EFFECTS OF A PARENT IMPLEMENTED DIALOGIC PLAY STRATEGY ON EARLY LITERACY DEVELOPMENT OF LATINO PRESCHOOLERS AT RISK FOR LANGUAGE DELAYS

by

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A dissertation submitted to the faculty of
The University of North Carolina at Charlotte
in partial fulfillment of the requirements
for the degree of Doctor of Philosophy in
Special Education

Charlotte

2014

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ABSTRACT

KATHERINE MCCABE SWART. Effects of a parent implemented dialogic play strategy on early literacy development of Latino preschoolers at risk for language delays (Under direction of DR. VIVIAN I. CORREA)

A multiple probe across participants design was used to examine the effects of a parent implemented dialogic play strategy on early literacy development of Latino preschoolers at risk for language delays. Three preschool aged Latino children considered at risk for language delays and their parents participated in this study. Using bilingual research assistants, each parent participant participated in a one hour instructional session on the *Language is the Key* program, specifically CARRO. CARRO is an acronym for the strategies of dialogic play: Comment and wait, Ask questions and wait, Respond by adding a little more, Repeat, One more time in Spanish. During each intervention session, the parent would play with their child while utilizing the dialogic play strategies. All sessions were videotaped. The primary dependent variable was the child participant's mean length of utterance in words (MLUw). Additionally, this study examined: (a) the number of CARRO strategies the parents utilized, (b) the total number of words (TNW) the child participants verbalized, and (c) the total number of different words (TNDW) verbally used by the child participants. Results of this study showed that parents were able to use some of the dialogic play strategies. The child participants' results were variable. However, no functional relation was established. Results from the parent social validity questionnaires were positive.

DEDICATION

I dedicate this dissertation to my family. To Chris, my very supportive husband, I could not have completed this journey without you. You gave me the strength and encouragement to persevere. I am forever grateful for this time you gave me, and I could not love you more. To my precious son, Wyatt, you came along in the middle of this crazy journey, and I would not have had it any other way. You have given me a love I have never felt before and a new sense of motivation and pride. You are the light of my life. And finally, I dedicate this dissertation to my mom and dad. Without your constant love and support throughout the years, I would not have achieved this. You have always been outstanding role models and my number one supporters. Thank you.

ACKNOWLEDGEMENTS

I would like to give special thanks to my husband, Chris Swart, for his unconditional love and support. Wyatt, Jane, and I are extremely lucky. I would also like to thank my parents, Brooks and Barbara McCabe, for their lifelong love and constant words of encouragement.

I would like to express my appreciation and gratitude to the chairperson of my dissertation committee, Dr. Vivian I. Correa. Dr. Correa has been a mentor, advocate, and friend. I would also like to thank the other members of my dissertation committee, Dr. Diane Browder, Dr. JaneDiane Smith, and Dr. Peggy Ceballos. Without their insight and expertise, this dissertation would have never come to fruition.

Lastly, I would like to thank the families who participated in this study. Their love and dedication to their families is admirable, and without their commitment, this study would not have been possible.

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CHAPTER 1: INTRODUCTION

A considerable number of children in the United States enter kindergarten with limited skills that are central to academic achievement. For example, 35% of these children lack skills in the areas of vocabulary and sentence structure (National Academy of Education, 2009). In an analysis of the Early Childhood Longitudinal Study, Kindergarten Cohort (ECLS-K), findings indicated that early reading readiness scores, including vocabulary and English language proficiency of Latino preschoolers were more than half a standard deviation below their white counterparts at the beginning of kindergarten (Galindo, 2010; Lee & Burkam, 2002). This gap grew during kindergarten, continued throughout elementary and middle school, and expanded particularly rapidly for Latinos who entered kindergarten with limited English language proficiency (Hammers, Lawrence, & Miccio, 2007; National Center for Education Statistics, 2009; Páez, Tabors, & López, 2007). Moreover, recent evidence indicates that children who enter kindergarten with initial limited English proficiency tend to have reading trajectories that are substantially below national averages (Al Otaiba, 2009; Kieffer, 2008).

In the year 2010, the Latino population was estimated at 50,477,594, representing an increase from 9% to 16.3% of the total population since 1990 (U.S. Census Bureau, 2010). Great heterogeneity among the Latinos in the United States exists regarding socioeconomic status (SES), levels of education, generational and legal status, country of

origin, as well as cultural beliefs and practices (Campos, 2008). This population influx also reflects demographic changes with regard to the number of English language learners (ELLs) who enter kindergarten each year. English language learners can be defined as "students who come from language backgrounds other than English and whose proficiency is not developed enough to where they can profit fully from English only instruction" (Fien et al., 2011, p. 143). According to the National Center for Educational Statistics (2012), Latino students encompass 23% of the total school population. As the United States experiences a shift in its cultural and linguistic make-up, the gap in Latino children's language and literacy skills are more troublesome than ever before.

English Language Learners and Latino Families. When working with ELLs and their families it is essential to be familiar with the current research on bilingualism. According to Ricento (2005), there are more people who speak English as a second language in the world than there are native monolingual English speakers. Research in this field suggests proficiency in the primary home language facilitatates second language acquisition, in particular second language oral language correlates with literacy development (August, Shanahan, & Escamilla, 2009). Instructional programs that include materials and resources that incorporate the primary home language can be more benficial than instruction provided solely in English. Currently, more than 60% of ELLs in the United States are receiving reading instruction that is predominantly English, with varying levels of support in their home language (Fien et al., 2011). These statistics warrant the need for educators to effectively instruct English language learners in English language development and embed comprehensive literacy interventions within and outside of traditional reading instruction (August & Shanahan, 2006). Given that native

language correlates to literacy in English as a second language, bilingual approaches must be considered as research suggests they can be more effective than English only approaches (Fien et al., 2011).

Speech and Language Impairments in Latino Students. English language learners are often under-represented in special education classes during the preschool and elementary years, yet overrepresented starting in 5th grade and through the remaining high school years (Artiles, Rueda, Salazar, & Higareda, 2002). In fact, according to the 31st Report to Congress on the Implementation of the Individuals with Disabilities Act (2009), Latino children ages 3 through 5 were less likely to be served under Part B than children ages 3 through 5 of all other racial/ethnic groups combined. Due to the complex components of language acquisition in the early years, it can be extremely difficult for speech and language therapists and teachers to reliably diagnose a disability (Linan-Thompson, 2010). Overrepresentation in higher grades can be attributed to documented cases of lower achievement and test scores on literacy, math, and content knowledge (Donovan & Cross, 2002; Hakuta, Butler, & Witt, 2000; Parrish et al., 2006). Language proficiency seems to be one of the most common factors that contribute to this trend as it can heavily impact performance on assessments. For children learning a second language, adequate instruction is imperative to reduce the probability of a gap between their IQ and academic achievement (Linan-Thompson, 2010).

It is important to recognize that culture can influence family beliefs and practices related to literacy (DeBruin-Parecki, 2009). Research in the area of emergent literacy emphasizes the importance of parental beliefs, interaction styles, literacy practices on their child's language and literacy development (Burgess, Hecht, & Lonigan, 2002;

Dickinson & Tabors, 2001). To date, limited research has focused on the home literacy practices of low-income Latino families and their children (Garcia, Perez, & Ortiz, 2000). The following section will examine the current research in a more in-depth manner.

Dialogic Reading Strategies and Latino Children. A large number of research studies have focused on interactive shared book reading to help develop language and literacy skills in children (Al Otaiba, 2004; Browder, Trela, & Jimenez, 2007; Crowe, Norris, & Hoffman, 2004; Justice & Ezell, 2002; Justice & Kaderavek, 2002, 2003; Justice, Kaderavek, Bowles, & Grimm, 2005; Justice & Pullen, 2003; Mims, Browder, Baker, Lee, & Spooner, 2009). Interactive shared book reading involves active participation and aims to improve the expressive and receptive language of young children (Hargrave & Sénéchal, 2000). Dialogic reading, a specific form of interactive shared book reading, has demonstrated great potential for facilitating language development for preschool children from varying socioeconomic backgrounds (Crain-Thoreson & Dale, 1999; Hargrave & Sénéchal, 2000; Lonigan & Whitehurst, 1998; Whitehurst et al., 1994; Whitehurst et al., 1988; Zevenbergen, Whitehurst, & Zevenbergen, 2003).

According to What Works Clearinghouse (2010), dialogic reading occurs when "the adult and the child switch roles so that the child learns to become the storyteller with the assistance of the adult, who functions as an active listener and questioner" (p.1). However, limited studies using dialogic reading have been conducted with Latino children who are English language learners at risk for language disabilities (Brickman, 2002; Cohen, Kramer-Vida, & Frye, 2012; Tardaguila-Harth, 2007). Dialogic strategies have been used with book sharing, but have much promise in play settings (Dale, Crain-

Thoreson, Notari-Syverson, & Cole, 1996; Lim & Cole, 2002), hence the combination dialogic strategies and play.

Importance of Play and Language Development. Interactive play is one feasible option for early childhood educators and families to promote their children's language and literacy skills. Recent literature suggests that play is the most developmentally appropriate way for children to learn (Myck-Wayne, 2010). The act of play in early childhood occurs across all cultures and ethnicities. According to Lifter and Bloom (1998):

> Play is the expression of intentional states- the representations in consciousness constructed from what children know and what they are learning from ongoing events- and consists of spontaneous, naturally occurring activities with objects that engage attention and interest. Play may or may not involve caregivers or peers, may or may not involve a display of affect, and may or may not involve pretense. (p.164)

To many it is seen as the work of a young child. Vygotsky (1986) contended that play was a key component of a child's development, health and safety. It is the combination of multiple factors, such as the child's temperament, the role of peers and the contextual nature of play that can affect the developmental domains of the child. Moreover, child-focused intervention strategies can be embedded in the context of play (Lifter, Mason, & Barton, 2011).

Research suggests that parental ideas concerning play affect the decisions made with regard to education, learning, and daily routines (Singh & Gupta, 2011). According to Pellegrini and Smith (2003), family background, culture, and beliefs about child

rearing can influence their practices of play. The families' cultural beliefs and play preferences influence the selection of toys, songs, and games. Additionally, the process of play continues to evolve and become more complex over time, resulting in children's ability to increase their academic proficiency (Singh & Gupta, 2011). By linking learning objects with play opportunities, teachers and caregivers can demonstrate the value of play. For example, dramatic or pretend play can facilitate a child's ability to increase verbalizations, vocabulary development, and language comprehension (Myck-Wayne, 2010). Exploratory play such as manipulative and block play can encourage development of academic language and vocabulary as well as categorization (Myck-Wayne, 2010).

Parent-Child Interactions. In addition to the utilization of play and shared book reading, research indicates that by offering supportive parental interactions, children can develop the language and literacy skills they need to be ready for reading and can significantly reduce the achievement gap for low-income racial minority groups (Hayakawa, Englund, Warner-Richter, & Reynolds, 2013; National Early Literacy Panel, 2008). Following the guiding principle, "the parent is the child's first teacher", language acquisition and literacy development must be studied within familial and cultural contexts (Coll & Magnuson, 2000) and are established through frequent parent–child dialogue, interactions, and daily routines (Tharp & Gallimore, 1988). Hart and Risley (2003), propose that by the time a child is 3 years old, he/she will demonstrate trends in the amount of talk, vocabulary growth, and style of interaction that will suggest the possibility of future widening gaps in their language and literacy skills. Furthermore, research suggests that parent involvement is an essential protective component for low-

income, ethnic minority children (Jeynes, 2003; Martinez, DeGarmo, & Eddy, 2004) and can predict lower rates of retention and special education placement through the eighth grade (Hayakawa et al., 2013).

