examiner gives the same word in English and if the child points to the correct word then he or she is given credit for knowing the vocabulary in English. Bilingual scoring is used because the goal is to examine the children’s overall receptive vocabulary rather than to assess their current level of proficiency in English or Spanish. The raw score (points obtained) is simply the totaled correct number of responses. Raw scores were analyzed to examine general receptive word acquisition to determine gain scores. The pretest mean scores and standard deviations for ROWVPT-SBE vocabulary for the SLIG were 39.93 (13.94) and for the ELIG = 38.70 (10.67). The posttest raw scores on the ROWVPT-SBE for the SLIG and ELIG were 41.1(12.33) and 42.2 (13.06), respectively. These scores demonstrate a modest increase in receptive word acquisition in six weeks for both of the intervention groups (see Figure 6). However, a paired $t$ test did not find either group’s gain scores as statistically significant, SLIG $t(29) = -.955, p < .348$ and $t$-test results for ELIG were $t(29) = -.1.07, p < .098$. An independent sample $t$ test by language groups was conducted
to compare results of the language groups at posttest. The results were not found to be statistically significant, $t(58) = -.372, p < .711$.

**Multiple Regression Analyses**

Five separate multiple regression analyses (one for each measure in Spanish and English) were conducted to evaluate how well four predictor variables: pretest (corresponding to the posttest), language group (SLIG = 1 and ELIG = 2), age, and fidelity of implementation scores predicted vocabulary gains (see Table 8).

In conjunction with the multiple regression analysis, Pearson correlation analyses were conducted to examine the relationship between the predictor variables. There were no significant correlations among language group, age, or fidelity of implementation. This finding indicates that age and fidelity of implementation did not function as predictive factors. The preNWDT-M in English positively correlated with age and the preCVPT-English measure. The older the children the better they performed on the
Table 8

Multiple Regression Equations

<table>
<thead>
<tr>
<th>Child sample</th>
<th>Vocabulary scores</th>
<th>Regression equations</th>
</tr>
</thead>
<tbody>
<tr>
<td>N = 60</td>
<td>Receptive ROWPVT-Spanish-English Bilingual</td>
<td>$Y_{post} = B_0 + B_1X_{pre} + B_2X_{age} + B_3X_{Langrp} + B_4X_{fidel}$</td>
</tr>
<tr>
<td>N = 60</td>
<td>Expressive CBVPT-English Version</td>
<td>$Y_{post} = B_0 + B_1X_{pre} + B_2X_{age} + B_3X_{Langrp} + B_4X_{fidel}$</td>
</tr>
<tr>
<td>N = 60</td>
<td>Expressive CBVPT-Spanish Version</td>
<td>$Y_{post} = B_0 + B_1X_{pre} + B_2X_{age} + B_3X_{Langrp} + B_4X_{fidel}$</td>
</tr>
<tr>
<td>N = 60</td>
<td>Expressive NWDT-M – English</td>
<td>$Y_{post} = B_0 + B_1X_{pre} + B_2X_{age} + B_3X_{Langrp} + B_4X_{fidel}$</td>
</tr>
<tr>
<td>N = 60</td>
<td>Expressive NWDT-M – Spanish</td>
<td>$Y_{post} = B_0 + B_1X_{pre} + B_2X_{age} + B_3X_{Langrp} + B_4X_{fidel}$</td>
</tr>
</tbody>
</table>

preCVPT English measure. There was also a significantly positive relationship between the preNWDT-M Spanish scores and the preCBVPT-Spanish scores, showing that the two measures correlated at pretest. Finally, the ROWPVT-SBE correlated significantly with age, the preCBVPT-Spanish scores and the English and Spanish pretest versions of the NWDT-M. Table 9 summarizes the correlations by variables.

The main independent variable of interest was the language of the intervention, Spanish or English. The covariates included: age, fidelity and pretest scores for each dependent variable. This regression model controlled for pretest scores on the same test in the same language as the posttest. The posttest scores were used as the dependent variable rather than gain scores because there were no statistically significant differences at pretest between the measures.

The age and treatment fidelity variables with the English and Spanish versions of the CBVPT were not predictive of the outcomes and were not significant. The multiple regression for the CBVPT revealed higher English vocabulary for the ELIG $\beta = 1.79, p = .020$ and predicted lower performance on both of the Spanish measures. Pretest scores
Table 9

Correlations

<table>
<thead>
<tr>
<th>Variables</th>
<th>Langgrp</th>
<th>Age</th>
<th>Small group fidelity</th>
<th>preCVPT- English</th>
<th>preCBVT- Spanish</th>
<th>PreNWDT- English</th>
<th>PreNWDT- Spanish</th>
<th>PreRO WPVT</th>
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<td>Langgrp</td>
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<td>.384**</td>
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<td>-.078</td>
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<td>.178</td>
<td>.509**</td>
<td>.313*</td>
<td>.422**</td>
<td></td>
</tr>
</tbody>
</table>

** Correlation is significant at the 0.01 level (2-tailed).
* Correlation is significant at the 0.05 level (2-tailed).

predicted the posttest results for the Spanish CBVPT and were found statistically significant β =1.84, p = .001), adjusted R² = .247. These results suggest that participation by language group was found to be the stronger predictor of Spanish and English targeted word-learning growth. This means that the English instruction improved English-word learning and the Spanish instruction improved Spanish-word learning. The pretest scores for Spanish word breadth, English-word depth and Spanish-word depth were predictive of the posttest scores on these measures. In other words, Spanish scores at pretest predicted the growth of the Spanish breadth and English and Spanish word depth.

Keeping all other variables constant, on average, the ELIG predicted a negative gain of 4.58 fewer words on the Spanish NWDT-M than SLIG children. This means that the English language intervention predicted lower scores on the Spanish NWDT-M and this was significant at a p value of .001. The language of intervention was the strongest
predictor variable for the CBVPT-Spanish and the English and Spanish NWDT-M.

The English pre-NWDT-M was a predictor variable for English post-NWDT-M and was found significant, $\beta = 2.22, p = .001$, adjusted $R^2 = .198$. Note that the adjusted $R^2$ provides a more accurate effect size based on the sample size in this study. There was a significant relationship between Spanish NWDT-M pre-and posttest, $\beta = 1.76, p = .001$, adjusted $R^2 = .352$ effect size. Children’s Spanish pretest definitional scores predicted children’s posttest scores in Spanish (refer to Table 10). Higher Spanish pretest scores predicted higher posttest scores in Spanish.

Regarding receptive vocabulary acquisition, the multiple regression analysis results showed that the pretest ROWVPT-SBE scores were found significant predictors of posttest scores with $\beta = 5.31, p = .001$. In other words, children who scored high on the pretest, scored high on the posttest (see Table 10.)

In summary, the results of preteaching target vocabulary in small-groups, in English or Spanish, using images and developmentally appropriate word definitions, indicate that explicit instruction for both language intervention groups (SLIG & ELIG) had a positive impact on expressive and receptive vocabulary in both languages. This study found that instruction in both languages supported vocabulary growth: target word breadth and depth gains were found significant for both groups. As would be expected, the SLIG made higher gains in Spanish and the ELIG made higher gains in English target vocabulary. No significant differences were observed in the standard measure of receptive vocabulary. A discussion of key findings and possible implications is presented in Chapter V.
### Table 10

**Multiple Regression Analyses**

<table>
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<th>Post score variables</th>
<th>β (English, n = 60)</th>
<th>t (English, n = 60)</th>
<th>p (English, n = 60)</th>
<th>R² (English, n = 60)</th>
<th>Adj. R² (English, n = 60)</th>
<th>β (Spanish, n = 59)</th>
<th>t (Spanish, n = 59)</th>
<th>p (Spanish, n = 59)</th>
<th>R² (Spanish, n = 59)</th>
<th>Adj. R² (Spanish, n = 59)</th>
<th>β (Spanish English Bilingual, n = 60)</th>
<th>t (Spanish English Bilingual, n = 60)</th>
<th>p (Spanish English Bilingual, n = 60)</th>
<th>R² (Spanish English Bilingual, n = 60)</th>
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<td>-13.60</td>
<td>-.430</td>
<td>.672</td>
<td>.10</td>
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<td>.83</td>
<td>.412</td>
<td>1.84</td>
<td>4.13*</td>
<td>.001</td>
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<td></td>
<td>2.22</td>
<td>3.42*</td>
<td>.001</td>
<td>1.80</td>
<td>5.15*</td>
<td>.001</td>
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* Significant at the .05 level (2-tailed).
CHAPTER V
DISCUSSION

Vocabulary knowledge is one of the strongest predictors of reading success and academic outcomes (National Early Literacy Panel, 2008). In their recent synthesis of research involving 36 studies on book-reading practices and vocabulary acquisition, Wasik, Hindman and Snell (2016), found that in early childhood programs, reading books aloud to children is the most common strategy for introducing and teaching vocabulary words. While striving to identify effective vocabulary building strategies, their strategic review of reading and vocabulary studies focused primarily on monolingual learners. Although some studies reflected diverse populations in early childhood, the synthesis did not address DLLs and vocabulary acquisition directly. Fewer studies have examined the effectiveness of instruction using read-alouds for vocabulary development with young DLLs (Gillanders et al., 2014; Hammer et al., 2007, 2014; Huennekens & Xu, 2016).

This current study adds to the extant literature for DLLs by investigating two instructional approaches to preteach vocabulary in English or Spanish, using images and developmentally appropriate definitions, prior to a read-aloud in English. The findings from this research inform the field regarding specific vocabulary instructional approaches that consider the breadth and depth of vocabulary acquisition, the number of words targeted, the frequency of word exposures, and dosage of vocabulary instruction, while examining the fidelity of implementation of these approaches (Marulis & Neuman, 2010; Wasik et al., 2016; Wright & Neuman, 2014). The findings also contribute to the existing research that has investigated the role of language of vocabulary instruction in
supporting English and Spanish vocabulary development of preschool DLLs (Biemiller & Boote, 2006; Goldenberg & et al., 2013; Huennekens & Xu, 2016; Leacox & Jackson 2014; Lugo-Neris et al., 2010; Mendez et al., 2015). Following are the implications for instruction of this study as well as its contribution to the literature.

**Vocabulary Breadth**

Bilingual instruction research with preschoolers and primary-grade children has shown that providing definitions and images for new words in their home language corresponds with an increase in children’s expressive and receptive knowledge of the words (breadth) over reading them alone (Biemiller & Boote, 2006; Huennekens & Xu, 2016; Justice et al., 2005; Leacox & Jackson 2014; Lugo-Neris et al., 2010; Mendez et al., 2015; Penno et al., 2002). The findings in this study converge with these previous studies, also showing an increase in target vocabulary for both intervention groups. What this study adds to the research in terms of vocabulary acquisition for DLLs, is the gain score comparison in Spanish and English for each of the language intervention groups. Interestingly, while receiving explicit vocabulary instruction in one language (Spanish or English) prior to the read-aloud, both intervention groups increased their target vocabulary in both English and Spanish. The ELIG children not only increased their target vocabulary in English, but also correctly identified approximately three more target words in Spanish, despite receiving no direct instruction of these words in Spanish. The Spanish intervention group also increased its English target word acquisition by about two words. One might argue that the Spanish intervention group increased their English
target word knowledge based on the implicit exposure to the words in English during the daily read-aloud, although the read-aloud intervention did not define or explicitly teach the target vocabulary. The question remains as to how the ELIG children increased their Spanish target vocabulary without any explicit or implicit instruction or Spanish read-aloud. The researcher was careful to control for cross-language contamination with separation of small groups during the intervention. Furthermore, the Spanish intervention was inserted into an otherwise predominantly English-language curriculum, with very little direct instruction or conversation in Spanish.

One possible explanation is home language exposure. To clarify, the Family Home Language Survey identified all DLLs in this sample as children as Spanish-English bilinguals, and the percentage of English and Spanish language use in the home was identified. However, this study didn’t investigate the relationship between level of the home language exposure and gains observed on the language measures used in this study. Children could have been learning new words in their home environments but it seems unlikely that there would have been exposure to the target vocabulary.

**Vocabulary Depth**

The findings on depth of vocabulary acquisition showed the various ways that the Spanish and English language-of-intervention groups defined the target words based on the number of individual responses (points scored) and how their responses fell into word categories. The results for both intervention groups showed that significant gains were made in English and Spanish for each of the groups in definitional vocabulary. Again,
both of the intervention groups had higher vocabulary gains in the language of intervention. However, two findings are important to note. First, the SLIG children performed almost as well as the ELIG on the English definitional responses, with gains of 6.01 points in English definitional responses as compared to the ELIG children with 6.66 points on definitional responses. However, children in the SLIG only received implicit English target word exposure in the daily read-aloud. In prior studies, implicit instruction alone did not have as great an effect as combining direct explicit instruction with implicit instruction (Neuman & Wright, 2014; Silverman, 2007a). It could be that explicit exposure to the same target vocabulary in Spanish led to English vocabulary acquisition. In other words, the SLIG students’ conceptual knowledge in Spanish appeared to bridge their ability to determine the meaning of new words in English. The ELIG children had a definitional response gain of 5.28 points at posttest on the Spanish NWDT-M without any Spanish vocabulary exposure. Perhaps, along with their SLIG counterparts, their conceptual knowledge gains and knowing terms in English bridged their ability to determine the meaning of unfamiliar Spanish words. While the overall results show no significant difference between the language intervention groups in breadth and depth of vocabulary acquisition, the results do add some evidence that DLLs, whether instructed in English or Spanish, can acquire new English vocabulary understanding, while simultaneously maintaining and increasing their vocabulary skills in their home language. These findings align with Restrepo, Morgan, and Thompson’s (2011) investigation where DLLs with language impairment had stronger expressive and receptive vocabulary after a bilingual versus English-only vocabulary intervention. Their results as well as the results
of the current study support the idea that bilingual interventions support native- and second-language vocabulary development.

**Spanish Instruction and Dual Language Learner Preschoolers**

Based on mean gain scores, the results indicate that bilingual vocabulary instruction appears to advance breadth of vocabulary acquisition in English and Spanish. The ELIG and SLIG demonstrated statistically significant increases in English and Spanish target vocabulary. For breadth of vocabulary acquisition, the Spanish group didn’t learn as many target vocabulary words in English. However, the difference in English acquisition between the two groups could be because the SLIG children did not receive explicit instruction with English vocabulary, and the only exposure to the target words in English was through the read-aloud. Previous studies report a greater increase in English vocabulary following an explicit use of both languages in the instruction approach compared with English-only instruction (Farver et al., 2009; Lugo-Neris et al., 2010; Mendez et al., 2015).

Increases in depth of vocabulary acquisition align with the Leacox and Jackson (2014) study that found that home-language vocabulary support during repeated readings increased word learning with young DLL children. Leacox and Jackson provided word definitions in the home language and posited that home language instruction may link or bridge between the Spanish conceptual vocabulary that children have stored and the new Spanish and English vocabulary words learned. The findings of this study show similar results with gains in Spanish and English conceptual vocabulary acquisition. The
difference in this study was the preteaching of the vocabulary words in small groups prior
to the read-aloud rather than during the reading. Findings show that both intervention
groups’ responses to the definitional task increased. Combining Spanish and English
instruction for young DLLs might lead to improved Spanish and English vocabulary
outcomes (breadth and depth). However, the results in this study show that explicit
English instruction supported English-word learning while explicit Spanish vocabulary
instruction supported English depth-of-vocabulary acquisition but minimally supported
breadth of acquisition with only one to two English word increases over the six-week
intervention. While previous studies suggest that a systematic bilingual instructional
delivery does not seem to hinder English vocabulary development further replications of
this study involving children’s proficiency levels would provide further information
(Beimiller & Boote, 2006; Farver et al., 2009; Restrepo et al., 2013).

There is also growing evidence that strong home-language skills (in Spanish, for
example) support the development of strong English-language skills (August &
Shanahan, 2006; Lugo-Neris et al., 2010; Perozzi & Sanchez, 1992; Ryan, 2005; Ulanoff
& Pucci, 1999). This study adds to the existing literature that suggests that young
children who are learning two languages can apply what they learn and know in their
home language to support or bridge their English vocabulary. This is suggested by the
results of the NWDT-M for definitional vocabulary depth gain scores. The SLIG showed
almost equal definitional variety on the English measure. Essentially, this could imply
that the SLIG children were more able to verbalize their target word knowledge in
English at posttest, based on the 5-minute daily doses of Spanish instruction of the words.
with only hearing the English target vocabulary in the read-aloud. Indeed, the English definitional responses could be a transfer of Spanish word knowledge to the same English target vocabulary. Lastly, the results of this study also align with the Revised Hierarchical Model (RHM) theory proposed by Kroll and Stewart (1994). They hypothesized that younger DLLs, when exposed to English, rely on their home language in the early years in order to support their access to conceptual knowledge of the word in English. Findings related to depth of vocabulary knowledge indicate that gains for the SLIG and ELIG group were significant with medium to large effect sizes, based on the pre-post gain results. Therefore, it could be useful to teach young DLLs in their first language to facilitate the acquisition of new concepts and to create a larger store of background knowledge that can be accessed when learning new English vocabulary.

The DLLs in the SLIG group did acquire more vocabulary overall (when the numbers of Spanish and English words learned were totaled (15.74 points vs. 11.94 points gained). In addition, children in the SLIG provided more robust responses (using more language to define the target word and providing additional definitional categories with fewer nonresponses) on the definitional posttest in Spanish and English. This finding extends the (Goodrich, Lonigan, Kluever, & Farver, 2016) study that examined the development and transfer of expressive, receptive and definitional vocabulary knowledge of young DLLs, including translation equivalents (a word that corresponds to a word in another language; e.g., milk/leche). They found that although children’s Spanish vocabulary did not predict later breadth of vocabulary acquisition in Spanish or English, the acquired translation equivalents did provide some support for the transfer of
conceptual vocabulary knowledge across expressive and receptive measures. The correlative analysis in the current study found a positive correlation with the pretest measures Spanish (pre-CBVPT), the English and Spanish definitional measure (NWDT-M) and the receptive vocabulary measure (ROWPVT-SBE) showing that when the breadth of Spanish words increased so did the depth of knowledge of those words.

The current study also examined the vocabulary across the Spanish and English expressive measures looking at depth-of-vocabulary increases in word definitions. The target words and definitions were the same for both intervention groups and each child was tested in Spanish and English. Findings appear to show some evidence of transfer of conceptual vocabulary based on the definitional and categorical findings with significant gains on the English and Spanish NWDT-M at posttest. SLIG children increased their definitional/categorical responses on the English NWDT-M and provided as many or more responses to 6 of the 10 response categories at posttest with a 177-point increase overall. The ELIG children also increased their definitional responses on the Spanish expressive measure by 147 points. Perhaps the use of the same images and meaningful definitions taught explicitly in both language groups during a small-group intervention, strengthened the conceptual understanding or depth of word knowledge across the languages. Another possible consideration may be that the explicit instruction in the L1 increased metalinguistic awareness among these young children, which eventually supported language transfer and vocabulary development.

If English acquisition is the primary language goal, then it would appear that English-only instruction might be the best approach for word breadth acquisition.
However, underlying word knowledge includes understanding the concepts and ideas accompanying those words (Goldenberg, 2008; Neuman & Wright, 2014). Both intervention groups gained in conceptual understanding of target words that resulted in medium to large effect sizes in both language measures in English and Spanish.

Several other important findings from this study that warrant further discussion include the relatively small dosage of explicit vocabulary instruction that this study provided, the implementation of a combined instructional approach, and the number of targeted vocabulary words taught weekly.

**Explicit and Implicit Exposure to Vocabulary**

Intentionally preteaching the vocabulary in small groups and teachers repeating the vocabulary in English again while reading the book provided both explicit and implicit word exposure that seems to have supported vocabulary acquisition for both language intervention groups, at least in the language of instruction (Huennekens & Xu, 2016; Mendez et al., 2015; Swartz, 2014). The results advance the vocabulary instruction research that both the breadth of target vocabulary (number of words acquired), as well as the depth (conceptual understanding of new words) can be increased when using an explicit instructional approach preteaching with images and word definitions in Spanish or English. Wright and Neuman (2014) also reported that vocabulary gains were higher when target words were discussed explicitly rather than just listening to a story. Findings on the breadth of vocabulary knowledge seem to show that gains were more a result of the small-group intervention (explicit instruction) with almost twice as many target words
learned in the language of the intervention. Not surprising, both intervention groups made the strongest gains in their language of intervention, yet the Spanish intervention group made larger gains in Spanish breadth of vocabulary than the ELIG did in English breadth of vocabulary, even given that the ELIG were exposed to the English vocabulary twice, both explicitly and implicitly with the story reading. The gains for SLIG without any implicit instruction in Spanish are in contrast to what has been found in previous studies that found both explicit and implicit instruction together made the notable difference in vocabulary breadth increases for DLLs (Coyne, McCoach, & Capp, 2007; Silverman, 2007(a). However, in this study the SLIG increased their English word breadth by almost two words without any implicit instruction in Spanish.

**Pragmatic and Efficient Intervention**

Findings from Marulis and Neuman’s (2010) meta-analysis study showed that vocabulary instruction demonstrated a large effect (.88) for preschoolers’ word learning. The current study examined two small groups, a Spanish Language Intervention Group (SLIG) and the English Language Intervention Group (ELIG), which received explicit vocabulary instruction for an average small-group time of approximately five minutes a day for four consecutive days over six weeks of intervention. For each daily small-group lesson, the instructors taught or reviewed six target words. The brief but frequent sessions resulted in increases in word acquisition and conceptual understanding of the target words in both languages for both intervention groups. In a similar study, Méndez et al. (2015) showed receptive language gains after a 5-week bilingual intervention with
20 minutes of explicit instruction 3 days a week with six target words. They found that children who received instruction in Spanish and English learned an average of 5.65 Spanish words and 7.69 English words receptively. Their English-only group gained an average of 2.04 Spanish receptive words and 5.65 English receptive words. As compared to the bilingual group intervention in the Méndez et al. study, this intervention provided a shorter, explicit instructional time (5 minutes daily vs. 20 minutes daily of various instructional strategies, including word definitions, book reading) with two weeks of the same target vocabulary and preteaching before the separate read-aloud in English. This study found that while the SLIG gained 5.53 Spanish words, they only gained 1.7 words in English as compared to Mendez’s bilingual instructional strategy whose children made 7.69 receptive English word gain. Perhaps a daily dosage of explicit English instruction in addition to the Spanish explicit instruction would have increased English word gains for the SLIG children.

**Delivery of Intervention**

This study shows evidence of a successfully implemented vocabulary intervention by trained classroom teachers, assistant teachers and parent volunteers. This study corroborates previous findings and adds evidence that classroom teachers with a range of teaching experience and education can successfully deliver an instructional strategy that is pragmatic, short, and clearly defined. While only two parent volunteers participated in the study, they were also involved in the training and were able to maintain the quality of instruction in Spanish alongside the classroom teachers. Typically, in vocabulary intervention studies with DLLs, bilingual graduate student researchers have delivered the
vocabulary instruction (Farver et al., 2009; Huennekens & Hu, 2016; Lugo-Neris et al., 2010; Mendez et al., 2015). There are several comparable studies, however, that have included classroom teachers as interventionists and these researchers found that trained teachers can implement vocabulary instruction successfully (Biemiller & Boote, 2006; Durán et al., 2013; Leacox & Jackson, 2014). The use of prescribed definitions provided on the back of the image cards helped to make the intervention easy to deliver and data show that the teaching staff and parent volunteers could implement the intervention with fidelity in a small-group context.

**Characteristics of Words Defined and Taught**

Another important consideration in a vocabulary instructional approach is deciding how many target words to teach within a given timeframe. Too many target vocabulary words could overwhelm a child when presented in close proximity (Graves, 2009). For this intervention, six novel words from the storybooks in English and Spanish were targeted weekly for a total of 18 words across 6 weeks. It was important not to select too many words based on the short duration of the study, the academic nature of the selected terms, and the number of exposures to each word. This intervention targeted 11 Spanish nouns and 10 English nouns. There were seven Spanish verbs and eight English verbs. All nouns were defined using the function of the word and often a brief description or a synonym. Using lifelike images when teaching new words and defining nouns by function (providing the purpose of the word or what it is used for) and then connecting the words in the context of a read-aloud was an age-appropriate combination to help young children understand these word meanings (Hadley et al., 2015; Wasik et
al., 2016). From examining the target word responses and categorizing them into the categorical responses on the NWDT-M measure, the findings show that the children typically responded or defined nouns by providing either the function of the word or a synonym. This would be expected because this is how the words were defined in the intervention. The verb responses were more often defined by synonyms, basic context and sometimes gestures.

In addition, comparing the number of nonresponses or do not know (NRs) pre- to posttest between the intervention groups on the English and Spanish measure provided an interesting finding. On the English version of the NWDT-M the ELIG children’s nonresponses declined by 10%, and the SLIG children reduced their nonresponses by 9%. On the Spanish version, the ELIG reduced their nonresponses by 3.4 % or eight responses. The SLIG reduced their nonresponses by 27% or 75 definitional responses. In other words, the number of nonresponses for the Spanish intervention group on the Spanish definitional measure declined considerably but the ELIG nonresponse results were comparable to the SLIG nonresponse rate on the English definition test. This could be interpreted two ways; either the SLIG had increased conceptual knowledge based on the intervention or the SLIG children had more comfort and confidence speaking in the language that they knew and understood best. Both of these interpretations are important to consider in a setting that instructs using the home language and English because the use of both languages in a preschool environment could encourage and support more robust language use.
Vocabulary Instruction, Word Knowledge and Linguistic Awareness

In the current study, there were increases in Spanish and English target-word learning for the ELIG and the SLIG. Repetition of new vocabulary, simple definitions and connections to the child’s world likely contributed to vocabulary acquisition among DLLs. The multiple exposures in different contexts (small group and story read-aloud) have been effective for enhancing both English and Spanish vocabulary acquisition among DLLs in previous studies (Marulis & Neuman, 2010; 2013; Silverman & Hines, 2009).

The research design elements of this 6-week intervention provided a stronger dosage of vocabulary instruction by preteaching the words before the story reading in addition to hearing the words again in context during the read-aloud lesson. Target words were also pretaught twice in two rotations over the 6 weeks. The combined number of Spanish and English target words learned as a consequence of small-group and large-group exposures for the ELIG was approximately 5-6 words overall and for the SLIG, approximately 7.5 words by the end of the 6-week intervention. In other words, at posttest, the preschoolers who received just minutes of Spanish-word instruction prior to the large-group read aloud in English, acquired 7.5 words total in English and Spanish. Those receiving English preteaching learned 5-6 words in English and Spanish. One might predict that the ELIG would show greater total-word gains because they received instruction and heard the same words again in the book-reading context. A possible explanation for these results is that the children used their acquisition of the Spanish novel target vocabulary to map onto the English target vocabulary (Goodrich et al.,
2016). For example, “a child that knows the word “saltamontes” in Spanish may be ready for and seek to acquire the word “grasshopper” in English. All of the conceptual information about this concept can be transferred across languages (e.g., insect, green, jumping) because the vocabulary needed to describe the concept in English or L2, is known.” (Goodrich et al., 2016, p. 972).

**Fidelity of Implementation**

A key finding in the Wasik et al. (2016) study was that over half of the 36 studies reviewed did not include a fidelity of implementation measure. In the results of their study, the authors suggest that the nuances in how treatments are delivered can help or hinder children’s vocabulary outcomes. This current vocabulary intervention focused on how instructors implemented the small-group interventions as well as the large-group intervention. Training and ongoing support of the interventions were provided for the specific practices and were documented based on weekly recorded and in-vivo observations. The small-group interventions were found to have been implemented with 90% fidelity. These findings are important and provide further information on how vocabulary instruction is delivered and how instructors can implement vocabulary interventions with integrity. The fidelity results provide further information to existing studies on the exact teaching steps that instructors were able to implement for vocabulary instruction for DLLs.
Limitations

This study was carefully designed to avoid some of the limitations noted in previous studies, however, it could not avoid all possible limitations. This study was implemented within the last 9 weeks of the Head Start school year, which limited the duration of the intervention to 6 weeks. If there had been extended exposure to vocabulary instruction and more words taught, it seems that breadth and depth of vocabulary acquisition might have increased because of the additional instructional time. There would have been more opportunity to review vocabulary and teach additional vocabulary associated with other trade books. There was a short timeframe of seven weeks from pretesting to posttesting. In order to reduce the chance of a familiarity effect, the order of the presentation of words was randomized during both testing periods. Nevertheless, this short timeframe may have influenced children’s posttest scores based on practice effects.

Another possible limitation reflects the frequent nonresponses in both languages on the definitional assessment at pretest and posttest. Several reasons might explain this finding, such as the novelty of the target vocabulary in both languages, unfamiliarity with the adults conducting the assessment, or the oral nature of the assessment (no pictures or cues were provided when children were asked to define a word).

Another limitation that should be acknowledged concerns the small-group fidelity checklist item “Did teachers use the correct daily script (Day 1, 2, 3 or 4) when teaching the small group?” The fidelity results indicated that the Spanish interventionists (teachers, assistant teachers and parents) followed the correct daily script 81% of the time.
and those teaching small groups in English 94% of the time. The difference in fidelity of this one item on the checklist could have been due to the fact that the small-group Spanish interventionists needed more support when delivering small-group lessons, because they did not have as much prior experience with explicit instruction in general. It should be noted, however, that despite being off-script more than the English interventionists, the Spanish intervention yielded measurable Spanish-target word learning.