With the primary goal focusing on language development, Cole and Maddox (1996) developed a parent education program using a series of DVDs entitled *Language is the Key*. This parent education program which is also available in Spanish utilizes a dialogic reading approach and incorporates strategies supported by research in the areas of early language and literacy, bilingual language development, family involvement, culture, and play. Family involvement is an essential component of preschool. This program instructs parents and other caregivers in the use of evidence-based practices during play and reading time with young children age's birth to five. The *Language is the Key* model is designed around parent-child interactions that occur naturally. Naturalistic teaching practices are evident in the *Language is the Key* dialogic play strategies as they are embedded during typical routines and activities in natural environments as the teaching context (Stanton-Chapman & Hadden, 2011). The parent's interactions are in response to their child's language and behavior which result in access to naturally occurring consequences and feedback. The dialogic strategies consist of comment and wait (commente y espere), ask questions and wait (averigue-haga preguntas y espere), respond by adding a little more (responda agregando un poco mas), and repeat again (repita otravez) in the home language (CARRO). The CARRO strategies can be used during book reading activities with a child or groups of children (dialogic reading strategies) as well as during adult-child play interactions (dialogic play strategies). This program offers a promising form of intervention to instruct parents how to interact with

their children in a manner that fosters language development. When the parents are taught to interact with their children in a supportive manner that encourages children to be active participants in the interaction, children have the opportunity to develop a strong base in their first language. Having a strong foundation in the first language will facilitate the acquisition of English and subsequent literacy development (Cummins, 1984). With this in mind, the *Language is the Key* training program was developed with consideration regarding cultural influence as well as language acquisition for young children from minority language backgrounds and their families (Maddox et al., 2002). More specifically, the dialogic play strategies are considered to be culturally responsive for a variety of culturally and linguistically diverse populations. Since the *Language is the Key* program focuses on parents and professionals who work with families with young children to promote children's language development, it recognizes the value of the family unit. In fact, Andres-Hyman, Ortiz, Anes, Paris, and Davidson (2006) contend interventions that incorporate cultural values shared by Latinos such as *familismo* and being child-centered, will be well received and culturally responsive. *Familismo* can be defined as the value the Latino culture places on family both immediate and extended as a network for support (e.g. emotional, social, and physical) (Andres-Hyman et al., 2006). The *Language is the Key* program involves parents directly responding to their child's language and literacy needs. This coincides with the Latino culture that places the needs and importance of their children above other family member's needs (Vlach, 2002). Additionally, all educational materials included in this program were reviewed by experts from culturally and linguistically diverse backgrounds in the field of early childhood to ensure an extensive culturally responsive approach. Native language speakers were also

used during the training sessions. The effectiveness of the *Language is the Key* program and strategies have been supported in both English (Dale, Crain-Thoreson, Notari-Syverson, & Cole, 1996) and Korean (Lim & Cole 2002). The current study was important and unique because the focus was on a specific ethnic group (Latinos) in which parent-child play interactions have rarely been examined or discussed in this manner. Moreover, previous research utilizing play as the primary intervention component has mainly focused on increasing social interactions and play skills (Lifter et al., 2011). To date there are no published studies that have only utilized the dialogic play sharing method with Latino parents and preschoolers considered at risk for language delays.

Summary

The number of young children who are English language learners (ELLs) is increasing rapidly in classrooms across the United States. Unfortunately, Latino children are at a high risk of developing reading difficulties and experiencing academic failure due to poverty and other risk factors (Cranston-Gingras, 2003; Romansowski, 2003). Therefore, it is crucial to find interventions that will guide Latino children on the path to academic success.

The most effective way to ensure that children are ready for reading instruction is to foster their early language and literacy development. Parent-child interactions that involve dialogic strategies with books have been effective; however only two studies have looked at the *Language is the Key* program. The *Language is the Key* is a promising program that will be implemented with Latino parents and their preschool children. This program is culturally responsive and includes a focus on parent-child interaction, language development as well as play for children whose native language is

not English. The goal of this study was to determine the extent to which Latino parents implement the *Language is the Key* dialogic play strategies (CARRO) with their children. Specifically, the study focused on Latino 4-year-olds who were at risk for language delays. The study evaluated whether the parents' implementation of the dialogic play strategies improved the oral language production and generalization language samples of their children.

Statement of the Problem

According to the 2010 Census Bureau, Latinos reported having less formal education compared to the general U.S. population. Sixty-two percent of Latinos 25 years or older reported completing high school, compared to 87% for the general population. The poverty rate is higher for Latinos compared to the general population. Due to poverty, lack of English proficiency and other factors that can often characterize this population, Latino children often enter school lacking the essential skills they need to become successful readers. The dearth of obligatory language and literacy skills can unfortunately lead to difficulties in all areas of academic development (Nelson et al., 2011). One promising approach to providing language intervention with Latino preschool children is to teach their parents to serve as the primary interventionist (Girolametto et al., 2002). Research validates that parent involvement during early childhood is a robust predictor of academic attainment (Barnard, 2004). Teaching Latino parents a dialogic play strategy that will help them prepare their children for formal reading instruction may prove to be an effective intervention tool that will break the cycle of academic failure prevalent among culturally and linguistically diverse populations.

Purpose of the Study

The current study aimed to increase knowledge about the effects of dialogic play strategies on a population of culturally and linguistically diverse families. First, this investigation examined Latino parents' ability to implement dialogic play strategies during interactions with their children. Next, the investigation examined the effects of the parents' implementation of dialogic play strategies on the oral language development and generalization language samples of their preschool children. Lastly, the investigation examined parent's perceptions of the significance and feasibility of the intervention.

Research Questions

1. To what extent do Latino parents implement the *Language is the Key* dialogic play strategies (CARRO) with their children?
2. What is the effect of the parent's implementation of dialogic play strategies on the oral language production of Latino preschoolers at risk for language delays?
3. What is the effect of the parent's implementation of dialogic play strategies on Latino preschoolers' free language narrative skills?
4. Will the effects of dialogic play on the oral language development of preschool children be maintained following the conclusion of the intervention?
5. What are parent's perceptions of the significance and feasibility of the intervention?
6. What is the effect of the parent's implementation of dialogic play strategies on the use of empathy in the parent and child interactions?

Definition of Terms

The following terms were used in the study and are essential for understanding the implemented method and procedures as well as the results.

Definitions

At Risk: For the purpose of this study, children were considered at risk if they were currently receiving speech and language therapy and/or scored one standard deviation below the mean on the Preschool Language Scale-4 (PLS-4).

Dialogic Reading: Book sharing that occurs when "the adult and the child switch roles so that the child learns to become the storyteller with the assistance of the adult, who functions as an active listener and questioner" (WWC, 2010, p.1).

Dialogic Reading Strategies: CARRO strategies used when an adult reads a book to a child or group of children. CARRO is an acronym which stands for Comment and wait (commente y espere), Ask questions and wait (averigue-haga preguntas y espere), Respond by adding a little more (responda agregando un poco mas), and Repeat again in Spanish (repita otravez en espanol) (Cole, Maddox, Lim, & Notari-Syverson, 2006).

Dialogic Play Strategies: CARRO strategies used during interactive play with an adult and child. CARRO is an acronym which stands for Comment and wait (commente y espere), Ask questions and wait (averigue-haga preguntas y espere), Respond by adding a little more (responda agregando un poco mas), and Repeat again in Spanish (repita otravez en espanol) (Cole, Maddox, Lim, & Notari-Syverson, 2006).

English Language Learners (ELLs): "Students who come from language backgrounds other than English and whose proficiency is not developed enough to where they can profit fully from English only instruction" (Fien et al., 2011, p. 143).

Generalization Language Sample: The elicitation of a sample of the child's oral language as the parent plays with their child using familiar toys. The parent began each session with the prompt, "Tell me about what you are playing with…"

Open Ended Toys: Toys that can be used in more than one way or have more than one purpose (Trawick-Smith, Wolff, Koschel, & Vallarelli, 2014).

Oral Language Development: The ability of children to use words to communicate thoughts and needs and ask questions and to understand language heard in conversations.

Play: "The expression of intentional states- the representations in consciousness constructed from what children know and what they are learning from ongoing events- and consists of spontaneous, naturally occurring activities with objects that engage attention and interest. Play may or may not involve caregivers or peers, may or may not involve a display of affect, and may or may not involve pretense" (Lifter & Bloom, 1998, p.164).

CHAPTER 2: REVIEW OF THE LITERATURE

Latino children who are learning English as a second language may encounter challenges that can put them at risk for reading difficulties and low academic attainment (Farver, Eppe, & Lonigan, 2009). One promising approach to providing language intervention with Latino preschool children is to teach their parents to serve as the primary interventionist (Girolametto et al., 2002). Research validates that parent involvement during early childhood is a robust predictor of academic attainment (Barnard, 2004). Therefore, parents who can create cognitively challenging conversations in the natural context of play have the ability to enhance their children's vocabulary, expressive and receptive language skills (Pollard-Durodola et al., 2011). Teaching Latino parents a dialogic play strategy that will help them prepare their children for formal reading instruction may prove to be an effective intervention tool that will break the cycle of academic failure prevalent among culturally and linguistically diverse populations.

Theoretical Framework

Lev Vygotsky (1978) and Urie Bronfenbrenner (1979) are the primary influential theorists that form the theoretical framework for this study. Vygotsky's sociocultural theory emphasizes the social aspect of learning and development as well as assuming play, along with higher mental functions, originates from social interactions among the child and his/her parent or caregiver (1978). Moreover, the social aspect of learning and development varies across cultures. There are four basic principles to this theory. They

are as follows: (a) children construct their knowledge, (b) development cannot be separated from its social context, (c) learning can lead to development, and (d) language plays a key role in mental development (Berk & Winsler, 1995). Among the most notable components of Vygotsky's work is the zone of proximal development which refers to "the distance between the actual developmental level as determined by the independent problem solving and the level of potential development as determined through problem solving under adult guidance or in collaboration with more capable peers" (Vygotsky, 1978, p. 86). Within the zone, Vygotsky contended that play was essential to development and in fact the source of it: "Play is the source of development and creates the zone of proximal development" (1967, p.16). Another element central to this theory is scaffolding. This is accomplished when adults provide a linguistic scaffold by, questioning, expanding and using repetition during conversations with the child. The use of such scaffolding techniques allows children to become independent learners who can grasp higher functioning concepts which in turn will strengthen their expressive and receptive language skills (Vygotsky, 1979).

The second theory central to the theoretical framework of this study is Urie Bronfenbrenner's ecological systems theory (1979). This theory describes how a child grows and develops within the context of their environment. There are four layers or systems which influence the child's overall development, including the microsystem, mesosystem, exosystem, and the macrosystem (Bronfenbrenner, 1979). The family is the most immediate system affecting the child in the microsystem. The microsystem also includes any setting that directly impacts the child such as their classroom or childcare center. The mesosystem consists of transactional relationships between the family and

institutions such as church or school. Social networks and culture makeup the exosystem, which affects the child but not directly. The macrosystem is the outermost layer and is comprised of the cultural values and norms, public policy, and institutional patterns that shape the development of the three smaller systems (Ibid, 1979).

The theoretical framework supporting this research includes elements from both theorists and sets the foundation for training Latino parents to foster their child's expressive oral language development through the use of dialogic play. The child is at the center of this conceptual model therefore supporting the ecological systems theory. The child's learning and development will be directly influenced through interactions with their family and home environment. Moreover, the way in which the Latino culture plays a role within the child's microsystem was also examined. The risk factors that commonly accompany these families such as poverty, low educational levels, and limited English proficiency represent obstacles for getting their children ready for school. Thus, having materials and strategies that can be used at home to prepare children for school is essential.

Adhering to the theoretical framework, parent participants were selected from the Latino population that have been identified as being at risk due to environmental risk factors such as parents' low educational levels, poverty, and limited English proficiency. Providing interventions with the intent to promote positive parent-child interaction is vital when working with children who are already exposed to risk factors. This research involved teaching parents to implement dialogic play strategies through the use of the *Language is the Key* program. This program teaches parents effective strategies that promote language development and put children on the road to literacy. When parents

and caregivers are afforded the opportunity to be integral members of their child's intervention, they can encourage their children to be active participants and in turn facilitate their language development.

Latino Population: Children at Risk

The Latino population constitutes the largest minority group in the United States consisting of 16.9% of the total population (U.S. Census Bureau, 2010). The growth of the Latino population is due partly to new births but also to continued immigration from Mexico and Latin America. They are also considered to be the most vulnerable. As a group, this population carries a disproportionate burden of risk factors. Four main familial background risk factors have been identified that can contribute to negatively affecting Latino students' outcomes (National Center for Education Statistics, 2003). The following section will address each of the risk factors: (1) having a mother who has less than a high school education, (2) living in a family on welfare or receiving food stamps, (3) living in a single parent family, and (4) having parents whose native language is a language other than English.

Parents' Low Educational Levels

Traditionally, Latino students have been characterized with higher high school dropout rates than any race or ethnic group as well as low college completion rates (Kewal Ramani, Gilbertson, Fox, & Provasnik, 2007). According to the National Center for Education Statistics (2012), the status dropout rates of 16- through 24- year old Latinos are 15.1% compared to 5.1% for Whites. As these trends continue, an educational achievement gap remains between Hispanics and non-Hispanic whites. The most cited reason for the gap between the high value Latinos place on education and their lack of

educational attainment seems to come from financial pressure to support a family. According to the National Survey of Latinos by the Pew Hispanic Center (2009), 74% of all 16- to 25-year-old respondents who ended their education career during or immediately following high school say they did so in order to support their family. The survey named additional reasons, including being limited English skills (cited by about half of respondents), having a dislike of school, and feeling that their current education was adequate for the careers they chose (each cited by about 40% of respondents) (Pew Hispanic Center, 2009).

Poverty

Poverty can seriously hinder a child and family's ability to access quality learning opportunities and their academic achievement potential. In 2011, 25.3% or 13.2 million Latinos lived in poverty and 10.5% lived in deep poverty. When considering the youth population, 34.1% of Latino children under the age of 18 lived below poverty (U.S. Census Bureau, 2012). Moreover, 30.7% of Latinos lack health insurance (U.S. Census Bureau, 2012). Vaccinations and health insurance are key preventative safeguards which will reduce the chance of health risks among children. When the high level of poverty experienced by Latino families is added to these variables, the risk of academic failure is further intensified.