Based on the research design of this study, the images and definitions were bundled as one approach and were delivered simultaneously. This limited the ability to analyze any possible effects of each instructional approach. While the approach was well conceived and delivered as intended, it is not clear whether the images or the verbal definitions had any separate influence on the children’s word learning. However, it is reasonable to share both visual cues and verbal explanations when teaching new words to young children. While randomly divided into two intervention groups, there was a range in numbers of children in small groups. While some classrooms had a group of two, there were two classrooms with small groups of six children, thus those DLLs in smaller groups might have received more practice to use the new vocabulary within the average small group time.

Finally, although this intervention targeted preteaching of both nouns and verbs, the comparison of the word type was not analyzed primarily due to limited time and resources and the few adjectives and adverbs actually identified in the three storybook texts. The study of word types and their comparisons will be important to consider in
future studies of vocabulary acquisition for DLLs, in order to examine which words might be more easily acquired and to investigate further how word types are learned and defined by children on definitional vocabulary tasks.

**Instructional Implications**

Beck and McKeown (2007) posit that studies have shown that explicit instruction can build breadth and depth of vocabulary knowledge in young children. There are evidence-based recommendations that address the challenge of teaching English learners in the elementary and middle grades which explains that DLLs not responding to core instruction likely need systematic and targeted interventions (Baker et al., 2014). The results of this study converge with this research, showing that direct and systematic vocabulary instruction taught using developmentally appropriate and meaningful strategies can build children’s novel word learning in conjunction with read-alouds (Coyne et al., 2009; Hadley et al., 2015; Méndez et al., 2015).

Key factors that stand out in the current study include small-group instruction with visuals and functional word definitions and consistent doses of explicit instruction using age-appropriate approaches that can be implemented efficiently by classroom teachers within a short time in the instructional day. This study suggests that clinicians and teachers may enhance vocabulary instruction by preteaching via repeated exposures using vocabulary images and word definitions within meaningful contexts. For home language maintenance and for support of conceptual knowledge acquisition in English, use of Spanish to support vocabulary acquisition might be a useful way to teach novel
words for young DLLs. Based on the gain score findings with a high number of responses in word function and with synonyms, from the post New Word Definition Test-M in English and Spanish, practitioners working with DLLs might consider explaining new English and Spanish words with easy-to-understand input by providing semantic features (e.g. words with multiple meanings like to build, which can mean construct, compose, make, or create) and definitions in the child’s first language. Using the child’s home language or Spanish to promote English acquisition could provide additional benefits such as, maintenance of the home language and promotion of self-identity, which leads to confidence and stronger-self-efficacy for later conventional reading (Gutierrez-Clellen, 1999). In order to implement these vocabulary strategies with young DLLs in Spanish, monolingual educators may need to collaborate with bilingual teachers, parents, and teacher assistants who speak the children’s home language.

Training in this study provided instructors to teach with a high fidelity of implementation (90%). Children, on average, were reportedly engaged during the Spanish instruction more than when lessons were conducted in English and the analysis of engagement between the two groups based on an independent $t$ test found the difference significant in favor of the SLIG, $(M = 4.9, SD = .21)$ vs. ELIG $(M = 4.7, SD = .10)$; conditions, $t(41)=2.37, p = 0.02$. Small-group instruction allows for more frequent and individual engagement, more opportunity to practice new words and time for each child to respond and receive individual attention (Wasik, 2008). Perhaps the SLIG was also more engaged because the children were more comfortable and confident in their word understanding based on the comprehension of the language of instruction.
The provision of on-going professional development could support personnel, parents, and teachers to become skilled at providing vocabulary instruction individually and in small groups as well as instruction of new words that builds on what children already know.

**Recommendations for Future Research**

This study’s findings suggest that the Spanish intervention of introducing novel target vocabulary words prior to an English RIA–DL story-book reading resulted in growth in the children’s expressive vocabulary breadth and understanding of the target vocabulary words in Spanish and English. Conducted over an entire school year, the effect of a Spanish versus English intervention approach might offer more understanding regarding novel vocabulary acquisition for DLLs. The SLIG children in this study showed almost equal definitional responses on the English measure as the ELIG children. Further research in word depth, and how DLLs use their existing background knowledge in their home language to build conceptual word understanding would be worth further exploration as increasing conceptual understanding could provide insight into how children define and comprehend new words. Continuing to investigate the role of first language on second language acquisition will add to the current research about transfer of vocabulary conceptual knowledge (Goldenberg, 2008; Goodrich et al., 2016; Leacox & Jackson, 2014). Further analysis of word group usage could be explored as bilingual researchers suggest that younger children learning English typically learn verbs earlier than they learn nouns and other parts of speech (Goldstein, 2012; Peña & Bedore, 2012).
Additional research could also target young DLLs’ cognate awareness for word connections that enhance word knowledge and conceptual understanding at the preschool level (August, Carlo, Dressler, & Snow, 2005; Pérez et al., 2010). While this study found that the training supported classroom teachers to implement vocabulary instruction with fidelity, future studies could offer further investigation of the effect of professional development in literacy instruction for classroom teachers serving DLLs.

**Conclusion**

This study’s results help to inform vocabulary instruction for DLLs by providing results from the type of information that teachers use to define and explain new words, for example, by function or by providing a synonym of a new word. Considering the existing research on DLLs and vocabulary instruction, this research went beyond just exploring the breadth of vocabulary acquisition and measured the depth of target vocabulary conceptual understanding. It also measured expressive as well as, general receptive vocabulary growth. This study informs the field by demonstrating that even brief but consistent vocabulary instruction that is intentionally planned appears to support breadth and depth of vocabulary knowledge of target words. Clearly some results were unexpected (i.e., the ELIG group gaining 5.3 words in Spanish with no explicit instruction). Results showed little gain for the SLIG in English vocabulary breadth of acquisition even though the students received explicit instruction in their home language and implicit vocabulary instruction through the read-aloud. Thus, the study reveals the challenge of understanding and supporting language development among young children.
and dual language learners. Assessing DLLs proficiency levels in English and Spanish prior to the intervention would be an important step for future vocabulary studies with young DLLs in order to examine for whom the intervention worked best. Considering each DLLs proficiency levels would provide more answers to how those who need the most support can be better served via explicit instruction. Yet, providing a practical, easily implemented, explicit instructional approach using images and functional definitions in children’s home language and English appeared to support vocabulary learning for the target words among DLLs. An intervention involving realistic images, developmentally appropriate definitions and the use of two languages for instruction is a minimal investment for vocabulary acquisition that could lead to improvement in reading skills and comprehension for DLLs.
REFERENCES


Appendix A

Dual Language Vocabulary Coding Sheet
Table A1

**Dual Language Vocabulary Coding Sheet**

<table>
<thead>
<tr>
<th>Authors and Year</th>
<th>Population/Participants (N, Sex, Setting, SES/Language)</th>
<th>Vocabulary Approaches–Duration, DL classroom type or English-only) and language of instruction</th>
<th>Design</th>
<th>Vocab. Measure/Assessment (If applicable)</th>
<th>Metrics</th>
<th>Findings</th>
</tr>
</thead>
<tbody>
<tr>
<td>Biemiller &amp; Boote (2006)</td>
<td>43 kindergartens (24 girls), 37 Grade 1 (13 girls), and 32 Grade 2 (14 girls) 50% ELL low and middle SES Two studies</td>
<td>Study 1 - information about the role of pretesting and numbers of times stories were read with direct explanation, compare learning word meanings with two versus four readings. Books read 2 x’s in one week. Books were selected in consultation with the collaborating teachers and the school librarian. We attempted to select books that would be (a) interesting and (b) include a number of word meanings that the children might not know. All books were narrative fiction. All books at grade level Words selected: 48 word meanings Dale and O’Rourke’s (1981) <em>Living Word Vocabulary (LWV).</em></td>
<td>Experimental - pretest–posttest assessment of the effect of word meaning instruction during book reading versus repeated reading without instruction on the acquisition of word meanings. ANOVA – Study 1 Mixed model ANOVA – Study 2</td>
<td>Root Word Inventory; Biemiller &amp; Slonim, 2001 Pretest – LWV – Dale and Rourke, 1981</td>
<td>Across grades, pretest–posttest gains were 22% (SD 19%) for instructed words and 12% (SD 15%) for non-instructed words (d 0.53; see Table 2). F(1, 109) 19.715, p .001. An additional 10% gain occurred when word meanings were instructed in addition to repeated reading. Overall, 25% of all words were known at pretest and 42% were known at the posttest. The effect size, Cohen’s d, was 1.21 (Cohen, 1988). The main effect for pretest–posttest result was highly significant, F(1, 100) 182.726, p .001. Pretest–posttest differences had a nearly significant interaction with grade, F(2, 100) 2.986, p .06.</td>
<td>In all grades, children had higher scores on posttests. In kindergarten, there was little difference between two versus four readings. Gains were larger when meanings were instructed (23%) versus non-instructed (8%). Averages of 8.2 word meanings were gained per week in kindergarten. Adding two reviews of each word meaning taught and using teacher-supplied word meanings resulted in an increase from 22% gain in meanings known in Study 1 to 41% in Study 2. ELLs - levels of initial word knowledge had little effect on the amount of word knowledge gained.</td>
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<td>Calderón, Slavin &amp; Sanchez (2011)</td>
<td>Kindergarten to 5th grade – Effective Instruction for ELLs Spanish and English Instruction</td>
<td>Review of comprehensive reform models, as well as individual components of these models: school structures and leadership; language and literacy instruction; integration of language, literacy. - Cooperative learning - Success for All</td>
<td>Systematic Literature Review</td>
<td>PPVT-R</td>
<td>Reading comprehension</td>
<td>Word mastery</td>
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<td>Collins (2010)</td>
<td>N=80 typically developing (ELL) n =42 males n=38 females Age: 4-5-year olds Location: Northeastern U.S. At-risk: middle- to low-income families Portuguese English (L2)</td>
<td>- Storybooks were read to the children 1/wk for 3 wks in groups of 2-3 children. - Use of: 1. Pointing to illustration of the target word 2. Providing a general definition of the word 3. Providing a synonym, 4. Making a gesture of the word, when applicable 5. Using the word in a context different from that of the book. Control: - Reading of books without providing any components of rich input as described above</td>
<td>Experimental Research Design: Random assignment to groups (experimental, control, no story)</td>
<td>Vocabulary Target vocabulary test (TVT) PPVT-III English and Portuguese translation of the test</td>
<td>Matching of pairs on L2 receptive skills</td>
<td>Word learning $d=1.39$ L2 receptive language: $d=1.15$</td>
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<td>Coyne, McCoach, Loftus, Zipoli &amp; Kapp (2009)</td>
<td>42 Kindergarteners 4 yrs. 10 mos – 6 yrs, 1 mos. 69% Hispanic, 24% black, and 6% white. Approximately 65% low-SES</td>
<td>Vocabulary intervention for kindergarten students: comparing extended instruction of target words and incidental exposure. (Depth) Compared extended instruction of target words to embedded instruction within a story Small groups of 3-4 kindergarteners English-only instruction Interventionists - Graduate students</td>
<td>Experimental</td>
<td>PPVT-III – Receptive vocabulary Target words, two Questions that required a yes or no answer (Beck &amp; McKeown, 2007). “Is a duvet a warm blanket?” and “Is a duvet a fast car?” Expressive Author Based tests. Students were asked to provide a definition for each target word. For example, for the word <em>domicile</em> “What does the word <em>domicile</em> mean?” Students’ responses were recorded verbatim.</td>
<td>The main effects of word learning condition (Wilks’ .284; $F_{45.42}, p &lt; .001$), and time (Wilks’ .467; $F_{42.25}, p &lt; .001$), and the interaction between time and condition (Wilks’ .518; $F_{16.76}, p &lt; .001$) were significant. Results indicated that there were statistically significant differences at post-test favoring words taught with extended and embedded instruction over words receiving only incidental exposure during story reading on all measures.</td>
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<td>Dockrell et al. (2010)</td>
<td>3-5 year olds 3 Inner city preschools 1 year 96 ELLs at posttest Turkish, Amharic and Somali ELLs Small groups 4-5 children</td>
<td>Talking Time Intervention (Britain) Exposures to specific word meanings, visual material and acting out. Play acting around themes targeting key vocabulary, N, V and ADJ; structured discussions around books/pictures; prediction and linked to children’s own experiences; narrative support; describe and discuss events/photos of</td>
<td>Experimental</td>
<td>Pretest BAS-II: Picture Similarities and Blick Building Subtests &amp; Verbal Comprehension and Naming Vocabulary Narrative Skills – Bus Story Test &amp; GAPS: Grammar and Phonology Measure Pretest scores were significant in analysis of each measure (Block Building: $f(1,95) = 4398$, $p &lt; .0005$; Picture Similarities: $F(1,95) = 7.72, p &lt; .0005$; Nonword Repetition: $f(1,91) = 8.47, p &lt; .005$). Improvement in Receptive and Expressive Language Data were analyzed for the ELL. The intervention had a significant effect on vocabulary, oral comprehension, and sentence repetition but not narrative skills.</td>
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<td>Durán, Roseth, Hoffman &amp; Robertshaw (2013)</td>
<td>31 Spanish-speaking preschoolers (aged 38–48 months) Head Start</td>
<td>Compared Story time intervention with Talking time intervention English Instruction only</td>
<td>Longitudinal Experimental TBE experimental or control conditions</td>
<td>Followed into Kindergarten</td>
<td></td>
<td>The emergent literacy skills of Spanish-speaking ELL pre-school children can be significantly enhanced, relative to traditional early childhood education, using a small-group emergent literacy intervention. Both the English-only and the transitional Spanish-to-English models were both effective when compared to the control group. The transitional group outperformed the English-only group on English Definitional Vocabulary and English Print Knowledge for the Spanish-language outcomes, only the transitional model was</td>
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<td>Farver, Lonigan, &amp; Eppe (2009)</td>
<td>N=94 10 classes Age: M=54.51 months Location: inner-city neighborhood of Los Angeles, California, US Setting: small group (4-5 children) in separate quiet classroom</td>
<td>Daily reading Transitional bilingual classroom vs. and English only classroom</td>
<td>Experimental Research Design: Random assignment (English only, Spanish moving to English) Questionnaire about Home Literacy Receptive Vocabulary Definitional Vocabulary Blending</td>
<td>Parent demographic Questionnaires</td>
<td>English only: Rec. vocab: ( d = 0.23 ) Def. vocab: ( d = 0.39 ) Spanish language outcomes Rec. vocab: ( d = 0.49 ) Def. vocab: ( d = 0.36 )</td>
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<td>Goldstein, Greenwood, McCune, Carta, Atwater, Guerrero, McCarthy, Schneider, &amp; Spencer (2016)</td>
<td>N= 163 In 32 public pre-k classrooms in Ohio and Kansas Mean age = 58 mos. 18% ELLs</td>
<td>Small group intervention in listening centers within the classroom. Embedded Instruction in Storybook reading. Hearing storybooks with and without embedded vocabulary and comprehension lessons: Story Friends Curriculum To address vocabulary knowledge, sophisticated vocabulary words were targeted using explicit instruction. Vocabulary targets were selected by applying Beck and McKeown’s (2007; Beck, McKeown, &amp; Kucan, 2002) recommendations to teach challenging, high-utility vocabulary words that occur frequently in the language of adult language users and in</td>
<td>Experimental Cluster, Randomized design</td>
<td>Pre-Exp. E-IGDIs – Picture Naming and Which One Doesn’t Belong; (Bradfield et al., 2014) ID participants Pre-Post (PPVT-IV). And the CELF - P</td>
<td>Effect on children’s vocabulary (group ( \beta = 1.58, p &lt; .001, ) ( \text{Cohen’s } f^2 = .70)). The experimental group grew from a pretest mean of 0.60-word point (SD = 0.25) to a posttest mean of 4.00 (SD = 1.45), a mean gain of 3.40 word points per unit.</td>
<td>Preschoolers in the comparison condition did not learn novel, challenging vocabulary words to which they were exposed in story contexts, whereas preschoolers receiving embedded lessons demonstrated significant learning gains, although vocabulary learning diminished over the course of the school year. Modest gains in comprehension skills did not differ between the two groups.</td>
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<td>Hadley, Dickinson, Pasek, Golinkoff &amp; Nesbitt (2015)</td>
<td>N=240 mean age = 4 years 11.3 months, standard deviation = 4.8 months) 54% AA 22% Hispanic 13% Caucasian 6.6 % other 36 (15%) English learners 85 students HS 155 state preschool All low-SES</td>
<td>Read, Play and Learn Project Book-reading and play intervention for 8 weeks intervention Two books per Theme – read-aloud Ten target words per book—abstract and concrete nouns, verbs, and adjectives—were selected using the following procedures. As an initial step, we identified words in the story that were considered Tier 2, or sophisticated words of high utility (Beck et al., 2002), and would therefore need additional explanation • Drawing attention to the word and definitional information • Gestures and Words in Context • 10-min play condition followed each book reading Instruction in English only by Intervention Specialists</td>
<td>Experimental Pretest-Posttest 3 Within Subjects research design</td>
<td>Blewitt, Rump, Shaly, and Cook’s (2009) New Word Definition Test, renamed as the New Word Definition Test—Modified (NWDT–M) Descriptive statistics and Cronbach’s alpha Concrete and abstract nouns</td>
<td>Pretest–posttest effect sizes were 1.22 for target words, 0.26 for exposure words, and 0.22 for control words. This finding supports instructional methods that emphasize the importance of both giving definitions and teaching vocabulary in context for difficult words (Beck et al., 2002; Biemiller &amp; Boote, 2006; Coyne, Simmons, Kame’enui, &amp; Stoolmiller, 2004).</td>
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<p>| Hammer, Komanoff, Rodriguez, Lopez, Scarpino &amp; Goldstein (2012) | N= 191 families and children from 2 parent homes Mean age=59 mos. | Investigated factors that affect bilingual children’s vocabulary and story recall abilities in children’s Spanish and English instruction | Experimental | Data on parental characteristics and children’s exposure to and usage of Spanish and English were collected. Expressive Vocabulary scores: In English 2 (R = .61) and Sounds were explained by exposure to, and usage of, each language and maternal characteristics. Different sets of factors affected children’s vocab |  |  |</p>
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<td>Hammer, Lawrence &amp; Miccio (2007)</td>
<td>Head Start, School districts, and community-based preschools in urban areas of New Mexico, Florida and Pennsylvania. Mexican, Puerto Rican, or Cuban dialect of Spanish</td>
<td>Descriptive Peabody Picture</td>
<td>Receptive vocabulary (PPVT– III; Dunn &amp; Dunn, 1997) and Spanish (TVIP; Dunn, Padilla, Lugo, &amp; Dunn, 1986). Oral language comprehension - Receptive Language subtest of the Test of Early Language Development—3 (TELD–3; Hresko, Reid, &amp; Hammill, 1999) Spanish Auditory Comprehension subtest of the Preschool Language Scale—3, Spanish version (PLS–3; Zimmerman, Steiner, &amp; Pond, 1992). (TERA–2; Reid, Hresko, &amp; Hammill, 1991)</td>
<td>Spanish (R² = .55) Story recall scores in English (R² = .38) and Spanish (R² = .19)</td>
<td>and story recall abilities in each language. Spanish story recall, not supported by any of the aspects of language exposure Exposure and usage play significant roles in bilinguals lang. dev.</td>
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<td>Hindman &amp; Wasik (2015)</td>
<td>88 bilingual children (Spanish-English Min. 2-years Head Start Home English communication (HEC, n = 53) School English communication (SEC, n = 35) Mean age: 3.9 years</td>
<td>Descriptive Peabody Picture</td>
<td>Receptive vocabulary (PPVT– III; Dunn &amp; Dunn, 1997) and Spanish (TVIP; Dunn, Padilla, Lugo, &amp; Dunn, 1986). Oral language comprehension - Receptive Language subtest of the Test of Early Language Development—3 (TELD–3; Hresko, Reid, &amp; Hammill, 1999) Spanish Auditory Comprehension subtest of the Preschool Language Scale—3, Spanish version (PLS–3; Zimmerman, Steiner, &amp; Pond, 1992). (TERA–2; Reid, Hresko, &amp; Hammill, 1991)</td>
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<td>Howard, Páez, August, Barr, Kenyon &amp; Malabonga (2014)</td>
<td>All Spanish speakers Head Start</td>
<td>knowledge in English and Spanish Whatever the language of instruction, the global quality of instructional language matters, learning appears dependent upon rich, clear, and sophisticated explanations of words and concepts and complex feedback Children may learn more about vocabulary from more educated and experienced teachers Instruction in SP and English</td>
<td>Used existing FACES data and looked at predictors, i.e., quality of instruction Parent variables and teacher variables</td>
<td>Vocabulary Test-4 (PPVT; Dunn et al., 2007) = English Test de Vocabulario en Imagines Peabody (TVIP; Dunn et al., 1986), a Spanish-language measure</td>
<td>vocabulary score was 85.11 (SD = 12.42, range = 55–125), while the average English vocabulary score was 64.25 (SD = 18.97, range = 20–114), Spanish:</td>
<td>vocabulary learning increased more rapidly when teachers used higher quality language for explaining and discussing ideas, whereas vocabulary in both languages grew more slowly in classrooms where teachers reported providing more instruction about word meanings.</td>
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<td>Huennekens &amp; Xu (2016)</td>
<td>15 DLL preschoolers ages 4-5 Mid-Atlantic urban school system</td>
<td>Dialogic reading strategies embedded in a one-on-one storybook reading outside of the classroom 5-20 min sessions by</td>
<td>Single subject multiple baseline across subjects design</td>
<td>Get ready to read! Screening tool – revised (GRTR; Whitehurst &amp; Lonigan, 2009)</td>
<td>Spanish: Mean increase of 54% (SD = 17.5%) baseline to intervention phases. Effect size PND</td>
<td>Increased the participants’ Spanish and English language emergent literacy skills</td>
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<td>Justice, Meier &amp; Walpole (2005)</td>
<td>57 kindergarten students from two elementary schools (six classrooms) in a small urban community in a mid-Atlantic state. 13% Hispanic</td>
<td>Small-group storybook reading sessions on the acquisition of vocabulary words for kindergarten students at risk for reading difficulties. Children in the treatment group were further divided into small groups of three to six children. Students in the treatment group were exposed to 60 novel words from 10 storybooks. The reader provided the meaning and gave examples for 30 of the targeted 60 words. The other 30 words were given incidental exposure. Instruction in English Storybook selection</td>
<td>PPVT-III; Expressive One Word Picture Vocabulary Test—Revised</td>
<td>$F(2, 23) = 11.46, p &lt; .001 (\eta^2 = .5)$ and for time, $F(2, 23) = 16.21, p &lt; .001 (\eta^2 = .59)$; a significant Time \times Group interaction $p$ superseded these two main effects, $F(2, 23) = 6.54, p &lt; .006 (\eta^2 = .36)$.</td>
<td>Incidental exposure to novel words over four repeated readings resulted in negligible word learning for kindergarten children. Using an elaborated approach to learning novel words showed significant, but modest gains. The researchers suggest that due to the modest gains, storybook reading may not provide an efficient route to novel word learning.</td>
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<td>Leacox &amp; Jackson (2014)</td>
<td>24 bilingual Migrant 4-6 year olds (M=66.9 months) 8 males and 16 females</td>
<td>ELls and vocabulary instruction with storybook reading and technology enhanced English shared reading with electronic book using a Spanish bridging and multiple vocabulary strategies. 2 weeks for 3 days of instruction - counterbalances with one-week control and one-week treatment Book and word selection: 4 books, colorful pictures, basic storyline and repeated occurrence of vocab. words Field tested results and ease of picturing the item and categorization of concrete nouns. Field tested words prior to the intervention by assessing children English naming by asking “What is this?” Intervention in classroom by teachers</td>
<td>Experimental</td>
<td>PPVT-4 - III (Dunn &amp; Dunn, 2007), TVIP – (Dunn et al., 1986) Expressive On-Word Picture Vocab. Test - Sp.Bilingual Edition (Brownell, 2000) Verbal Proficiency – Pre-Las English and Spanish, 2000 (Duncan &amp; DeAvila, 1998) Researcher – dev. Tasks – Eng. Receptive, Eng. Naming and bilingual definitions.</td>
<td>Gain scores for each measure Cohen’s d effect sizes. Receptive: .34 (English adult readings) and 1.23 (TESB) Expressive English – large effect 1,12 Bilingual expressive definition 0.61 – medium effect size. English scores.</td>
<td>Supports providing vocabulary definitions with repeated readings. Multiple exposures supported increased word learning. Definitions provided in the home language – findings show that home language instruction may link or bridge between the vocabulary conceptual storehouse and the lexical label storehouse. Treatment condition, children with lower TVIP and Lower PreLas English scores made higher gains than those with higher TVIP and PreLas.</td>
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<td>Lipsky (2013)</td>
<td>23 teachers 210 children M = 47.8 months, SD = 6.3 42.9% dual language learners 51% were female, 61% were African American; 30.5% were Hispanic or</td>
<td>Definitional strategies used by teacher: .12 weeks 1. Defines word (child-friendly definition). Acts out meaning of word. Gives synonym. Points to picture of word. Uses recasts. Asks students to define word (“What is this?”) Intervention in classroom by teachers</td>
<td>Experiment</td>
<td>PPVT-III (Dunn &amp; Dunn, 1981), a standardized measure of receptive vocabulary. Learning Express (LE; McDermott, Fantuzzo et al., 2009)</td>
<td>Statistically significant for both outcome measures: PPVT: $R^2 = 1/4 .490, F(4, 191) 1/4 45.93, p &lt; .001; LE: $R^2 = 1/4 .458, F(4, 188) 1/4 39.75, p &lt; .001.</td>
<td>Shared Storybook reading results provide support for the theory that direct instruction is most effective for DLLs A link between teachers’ vocabulary instruction strategies and complexity of language during storybook reading and</td>
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<td>Latino; and 8.5% were Asian, White, or other.</td>
<td>does basked mean?&quot;</td>
<td>Contextualization strategies used by teacher:</td>
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<td>outcomes in student vocabulary. Moreover, the influence of these teacher practices on student outcomes may differ based on students’ initial level of vocabulary knowledge.</td>
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<td>• Connects word to its use in the book—gives meaning and/or example</td>
<td>• Connects word to children’s personal experience (&quot;Do you reside in a house or an apartment?&quot; &quot;If you crept around the classroom, what would that look like?&quot; &quot;What is something you detest?&quot; )</td>
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<td>• Connects word to illustration (more than pointing, actually explaining elements of the illustration)</td>
<td>Word selection: words were divided into three categories: frequent, high utility, and low utility. Any word that was instructed and was also on the list of the 3,000 most common words according to the Educator’s Word Frequency Guide (Zeno, Ivens, Millard, &amp; Duvvuri, 1995) was categorized as a frequent word. Indicated that on average 60% of the words chosen for instruction across all teachers were of high utility.</td>
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<td>Lugo-Neris, Jackson, &amp; Goldstein (2010)</td>
<td>N=22, n=11 boys n=11 girls</td>
<td>Mean number of words instructed (M 1/4 5.22, SD 1/4 4.67) was almost twice the number recommended in the best practices (Beck et al., 2002). English intervention by teachers</td>
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<td>Researcher designed vocabulary probes</td>
<td>Language growth (Spanish vs. English instruction):</td>
<td>Name: $d=.34$</td>
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<td>Age: 49-82 months of age (M= 62.27 months)</td>
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<td>Pre-LAS English</td>
<td>Expressive definition: $d=.14$ Receptive: $d=.16$</td>
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<td>At-risk: Migrant Head Start</td>
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<td>EOWPVT-SBE</td>
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<td>PPVT-III</td>
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<td>Pre-LAS Spanish</td>
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<tr>
<td>Marulis &amp; Neuman, (2013)</td>
<td>67 studies and 216 effect sizes to better understand the impact of training on word learning.</td>
<td>Meta-analysis of the effects of vocabulary interventions on receptive and expressive language of children not reading conventionally.</td>
<td></td>
<td>Meta-Analytic Review Experimental or Quasi-Experimental designs.</td>
<td>Overall effect size of .88. we conclude with a fair degree of certainty that vocabulary instruction does</td>
<td>Explicit interventions with instruction of word meanings and relationships had larger effects ($g=1.10$) – larger for research developed</td>
</tr>
<tr>
<td>Authors and Year</td>
<td>Population/Participants (N, Sex, Setting, SES/Language)</td>
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<td>Méndez, Crais, Castro &amp; Kaines (2015)</td>
<td>42 preschooler’s bilingual</td>
<td>Language of Instruction with multimodality of instructional approaches Small group shared readings 3-5 a week Comparing ECR group with CLR Instruction in Spanish</td>
<td>Experimental</td>
<td>(ROWPVT; Brownell, and 2 receptive probe tests for target vocabulary.</td>
<td>Receptive language was measured and children in CLR group had stronger RV gains that those in the ECR.</td>
<td></td>
</tr>
<tr>
<td>Rowe, Silverman &amp; Mullan (2013)</td>
<td>62 preschoolers Mean age 4 years 8 months,</td>
<td>Role of pictures and gestures as non-verbal aids in preschooler’s novel word</td>
<td>Experimental – Within subject’s design with three</td>
<td>Speech and Language Assessment Scale</td>
<td>mean of 4.53 (SD = 1.12), no difference for</td>
<td>Overall performance on the comprehension tasks was related to the</td>
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<td>Silverman (2007a)</td>
<td>36 children were monolingual English 26 children had exposure to one or more languages other than English in the home as reported by parents.</td>
<td>learning English only instruction</td>
<td></td>
<td>conditions: word-only; word + gesture; word + picture. Repeated Measures - ANOVA</td>
<td>children with higher and lower levels of SLAS in the word only and word + gesture conditions, children with higher SLAS scores performed significantly better than children with lower SLAS scores in the word + picture condition. The values for partial eta squared for condition, gender, language background, SLAS, and the interaction between language and SLAS are .09, .05, .01, .13, and &lt;.01, respectively.</td>
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<tr>
<td>Study 1 – Kindergarten N=94 53 ELLs</td>
<td>2 studies comparing 3 approaches to teaching vocabulary during storybook reading: (a) contextual instruction, based on connecting words to their use in books and to children’s personal experience; (b) analytical instruction, which enhances contextual instruction with semantic analysis of words in contexts other than the books and children’s experience; and (c) anchored Experimental Longitudinal Repeated measures ANOVA</td>
<td>TOLD; Newcomer &amp; Hammill, 1997), Researcher vocabulary assessment; RVA) The RVA consisted of two subtests: a picture and an oral vocabulary measure.</td>
<td></td>
<td>(F(4, 90) 5.84, p .01) on the picture vocabulary subtest. Also, there was a main effect of time TOLD (F(4, 90) 4.73, p .03), (F(4, 90) 15.24, p .0001) on the oral vocabulary subtest. There was also a main effect of time TOLD (F(4, 90) 32.47, p .0001). Effect sizes of the anchored and the</td>
<td>Both the analytical and anchored methods of instruction were significantly more effective than the contextual method at promoting children’s learning of words targeted in instruction.</td>
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<tr>
<td>Silverman, (2007b)</td>
<td>72 kindergartners 5 kindergarten- ten classrooms. Among these classrooms were 3 mainstream, 1 two-way bilingual, and 1 structured immersion classroom. 44 English-only (EO) and 28 (ELL) children. Creole, Asian, Hispanic, Latino 10% spoke Spanish</td>
<td>Multidimensional Vocabulary Program (MVP), of ELLs (Gersten &amp; Baker, 2000; Gersten &amp; Geva, 2003; Moats, 2001). Components: (1) introduction of words through the rich context of authentic children’s literature; (2) clear, child-friendly definitions and explanations of target words; (3) questions and prompts to help children think critically about the meaning of words; (4) examples of how words are used in other contexts; (5) opportunities for children to act out the meaning of words when applicable; (6) visual aids illustrating the meaning 12 books used in instruction, which augments analytical instruction with attention to the spoken and written forms of words. Curricula for the three methods using the same children’s books and target vocabulary words. Teacher interventionists 12 weeks of direct intervention (14 weeks with 2 weeks for introduction) Instruction in English</td>
<td>Quasi – Experimental Correlational TOLD; Newcomer &amp; Hammill, 1997), Researcher Vocabulary Assessment (RVA). This test consists of a picture and oral vocabulary subtest modeled after the same subtests on the TOLD.</td>
<td>Effect of the curriculum was the same for EOs and ELLs. On both subtests of the RVA,</td>
<td>Both EOs and ELLs showed significant improvement in knowledge of target words from pretest to posttest. Neither group showed significant gains or losses from posttest to follow-up. ELLs can learn words from instruction as fast or faster than EOs. ELLs knew 19 more words on a picture vocabulary assessment than they knew before the intervention, compared to the EOs, who knew 14 more words after the intervention. On an oral vocabulary test, ELLs could provide definitions for 21 more words than...</td>
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<tr>
<td>Schwartz (2013)</td>
<td>51 Russian Bilinguals, Russian (L1) and Hebrew (L2) 4–5 years in Israel</td>
<td>First Language First Model of bilingual education</td>
<td>Descriptive</td>
<td>Effective vocabulary intervention through storybook read-alouds, for 14 weeks</td>
<td>English only instruction</td>
<td>This model of early bilingual development supports balanced bilingual development. Effective vocabulary intervention through storybook read-alouds, for 14 weeks.</td>
</tr>
</tbody>
</table>
| Tabors, Paez, Lopez (2003) | Found a small negative relationship between DLL preschoolers' expressive vocabularies. They did find positive relationships between Spanish and English on other early literacy and oral proficiency measures such as letter-
<table>
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<tr>
<td>Vadasy, Sander &amp; Nelson (2015)</td>
<td>3N = 24 At-risk DLLs Kindergarten 24 home-languages</td>
<td>Explicit vs. Interactive approach. Small group supplemental vocab instruction, explicit instruction – words taught in a storybook reading context. IBR – Interactive Story Reading, (Wasik and Bond, 2001) compared to “Connections – 2-5 students each) – small group outside classroom 30 min, a day – 4 days a week for 20 weeks with one new target word daily and 2-4 related for review. Word Selection Procedures: This depends on student and word characteristics – High frequency words are recommended for ELLs (Nation, 2001) because they might bridge (bootstrap) access and learning of new words Word corpus for this study taught useful high frequency root words (chosen from the Dale-Chall, 1995) list of 3,000 words commonly known by 4th grade. Trained tutors implemented the treatments. English-only Instruction</td>
<td>Experimental – randomly assigned to one of 2 conditions and then randomly assigned to small groups Analysis – Multi-level hierarchical modeling approach</td>
<td>PPVT-III A – (Dunn and Dunn, 2006) Reading Vocab – Research developed 25 item CBM of target word reading vocabulary</td>
<td>Pretest post- test gains favored favored the Connections intervention</td>
<td>Identification skills and memory for sentences. Cohort 2 IBR lower than Cohort 1 = Connections on reading vocabulary Both cohorts made gains but more gains in reading vocab for Connections group and better receptive vocab gains for the IBR group Children entering with higher vocab acquired more easily</td>
</tr>
<tr>
<td>Wang, Christ &amp; Chiu (2014)</td>
<td>Head Start – Urban 14 treatment</td>
<td>A comprehensive model for early childhood vocabulary</td>
<td>Design Experiment</td>
<td>Ordered logit regressions (Kennedy, 2018)</td>
<td>Our study addresses the need for developing a</td>
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<tr>
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|                  | 9 boys and 5 girls 6 Caucasian, 2 Asian (Indian), 5 were Latino(a), and one child was biracial (African-American and Latina). 3 - bilingual, and one child was a dual language Control group: 14 children 4.1-5.5 years 7 boys and 7 girls 4 AA, 6 White and 4 Latinos | Instruction.  
- 12-week design – full day 12-month program that used the creative curriculum  
- Rainforest theme with sub-themes  
- 89 target vocab words – selection criteria = each word likely unfamiliar, teachers could use each word multiple times across the unit, word was important to understanding the rainforest theme.  
- Interactive read-alouds – dialogic read-aloud - multiple exposures with multiple readings Learners use several strategies to figure out vocabulary meanings from context: noticing new vocabulary, attending to clues that suggest the word’s meaning, and organizing this new information into their existing knowledge of vocabulary meanings. Pictures and props that represented target vocabulary concepts with three concept-map structures (sorts, chains, and webs) to address learning of vocabulary relations. English only Instruction | Framework Treatment and control group | ‘2008) of the target vocabulary depth scores showed that the regression coefficient of the design experiment class was significant and positive (1.33*** | comprehensive model for early childhood vocabulary instruction. Explicit strategy instruction can help children to learn vocabulary more efficiently, independently, and to greater depth of understanding |
<table>
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</tr>
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<tbody>
<tr>
<td>Wasik, Bond, &amp; Hindman, (2006).</td>
<td>10 Head Start Classrooms</td>
<td>Teachers were trained to how to increase language and literacy opportunities</td>
<td>Experimental Random Assignment</td>
<td>Peabody Picture Vocabulary Test-III and the Expressive One-Word Picture Vocabulary Test</td>
<td>Effect sizes: Receptive - .73 Expressive 0.44 And Alphabet - 0.33 knowledge</td>
<td>After 9 months, children in the intervention classrooms performed significantly better than children in the control classrooms</td>
</tr>
</tbody>
</table>
Appendix B