Lack of English Proficiency

An added obstacle that Latino families and their children encounter during their academic and social experiences is a lack of English proficiency. The number of school age children age 5-17 who spoke a language other than English at home has risen from 4.7 to 11.2 million or from 10 to 21 % between 1980 and 2009 (NCES, 2012). In fact,

75.1% of Latino children 5 and older speak Spanish in the home (U.S Census Bureau, 2010). Spanish-speaking students currently comprise the largest group of English language learners in the United States. However, limited English proficiency can be problematic and can place children at higher risk for reading difficulties and low academic achievement (Farver, Eppe, & Lonigan, 2009). Data from the National Center for Education Statistics (NCES) for reading in 2009 revealed that 52% of Latino students in the fourth grade scored below the "basic" level and 42% of Latino eighth graders scored below the "basic" level as well. Therefore, it is essential that research be conducted with this population to examine effective instructional strategies that can decrease this educational gap and increase the probability for academic success.

Second Language Learners and Language Development

Acquiring a strong language foundation occurs during the early years of a child's development. Early language development is largely influenced by routine interactions and conversations between parents and their children (Hart & Risley, 1995; Roberts & Kaiser, 2011). As children participate in a variety of listening and talking activities, their language and literacy skills develop and grow (Dickinson & Tabors, 2001). During this time and through meaningful interactions, children expand their vocabulary repertoire. Providing numerous opportunities for young children to engage and expand their language is critical. According to Storch and Whitehurst (2002), demonstrated language skills during preschool suggest a strong influence on later reading attainment.

Unfortunately, English language learners (ELLs) are at heightened risk of academic difficulties (National Center for Educational Statistics [NCES], 2008). According to Tabors & Snow (2002), preschool children who experience changes in their

language environment could demonstrate difficulty acquiring new vocabulary and the additional skills needed to build their literacy repertoire. Many of these young children's first formal exposure to English are when they enter early childhood programs. During this time, these young children often switch to using English very quickly while parents and caregivers continue to use the home language (Clarke, 2009). Given the strong relationship between language and literacy skills, it is necessary to examine how language differences impact communication within families who have children who are learning English as a second language (Tannenbaum & Howie, 2002).

According to leaders in the field of second language acquisition, developing a child's home language will also assist in their development of a second language (Cummins, 1981; Hakuta, 1990; Krashen, 1991). Interestingly, a child's ability to speak in their first language is a reliable predictor of their ability to learn a second language (Cummins, 1980). Cummins (1980) contends that language and pre-literacy skills are transferable across languages. Though, in order for this to occur:

> They must have been developed in the first place. And if there has been a discontinuity in the first language environment leading to truncated development of these aspects of pre-literacy development in the child's first language, there may be nothing to transfer to the new language. (Tabors and Snow, 2002, p. 171)

Therefore, parents and caregivers are urged to continue using the first language in the home. The purpose of this is twofold; children will be better prepared for school and will be more equipped to learn English successfully.

To investigate the linguistic environment of English language learners, Quiroz and Dixon (2012) examined mother–child language interactions in Spanish-speaking

families during two literacy-related activities at home (i.e., book reading and a homework-like task) in a metropolitan city in Massachusetts. Participants included four preschool children and their mothers who were chosen based on their language proficiency. They were grouped in the following categories: low English–low Spanish, low English–high Spanish, high English–low Spanish, and high English–high Spanish. The researchers utilized language data analysis, discourse analysis, surveys and observations to investigate the relationship between mother-child communication and the child's language and literacy skills. The pair grouped as high English-high Spanish demonstrated the strongest outcomes in the child's vocabulary in both languages. Incidentally this particular child participant attended a bilingual preschool program and participated in the shared language condition. Results implied that shared language and consistent communication between home and school supports mother–child communication and offers a correlation for children's language and literacy scores. Moreover, home literacy support facilitates the children's language and literacy skills, not only in their native language but in their second language as well.

Parent-Child Interactions

The most significant influence on young children's development can be attributed to the interactions and relationships they build with their parent or caregiver (Deater-Deckardm 1998; Greenspan & Wieder, 1998). A secure parent-child attachment can serve as the underpinnings for a child's healthy development in all of the domains and has been linked to school readiness (Albright & Tamis-LeMonde, 2002; Ceballos & Bratton, 2010). Creating these bonds during early childhood can reduce at-risk behaviors

in turn decreasing the probability for negative developmental outcomes (McCabe & Frede, 2007; Storch & Floyd, 2005), as well as helping behaviors in times of distress.

It is important to consider that parents and caregivers are expected to use interaction styles with their children that are characteristic of their culture. Greenfield, Keller, Fuligni, and Maynard (2003), discuss two specific interaction styles that illustrate specific ways parents and caregivers interact with their children: an interdependent/collectivist style and an independent style. The interdependent style emphasizes the family and group, whereas the independent style emphasizes independence and individual achievement. It is necessary to take into account parent and caregiver interaction styles as they can influence behaviors related to attention, language usage, and use of objects during play (Vigil & Hwa-Froelich, 2004).

Another area of research involving parent-child interactions focuses on empathy development and how experiences in the parent-child relationship support children's developing abilities to care about others (e.g., Kiang, Moreno, & Robinson, 2004; Kochanska, Forman, & Coy, 1999). Moreno, Klute, and Robinson (2008) suggested that children's empathetic and prosocial behaviors were influenced by demonstrated parental empathy for their child's needs and sensitive care practices. More specifically, a mother's kindness and affection toward her child during non-stressful situations has also been associated with children's empathy. Examples of parental empathy include communicating acceptance of the child, being involved with the child and providing them with quality attention, as well as allowing the child to be self-directive in appropriate situations (Bratton, 2003).

As Latino families continue to grow and expand, professionals must be cognizant of approaches for collaborating with diverse families that would be beneficial for all who are involved. One recommendation includes using a strengths-based framework when working with families (Bryan & Henry, 2008). Providing activities and interventions in the natural environment is also recommended. When doing so, parents are able to embed language and literacy activities into their child's daily routines and play. Characteristics of naturalistic teaching strategies include: using reinforcement that is naturally occurring, brief and direct, focusing on functional skills, using a variety of materials, and following the child's interests and lead (McGee, Morrier, & Daly, 1999; Stanton-Chapman & Hadden, 2011). Using the natural environment provides an avenue for more authentic learning experiences (Kashinath, Woods, & Goldstein, 2006). Naturalistic teaching strategies are considered to be developmentally appropriate and have been identified as a recommended practice by the Division for Early Childhood (Sandall, Hemmeter, Smith, & McLean, 2005). Examples of naturalistic teaching strategies include prelinguistic milieu teaching (PMT) and milieu teaching. PMT is based on principles of milieu teaching, uses a child-centered play context, and is designed for children who are making little or no use of conversational words or signs (Fey et al., 2006; Yoder & Warren, 2001). It explicitly teaches young children nonverbal communication acts that utilize combinations of gestures, vocalizations, and eye gazing that shifts from referents of interest to a communication partner (Fey et al., 2006). For children who have more verbal language, milieu teaching approaches are characterized by the use of teaching opportunities embedded in ongoing activities that can be used to teach a range of early language skills, including basic vocabulary (e.g., common nouns and verbs) (Staunton-

Chapman & Haddon, 2011). Four typical milieu strategies implemented with young children are modeling, incidental teaching, time delay, and mand-model (Kamps, Kravits, & Ross, 2002). Most importantly, researchers have suggested that parents and caregivers can implement the naturalistic approach with fidelity (Roberts & Kaiser, 2011). By fostering positive parent-child interactions and empowering parents and their children, professionals would be promoting academic achievement and social-emotional development (Bryan & Henry, 2008).

Tomopoulos et al., (2006) conducted a study to investigate the relationships between parent-child interaction, books, toys, and child development among low-income Latino children and their mothers. The primary inclusion criterion for this study was that the mothers had not graduated from high school, placing their child at greater risk for developmental delay. Using a longitudinal cohort study, 73 of the 150 mother-child dyads were randomized to a group in which no interventions were given. The remaining participants were exposed to *the Read Out and Read Program* (ROR). The number of books and toys in the home and frequency of reading aloud were measured by the StimQ at age 6 months and 18 months. The StimQ is a questionnaire designed to measure cognitive stimulation provided in the home (Dreyer, Mendelsohn, & Tamis-LeMonda, 2001). At 21 months, the child's cognitive and language as well as their parent-child interactions were assessed using the Bayley Mental Developmental Index (MDI), the Preschool Language Scale-3 (PLS-3), and the Caregiver-Child Interaction Rating Scale. Results indicated statistically significant scores suggesting that books provided at 18-months predicted both cognition and receptive language whereas toys provided at 6 and 18 months predicted 21-month receptive language. In addition, results implied that the

relationship between books and toys and developmental outcomes was in part related to enhanced-parent child verbal interaction. These results add to the literature supporting the important role parents play in their children's development when using books and toys in early interactions.

Research on Latino parent-child interactions was also conducted by Rodríguez, Davis, Rodríguez, and Bates (2006). They investigated the parenting practices of first-generation Latino parents of children 4 to 9 years of age. Participants were recruited in a western rural community and included 48 fathers, 49 mothers, and 50 children. Families participated in cooperative, problem-solving, and skills building tasks. Using the Global Coding of Parenting Practices, five positive parenting practices based on observations of parent-child interactions were measured. The five parenting practices included: problem solving, skills building, positive involvement, discipline, and parental monitoring. Findings yielded relationships between parenting practices. Specifically, high negative correlations were noted between: (a) inept discipline and positive involvement, (b) inept discipline and monitoring, and (c) positive involvement and monitoring, for both mothers and fathers. This information can aid in the development of culturally responsive parenting interventions for Latino families.

To date, there are a multitude of studies that use parents as the primary interventionist. However, a review of literature exposed a paucity of empirically supported parent interventions designed for Latino families (Mason & Mott-Stefanidi, 2009). By incorporating this type of design, researchers recognize and support the notion of parents being their child's first teacher.

Review of the Empirical Literature on the Efficacy of Dialogic Reading

When reviewing strategies that focus on language and literacy acquisition, it is pertinent to highlight the method of interactive shared book reading and more specifically dialogic reading. According to What Works Clearinghouse (2010), shared book reading was designed to enhance children's book knowledge as well as promote their language development. Interactive shared book reading involves an adult reading a book to a child or a small group of children and using a variety of techniques to engage the children in the story. It has been identified as vital to later reading ability and academic attainment with numerous studies suggesting a relationship between early shared book reading and later success (Crain-Thoreson & Dale, 1999).

Shared Book Reading and Language Development

Most research studies in preschool have used a shared book reading approach to teach vocabulary (Ezell & Justice, 2005). This specific strategy involves an adult reading a storybook to an individual or group of children while actively engaging them by discussing the story's characters, events, and vocabulary (Ezell & Justice, 2005; Pollard-Durodola et al., 2011). The following studies discuss using a shared book reading intervention to facilitate young children's oral language development.

Wasik, Bond, and Hindman (2006) conducted a study to examine the effectiveness of a teacher intervention that included shared book reading and conversational strategies on the vocabulary of children who attended a Head Start program. Participants consisted of 207 low-income 2 to 4 year-old children and 16 teachers from two Head Start centers. Using a pretest-posttest experimental design, the two centers were randomly assigned to the control and intervention conditions. Teachers in the intervention condition were specifically trained in using strategies that were aimed

to increase opportunities for vocabulary and language development. Results indicated statistically significant scores on the Peabody Picture Vocabulary Test-III and the Expressive One-Word Vocabulary Test (3rd Edition). Pretest scores yielded a mean of 29.32 while posttest scores yielded a mean of 49.45. The results suggested that the children's vocabulary increased when their teachers utilized the shared book reading and conversational strategies.

Pollard-Durodola et al. (2011) conducted a similar study to investigate the effects of a shared book reading intervention on the expressive and receptive vocabulary development of preschool children who were considered at risk for language disabilities. Participants included 125 children from schools within two school districts and one regional Head Start program in two culturally and linguistically diverse cities in South-central Texas. Using a pretest-posttest experimental design, the researchers designated two shared book reading conditions: Words of Oral Reading and Language Development [WORLD; 2005] intervention or typical shared book reading. The WORLD intervention consisted of increasing the intensity of typical shared book reading by bridging lexical sets of vocabulary between informational and narrative text. Results from standardized vocabulary measures indicated no statistically significant differences among the intervention and control group. However, results from the researcher-developed expressive and receptive posttests show statistically significant effects for the WORLD intervention when compared with the control group. While the WORLD intervention appears promising, future research should be conducted to focus on the ability of an intensive shared book reading intervention to produce generalizable effects across children who are at risk for language delays.