Spanish Questionnaire for the Family Home Language and Education
Indicadores Individuales del Crecimiento y Desarrollo del idioma Español (S-IGDIs) Cuestionario para la Familia

Gracias por permitirnos que su niño/a realice las nuevas evaluaciones de alfabetización temprana en español (S-IGDIs). Para que podamos desarrollar estos nuevos instrumentos, necesitamos aprender a fondo acerca del idioma materno de su niño/a. Toda esta información será guardada de manera confidencial.

Acerca de su Niño/a
Si usted tiene más de un niño/a participando en este estudio, por favor llene una encuesta por separado por cada niño.

1. ¿Cuál es su relación con el niño/a?
   - [ ] Madre
   - [ ] Padre
   - [ ] Abuelo/a
   - [ ] Otro pariente
   - [ ] Padres adoptivos temporales
   - Otro – Por favor describa: _______________________

2. ¿Qué idiomas utiliza usted cuando habla con su niño/a? (Marque todas las que apliquen)
   - [ ] Inglés
   - [ ] Español
   - [ ] Otro idioma – por favor especifique____________________

3. ¿Qué idiomas utilizan otras personas en su casa con su niño/a? (Marque todas las que apliquen)
   - [ ] Inglés
   - [ ] Español
   - [ ] Otro idioma – por favor especifique____________________

4. ¿Qué idiomas utiliza su niño/a cuando habla en la casa? (Marque todas las que apliquen)
   - [ ] Inglés
   - [ ] Español
   - [ ] Otro idioma – por favor especifique____________________

5. ¿En estos momentos con qué idioma se siente su niño/a más cómodo/a al hablar? (Marque todas las que apliquen)
   - [ ] Inglés
   - [ ] Español
   - [ ] Otro idioma – por favor especifique____________________

6. ¿De la edad comprendida entre 0 a 1 año, se le habló a su niño en casa en inglés, español o en ambos idiomas? (Marque todas las que apliquen)
   - [ ] Ingles
   - [ ] Español

7. ¿Sabe su niño/a otro idioma además del español e inglés?
   - [ ] Sí (por favor especifique aquí qué otro idioma: ______________________)
   - [ ] No

8. ¿Tiene su niño/a un IEP (Plan de Educación Individualizado - Individualized Education Plan) o recibe servicios de educación especial?
   - [ ] Sí  [ ] No
9. ¿Cuál es la fecha de nacimiento de su niño/a?  
   Mes: ______  Día: ______  Año: ______

10. ¿Cuál es el sexo de su niño/a?  
   □ Niño  □ Niña

### Uso del Idioma más Reciente

Estamos interesados en saber cuánto inglés y español escucha y habla su niño/a. Primero, piense acerca de los días de la semana (lunes a viernes) y a continuación piense acerca de los días del fin de semana (sábado y domingo.)

Marque todas las que apliquen.

#### Lunes a Viernes ¿Qué idiomas ESCUCHA su hijo/a?

<table>
<thead>
<tr>
<th>Rutina de la Mañana (desde que se despierta hasta las 9)</th>
<th>Temprano en la Tarde (9 a 1)</th>
<th>En la mitad de la tarde (1 a 4)</th>
<th>Al anochecer (Desde las 4 hasta la hora de dormir)</th>
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<tr>
<td>Español</td>
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#### Sábado y Domingo ¿Qué idiomas ESCUCHA su hijo/a?

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#### Lunes a Viernes ¿Qué idiomas HABLA su hijo/a?

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#### Sábado y Domingo ¿Qué idiomas HABLA su hijo/a?

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<td>Inglés</td>
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### Acerca de Usted y Su Familia
Si usted ya ha contestado estas preguntas por otro niño/a que participe en este estudio, usted puede omitir o saltarse esta parte.
11. ¿Cuál es el nivel de educación más alto que usted ha alcanzado? *(Marque una casilla)*
   - 6º grado o menos
   - Menos de 12º grado
   - Título Universitario de preparación básica (2 años: AA)
   - GED/Diploma de Estudios Secundarios
   - Algo de educación después de la secundaria/ programa de enseñanza técnica
   - Título Universitario (BA/BS)
   - Graduado o Licenciado/Título Profesional

12. ¿Cuántas personas viven en su casa?
   - Número de niños/as (menores de 18 años) __________
   - Número de adultos (18 años o más) __________

13. ¿Cuál es el país de origen (nacimiento) de cada padre? *(llene todo lo que se aplica para los guardianes legales)*
   - Madre__________________________ Padre__________________________ Otros guardianes legales__________________________

14. ¿Cuántos años ha vivido cada uno en los Estados Unidos? *(llene todo lo que se aplica para los guardianes legales)*
   - Madre__________________________ Padre__________________________ Otros guardianes legales__________________________

15. ¿Gana usted y/o otros guardianes legales de su niño/a más de $600 a la semana?
   - Sí  ☐  No ☐
Appendix C

English Questionnaire for the Family Home Language and Education
English Questionnaire for the Family Home Language and Education

Child ID_________________________________ Today’s Date____________________

Family Questionnaire

All of this information will be kept confidential.

About Your Child
If you have more than one child in this study, please fill out a separate survey for each child.

1. What is your relationship to the child?
   □ Mother  □ Father  □ Grandparent  □ Other relative  □ Foster parent  □ Other – Please describe:
   __________________________________________________________

2. What languages do you use when you talk to your child? (Check all that apply)
   □ English  □ Spanish  □ Other language – please specify________________________________

3. What languages do other people at home use with your child (Check all that apply)
   □ English  □ Spanish  □ Other language – please specify________________________________

4. What languages does your child use when talking at home? (Check all that apply)
   □ English  □ Spanish  □ Other language – please specify________________________________

5. With what language is your child most comfortable now? (Check all that apply)
   □ English  □ Spanish  □ Other language – please specify________________________________

6. From the ages of 0 to 1 year, was there, English, Spanish or both spoken to your child at home?
   (Check all that apply)
   □ English  □ Spanish

7. Does your child know any other language in addition to Spanish and English?
   □ Yes (please specify this other language here: __________________________________________)
   □ No

8. Does your child have an IEP (Individualized Education Plan) or receive special education services?
   □ Yes  □ No

9. What is your child’s birth date?  Month:_____  Day:_____  Year:______
10. What is your child’s gender?

☐ Boy
☐ Girl

Current Language Use
We are interested in how much English and Spanish your child hears and speaks. First, think about week days (Monday-Friday) and then think about weekends (Saturday-Sunday). **CHECK ALL THAT APPLY FOR EACH BOX.**

**Monday-Friday What languages does your child HEAR?**

<table>
<thead>
<tr>
<th>Morning Routine (awake to 9)</th>
<th>Early Afternoon (9 to 1)</th>
<th>Mid Afternoon (1 to 4)</th>
<th>Evening (4 to bedtime)</th>
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<tr>
<td>☐ Spanish</td>
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**Saturday and Sunday What languages does your child HEAR?**

<table>
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<tr>
<th>Morning Routine (awake to 9)</th>
<th>Early Afternoon (9 to 1)</th>
<th>Mid Afternoon (1 to 4)</th>
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<td>☐ English</td>
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**Monday-Friday What languages does your child SPEAK?**

<table>
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<tr>
<th>Morning Routine (awake to 9)</th>
<th>Early Afternoon (9 to 1)</th>
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<td>☐ English</td>
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**Saturday and Sunday What languages does your child SPEAK?**

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<tr>
<td>☐ English</td>
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About You and Your Family
If you have already answered these questions for another child in this study, you may skip this part.

11. What is the highest level of education that you have completed? *(Check one)*

☐ 6th grade or less  ☐ Some education after high school/ vocational program

☐ Less than 12th grade  ☐ Associate degree (AA)

☐ High school diploma/ GED  ☐ Bachelor’s degree (BA/BS)

☐ Graduate/Professional degree
12. How many people live in your home?
   Number of children (under the age of 18)  __________
   Number of adults (18 or older)           __________

13. What is the **country** of each parent’s birth? *(fill in for all applicable guardians)*
   Mother______________________Father______________________Other  Guardian

14. How many years has each lived in the United States? *(fill in for all applicable guardians)*
   Mother______________________Father______________________Other  Guardian
Appendix D

Small Group Procedures and Daily Script in Spanish
Procedimiento del vocabulario en grupos pequeños
Procedimiento del vocabulario en pequeños grupos

Grupo 1 solo en Español                                          Grupo 2 solo en Ingles

1.- **Preparación** - La Maestra va a leer un libro durante la semana donde se van a usar las 6 palabras de las tarjetas con imágenes simples para los niños y definiciones que van de acuerdo a la lección.

2.- **Acomodación** - Los niños van a sentarse en una silla confortable y una mesa con su maestra, una por cada niño; o también podrán sentarse en el piso alfombrado con su maestra.

3.- **Durante los pequeños grupos de lecciones.**

**Grupo #1:** va a recibir instrucciones en español (vocabulario previamente enseñado), esto se llevará a cabo antes que hayan leído en voz alta en Ingles al grupo grande.

**Grupo #2:** va a recibir el vocabulario de Ingles antes que hayan leído en Ingles en voz alta al grupo grande.

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**Pasos a seguir diariamente para el vocabulario en grupos pequeños**

**Día 1: Las Imágenes del vocabulario serán presentadas por el maestro o asistente, quien va a nombrar el objeto en cada tarjeta y leída de manera corta y sencilla para los niños, La Definición de cada palabra estará situada en el reverso de cada tarjeta.**

1. La maestra dice “Nosotros vamos a aprender nuevas palabras de nuestro libro de hoy. Esta es una pulga. Una pulga es un insecto muy pequeño que muerde y vive en el cuerpo de otros animales (modelo). Puedes decir pulga?(practicar). La maestra va a tener conexión con los niños a travez de este momento (conectando las experiencias de los niños). Por ejemplo, Alguien ha visto alguna vez una pulga ?, en su perro o gato o en su casa?

2. El maestro va a señalar la palabra “pulga” en la tarjeta y pregunta al niño (a) el nombre, la definición ó que pasa cuando una pulga muerde? ó maestro va a continuar mostrando imágenes y definiciones cortas de cada vocabulario elegido del libro.
Día 2: El maestro va a revisar el vocabulario del libro seleccionado. Por ejemplo él o ella van a decir, “Recuerdan nuestra nueva palabra? (mostrando o sin mostrar las tarjetas). “Esta es una pulga”y hacer que los niños repitan la definición.”Quién recuerda que es una pulga?.

Esta forma va a continuar igual para cada tarjeta del vocabulario.

1. Entonces el maestro va a proveer los dibujos y preguntar “Qué es esto?” para reforzar y ampliar las respuestas de los niños. (Ejemplo: “Si mira es una pulga, tiene patas , si Mario, es correcto lo que tu dices “La pulga tiene las patas de adelante mas cortas “y agregar ejemplos de la vida diaria con diferentes contextos, por ejemplo: “Las viven en los gatos” si el niño no da el nombre de la imagen entonces el maestro va a repetir nuevamente el nombre de la palabra.

Día 3.- Durante la intervención de los grupos pequeños, el maestro va a revisar el vocabulario con los niños, permitiendo que cada niño del grupo tome una tarjeta de la caja nombre el dibujo y hable acerca de este.

1. El maestro va a preguntarle “Qué es esto?. El maestro va a esperar que el niño responda y si necesita pedirle nuevamente que le diga mas acerca del dibujo de la tarjeta.

2. Que recuerdas de este dibujo? Si el niño no menciona el nombre de la imagen, el maestro va a repetir nuevamente el nombre y describir, después pedirá al niño nuevamente su respuesta. Si el niño aun así no responde el maestro dirá , Esta es una pulga y dara una definición corta de la pulga.

Día 4.- Durante la intervención de grupos pequeños, el maestro va a revisar el vocabulario con los niños, colocando las tarjetas en la mesa volteadas con las imágenes hacia el piso o mesa.

1. Cada niño será llamado para que tome una tarjeta y la volteee.

2. El maestro en ese momento ova a preguntar “Qué es?” El maestro va a esperar por la respuesta del niño y si necesita le pedirá al niño “Puedes decirme algo acerca de este dibujo? Que recuerdas de él?

3. Cada niño de este grupo pequeño tendrá la oportunidad de tomar una tarjeta del vocabulario y hablar de cada dibujo.

4. Si el niño no da el nombre de la imagen entonces el maestro repetirá el modelo y pedirá al niño que lo repita. Si el niño aun así no responde, el maestro repetirá una vez mas, pidiendo al niño que repita una vez mas.
Appendix E

Read it Again—Dual Language and Literacy Curriculum
Lesson Example
Lesson 1: Let’s Read to See What’s Happening (DAY 1 & 2)

**Book:** *Little Red Hen,* by Carol Ottolenghi

**Materials**
- **Book:** *Little Red Hen,* by L.R. Hen
- Scaffolding ladder: Review scaffolding ladder before delivering lesson to individualize the lesson
- **Manipulatives:** a bag of flour (put a little flour in a small sandwich size zip lock bag, and tape it closed for each child), loaf of bread

### DAY 1

**Step 1: Before Reading**

**Learning Objective 1:** To recognize that print carries meaning and to distinguish print from pictures.

1. Introduce the title. You could say: *The title of the book tells us the name of the story.*
2. Remind children that this is the same book they read before only it is in English. Read the title of the book and point to each word: *The title of our book is The Little Red Hen.* (Point to each word separately and run your finger under the word as you read it.) As you read it again, have one or two children come up and point to each word in the title of the book.

**Step 2: Read the book: During Reading**

1. On the first page, point to the print and explain its function. You could say: *Here are the words that tell us what is happening. Let’s read the words to find out what is happening.*
2. On every page, point to the words as you read them. Have children repeat the phrase, *I’m too busy* with the text in the book. You can use completion prompts like, *Not I, said the cat, I’m...* and then let the children fill in the blank. Or ask the question, *What do you think the dog said this time when the chicken asked for help?*
3. On the last page, asks an individual child to come up to the book by
saying: *Can you show me the words on this page?* You may repeat this for a few children.

**Step 3: After Reading**

Ask the class, *Why do you think the chicken did not share her bread with the cat, dog, and goose?*

Talk about ways that you help each other in the classroom and why it is important to help each other. You could say, *In the classroom we all need to help each other. And if someone asks for your help it is nice to be a good helper. What are some ways we help each other?*

After a few children respond with examples of how you all help each other, bring out the loaf of bread and give each child a small piece. You could say, *Because we are all such good helpers I will share my bread with all of you.*

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**DAY 2**

**Materials**

**Book:** *Little Red Hen, by Carol Ottolenghi*

Scaffolding ladder: Review scaffolding ladder before delivering lesson to individualize the lesson

**Real objects:** two rocks and two sunflower seeds for each child, a pot with dirt, one pair of scissors and paper for each child

**Step 1: Read Book and After Reading**

**Learning Objective 2:** *To understand and use words for unfamiliar actions (verbs).*

1. Tell the children: *Let’s talk about all the things that the Little Red Hen did in this book.* Turn to the beginning of the book and open to the page where the Red Hen is planting the wheat seeds.
2. Show the children this page and ask: *What is the Little Red Hen doing?*
3. Allow individual children to provide their own responses, but follow these with *model* responses that use the target words. For example, on the sixth page, you might say: *The Little Red Hen is planting the wheat.* (Point to the picture of the hen planting) *What is the hen doing here?* (Give children a chance to answer.) Repeat their answer. Continue on the next page – *what is the hen doing here?*
Step 2: Social-Cultural Component
Talk positively about how the children are learning two languages, English and Spanish. **“Being bilingual means that you speak two languages. Both languages are important as we learn in school. When you speak two languages you are smart and you can talk to more people!”**

Extension Activities (Use these activities to reinforce the lesson throughout the week)

1. Bring in a mortar and pestle (molcajete) and hard dried corn for children to practice grinding.
2. Bring in corn masa for tortillas and describe how the corn is ground into the corn meal. Make corn tortillas as a cooking project or simply allow children to mix it with water and use it as a sensory project.
3. If you have access to wheat bring some into the classroom and show children the wheat. Grind the wheat with the mortar and pestle.
4. Word Wall: Invite children to add new words to the word wall matching and saying each word with beginning letter: “planting – it goes under P.”
Scaffolding Strategies  
(To be used for all lessons Day 1 & 2)

<table>
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<th>Too Easy!</th>
<th>Just Right!</th>
<th>Too Hard!</th>
</tr>
</thead>
<tbody>
<tr>
<td>Use the <strong>reasoning strategy</strong> to help children consider the meaning of the target verbs.</td>
<td><img src="image.png" alt="Image" /> For children for whom the lesson seems just <strong>right</strong>, you can use the lesson plan as written!</td>
<td></td>
</tr>
</tbody>
</table>

**Scaffolding Example 1:**
Teacher: Raquel, *why does the Little Red Hen need to grind the wheat?*

**Scaffolding Example 2:**
Teacher: *Why is it important to help each other?*
## WEEK 1

**Lesson 2: Which words sound the same? (DAY 3 & 4)**

**Book:** *Little Red Hen, by C. Ottolenghi*

- **Book:** *Little Red Hen, by C. Ottolenghi*

### Scaffolding ladder:
- Review scaffolding ladder before delivering lesson to individualize the lesson
- Character cards of the Little Red Hen, the cat, the dog, the goose, the miller, and the baker
- **Rhyming Picture Cards:** dog, frog, hog, log, sun, and boy
- **Manipulatives:** use small figures of a dog, frog, hog, and log

### DAY 3

#### Step 1: Before Reading

**Learning Objective 1:** To identify when two words share a rhyming pattern.

1. Introduce the activity by saying: *We are going to look at some pictures that rhyme. I’ll say the name of the picture and you say it after me.*
2. Show each of the “OG” picture cards (dog, frog, hog, and log), and have the children name each card. Tell the children: *All these words rhyme; they sound the same at the end. See how my mouth is the same at the end?*
3. Have small manipulatives of a dog, frog, hog, and log. Have students match the manipulative with the picture to reinforce the words before moving on to the rhyming.
4. Make some rhymes with the “OG” cards, and discuss these rhymes with the children, as in: *This picture is dog (show card) and it rhymes with frog (show card). My mouth does the same thing at the end: frog, dog.* Continue this process for other pairs (dog-log, dog-hog).
5. Hold all six cards in your hand, and allow children to select two cards from your hand and say the two words on them. Then ask the whole group: *Do (word) and (word) sound the same? Does your mouth do the same thing?*

#### Step 2: Read the book
## DAY 4

### Step 3: Read the book

#### Learning Objective 2: To identify and describe the setting and characters of a story.

1. Read *The Little Red Hen* with the children. Stop reading periodically to highlight the character and the setting in the book. Ask children basic comprehension questions about the characters, such as: **Point to the Little Red Hen? Where is cat on this page? Is the dog going to help?** Also, describe any changes that happen in the setting, such as: *The Little Red Hen went to the mill.*

2. After reading the book, place the large paper where all children can see it. At the top write the word: **Characters.** Review each of the key characters in the story. You could say: **In our book we met the Little Red Hen, the cat, the dog, the goose, the miller, and the baker.**

3. **Point to each of the characters in the book as you name them. Also, show character cards and have children name the characters.** Write each of the names on the sheet, leaving lots of space between names.

4. Go around the group of children and ask each child to tell you his/her favorite character or to point to their favorite character in the book. **Write children’s names that chose that character below the character name. At the end, point out the character that most of the children liked.**

### Extension Activities: (Choose at least one extension activity to do in your classroom)

1. Bring in wheat berries from the bulk section in your grocery store and a mortar and pestle and let children grind the wheat as a center time activity.

2. Bring in a bread machine or find a simple bread recipe if you have an oven and make bread as a cooking activity. Make a visual recipe list and have the children help with measurements, naming the ingredients, and adding them.

3. Make a classroom helpers list and discuss the importance of all working together and helping in the classroom.

4. Word Wall: Let’s choose two of our rhyming words from Day 3’s...
lesson and add them to our word wall. Choose children to select a rhyming word card for the word wall. Talk about matching beginning letters.

### Scaffolding Strategies
(To be used for lessons Day 3 and 4)

**Too Easy!**

Use the **predicting strategy** to help children consider words that rhyme.

**Example 1:**
Teacher: That’s right Audrey, **dog** and **hog** rhyme! What are other words that rhyme with **dog** and **hog**?

**Example 2:**
Teacher: When we read our book, we will meet a **dog**, cat and goose. Can you think of a word that rhymes with **dog**? With **goose**? With **cat**?

**Just Right!**

For children whom this lesson seems **just right**, you can use the lesson plan as written.

**Too Hard!**

Use the **eliciting strategy** to help children learn the meaning of target vocabulary words.

**Example 1:**
Teacher: Frog and hog rhyme.
Watch my mouth. Say “**frog, hog**.”
Natalie, does my mouth do the same thing at the end of the words **frog** and **hog**?

**Example 2:**
Teacher: Here I have two words- **dog** and **log**. **Dog** and **log** rhyme!
Tell me, **dog** and **log** rhyme.
Appendix F

Curriculum-Based Vocabulary Cards with Images and Definitions (Expressive)

Spanish and English
Curriculum-Based Vocabulary Cards with Images and Definitions (Expressive)

Spanish and English Examples

**“Flour”**

**Week 1 & 4**

Definition: This is flour. We use flour to bake bread, cookies, and cakes. Flour is ground wheat. Sometimes we use flour to make tortillas, too.