Dialogic Reading

Dialogic reading is an explicit form of shared book reading. In dialogic reading, the adult and the child switch roles so that the child learns to become the storyteller with the assistance of the adult, who functions as an active listener and questioner. The focus is on building joint conversation, language, vocabulary, and emergent literacy skills. The following experimental studies specifically examined the effects of dialogic reading, and were all conducted in the classroom and home settings with preschool children who were from low income backgrounds and were considered at risk for language delays.

Lonigan and Whitehurst (1998) conducted a study to investigate the effectiveness of teacher and parent involvement in a shared book reading intervention for children from low socio-economic backgrounds. Participants consisted of 91 low-income English speaking 3 to 4 year-old children from four child care centers. Using a pretest-posttest experimental design, the researchers designated three intervention groups: (a) dialogic reading at school, (b) dialogic reading at home, and (c) dialogic reading both at school and at home. These experimental groups were compared to a typical story book reading control group that did not participate in dialogic reading. Results indicated medium effect sizes (.41 and .44) and statistically significant scores on two of the measures. Effects were noted on the Expressive One-Word Picture Vocabulary Test - Revised (EOWPVT-R) and the Verbal Expression subtest of the Illinois Test of Psycholinguistic Abilities (ITPA-VE) standardized tests of oral language and language samples. The home reading condition exhibited the most substantial effect.

Lonigan, Anthony, Bloomfield, Dyer, and Samwell (1999) also conducted a study examining the effects of two shared book reading interventions on at-risk preschoolers'

emergent literacy skills. Participants in this study were 95 children ages 2 to 5 who attended five child care centers in an urban region in Florida. Of the child participants, females comprised 46% of the sample and African Americans 77%. The researchers compared two interventions, dialogic reading and typical shared book reading to a no-treatment group who participated in the state standard preschool curriculum. Results indicated support in favor of dialogic reading in the area of descriptive use of language, while typical shared book reading indicated increased listening comprehension and alliteration detection.

In another study of dialogic reading, Crain-Thoreson and Dale (1999) examined the effectiveness of a teacher implemented dialogic reading group versus a parent-implemented dialogic reading group. These two groups were then compared to the control group that did not receive one-on-one dialogic reading. The participants included 19 children 3 to 5 years of age with mild to moderate language delays from five classrooms in three school districts in the Pacific Northwest. After the 8-week intervention phase, results indicated statistically significant increases ($p<.01$) for number of utterances, mean length of utterances in words(MLUw), ratio of participation, and number of different words used for the dialogic reading group. However, this intervention did not generate statistically significant results in the area of vocabulary growth.

In 2000, Hargrave and Senechal examined the effects of dialogic reading on preschool children who had a limited vocabulary in Ottawa, Canada. Participants included 36 children between the ages of 3 to 5 who were demonstrating a13-month average delay in oral language development. English was the only language spoken in the homes of 24 children, whereas English and another language were spoken in the homes

of 11 children. One child lived in a home where no English was spoken. Using a pretest-posttest experimental design, children were divided into groups for book reading and all children were exposed to the same books which were each read twice. Results indicated statistically significant scores on the Expressive Book Vocabulary Test ($p<.04$) as well as the Expressive One Word Picture Vocabulary Test-Revised ($p<.05$). Though, no statistically significant differences were evident on the standardized receptive language measures, these findings indicated that children with delayed vocabulary development learned new vocabulary through their expressive language and benefited from shared book reading activities, specifically dialogic reading.

Adding to the literature, Justice and Ezell (2002) conducted a study to examine the use of storybook reading to increase print awareness in preschool children considered at risk. Participants included 121 low-income 3 to 4 year-old children from a Title I early learning center. All children spoke English as their primary home language; 27 children were Caucasian, two were Asian, and one was African American. Utilizing a pretest-posttest experimental design, researchers compared oral language skills of the children participating in the dialogic reading condition with those in the comparison condition who were read the same books through the typical storybook reading method. Results indicated that children who were assigned to the experimental group outperformed children in the control group on their words in print, print recognition, and alphabet knowledge. Pretest to posttest scores indicated nearly a 20% gain for students who participated in the dialogic reading.

To explore the use of dialogic reading within the migrant population, Tardaguila-Harth, (2007) conducted a study to investigate the effects of migrant mothers'

implementation of dialogic reading strategies on the oral language development of their preschoolers with language delays as well as their ability to implement the intervention with fidelity. Participants included four mother/child dyads from north central Florida who spoke Spanish as their native language. Using a multiple baseline across participants research design, the mothers were trained in the dialogic reading strategies and then asked to implement these strategies with their children during interactive shared book reading activities in the home. PEER is the acronym for the steps of dialogic reading: prompt, evaluate, expand, repeat. The Spanish equivalents of the PEER steps are: preguntar, evaluar, expandir and repetir. Results indicated the mothers were able to successfully implement the dialogic reading strategies. Moreover, as the mothers increased their implementation of the strategies, the oral language production of their children, as measured by the production of nouns, verbs, and "others" increased as well.

A recent study conducted by Cohen, Vida, and Frye (2012), in a public universal pre-kindergarten program, examined the effect of using dialogic reading to improve the English and Spanish vocabulary of 72 Latino children 3-5 years of age with different levels of English language proficiency (i.e., an English-only group, a bilingual group, and a Spanish –dominant group). Findings indicated that on average, children's word knowledge increased across all children which corroborates previous findings on the use of read aloud practices to improve Latino children's vocabulary knowledge (Pollard-Durodola et al., 2011). Moreover, all children's word knowledge increased regardless of whether books were read in English or Spanish.

Play

The recent research literature has argued that children's play can promote learning (Brock et al., 2009; Singer et al., 2006). Play is the child's tool for problem solving and a natural mode for expressing themselves. Hoorn et al. (2011) defined play as consisting of one or more of these characteristics: "(a) active engagement, (b) intrinsic motivation, (c) attention to means rather than ends, (d) nonliteral behavior, and (e) freedom from external rules" (p. 5). In play, children are self-directed and purposely involved. In some cultures, play can be seen as a necessary component of an educational curriculum for young children. Advocates for play indicate its potential to expand a child's cognitive, emotional/social, moral, physical development, and language development (Hoorn et al., 2011).

Notable theorists like Piaget, Vygotsky, Mead, and Erikson all suggested that children grow and develop through a constructive process that is influenced by their family, community, and past experiences (Hoorn et al., 2011). Children from all cultures engage in some form of play. Therefore, examining the socio-cultural perspective of play and learning is critical. Although cultural differences are expected in regards to play and learning, all cultures have a system of disseminating knowledge and skills from one generation to the next including attitudes toward school and learning (Salili & Hoosain, 2007). In 2002, Brooker indicated a link between home and school learning environments, which in turn could have an effect on a child's development as well as their exposure to play. In addition, the American Academy of Pediatrics (AAP) has recommended that pediatricians promote early literacy opportunities and provide guidance to families around choosing appropriate toys (AAP, 2002).

Sualy et al. (2011) contend that play and language development act as reinforcements for one another. Play requires a breadth of language skills. As a child's play becomes more complex so does their vocabulary and language development. The materials and play themes determine the conversational focus and it is imperative that young children gain the language skills to participate (Craig-Unkefer & Kaiser, 2002). For culturally and linguistically diverse children, it is extremely important to encourage and support their early literacy skills in both English and their home language while continuing to enhance all aspects of their play development (Zhang, Fallón, & Kim, 2010). Furthermore, Lamb, Bornstein, and Teti (2002) proposed that adults could foster their children's development by providing a stimulating play environment, guiding the children's active engagement, and responding to them.

Professionals in the fields of early childhood, early intervention (EI) and early childhood special education (ECSE) are aware of the benefits of play. Play is often used by professionals to assess young children's development as well as a method for delivering an intervention (Lifter, 2011). Play interventions are especially important for young children who are at risk for language delays (Lifter, 2011). The following research studies used play interventions to promote the increase of language skills for their participants.

Review of the Empirical Literature on the Efficacy of Play as an Intervention

In 2002, Craig-Unkefer and Kaiser conducted a study to examine the effects of a multicomponent intervention to support language communication and play among preschoolers who were considered at risk for language and behavior delays. Participants included six children 41 to 47 months of age. Of the six child participants, one child was

European American and five of the children were African American. Using a multiple baseline across participants, the children were paired in mixed-gender dyads to determine the effects of the play intervention. The intervention sessions were conducted three or four times a week, lasted 20 minutes and consisted of three components: (a) the advanced play organizer, (b) the play session, and (c) the review session. During that time, participants were taught to plan their play, interact using conversational strategies, and evaluate their play experiences. At the conclusion of the study findings indicated five of the six children demonstrated an increase in their expressive language skills including verbal requests and descriptive talk. Moreover, using the measurements of mean length of utterances (MLU) (.53-1.2), total words, and number of different words per session (M=78) indicated an increase in language complexity as well as diversity.

Barton and Wolery (2010) conducted a study to investigate the relation between teachers' use of the system of least prompts and contingent imitation on four children with disabilities use of pretend play. Participants included four female teachers from a university-based inclusive preschool program and four children between the ages of 43 to 50 months who had a diagnosed disability and were demonstrating a minimum mental age of 18 months as measured by the Mullen Scales of Early Learning (MSEL; Mullen, 1995). One child was African American and three children were of European American decent. Using a multiple-probe design across participants, five toys sets were utilized with the child participants across three instructional sessions, generalization, and the Adapted Structured Play Assessment (SPA). Results indicated a functional relation between the intervention package and the increase in the number of unprompted pretend play behaviors across children. Moreover, findings suggested that as the children

progressed through the play intervention, their vocalizations also increased. This effect occurred even though vocalizations were not prompted or reinforced throughout the play intervention.

Sualy et al. (2011) conducted a study to examine the effects of a play intervention on the play skills of children who had a documented language delay. Participants included eleven Caucasian children between the ages of 36 months to 59 months and were enrolled in a preschool language classroom at an elementary school in a Midwestern suburb. Using a pretest posttest research design, the children's play was assessed using the Play in Early Childhood Evaluation System (PIECES; Kelly-Vance & Ryalls, 2005; Kelly-Vance, Ryalls, & Glover, 2002; Kelly-Vance & Ryalls, 2008) and then were assigned to either the control or intervention group. The intervention occurred once a week and consisted of adult facilitated play with each play theme centering on a children's book and toys. Following eight weeks of intervention, results indicated five of the six children in the intervention group improved their play and language skills. Specifically, four of the six intervention participants moved from exploratory to pretend play, while two of the children in the control remained at the same level and three of the children demonstrated a lower level of play at the posttest.

The following section discusses the *Language is the Key* program as an intervention that was designed to incorporate dialogic reading and dialogic play strategies to enhance preschoolers', from diverse backgrounds, oral language skills.

Language is the Key as an Intervention

Language is the Key (Cole, Maddox, Lim, & Notari-Syverson, 2006) is a parent education program that utilizes a dialogic reading approach. It also incorporates strategies

supported by research in the areas of early language and literacy, bilingual language development, family involvement, culture and play. Family involvement is an essential component of preschool. This program guides parents and other caregivers in the use of evidence-based practices during play and reading time with young children ages birth to five. The *Language is the Key* program is designed around naturally occurring parent-child interactions. *Language is the Key* can be considered a culturally responsive program for the Latino population as it honors the value of *familismo* though the recognizing parents' significant role in their children's lives and development as well as its focus on the parent-child dyad (Ceballos & Bratton, 2010). The program also focuses on building parent confidence through the use of encouragement and explicit instructions. This program offers a promising form of intervention that teaches parents how to interact with their children in a manner that fosters language development. When parents are taught to interact with their children in a supportive manner that encourages children to be active participants in the interaction, children have the opportunity to develop a strong base in their first language. Having a strong foundation in the first language facilitates the acquisition of English and subsequent literacy development (Cummins, 1984). Keeping this in mind, the *Language is the Key* program was developed as a language acquisition intervention for young children from ethnically and linguistically diverse backgrounds and their families (Cole, Maddox, Lim, & Notari-Syverson, 2006). The effectiveness of the *Language is the Key* program and strategies have been supported in both English (Dale, Crain-Thoreson, Notari-Syverson, & Cole, 1996) and Korean (Lim & Cole 2002).

Dale, Crain-Thoreson, Notari-Syverson, and Cole (1996) conducted a study comparing the effects of a dialogic reading program to a conversational language-training

program. This particular study involved the examination of the prototype for the *Language is the Key* program. Study participants included 33 mother-child dyads that were randomly assigned to the book-reading program or to the conversational program for an 8-week intervention. All participants spoke English as their native language and their ethnicities include White, African American, and Other. The children ranged in age from 3 to 6 years old and were primarily male. The conversational language training used the *Let's Talk and Now You're Talking* program (Educational Productions, Inc., 1987) and included the following components: (a) show your interest, (b) use information talk, (c) limit closed questions, (d) use indirect correction, (e) use information talk, (f) use expansions, and (g) ask open-ended questions. The dialogic reading training included the following components: (a) ask "what" questions, (b) follow the child's answers with questions, (c) repeat what the child says, (d) help the child as needed, (e) praise and encourage the child, (f) shadow the child's interests, (g) have fun, (h) ask open-ended questions, and (i) expand what the child says. The results of this study revealed that the language production of both groups increased as measured by mean length of utterance and the number of words produced by the children. However, children in the dialogic reading group experienced greater gains in both measures than those assigned to the conversational language training program. The dialogic reading group had an increase in mean words used during the intervention from 37.3 on the pretest to 48.7 words on the posttest during the book reading episode and an increase in mean words used from 62.9 on the pretest to 65.6 on the posttest during the play episode. Children in the dialogic program increased their mean length of utterance in words (MLUw) and number of different words produced in the posttest observation. Moreover, the results demonstrated

a stronger change in the play episode than in the book-reading episode, regardless of which training group the parent-child dyad was participating in.