**“To slumber”**

**Semana 2 & 5**

Definition: To slumber is a way of sleeping where you dream and are all calm and relaxed and you close your eyes. This boy is slumbering.

**“Sickle”**

**Week 1 & 4**

Definition: This is called a sickle. See how the blade is curved. Farmers use a sickle to cut down tall grasses.

**“Flea”**

**Week 2 & 5**

A flea is a very, very small insect or bug that likes to live on the hair of animals, like dogs and cats. Fleas bite and they can make your skin itch.

**“Pulga”**

**Semana 2 & 5**

Definición: Una pulga es un pequeño insecto que le gusta vivir en el pelo de los animales, como el de los perros y gatos. Las pulgas muerden y hacen que las picaduras piquen.

**“Rendido”**

**Semana 2 & 5**

Definición: Es una manera de dormir con sueños y calmada. Este niño está rendiendo.

**“Harina”**

**Semana 1 y 4**


**“Hoz”**

**Semana 1 y 4**

Definición: Esto se llama una hoz. Mira como la cuchilla es curva. Los granjeros usan una hoz para cortar la hierba cuando está muy alta.
Appendix G

Classroom Language Survey
Classroom Language Survey

Thank you for participating in this survey.

This survey should be completed by the lead teacher and assistant teacher for each classroom. Your participation is important and we appreciate your time in completing this survey.

1. In what type of program do you work (check all that apply)?
   - Head Start
   - Private Preschool
   - ECFE
   - School Readiness
   - Migrant Head Start
   - State-funded Preschool
   - Other __________

2. How many students do you teach?
   Session 1: _________   Session 2: _________   Full day: _________

3. Of those students, how many speak Spanish?
   Session 1: _________   Session 2: _________   Full day: _________

4. How many years has the lead teacher been teaching? ____________________

5. How many years has the assistant teacher been teaching? _________________

6. What is the lead teacher’s highest level of education?
   - High school graduate, GED or equivalent
   - Child Development Associate’s (CDA) Degree
     - With CDA bilingual specialization
   - Associate’s degree (Please indicate major) ______________________
   - Bachelor’s degree (Please indicate major) _______________________
   - Master’s degree (Please indicate major) _________________________
   - Other ____________________________

7. What is the teaching assistant’s highest level of education?
   - High school graduate, GED or equivalent
   - Child Development Associate’s (CDA) Degree
     - With CDA bilingual specialization
   - Associate’s degree (Please indicate major) ______________________
   - Bachelor’s degree (Please indicate major) _______________________
   - Master’s degree (Please indicate major) _________________________
   - Other ____________________________

8. What is the native language (s) of the lead teacher? ______________________
9. What is the native language(s) of the assistant teacher?

10. How well does the lead teacher speak English and Spanish? Please circle your level.

   **English**: Not at all    Poorly    Well    Excellently/Fluently
   **Spanish**: Not at all    Poorly    Well    Excellently/Fluently

11. How well does the assistant teacher speak English and Spanish? Please circle your level.

   **English**: Not at all    Poorly    Well    Excellently/Fluently
   **Spanish**: Not at all    Poorly    Well    Excellently/Fluently

12. How well do the lead teacher read English and Spanish? Please circle your level.

   **English**: Not at all    Poorly    Well    Excellently/Fluently
   **Spanish**: Not at all    Poorly    Well    Excellently/Fluently

13. How well does the lead teacher write English and Spanish? Please circle your level.

   **English**: Not at all    Poorly    Well    Excellently/Fluently
   **Spanish**: Not at all    Poorly    Well    Excellently/Fluently

14. How well do the assistant teacher read English and Spanish? Please circle your level.

   **English**: Not at all    Poorly    Well    Excellently/Fluently
   **Spanish**: Not at all    Poorly    Well    Excellently/Fluently

15. How well does the assistant teacher write English and Spanish? Please circle your level.

   **English**: Not at all    Poorly    Well    Excellently/Fluently
   **Spanish**: Not at all    Poorly    Well    Excellently/Fluently

16. Please circle the lead teacher’s knowledge of bilingual development.

   Highly    Very    Somewhat    Not

   Knowledgeable    Knowledgeable    Knowledgeable    Knowledgeable
17. Please circle the assistant teacher’s knowledge of bilingual development.

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<th>Very Knowledgeable</th>
<th>Somewhat Knowledgeable</th>
<th>Not Knowledgeable</th>
</tr>
</thead>
</table>

18. What language or languages are **spoken** in your classroom?

- [ ] Only Spanish
- [ ] More Spanish than English
- [ ] Both, equally
- [ ] More English than Spanish
- [ ] Only English

19. Who speaks Spanish in your classroom? (Select all that apply)

- [ ] No one
- [ ] Lead Teacher
- [ ] Teacher Assistant/Paraprofessional
- [ ] Other support staff
- [ ] Specialists
- [ ] Parent volunteer
- [ ] Children
- [ ] Other ________________________________

20. In what language or languages do you **provide instruction**?

- [ ] Only Spanish
- [ ] More Spanish than English
- [ ] Both, equally
- [ ] More English than Spanish
- [ ] Only English
Appendix H

Curriculum-Based Vocabulary Probe Test Probe Measures (Expressive)
Spanish and English Examples
5. “Flour”  
Week 1 & 4  
Tier 1 Expressive  
CBVP  
What is this?  
If child does not respond wait 3 seconds and then repeat the prompt one time.

6. “To slumber”  
Week 1 & 4  
Tier 1 Expressive  
CBVP  
What is happening?  
If child does not respond wait 3 seconds and then repeat the prompt one time.

7. “Sickle”  
Week 1 & 4  
Tier 1 Expressive  
CBVP  
What is this?  
If child does not respond wait 3 seconds and then repeat the prompt one time.

8. “Flea”  
Week 2 & 5  
Tier 1 Expressive  
CBVP  
What is this?  
If child does not respond wait 3 seconds and then repeat the prompt one time.

5. “Harina”  
Semana 1 & 4  
Nivel 1 Expresivo  
CBVP  
Qué es esto?  
Si el niño no responde espere 3 segundos y a continuación repita la indicación una vez.

6. “Hoz”  
Semana 1 & 4  
Nivel 1 Expresivo  
CBVP  
Qué es esto?  
Si el niño no responde espere 3 segundos y a continuación repita la indicación una vez.

7. “Rendido”  
Semana 2 & 5  
Nivel 1 Expresivo  
CBVP  
Qué está pasando?  
Si el niño no responde espere 3 segundos y a continuación repita la indicación una vez.

8. “Pulga”  
Semana 4 & 9  
Nivel 1 Expresivo  
CBVP  
Qué es ésto?  
Si el niño no responde espere 3 segundos y a continuación repita la indicación una vez.
Appendix I

Curriculum-Based Vocabulary Probe Test (CBVP-T)
Assessment Forms A and B (English and Spanish)
### RIA Curriculum Based Vocabulary Probe (CBVP) Form A
#### English Form

**Student ID:** ____________  
**Site ID:** ____________  
**Date:** ____________  
**Administrator:** ____________

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1 if the child answers correctly in English  
0 if the child answers incorrectly  
NR if the child says nothing  
SP if the child answers in Spanish
### Expressive Test

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Total Correct:_____
Total NR:_____
Total SP:_____

1 if the child answers correctly in English
0 if the child answers incorrectly
NR if the child says nothing
SP if the child answers in Spanish
# RIA Curriculum Based Vocabulary Probe (CBVP-S) Form A
## Spanish Form

**Student ID:**

**Date:**

**Site ID:**

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<td>1 0 NR EN</td>
</tr>
<tr>
<td>15</td>
<td>1 0 NR EN</td>
</tr>
<tr>
<td>16</td>
<td>1 0 NR EN</td>
</tr>
<tr>
<td>17</td>
<td>1 0 NR EN</td>
</tr>
<tr>
<td>18</td>
<td>1 0 NR EN</td>
</tr>
</tbody>
</table>

1 if the child answers correctly in Spanish  
0 if the child answers incorrectly  
NR if the child says nothing  
EN if the child answers in English

**Total Correct:**

**Total NR:**

**Total EN:**
RIAA Curriculum Based Vocabulary Probe (CBVP - S) Form B
Spanish Form

Student ID: ________________  Date: __________
Site ID: ________________  Administrator: ________________

1 if the child answers correctly in Spanish  NR if the child says nothing
0 if the child answers incorrectly  EN if the child answers in English

<table>
<thead>
<tr>
<th>Item #</th>
<th>Response</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>1 0 NR EN</td>
</tr>
<tr>
<td>18</td>
<td>1 0 NR EN</td>
</tr>
<tr>
<td>11</td>
<td>1 0 NR EN</td>
</tr>
<tr>
<td>12</td>
<td>1 0 NR EN</td>
</tr>
<tr>
<td>5</td>
<td>1 0 NR EN</td>
</tr>
<tr>
<td>2</td>
<td>1 0 NR EN</td>
</tr>
<tr>
<td>7</td>
<td>1 0 NR EN</td>
</tr>
<tr>
<td>15</td>
<td>1 0 NR EN</td>
</tr>
<tr>
<td>17</td>
<td>1 0 NR EN</td>
</tr>
<tr>
<td>13</td>
<td>1 0 NR EN</td>
</tr>
<tr>
<td>16</td>
<td>1 0 NR EN</td>
</tr>
<tr>
<td>4</td>
<td>1 0 NR EN</td>
</tr>
<tr>
<td>9</td>
<td>1 0 NR EN</td>
</tr>
<tr>
<td>10</td>
<td>1 0 NR EN</td>
</tr>
<tr>
<td>6</td>
<td>1 0 NR EN</td>
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<tr>
<td>1</td>
<td>1 0 NR EN</td>
</tr>
<tr>
<td>8</td>
<td>1 0 NR EN</td>
</tr>
<tr>
<td>14</td>
<td>1 0 NR EN</td>
</tr>
</tbody>
</table>

Total Correct
Total NR:_____  
Total EN:_______
Appendix J

New Word Definition Test—Modified
### New Word Definition Test – M

<table>
<thead>
<tr>
<th>Category</th>
<th>Type</th>
<th>Example</th>
</tr>
</thead>
</table>
| **Superordinate/Subordinate** | Noun only | Naming a larger category of which this is a member. A “kind of _____” or “type of _____.”  
Naming a member of a category (when the target word is the category). |
| **Function**              | Noun only | Any process, purpose or use. Any movement or action (only as it describes a noun!)  
Answers question: what do you do with it? |
| **Perceptual feature**    | Noun only | Properties of nouns: how it looks, smells, tastes, feels, or sounds.  
It’s made out of cloth (handkerchief).  
They are hard (scales).  
They are green (weeds).  
They are sharp (talons).  
Perceptual properties that are not characteristic (e.g., A shirt is green) are not counted, but credit for one information unit is given if a correct general statement is made (e.g., Shirts are lots of different colors.). |
| **Part/Whole**            | All      | Describes a distinct part of target word, OR describes the whole that the target word is a part of.  
They are in your nose (nostrils).  
They are on fish (scales).  
It has ducks (pond).  
It has a roof (cabin). |
| **Synonym**               | All      | Any word or short phrase that is equivalent to the word being explained. Provides decontextualized information about the word. Similar to a dictionary definition.  
Laughing (chuckling).  
Crying (weeping).  
Quiet (peace).  
Get the ball (fetching).  
Tale (story).  
Cleaver (knife).  |
| **Antonym**               | All      | A word that is the opposite of the word being explained, plus “not” or other negating word.  
Enemies are not your friends.  
Never come back (returning). |
<table>
<thead>
<tr>
<th>Gesture/Act</th>
<th>Type</th>
<th>Value</th>
<th>Description</th>
<th>Example</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Out GS</td>
<td>All</td>
<td>1</td>
<td>A gesture, action, or facial expression that shows knowledge of the word meaning</td>
<td>Child acts out “emerging.” Child acts out “charge” using hands.</td>
<td>Gestures that do not illustrate knowledge of the word meaning should not be counted.</td>
</tr>
<tr>
<td>Basic Context CB</td>
<td>All</td>
<td>0.5</td>
<td>Uses minimal context/typical association. Shows little to no understanding of word meaning.</td>
<td>Dashing through the snow… I did it on purpose. Slice a pizza. Polishing nails.</td>
<td>If you code for CB, that should be your only code; otherwise, use CM.</td>
</tr>
<tr>
<td>Meaningful Context CM</td>
<td>All</td>
<td>1</td>
<td>A longer phrase that uses detailed, meaningful context to explain target word. Shows deeper understanding of target word.</td>
<td>Returning a book you just borrowed. When you’re riding a horse in the battle. I didn’t have an appetite for dinner. When she fell down I was chuckling.</td>
<td>If phrase contains other definitional information, code for additional categories as well (i.e., function, perceptual feature, etc.)</td>
</tr>
<tr>
<td>Use of Story Context (use only once per word) CS</td>
<td>All</td>
<td>0</td>
<td>Use this code if children mention story when explaining word, even minimally. Use other relevant codes (basic or extended context, synonyms, function, etc.) as well.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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**Example Coding:**

<table>
<thead>
<tr>
<th>Target word</th>
<th>Child Response</th>
<th>Codes</th>
</tr>
</thead>
<tbody>
<tr>
<td>liquid</td>
<td>water; something that is wet</td>
<td>1 synonym</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1 perceptual feature</td>
</tr>
<tr>
<td>pond</td>
<td>alligators and ducks in it</td>
<td>1 part (only count part twice if they are</td>
</tr>
<tr>
<td></td>
<td></td>
<td>naming two different types of parts – i.e.,</td>
</tr>
<tr>
<td></td>
<td></td>
<td>ponds have ducks and grass)</td>
</tr>
<tr>
<td>imagination</td>
<td>something that you think</td>
<td>1 synonym</td>
</tr>
<tr>
<td>fetching</td>
<td>When I throw a toy and my dog Romeo fetches it.</td>
<td>1 meaningful context</td>
</tr>
<tr>
<td>handkerchief</td>
<td>wipe your nose, use for your tears, use</td>
<td>3 function</td>
</tr>
<tr>
<td></td>
<td>to wash up</td>
<td></td>
</tr>
</tbody>
</table>

**Helpful Hints:**

- Function, CM, and story often hang together.

- Only use the story code if it’s a posttest. Remember that story is just a tag to let us know how much children are using the story to explain the words; still use CM or CB as you normally would.

- Most of the time, if a response only gets one code, it’s CB rather than CM. This is not a hard and fast rule, though – there can be a response coded only CM if the child gives a lot of meaningful information about the word (see “fetching” example above).

- You will only use CB or CM once per response.

- Part often stands alone.
Appendix K

RIA–DL Fidelity Observation Checklist for Small-Group Vocabulary Intervention
RIA–DL Fidelity Observation Checklist for Small-Group Vocabulary Intervention

Observer ID: _____________ Program ID ___________ Classroom ID ________

Teacher/Asst. ID _____________ Date of observation: ______________________ Time of observation: ___________ Duration of Intervention: ___________ (mins. & secs.)

Who is conducting the Intervention: Lead Teacher Teacher’s Aide? (Circle one).

Intervention Group 1 - Spanish OR Group 2 - English (circle one).

Vocabulary from RIA-DL Lesson (List the RIA Week and RIA Lesson Number) ______

Book Title: _____________________________________________________________

# of children with whom the intervention is conducted? ______

1. Is the teacher/asst. using the correct book listed as corresponding to the RIA-DL Lesson?
   - Yes □ No □

2. Does the teacher/asst. teach directly from the intervention script? (is the script present during the lesson?)
   - Yes □ No □
   - Number of times off script:
     - Yes □ No □

3. Does the teacher/asst. use the correct picture cards with the correct vocabulary for that trade book?
   - Yes □ No □

4. Does the teacher pronounce the vocabulary words correctly?
   - Yes □ No □

5. Does the teacher/asst. read the definition exactly as it is written on the back of the card?
   - Yes □ No □

6. Does the teacher follow the procedures exactly as they are written for the Day 1, 2, 3 or 4 being implemented?
   - Yes □ No □

7. Does the teacher/asst. use the correct target language for the entire intervention?
   - Yes □ No □

8. Does the teacher/asst. implement the lesson within 5-10 min. period?
   - Yes □ No □

9. If the child doesn’t name the image then the teacher prompts with “what is it?” or models the new word and asks the child to repeat it.
   - Yes □ No □

10. Child Engagement: (Pay attention to the children’s level of engagement throughout the lesson and then at the end circle the number that best corresponds to the group’s average level of engagement.)

   1-None of the group attended
   2-About 20% of the group attended most of the time
   3-About 50% of the group attended most of the time
   4-About 80% of the group attended most of the time
   5-The entire group attended most of the time

Note: Record any special circumstance here like a major interruption in the lesson (like an unexpected fire drill) or other unanticipated occurrence that affected lesson implementation.
Appendix L

RIA–DL Fidelity Observation Checklist for Large-Group Read-Aloud
RIA–DL Fidelity Observation Checklist for Large Group Read-Aloud

Observer ID ___________________ Program ID _______ Classroom ID_______

Teacher/Asst. ID______________ Date of observation: ______________________
Time of observation: ______________ Duration of RIA Lesson: ________ (mins. & secs.)

Who is conducting the RIA Lesson: Lead Teacher Teacher’s Aide? (Circle one).
RIA Lesson Conducted: (List the RIA Week and RIA Lesson Number) _____________
Book Title: _____________________________________________________________

# of children with whom the lesson is conducted? ______

Complete during observation

<table>
<thead>
<tr>
<th>In-Vivo □ or Video Recording □</th>
</tr>
</thead>
</table>

1. Is the teacher/asst. using the correct book listed as corresponding to the RIA-DL Lesson?
   □ Yes □ No

2. Does the teacher/asst. teach directly from the lesson plans?
   □ Yes □ No

3. Does the teacher/asst. use the correct picture cards?
   □ Yes □ No

4. Does the teacher/asst. follow the steps of the lesson in the correct order? (Day 1, Step 1, 2, 3 & 4)?
   □ Yes □ No

5. Does the teacher follow the lesson exactly as it is written following the script?
   □ Yes □ No

6. Does the teacher/asst. use the correct target language for the entire lesson? (English)
   □ Yes □ No

7. Are additional teaching materials prepared and used if part of the daily lesson? (e.g., paper, crayons, objects, etc.)
   □ Yes □ No

8. Does the teacher/asst. implement the lesson within a 20-min period?
   □ Yes □ No

9. Is the teacher/asst. explicitly teaching any of the vocabulary words?
   □ Yes □ No

10. **Child Engagement:** (Pay attention to the children’s level of engagement throughout the lesson and then at the end circle the number that best corresponds to the groups average level of engagement.)

   1-None of the group attended
   2-About 20% of the group attended most of the time
   3-About 50% of the group attended most of the time
   4-About 80% of the group attended most of the time
   5-The entire group attended most of the time

Note: Record any special circumstance here like a major interruption in the lesson (like an unexpected fire drill) or other unanticipated occurrence that affected lesson implementation.
CURRICULUM VITAE

THERESA (TERRY) L. KOHLMEIER

E4523 County Road D, Menomonie, WI 54751
Cell: (651) 485-6414
Email: Kohlmeiert@uwstout.edu

EDUCATION

2018  PhD. Utah State University, Logan Utah
      In Education with Specialization in Curriculum and Instruction-Early Literacy
      Emphasis with culturally and linguistically diverse populations. Dissertation:
      “Instructional Support for Vocabulary Acquisition Among Dual Language
      Learners”

1996  M.Ed., University of Nevada, Las Vegas
      Early Childhood Special Education

1978  B.A., Arizona State University
      Majors: Child Development and Family Studies;
      Minor: Spanish

RESEARCH INTERESTS

My research interests include: Instruction and Assessment of Dual Language Learners,
Early Literacy, School Readiness and Evidence-based Practices in Early Childhood
Education and Development, Family Involvement and the relation to school achievement,
and Professional Development/Coaching and Mentoring.

AWARDS

2015  Robin’s Award, Graduate Student Teacher of the Year, Utah State University

2015  Graduate Student Teacher of the Year: Department of Special Education and
      Rehabilitation, College of Education and Human Services, Utah State University

2014  Women in Gender Research Travel Grant Award – To conduct research in Special
      Education Programs: Centro de Atención Múltiple (CAM) in Mexico through
      Utah State University

2008  Margaret Silverberg Award for Excellence in Leadership, Parents in Community
      Action, Inc.
GRANT ACTIVITIES

Institute of Educational Sciences Grant (2014). Assisted in writing an IES grant for the development and research of the Read It Again – Dual Language and Literacy Supplemental Curriculum. Not Awarded.


United Way Early Literacy Grant (2010), Implementation of extended day program for PICA Head Start classroom, Parents in Community Action, Inc. Awarded $50,000.

RESEARCH EXPERIENCE

Development and piloting of Spanish Individual Growth and Developmental Indicators (IGDIs- Español; IES Grant) – Early language and literacy assessment.  
  Position: Graduate Research Assistant  
  Duration: September 2012-July 2016  
  Duties: data collection and coordination of data collection, fidelity piloting measures, assessment, scoring, inter-observer agreement, graphing data  
  Supervisor: Lillian Duran, PhD – Utah State University

Developing and piloting Read-It-Again-Dual language. Dual language version language and literacy: A preschool curriculum supplement to promote language and literacy for dual language learners (American Speech, Language and Hearing Association)  
  Position: Graduate Research Assistant  
  Duration: September 2012 - 2015  
  Duties: development of lessons, data collection, lesson fidelity, pilot study implementation.  
  Supervisor: Lillian Durán, PhD – Utah State University

PROFESSIONAL EXPERIENCE

2017-Present Assistant Professor in Early Childhood Education, University of Wisconsin, Stout, Menomonie, WI

2016-2017 Graduate Research Assistant, USU Literacy Clinic, School of Teacher Education and Leadership, Emma Eccles Jones, College of Education and Human Services, Utah State University

2012-2016 Graduate Research Assistant, Institute of Educational Sciences (IES) grant assistant to develop a Spanish Universal Screening Measure (Individual Growth and
Developmental Indicators – Español, Department of Special Education and Rehabilitation, Emma Eccles Jones College of Education and Human Services, Utah State University

**UNIVERSITY TEACHING EXPERIENCE**

2018 - Spring, University of Wisconsin, Stout
ECE 200 – Expressive Curriculum
ECE 313 - Language Arts and Emergent Reading
ECE 480 - Student Teaching Supervision

2017 – Fall, University of Wisconsin, Stout
ECE 100 – Introduction to Early Childhood
ECE 200 – Expressive Curriculum
ECE 313 - Language Arts and Emergent Reading
ECE 426 – Classroom Management in Primary Grades

2017 - Spring, Utah State University, Logan, UT
TEAL 6755: Graduate Course: Family and Community Involvement

2014 - Spring, Utah State University, Logan, UT
SPED 5710: Young Children with Disabilities: Characteristics and Services

2007-2011 Fall and Spring, Metropolitan State University, St. Paul, MN
PSYCH 359: Behavior Guidance and Language
PSYCH 417: Communication in Early Childhood

2005 Fall, Minneapolis Community and Technical College, Minneapolis, MN
Course taught: Behavior Guidance in Early Childhood

1997-2003, Fall and Spring, Illinois Central College, Peoria, IL
Course taught: Child Development

1997 Fall, Bradley University, Peoria, IL
Course taught: Introduction to the Exceptional Child

1994 Fall, University of Nevada, Las Vegas, NV
Course taught: Introduction to Early Childhood

1989-1991, Central Arizona College, Coolidge, AZ
Courses taught: Instructed off-campus seminars in Child Development Associate and Credential Standards
PUBLIC SCHOOL AND EARLY CHILDHOOD TEACHING EXPERIENCE

1997-1999  Lead Teacher, Valeska Hinton Early Childhood Education Center, Peoria, IL School District 150


1989  Teacher, Montessori School, Flagstaff, AZ


ADMINISTRATIVE EXPERIENCE

Responsible for full compliance of the Education/Early Childhood Development Content Area serving 2500 children. Provide supervision of education management staff, EHS and HS classroom coaching, Transition Coordination with LEA’s and Dual Language Acquisition Training and Technical Assistance. Provide on-going coaching and mentoring as a Master Coach.

2003-2009 Literacy Specialist, Parents in Community Action, Inc. Head Start, Minneapolis, MN
Provision of staff training, coaching and mentoring in the curriculum areas of language and Literacy. Coordination and coaching with MN Reading Corps. Story Quest Birth-3 Literacy Leader. Assist in curriculum development and the education service area Birth-5

1997-2003 Education Coordinator, PCCEO, Inc. Head Start, Peoria, IL
Administration of the education content area for program serving 670 children. Supervised staff, wrote grants, and developed curriculum and assessment for new Head Start Child Outcomes. Collaborated to set up an Early Head Start classroom with Peoria Public Schools.

1993-1995 Director Early Childhood Child Care Center, University of Nevada, Las Vegas, NV
Administration of campus childcare/laboratory program.

1989-1993 Education Coordinator/Staff Development Specialist, Arizona Affiliated Tribes, Inc., Phoenix, AZ
Coordination of the education component for Arizona Migrant Head Start, including curriculum, assessment, professional development, and annual program evaluation. Served as a bilingual CDA Advisor/Coach.
PUBLICATIONS

PEER-REVIEWED PUBLICATIONS – ACCEPTED


PEER-REVIEWED PUBLICATIONS – MANUSCRIPTS UNDER REVIEW


Gerencser, N., Durán, L. K., Callard, C., Kohlmeier, T. L., & Lignugaris-Kraft, B. Using contextual fit to design a Picture Communication System training program for special education teachers in Mexico.

MANUSCRIPTS IN PREPARATION


The development of a Spanish storybook-based oral language screening measure.

NON-REFEREED ARTICLES


Kohlmeier, T. & Duran, L. (2012, October). What are effective strategies for screening and assessing very young (0-3) dual language learners? KIT Newsletter: A Publication of the Army Educational and Developmental Services CSPD.

Kohlmeier, T. & Duran, L. (2012, September). Does learning two or more languages confuse young children (birth to three) and cause language delays? KIT Newsletter: A Publication of the Army Educational and Developmental Services CSPD.

CONFERENCE PRESENTATIONS AND POSTERS

NATIONAL CONFERENCE PRESENTATIONS (Refereed)


NATIONAL AND INTERNATIONAL POSTER PRESENTATIONS (Refereed)

Poster at the 11th Biennial Conference on Research Innovations in Early Intervention (CRIEI): San Diego, CA.


Biennial Conference on Research Innovations in Early Intervention: San Diego, CA.


STATE AND REGIONAL PRESENTATIONS (Refereed)


STATE AND REGIONAL PRESENTATIONS (Non-Refereed)


INVITED PRESENTATIONS


SELECTED PROFESSIONAL DEVELOPMENT PRESENTATIONS (Past 10 Years)


**WEBINARS**


**CERTIFICATION**

<table>
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<tr>
<th>Year</th>
<th>Certification Details</th>
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<tbody>
<tr>
<td>2009-2012</td>
<td>Minnesota Teacher’s License – Early Childhood Special Education</td>
</tr>
<tr>
<td>2009-2014</td>
<td>CLASS Reliable Observer</td>
</tr>
<tr>
<td>1996-2003</td>
<td>Illinois Teacher’s License – Early Childhood Education</td>
</tr>
<tr>
<td>1995 – 1996</td>
<td>Nevada Teacher’s License – Early Childhood Special Education</td>
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**PROFESSIONAL SERVICE**

<table>
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<tr>
<th>Year</th>
<th>Role, Institution Details</th>
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<tbody>
<tr>
<td>2017</td>
<td><strong>Member</strong>, Teaching, Learning and Leadership Governance Committee</td>
</tr>
<tr>
<td>2016</td>
<td><strong>Consultant</strong>, Parents in Community Action Head Start, Minneapolis, MN</td>
</tr>
<tr>
<td></td>
<td>Curriculum development and professional development.</td>
</tr>
</tbody>
</table>
2014-2016 **Member** - Student Editorial Board, Division of Early Childhood (DEC) Young Exceptional Children Journal

2011 **Member** - Minnesota Children’s Museum Storybook Project

2010-2012 **Master Trainer** - Minnesota Department of Education – Culturally and Linguistically Diverse Cadre

2010-2012 **Board Member** - Minneapolis Children’s Theatre Company, MN

2007-2009 **Member** - Region V Representative on the Dual Language Institute Planning Committee

2005-2012 **Volunteer** - Disabilities Services Ministry, Woodbury Lutheran Church, Woodbury, MN

1997-2003 **Chairperson** - Family Life Committee and Women’s Growth in Community


**PROFESSIONAL MEMBERSHIP**

2017 International Association of Teaching English to Speakers of Other Languages (TESOL)

2017 National Association of Bilingual Education (NABE)

2016 Society for Scientific Study of Reading (SSSR)

2015 National Student Speech Language Hearing Association (NSSLHA)

2012-Present Council for Exceptional Children, Division of Early Childhood

1987-present National Association for the Education of Young Children.

1994-1995 Affiliate Vice-President (SNAEYC Chapter)
1990-91 State Affiliate Representative, Calendar Chairperson; and NAAEYC Conference Chairperson;

1982-84 Chairperson for Week of the Young Child

2004-2006 Minnesota Early Childhood and School Age Trainers Association

2003 to Present National Head Start Association (NHSA)

2000-2003 The Early Childhood Forum of Central Illinois: Committee Secretary and Program Committee Member

1998-2004 Stand for Children