Lim and Cole (2002) examined the impact of dialogic reading on the first language knowledge of Korean children living in Seattle, Washington. The researchers worked with 21 mother-child dyads. The children ranged in age from 2 to 4 years old and were reported to be developing in a typical manner. All of the children were bilingual, learning Korean at home and English in their preschools. Dyads were randomly assigned to a treatment condition or to a control condition. The treatment condition consisted of training the mothers on the *Language is the Key* dialogic reading techniques and discussing information on the importance of first language and literacy development. Parents in the control group received information about the importance of the first language and literacy development. The mothers in the experimental group were asked to engage their children in dialogic reading every day. After four weeks of intervention, the children in the experimental group produced more language, longer utterances, and greater word usage than the participants in the control group. Results from repeated ANOVA measures reflect statistically significant ($p<.01$) scores among child performance comparisons with scores favoring the intervention group. Lim and Cole (2002) note that although the dialogic reading interaction was carried out in Korean, the children used both Korean and English words during the activities. They concluded that the dialogic reading intervention had a positive effect on the children's expressive vocabulary in both Korean and English.

Summary of Findings

The research has demonstrated that the quality of language interactions in Spanish facilitates English language and literacy skills (Farver, Lonigan, & Eppe, 2099; Fien et al., 2011; Perry, Kay, & Brown, 2008). Moreover, shared and continuous language between home and school supported parent–child communication and related to children's language and literacy scores (Quiroz & Dixon, 2012). These results suggest that home literacy support facilitates the children's language and literacy skills, not only in the home language but in their second language as well. Another important finding that maternal literacy skills, although important, seem to be secondary to the maternal support afforded by bilingual education and mother–child shared language. Focusing on creating language conditions that foster maternal scaffolding of learning might be a better approach for the educational needs of the Latino population.

Sualy et al. (2011) added to the literature that suggested interventions conducted in play contexts had positive effects on young children. They concluded that their play intervention was successful due to the fact it was conducted in the participants' natural environment (current classroom). In addition, prompting, modeling, and reinforcement from adults were methods which could effectively support play and language development. Craig-Unkefer and Kaiser (2002) taught children language skills during a multicomponent strategy for increasing social communication by children at risk for language delays. Results from Tomopoulos et al. (2006) indicated that reading aloud and the provision of toys were associated with better language and cognitive development which in turn decreased the likelihood of children being eligible for early intervention

services. They also attributed parent-child verbal interactions to the success of the intervention.

Limitations

Limitations were noted for all studies examined in this literature review. General limitations cited were small sample sizes, the short time period of the intervention and lack of generalization measures. Specifically, Craig-Unkefer, and Kaiser (2002) stated a common goal of empirical studies that teach skills related to early childhood social competence is developing generalization skills. However, their particular study was limited by the absence of generalization measures. Barton and Wolery (2010) also stated limitations in relation to generalization. Their generalization sessions were conducted in the same room as the intervention sessions. Further, the non-teacher adult who conducted most of the generalization was the same individual across the study. Adding to these limitations, Sualy et al. (2011) cited a small sample size and lack of diverse sample size. Their six child participants were all Caucasian. Tomopoulos et al. (2006) discussed the presence of certain confounding variables such as the possibility that parents who provide more books and toys to their children might have additional characteristics that would make them more verbally responsive to their children even in the absence of books and toys. Additionally, it could be possible that parents with more books may also have more toys and vice versa. Therefore this limits the researchers' ability to demonstrate causality.

Rationale of the Study

According to the National Task Force on Early Childhood Education for Hispanics (2007), first-generation Latino children, who live in poverty and speak Spanish as their native language, are the most vulnerable population for reading difficulties and

low academic achievement if they are only taught in English and the school is not mindful of their linguistic and cultural strengths (Snow, Burns, & Griffin, 1998). There is paucity of research in the area of parent implemented dialogic play strategies and language development of Latino preschoolers who are considered at risk for language disabilities. The area of expressive oral language development is extremely important as it is a strong predictor of future reading skills. However, a specific program, *Language is the Key,* was developed for families to implement dialogic reading along with dialogic play strategies to help improve their child's oral language skills. This program was chosen for this study because it has been shown effective with bilingual students and is considered culturally responsive. There have been two research studies on dialogic reading and bilingual students that suggest this program is a promising direction for future research on how to improve young children's oral language development. To date, no known studies have focused solely on the dialogic play component of the *Language is the Key* program with at-risk Latino preschoolers. Of the studies (Dale, Crain-Thoreson, Notari-Syverson, & Cole, 1996; Lim & Cole, 2002) that specifically used the program they also incorporated the dialogic reading component. Furthermore, those two studies were conducted with English and Korean speaking participants, whereas the current study concentrated on parents and their children who spoke Spanish as their native language.

The current study sought to determine the extent in which Spanish speaking Latino parents could be taught to facilitate their children's oral language development through the implementation of dialogic play strategies through the use of the *Language is the Key* program. As previously discussed, researchers are advocating for the delivery of strengths-based parenting interventions that can empower low-income minority families

(Bryan & Henry 2008; Galassi, & Akos, 2007). The findings of this study may provide invaluable information for early childhood practitioners who work with families to assist them with their children's preparation for future literacy and academic achievement.

Research Questions

1. To what extent do Latino parents implement the *Language is the Key* dialogic play strategies (CARRO) with their children?

2. What is the effect of the parent's implementation of dialogic play strategies on the oral language production of Latino preschoolers at risk for language delays?

3. What is the effect of the parent's implementation of dialogic play strategies on Latino preschoolers' free language narrative skills?

4. Will the effects of dialogic play strategies on the oral language development of preschool children be maintained following the conclusion of the intervention?

5. What are parent's perceptions of the significance and feasibility of the intervention?

6. What is the effect of the parent's implementation of dialogic play strategies on the use of empathy in the parent and child interactions?

CHAPTER 3: METHOD

This chapter provides detailed information on the methods and procedures of the current study. The first section of the chapter discusses participant recruitment and inclusion criteria, the setting, and materials needed to implement the study. The second portion of the chapter touches on the dependent variables, data collection, research design and procedures. Lastly, procedural fidelity and social validity will be presented.

The purpose of this study was to increase knowledge about the effects of the *Language is the Key* dialogic play strategies on a population of culturally and linguistically diverse families. First, this investigation examined Latino parents' ability to implement dialogic play strategies during interactions with their children. Next, the investigation examined the effects of the parents' implementation of dialogic play strategies on the oral language development of their preschool children considered at risk for language disabilities. The participants of the study were three parent/child dyads who spoke Spanish as their first language.

Participants

Parent Participants. Three Latino parents of preschool aged children participated in this study. Pseudonyms were given to each parent participant. Their names were Ana, Martina, and Manuela. Parents were identified based on their child's nomination. The director of the bilingual preschool nominated the child participants based on their need and the fact that they received private speech and language therapy. Once the child participants were designated, a consent letter was sent home with the child in a sealed

envelope along with an invitation for the parent to come to a meeting to discuss the purpose of the study and to validate their inclusion criteria. See Appendix A and B for the parent invitation in English and Spanish. The purpose of this meeting was to obtain the parents' basic literacy level, allow them the opportunity to ask questions, and for the experimenter to address any comments and/or concerns the parents might have prior to giving consent. The meeting was conducted in Spanish and English with the use of a bilingual research assistant. To obtain the parents' basic literacy level, the bilingual research assistant asked them to read a brief description of the study in Spanish. Further eligibility criteria included the following:

1. The parent had a preschool aged child who was considered at risk for language delays (e.g., received speech and language therapy).

2. The parent signed a consent form (See Appendix C and D). All parents of children participating in this intervention received consent forms in English and Spanish.

3. The parent used predominately Spanish to communicate with their child.

4. The parent gave permission for the experimenter to view their child's assessments.

Ana. Ana was 38 years of age, married with two children. She was born in Mexico and her native language was Spanish. Ana finished 8th grade and has been in the United States for 15 years.

Martina. Martina was 37 years of age, married with three children. She was born in Mexico and her native language was Spanish. Martina finished 3rd grade and has been in the United States for seven years.

Manuela. Manuela was 39 years of age, married with four children. She was born in Mexico and her native language was Spanish. Manuela finished 6th grade and has been in the United States for 15 years. See Table 1 for demographic data on parent participants.

Table 1: Demographic data on parent participants

Parent	Age	Ethnicity	Gender	Years in the U.S.	Native Language	Marital Status	Grade Completed
Ana	38	Mexican	Female	15	Spanish	Married with 2 children	8th Grade
Martina	37	Mexican	Female	7	Spanish	Married with 3 children	3rd Grade
Manuela	39	Mexican	Female	15	Spanish	Married with 4 children	6th Grade

Child Participants. Pseudonyms were used for all participants' names. The participants for this study were three Latino preschool aged males who were currently receiving speech and language therapy. Their names were Juan, Emilio, and Joaquin. Prior to the start of the study, the experimenter met with the director of the bilingual preschool director to provide her with the inclusion and exclusion criteria for the possible child participants. The children were included in the study if they were nominated by the preschool director based on need and received speech and language therapy. Children, who were not at risk for speech and language disabilities, were not included in the study. Children were also excluded from participation if they had significant delays in other areas of development or who were considered nonverbal. In addition, every child who participated in the study met the following additional selection criteria:

1. The child spoke Spanish as a first language.
2. The child did not exhibit significant behavior problems as indicated by the parent.
3. The child's parent signed a consent form.

Child Developmental Measures. Prior to the start of baseline, parental consent was given to the experimenter in order for her to view the children's assessments. The following assessments were provided to the experimenter, the Spanish Preschool Language Scale-4 (PLS-4, Zimmerman et al., 2004), Pre-IPT-Oral English Test (IDEA Proficiency Test, Williams & Dalton, 2010), and the Boehm-3 Preschool (Boehm, 2001).

For the Preschool Language Scale-4 Spanish Edition (Zimmerman et al., 2004), the original PLS items were modified to reflect cultural experiences common to all Spanish subgroups and new items were developed in conjunction with items for the English edition. It is a bilingual assessment. The test was administered in Spanish, but if the child answered the question correctly in English they were not penalized. This version of the assessment accounts for the fact that some young children have emerging English skills that would be counted correct and would not be penalized. The standardization sample of the PLS-4 Spanish included 1,188 children (2 days to 6 years, 11 months). Approximately 50% of the sample within each age level was male and 50% was female. The test-retest reliability coefficients ranged from .73 to .86 for the subscale scores and .80 to .89 for the total language score. The Spanish version has normative scores, including standard scores, percentile ranks, and age equivalents in auditory comprehension (AC), expressive communication (EC) and total language. In this

investigation, language skills were considered delayed when children obtain a total language standard score below 85 (one standard deviation below the mean).

In addition, the experimenter was provided with a measurement of each participant's English language proficiency. Using the Pre-IPT-Oral English Test (IDEA Proficiency Test, Williams & Dalton, 2010), each child participant was designated as Non-, Limited, or Fluent English Speaking. The levels range from A-E, with A being the lowest and C meaning average. The Pre-IPT-Oral English Test is norm-referenced, easy-to-use, valid, and reliable (Williams & Dalton, 2010). The test provides scores in the areas of listening, speaking, and comprehension.

Lastly, the Boehm-3 Preschool was administered by an early childhood psychologist in the fall of 2013 to measure 26 basic concepts relevant to preschool and early childhood curriculum (Boehm, 2001). Each concept is tested twice to verify the child's understanding. The Boehm-3 Preschool was standardized and normed on a nationally representative sample of 660 children in the United States. Internal consistency reliability coefficients range from .85 to .92; test reliability ranges from .85 to .92. For ages 4.0-4.5 the normal raw scores are 34-52. For ages 4.6-4.11 the normal raw scores are 39-52 and for ages 5.0-5.5 the normal raw scores are 44-52. The overall performance range is scored given a 1-3. Range 1 provides the explanation that "your child knows most of the basic concepts that other children his or her age know" (Boehm-3 Preschool Parent Report, 1986, p. 1). Whereas range 2 reflects "your child knows many of the basic concepts that the other children his or her age know, but lacks understanding of some key concepts" (Boehm-3 Preschool Parent Report, 1986, p. 1). The lowest range score, 3, suggests "your child's knowledge of basic concepts is extremely low for his or her age.

Therapist/teacher and parent help is needed for the child's success with language skills at home and in school" (Boehm-3 Preschool Parent Report, 1986, p. 1). Evidence of validity includes test content information and a comparison of scores to the earlier edition of Boehm Preschool. Internal consistency reliability coefficients range from .80 to .91; test reliability ranges from .76 to .88 (Boehm, 2001).

Juan. Juan was a 5-year-old Latino male born in the United States who received speech and language therapy two times a week for 30 minutes. He received speech and language services privately and was not considered to have an IEP per IDEA, under Part B, section 619. His speech and language goals were focused on receptive and expressive language; specifically, answering "wh" questions, retelling a story, and maintaining an appropriate topic during a conversation. Juan was given the Preschool Language Scale-4 Spanish Edition in the fall of 2013. His receptive language score was 92 and his expressive language score 98. Juan completed the Pre-IPT-Oral English Test (Williams & Dalton, 2010), in fall of 2013. He scored at a level D, which categorized him as a Limited English Speaker. Juan was also given Boehm-3 Preschool (Boehm, 2001) in the fall of 2013. The results indicated a raw score of 32, with a performance range of 3. This range indicates a child's knowledge of basic concepts is extremely low for his age and additional support may be warranted at home and in school.

Emilio. Emilio was a 5-year-old Latino male born in the United States who received speech and language therapy two times a week for 30 minutes. He received his speech and language therapy in the same manner as Juan. His speech and language goals were focused on articulation and receptive and expressive language skills. Specifically, the speech therapy therapist worked on producing age appropriate sounds in multisyllabic

words, weak syllable deletion, initial and final consonant deletion, answering "wh" questions, using four and five word sentences, naming objects, function of objects, increasing vocabulary, and following two-step directions with spatial and temporal targets. Emilio was given the Preschool Language Scale-4 Spanish Edition in the fall of 2013. His receptive language score was 53 and his expressive language score 53. Emilio completed the Pre-IPT-Oral English Test (Williams & Dalton, 2010), in fall of 2013. He scored at a level A, which categorized him as a Non-English Speaker. Emilio was also given Boehm-3 Preschool (Boehm, 2001) in the fall of 2013. The results indicated a raw score of 18, with a performance range of 3. This range indicates a child's knowledge of basic concepts is extremely low for his age and additional support may be warranted at home and in school.

Joaquin. Joaquin was a 4-year-old Latino male born in the United States who received speech and language therapy two times a week for 30 minutes. He received his speech and language therapy in the same manner as Juan and Emilio. His speech and language goals were focused on articulation and expressive language skills. Specifically, the speech therapy therapist worked on all age appropriate sounds in multi-syllabic words, weak syllable reduction, naming objects, function of objects, describing objects and answering "wh" questions using complete sentences. Joaquin was given the Preschool Language Scale-4 Spanish Edition in the fall of 2013. His receptive language score was 96 and his expressive language score was 75. Joaquin completed the Pre-IPT-Oral English Test (Williams & Dalton, 2010), in spring of 2014. He scored at a level C, which categorized him as a Limited English Speaker. Joaquin was also given Boehm-3 Preschool (Boehm, 2001) in the fall of 2013. The results indicated a raw score of 27, with

a performance range of 3. This range indicates a child's knowledge of basic concepts is extremely low for his age and additional support may be warranted at home and in school. See Table 2 for demographic data on the child participants.

Table 2: Demographic data on child participants

Child	Age	Ethnicity	Gender	SLP Therapy	IPT	Boehm-3	PLS-4 Pre-test
Juan	5.4	Mexican	Male	2 x 30 min weekly	D Limited English	32	Receptive-92 Expressive-98
Emilio	5.1	Mexican	Male	2 x 30 min weekly	A Non-English	18	Receptive-53 Expressive-53
Joaquin	4.4	Mexican	Male	2 x 30 min weekly	C Limited English	27	Receptive-96 Expressive-75

Setting

The study occurred in a bilingual preschool in the southeastern United States. This program served 96 at-risk children ages 3-5, in six classrooms. They served primarily, but not exclusively, the growing immigrant population of Hispanic/Latino families who were eligible for subsidized childcare and whose native language was not English. The baseline, intervention, generalization, and maintenance phases of the study were conducted in an open choice play environment within the preschool that contained a variety of age appropriate toys. The open choice play environment was set up as a STEAM (Science, Technology, Engineering, Art, and Math) room for exploration using a variety of materials and manipulatives related to these academic areas. On a weekly basis, the assistant director would plan specific STEAM activities for the children to

engage in related to the topic they were discussing in their classrooms. The children had access to this room and materials daily from 9 am to 11 am with teacher supervision. On average, the children visited this room about two times a week depending on what the assistant director had arranged. The room was also used as a kitchen, as well as for speech and language therapists who work at the bilingual preschool. The toys were arranged on a designated shelf in 10-15 plastic bins on the right side of the room. The child and parent were able to freely explore the area and play with toys of their choosing.

Experimenter and Data Collectors

The experimenter for this study was a doctoral candidate in special education at the University of North Carolina at Charlotte with a Master of Education degree in child and family studies. The experimenter taught for 7.5 years as a preschool special education teacher and has North Carolina Birth to Kindergarten (B-K) Blended Certification license.

Three bilingual research assistants assisted the experimenter in transcribing data as well as ensuring transcript accuracy. Their pseudonyms were Catalina, Alejandra, and Rosa. Catalina was a bilingual medical student who volunteered weekly at the bilingual preschool. Alejandra was a bilingual professional who taught in the bilingual preschool. Rosa was a bilingual Ph.D. professional with over 15 years' experience as an ESL teacher in the public schools.

Additionally, two bilingual research assistants, Catalina and Maya, aided the experimenter in conducting the parent educational sessions on the *Language is the Key* intervention. Catalina, as previously mentioned, conducted one training session with the experimenter, whereas, Maya conducted the other two. Maya was a bilingual professional

with over 10 years' experience working with Latino families and served as the center's family liaison.

Victoria, a bilingual trainer familiar with the CARRO strategies, performed the additional coaching sessions for Dyad 1 and 2 during intervention. She was a bilingual Ph.D. professional with over 30 years of experience in early childhood special education and Latino studies.

Ariana conducted interobserver agreement with the experimenter on the number of CARRO strategies used by the parent per play session. She was a doctoral candidate in special education with a Master of Education degree in special education.

Paloma completed the *Measurement of Empathy in Adult-Child Interaction* rating scales as post-hoc analyses on 12 of the dyad videos. She was a bilingual Ph.D. professional who was trained on the MEACI.

Materials

Materials needed for the baseline, intervention, generalization, and maintenance phases of the study included a video camera, USB flash drive, and a computer to save and view the video. Other sets of research materials are described next. The written materials were provided to the parent in English as well as Spanish.

Systematic Analysis of Language Transcripts (SALT). To analyze the data for all components of the study, the experimenter used the Systematic Analysis of Language Transcripts (SALT) software, the Excel computer software program, and a calculator. To analyze the children's oral language, the Systematic Analysis of Language Transcripts (SALT) was used. The SALT software (2012) manages the process of eliciting, transcribing, and analyzing language samples. The main purpose for using this software

was to document the response to the proposed intervention. SALT has four major steps. They are as follows: sample elicitation, transcription, analysis, and interpretation. The children's language samples were elicited through their conversation in play with their parent using chosen toys. Once each session was completed, the bilingual research assistants translated the videotaped play sessions into English. The experimenter then coded the translated transcripts. According to the SALT elicitation protocol, utterances were segmented into communication units (C-units). A communication unit was defined as "an independent clause and its modifiers". It is an utterance that cannot be further divided without the disappearance of its essential meaning, or a subordinate clause that is part of the independent predication. See Appendix E for a complete list of SALT transcription conventions. The SALT software then calculated the mean length of utterance in words (MLUw), total number of words (TNW), and total number different words used (TNDW). See Appendix F for an example of an English translation of a transcribed videotape in baseline and intervention.

Parent Instructional Materials. During the parent education component, the experimenter used two bilingual trainers for the CARRO teaching. They utilized the parent training session script (Appendix G), *Language is the Key* Resource Guide, the 20 minute *Language is the Key: Play and Talk* DVD, and a handout of the Spanish version of the CARRO strategies (Appendix H) (Cole, Maddox, Lim, & Notari-Syverson, 2006).

Toys. Through all phases of the study, the dyads were able to choose among a variety of toys in a designated play area. The selection criteria for the toys was as follows: (a) safe and durable that can be washed, nontoxic, lead-free with no sharp pieces or splinters, (b) appeal to both boys and girls (e.g. dolls and art materials as well as cars

and trucks), (c) are realistic, and (d) can be embedded within daily routines in the natural environment (Landreth, 2012). A list of toys can be found in Appendix I.

Generalization Language Sample Materials. Language samples acted as the generalization component of the study and were collected one time during baseline and one time during the intervention. Materials needed for the collection of the children's generalization language samples included a video camera and the child's favorite toys which the parents were asked to bring.

Empathy Measure. To answer the final research question, the *Measurement of Empathy in Adult-Child Interaction* (MEACI) rating form was completed. An example of the rating form can be found in Appendix J. The MEACI has been used to rate empathetic interactions of parents, teachers, and other professionals in play sessions with children (Bratton, 1993). It was composed of three subscales which include communication of acceptance of the child, allowing child self-direction, and adult's involvement with child.

Dependent Variables

During the baseline, intervention, and maintenance phases of the study, data were collected on four dependent measures: number of CARRO strategies, total number of words (TNW), total number of different words used (TNDW), and mean length of utterance in words (MLUw).

Parent Measure: CARRO. CARRO is an acronym for the strategies of dialogic play: Comment and wait, Ask questions and wait, Respond by adding a little more, Repeat, One more time in Spanish. The Spanish equivalents of the CARRO strategies are: Comente y espere, Averigue-haga preguntas y espere, Responda agregando un poco

mas, Repita, Otravez en Espanol. The parents were taught how to implement the strategies prior to the start of the intervention. The CARRO strategies implemented by the parents during the shared play interaction sessions were measured using translated and transcribed videotapes of the sessions. They were coded using rate of (any of the four) strategies used by the parent per minute. First, the observer coded each segment that reflected a dialogic play strategy (C, A, R, RO). The rate per minute for CARRO was then calculated using a point-by-point method by dividing the total number of each strategy by the total number of seconds in the play session, then multiplying by 60 (RPM= STR/SEC*60). For example, the total number of comments made by the parent in a session were divided by the seconds in the session and multiplied by 60 in order to calculate the rate of comments per minute. The total number of questions asked, total number of times the parent responded by adding a little more, and repeated one more time in Spanish were calculated in the same manner. The experimenter also calculated the rate per minute for the total number of CARRO strategies used by the parent per play session. The data were summarized and the four CARRO strategies were presented in tables and a graph for visual analysis. The CARRO strategies handout can be found in Appendix G.

Child Measure: Oral Language Production. The total number of words (TNW), total number of different words used (TNDW), and mean length of utterance in words (MLUw) produced by the child during the shared play interactions were videotaped. The bilingual research assistants translated every intelligible utterance during the parent-child dialogic play sessions and the experimenter transcribed the sessions into the Systematic Analysis of Language Transcription program (SALT, Miller, 2008).

The SALT program was used to calculate the children's language sample measures, including mean length of utterance in words (MLUw), total number of words (TNW), and total number different words used (TNDW). All child utterances were transcribed; however, the SALT program only included complete and intelligible utterances in the calculations of MLUw, and only the intelligible words were used in the calculation of TNW and TNDW. The data were summarized and presented in three graphs for visual analysis.

To ensure transcription accuracy, a bilingual research assistant used a consensus approach with a second bilingual observer who also translated transcripts. They were looking for an exact match for each utterance or phrase. If agreement did not occur, both observers viewed the video together and came to a consensus.

Parent-Child Interaction Measure: *Measurement of Empathy in Adult-Child Interaction*. The need for a sixth research question proved necessary because of the ineffective results attained from the intervention on the child participants. To address the importance of parent-child interactions and the use of empathy, the experimenter attempted to further analyze the interactions to see if a more qualitative measure was sensitive to any changes that occurred between the baseline and intervention phases. Therefore, the *Measurement of Empathy in Adult-Child Interaction* (MEACI) was administered. Empathy can be defined as adults' sensitive understanding and acceptance of the child's current feelings and the adults' ability to communicate this understanding to the child. For the purpose of this study, empathy was operationally defined as the total empathy scores on the MEACI (Stover et al., 1971). The MEACI has been used to rate empathetic interactions of parents, teachers, and other professionals in play sessions with

children (Bratton, 1993). It was composed of three subscales which included communication of acceptance of the child, allowing child self-direction, and adult's involvement with child. The first subscale involved communication of acceptance of child. The highest score (1) indicated the parent provided verbal recognition of feeling in an acceptable way. Whereas the lowest score (5) included verbal criticism such as argumentative "preaching", openly rejecting feelings or behaviors, and using a stronger voice tone. The second subscale involved allowing the child self-direction. The highest score (1) indicated the parent followed the child's lead with no verbal comment necessary. Whereas the lowest score (5) suggested the parent persuaded, demanded, interrupted, interfered, and/or insisted. The third subscale involved adult's involvement with the child. The highest score (1) indicated the parent gave full attention to the child and watched the child as well as the activity they were involved in. Whereas the lowest score (5) suggested the parent was completely preoccupied, self-involved, or shut off (Bratton, 2003). To complete the rating form, the experimenter provided Paloma, a bilingual professional trained on the MEACI, with 12 videos. The videos included two randomly selected baseline sessions and two randomly selected intervention sessions for each dyad. Paloma watched each video and scored each subscale. She was unaware of which tape she was watching as the identification of the baseline/intervention phase was not provided in the videos. Each subscale had a 1 to 5 scoring range; 1 being the highest score of demonstrated empathy and 5 being the lowest. The MEACI rating form can be found in Appendix I.

Data Collection Procedures

Data were collected weekly in a one-on-one setting with the parent-child dyads. Every session was videotaped. Following the sessions, the videotapes were translated into English by a bilingual research assistant. Once the transcripts were translated into English, the experimenter coded the transcripts, ran SALT analyses, plotted data, and made phase decisions based on the primary dependent variable, mean length of utterances in words (MLUw). Once the dependent variables were calculated, they were presented in a visual analysis of data paths to evaluate the effects of the intervention on preschool Latino English language learners (ELLs) who were considered at risk for developing language disabilities. Four graphs are provided including the total number of CARRO strategies the parent participants used during each session and the child's oral language measures: mean length of utterance in words (MLUw), the total number of words (TNW), and total number of different words used (TNDW).

Research Design

A quantitative single case, multiple-probe across participants experimental design (Kratochwill et al., 2010) was used in this study in order to establish the effects of the intervention on the children's oral language skills. The design was dependent on increases of the child participant's mean length of utterance in words (MLUw). Data collection began with the baseline phase for one of the three dyads. Once the baseline data were stable for Dyad 1 for a minimum of five data points, intervention began for Dyad 1. Dyad 2 remained in baseline until the child displayed a stable trend in (a) the mean length of utterance in words (MLUw) and (b) until Dyad 1's intervention data showed an upward trend. Once this was demonstrated, Dyad 2 began the intervention

phase of the study. Dyad 3 remained in baseline until (a) the child displayed a stable trend in the mean length of utterance in words (MLUw) and (b) until Dyad 2's intervention data showed an upward trend. Unfortunately, an upward trend was never observed, as Emilio (Dyad 2) demonstrated no positive change in his mean length of utterances in words (MLUw). However, the decision was made to proceed and move Dyad 3 from baseline into intervention. Staggering the experimental procedures in such a way was an attempt to provide replication within a single experiment. Children began intervention after a minimum of five data points with minimum variability in baseline. There were no more than eight sessions between probe points for all students in baseline (Kratochwill et al., 2010). Data on generalization language samples were collected once during baseline and once during intervention. Maintenance data were collected during one session two weeks following the conclusion of the intervention.

Baseline, intervention, generalization language samples, and maintenance phases were graphed using the Excel computer program and visually inspected to analyze the children's progress or lack thereof. Visual inspection comparing the baseline, intervention, generalization language samples, and maintenance phases were conducted to investigate whether the parent implemented dialogic play strategies increased the rate of TNW, TNDW, MLUw produced by the child. The experimental phases were evaluated graphically via visual analysis in terms of (a) level, (b) trend, (c) variability, (d) immediacy of effect, and (e) overlap (Kratochwill et al., 2010).

Procedures

Baseline. During baseline, the parent played with their child using the various toys provided in the open choice play environment in their typical manner (i.e., without

having been taught the *Language is the Key* strategies). At least five data points were collected during baseline for all participants. The experimenter videotaped all play sessions. The bilingual research assistants translated each videotape. The experimenter then determined the rate of each of the CARRO strategies implemented per minute by the parents during the shared play interactions. Not only the calculations of the TNW, TNDW, and MLUw per minute uttered by the children during the play sessions were recorded, but so was a generalization language sample of the child's cumulative use of language.

Parent Instructional Sessions. After baseline and before intervention sessions began, the parents received individual instruction on the dialogic play strategies (CARRO) using the parent instructional script (Appendix F) and the 20 minute *Language Key: Play and Talk* DVD (Spanish version). Each parent participated in an educational session that lasted approximately one hour. The bilingual research assistant conducted the parent instructional session by following the parent instructional script. However, the experimenter was physically present for all instructional sessions and was available to address any questions and/or concerns. Implementation of the dialogic play intervention began, once the instructional session was completed.

Parent instructional sessions consisted of the following elements:

1. A brief overview of the benefits of shared play: "Why should we play with young children?" was offered.

2. The bilingual research assistant introduced the dialogic play sharing method and discussed its benefits.

3. The parent watched the 20 minute *Language is the Key: Play and Talk* DVD demonstrating the shared play intervention, which was followed by a discussion about the content of the video.

4. The bilingual research assistant described the dialogic play strategies (CARRO).

5. A handout with the CARRO acronym was provided to the parent.

6. A verbal assessment of understanding was conducted wherein the parent identified the four components of the dialogic play strategies and provided an example for every one of the four strategies of CARRO (total of eight items). Parents were required to get seven out of the eight items correct before proceeding with the intervention phase of the investigation. All parent participants received a 100% on their verbal assessment. See Appendix F for the verbal assessment of understanding.

Implementation. After participating in the instructional sessions, parents were asked to engage in dialogic play sessions two to four times a week. Every session took place at the bilingual preschool. During each session, a laminated CARRO handout was provided to the parent and the dyads chose from an assortment of toys (e.g. STEAM toys, open-ended toys and/or toys for creative/emotional expression) in an open choice play environment. The experimenter observed and videotaped every dialogic play session. Parent participants' work schedules, transportation, and babysitting needs were all taken into account when scheduling the instructional and intervention sessions. Two modifications were made during the study as a response to minimal changes in the dependent variables.

Toy Modification. A toy modification was implemented halfway through the intervention in hopes of increasing children's oral language production. Certain toys such as plastic links and a wooden memory matching game were replaced with more simple pretend play toys such as an airport play set, marine life animals, puppets, and people.

Coaching Booster Session. As the study progressed, Juan's data reflected a slight gain and Emilio was not making adequate progress (e.g. three continuous sessions of no change). It was then decided the experimenter would enlist Victoria, a bilingual trainer familiar with CARRO, to incorporate the use of a coaching booster session for Ana (Dyad 1) and Martina (Dyad 2). The 30 minute coaching session reintroduced the CARRO strategies to the parents. Victoria modeled the use of the CARRO strategies with the child and allowed the parent to ask questions. Only one coaching session for Dyad 1 and 2 was conducted. See Appendix K for the coaching booster session script.

Generalization Language Samples. The purpose of the generalization measure was to determine the child participants' ability to generalize their oral language skills across different play materials. Data on generalization were collected once during baseline and once during intervention. During this phase the parent began each session with the prompt, "Tell me about what you are playing with…" and they played with their child. For the generalization phase of this study, the dyads were asked to bring a favorite toy from home. See Appendix L for the toys used by each child during generalization.

Maintenance. The purpose of the maintenance phase was to determine if there would be any post-intervention changes in the children's language skills. Follow-up observations were conducted two weeks after the termination of the intervention phase. To indicate a new phase of the study, the dyads were provided with some novel toys as

well as the same toys provided during intervention. These toys were developmentally age appropriate for the child participants and were chosen based on the toy selection criteria. See Appendix L for the toys used by each child during maintenance.

Procedural Fidelity

Procedural fidelity data were collected by the experimenter for 100% of the parent instructional sessions. The procedural reliability checklist was used to recorded if the two bilingual research assistants completed all procedural steps correctly by following the parent instructional session script to (a) provide a brief overview of the benefits of shared play, (b) introduce the dialogic play sharing method and discuss its benefits, (c) show the *Language is the Key: Play and Talk* DVD, (d) pause the video to see if the parent had any questions about each CARRO strategy, (e) discuss the four CARRO strategies, (f) provide a handout with the CARRO acronym, (g) allow parents to ask questions, and (h) ask the parent to provide a verbal of understanding of the four dialogic play strategies. The bilingual research assistants were rated as to the extent they completed each step by circling "yes" for each step performed correctly and by circling "no" for each step not performed using a procedural reliability checklist (Appendix M). The mean rating of the procedural reliability was calculated by dividing the number of correctly performed steps by the total number of procedural steps (i.e., 7), then multiplying by 100.

Social Validity

At the conclusion of the study, parents were asked to respond to the social validity questionnaire using a 5-point Likert Scale ranging from strongly agree to strongly disagree. Parents were asked to rate perceptions on the social importance of the

selected skills, social acceptance of the intervention and social significance of skill change. The social validity questionnaire can be found in English and Spanish in Appendix N and O.

CHAPTER 4: RESULTS

The purpose of this study was to increase knowledge about the effects of dialogic play strategies with a population of culturally and linguistically diverse families. First, this investigation examined Latino parents' ability to implement dialogic play strategies during interactions with their children. Next, the investigation examined the effects of the parents' implementation of dialogic play strategies on the oral language development and generalization language samples of their preschool children as well as the children's ability to maintain these strategies and skills. Lastly, the investigation examined parent's perceptions of the significance and feasibility of the intervention as well as the parents' demonstration of empathy while interacting with their child.

In this chapter, results for interobserver agreement and procedural fidelity measures are presented. Also, this chapter will include data that will help to answer each of the research questions. In addition, data are graphically presented in Figures 1 through 4 and analyses of phase means, range of the data, and PND are presented in Tables 3-9.

Interobserver Agreement

Interobserver agreement for the CARRO strategies was calculated on each dyad's sessions across baseline and intervention phases. The experimenter and a second observer analyzed the dyad's transcripts independently to determine agreement on the number of CARRO strategies used by the parent per play session. For Dyad 1, interobserver agreement was calculated on 31% of the sessions. Interobserver agreement for Ana's use

of CARRO strategies ranged from 88% to 100%. Mean agreement for CARRO strategies were 96%. For Dyad 2, interobserver agreement was calculated on 28% of the sessions. Interobserver agreement for Martina's use of CARRO strategies ranged from 91% to 100%. Mean agreement for CARRO strategies were 95%. For Dyad 3, interobserver agreement was calculated on 33% of the sessions. Interobserver agreement for Manuela's use of CARRO strategies ranged from 83% to 92%. Mean agreement for CARRO strategies were 89%.

Two bilingual transcribers calculated interobserver agreement on 29% of the translated transcripts to ensure transcript accuracy. All transcripts had a 100% agreement. The Systematic Analysis of Language Transcripts (SALT) software automatically calculated the child's oral language (MLUw, TNW, and TNDW) based on the transcripts; therefore, the experimenter did not conduct IOA on the children's oral language.

Procedural Fidelity

The experimenter conducted procedural fidelity data on the dialogic play parent instructional sessions. She was physically present and participated in all three parent instructional sessions. Due to scheduling issues, two bilingual research assistants were needed to implement the parent instructional sessions in Spanish. Maya conducted the parent instructional sessions with Ana and Manuela. Catalina conducted the parent instructional session with Martina. The experimenter collected the procedural fidelity data by observing the two bilingual research assistants and recording if they completed the seven procedural steps correctly by following the parent educational session script to (a) provide a brief overview of the benefits of shared play, (b) introduce the dialogic play sharing method and discuss its benefits, (c) show the *Language is the Key: Play and Talk*

DVD, (d) pause the video to see if the parent had any questions about each CARRO strategy, (e) discuss the four CARRO strategies, (f) provide a handout with the CARRO acronym, (g) allow parents to ask questions, and (h) ask the parent to provide a verbal response to eight assessment questions on the dialogic play strategies. The experimenter rated the extent to which the bilingual research assistant completed each step by circling "yes" for each step performed correctly and by circling "no" for each step not performed using a procedural fidelity checklist (Appendix M). The mean rating of the procedural fidelity was calculated by dividing the number of correct responses by the total number of correct plus incorrect responses, then multiplying by 100. Procedural fidelity data were collected for all three of the parent instructional sessions. The procedural fidelity was 100% for each of the sessions.

Research Questions

Research Question 1: To what extent do Latino parents implement the *Language is the Key* dialogic play strategies (CARRO) with their children?

Ana. Baseline data were collected for five sessions. The duration of baseline interactive play sessions ranged from 4:02 min to 8:12 min with a mean interactive play session duration of 5:44 min. As demonstrated in Figure 1, data in baseline showed Ana's combined use of the CARRO strategies occurred at a low rate with a flat trend showing low variability. The combined rate of CARRO strategies for Ana ranged from 0.15/min to 2.07/min, with a mean occurrence of .65/min (Table 3). Table 4 shows Ana's use of the individual CARRO strategies. The rate of comments for Ana ranged from 0.0/min to 4.38/min, with a mean occurrence of 1.31/min. Ana's use of questions during baseline

ranged from 0.0/min to 0.99/min, with a mean of 0.36/min. Ana's use of responding by adding a little more and repeating in Spanish remained constant at a rate of 0.0/min.

Intervention data were collected over 14 sessions. The duration of intervention sessions ranged from 5:23 min to 8:50 min with a mean interactive play session duration of 7:16 min. The toy modification occurred prior to session nine and the coaching booster session occurring prior to session 14. During intervention, Ana's use of the CARRO strategies increased from baseline. As demonstrated in Figure 1, Ana's data in intervention showed a moderate level of strategy implementation and a slight increase in trend with some variability across data points. The combined rate of CARRO strategies for Ana ranged from 1.94/min to 8.94/min, with a mean occurrence of 4.6/min (Table 3). Results indicated a PND of 93% for the combined use of the CARRO strategies. The rate of comments utilized by Ana during intervention ranged from 1.5/min to 8.22/min with a mean occurrence of 3.29/min. The magnitude of change in Ana's comments presented a difference of 1.98/min with a PND of 86%. The rate of questions ranged from .12/min to 3.0/min with a mean of 1.378/min. There was a magnitude of change of 1.01/min between baseline and intervention with a PND of 71%. The use of responding by adding a little more during intervention ranged from 0.0/min to .17/min with a mean occurrence of .02/min. This represents an increase of .02/min in means between the baseline and intervention phases with a PND of 14%. Finally, there was no difference between Ana's rate of repeating in Spanish during baseline (0.0/min) and intervention (mean = 0.0/min) with a PND of 0%.

Martina. Baseline data were collected for seven sessions. The duration of baseline interactive play sessions ranged from 2:47 min to 12:51 min with a mean interactive play

session duration of 7:39 min. As demonstrated in Figure 1, Martina used the CARRO strategies at a high level, but the data were variable with a slight downward trend. The combined rate of CARRO strategies for Martina ranged from 12.5/min to 22.53/min, with a mean occurrence of 15.83/min (Table 3). Table 4 shows phase means, range, and PND for Martina's use of the individual CARRO strategies. The rate of comments for Martina ranged from 10.05/min to 18.43/min, with a mean occurrence of 12.81/min. Martina's use of questions during baseline ranged from 2.1/min to 3.96/min, with a mean of 3.24/min. Her use of responding by adding a little more during baseline ranged from 0.0/min to .11/min, with a mean of .01/min Martina's use of repeating in Spanish ranged from 0.0/min to 0.15/min, with a mean of .03/min.

Intervention data were collected over 11 sessions. The duration of the intervention sessions ranged from 6:23 min to 9:01 min with a mean interactive play session duration of 7:55 min. The toy modification occurred prior to session seven and the coaching booster session occurring prior to session 11. As demonstrated in Figure 1, Martina's data showed a high level and an overall decreasing trend with some variability across the intervention sessions. The combined rate of CARRO strategies for Martina ranged from 10.6/min to 21.79/min, with a mean occurrence of 15.83/min (Table 3). Results from the PND calculation indicated that the use of the combined strategies was 0%. The rate of comments utilized by Martina during intervention ranged from 3.88/min to 14.29/min with a mean occurrence of 9.07/min. The magnitude of change in Martina's use of comments presented a decrease of 3.74/min with a PND of 0%. The rate of questions ranged from 3.09/min to 10.42/min with a mean of 6.25/min. There was a magnitude of change of 3.01/min between baseline and intervention with a PND of 64%. The use of

responding by adding a little more during intervention ranged from 0.0/min to .56/min with a mean occurrence of .1/min. This represented an increase of .09/min in means between the baseline and intervention phases with a PND of 36%. Finally, there was a decrease between Martina's rate of repeating in Spanish during baseline (.03/min) and intervention (mean = 0.0/min) with a PND of 0%.

Manuela. Baseline data were collected for nine sessions. The duration of baseline interactive play sessions ranged from 5:01 min to 10 min with a mean interactive play session duration of 7:26 min. As demonstrated in Figure 1, Manuela's use of the CARRO strategies in baseline occurred at a moderate level with a flat trend and minimal variability across data points. The combined rate of CARRO strategies for Manuela ranged from 9.08/min to 13.82/min, with a mean occurrence of 11.37/min (Table 3). Table 4 shows Manuela's use of the individual CARRO strategies. The rate of comments for Manuela ranged from 5.86/min to 11.3/min, with a mean occurrence of 7.46/min. Manuela's use of questions during baseline ranged from 2.51/min to 4.89/min, with a mean of 3.7/min. Her use of responding by adding a little more during baseline ranged from 0.0/min to .6/min, with a mean of .16/min. Manuela's use of repeating in Spanish ranged from 0.0/min to 0.3/min, with a mean of .08/min.

Intervention data were collected over nine sessions. The duration of the intervention sessions ranged from 5:07 min to 6:50 min with a mean interactive play session duration of 5:39 min. During intervention, Manuela's use of the CARRO strategies increased. The combined rate of CARRO strategies for Martina ranged from 12.58/min to 21.15/min, with a mean occurrence of 18.21/min and a PND of 89% (Table 3). The rate of comments utilized by Manuela during intervention ranged from 9.65/min

to 17.68/min with a mean occurrence of 13.39/min. The magnitude of change in Manuela's comments presented an increase of 5.93/min with a PND of 89%. The rate of questions ranged from 2.52/min to 7.19/min with a mean of 4.55/min. There was a positive magnitude of change of .85/min between baseline and intervention with a PND of 44%. The use of responding by adding a little more during intervention ranged from 0.0/min to .56/min with a mean occurrence of .18/minute. This represents a slight increase of .02/min in means between the baseline and intervention phases and a PND of 0%. Finally, there was a decrease between Manuela's rate of repeating in Spanish during baseline (.08/min) and intervention (mean = 0.04/min) with a PND of 0%.

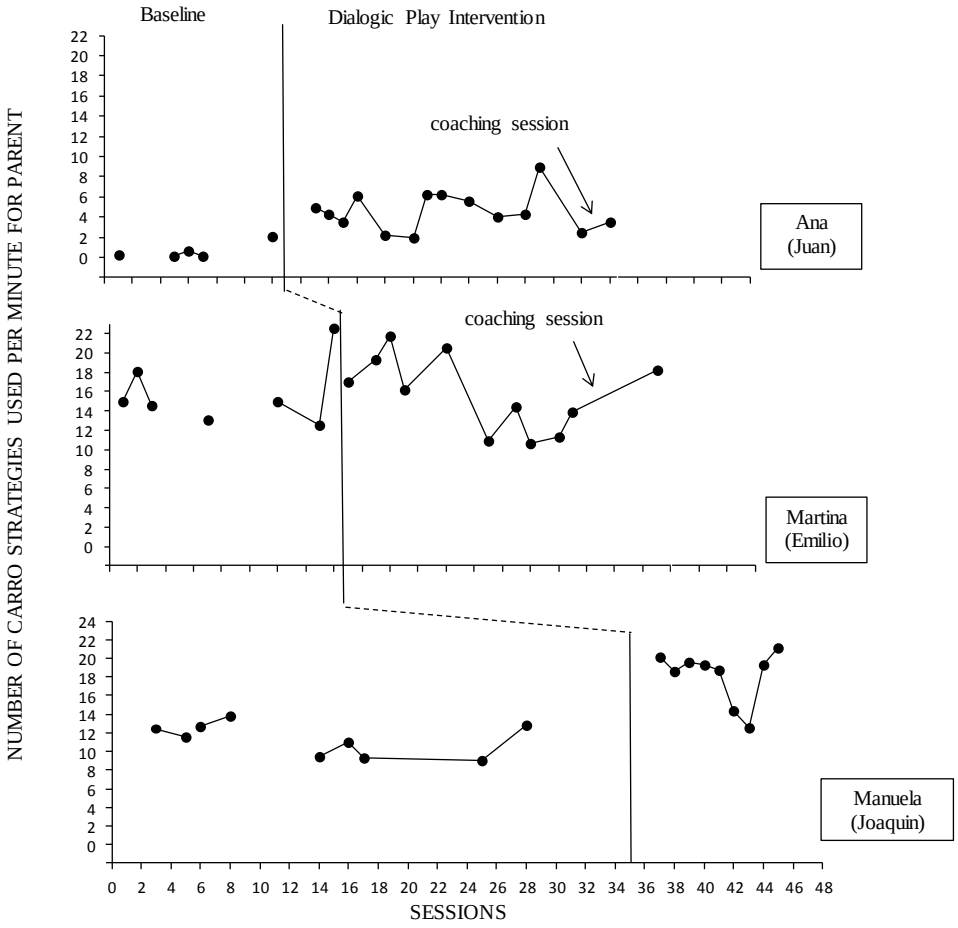

Figure 1:Number of combined CARRO strategies used per minute (closed circle) for Ana, Martina, and Manuela.

Table 3: Phase means, range, and Percentage of Nonoverlapping Data (PND) for parental use of combined CARRO strategies per minute

	Baseline		Dialogic Play Intervention		
Participant	Mean	Range	Mean	Range	PND
Ana	.65	.15 - 2.07	4.6	1.94 – 8.94	93%
Martina	15.83	12.5 – 22.53	15.83	10.6 – 21.79	0%
Manuela	11.37	9.08 – 13.82	18.21	12.58 – 21.15	89%

Table 4: Phase means, range, and Percentage of Nonoverlapping Data (PND) for the parental use of individual CARRO strategies per minute

	Baseline		Dialogic Play Intervention		
Participant	Mean	Range	Mean	Range	PND
Parental Use of Comments (C) per Minute					
Ana	1.31	0 - 4.38	3.29	1.5 - 8.22	86%
Martina	12.81	10.05-18.43	9.07	3.88 -14.29	0%
Manuela	7.46	5.86 - 11.3	13.39	9.65 – 17.68	89%
Parental Use of Questions (A) per Minute					
Ana	.36	0 - .99	1.37	.12 – 3.0	71%
Martina	3.24	2.1 – 3.96	6.25	3.09 - 10.42	64%
Manuela	3.7	2.51 – 4.89	4.55	2.52 – 7.19	44%
Parental Use of Responding by Adding a Little More (R) per Minute					
Ana	0	0 - 0	.02	0 - .17	14%
Martina	.01	0 - .11	.1	0 - .56	36%
Manuela	.16	0 - .6	.18	0 - .56	0%
Parental Use Responding Again in Spanish (RO) per Minute					
Ana	0	0 - 0	0	0 - 0	0%
Martina	.03	0 - .11	0	0 - 0	0%
Manuela	.08	0 - .3	.04	0 - .19	0%

Research Question 2: What is the effect of the parent's implementation of dialogic play strategies on the oral language production of Latino preschoolers at risk for language delays?

Juan. As demonstrated in Figures 2, Juan's mean length of utterance in words (MLUw) during baseline occurred varied across data points. Juan's total number of words (TNW), as evidenced in Figure 3, was variable with a slight increasing trend across the baseline data points. As demonstrated in Figure 4, Juan's total number of different words (TNDW) was low level, showing moderate variability. The descriptive data indicated that Juan's mean length of utterance in words (MLUw) ranged from 1.5 to 3.25, with a mean of 2.79 (Table 5). Juan's total number of words (TNW) ranged from .74/min to 12.43/min, with a mean of 5.29/min (Table 6). Finally, the total number of different words (TNDW) during baseline ranged 0.74/min to 7.07/min, with a mean of 3.94/min (Table 7).

During intervention, Juan's mean length of utterance in words (MLUw) slightly increased indicating a data pattern that showed moderate level and variability (Figure 2). Juan's total number of words (TNW) during intervention occurred at a moderate level with high variability (Figure 3). As demonstrated in Figure 4, Juan's total number of different words (TNDW) during intervention occurred at a moderate level, showing a flat trend. The descriptive data indicated that Juan's mean length of utterance in words (MLUw) ranged from 2.71 to 5.78 with a mean of 3.7 (Table 5). Juan's total number of words (TNW) ranged from 4.73/min to 43.13/min, with a mean of 17.29/min (Table 6). Finally, his TNDW ranged 3.23/min to 13.03/min, with a mean of 7.51/min (Table 7).

Results indicated a PND of 64%, 50%, and 71% for MLUw, TNW, and TNDW respectively.

Emilio. As demonstrated in Figures 2, Emilio's mean length of utterance in words (MLUw) during baseline was at a low level with a flat trend showing low variability. Emilio's total number of words (TNW) and total number of different words (TNDW), as evidenced in Figures 3 and 4, occurred at a low level with minimal variability. The descriptive data indicated that Emilio's mean length of utterance in words (MLUw) ranged from 1.67 to 2.43 with a mean of 2.01 (Table 5). Emilio's total number of words (TNW) ranged from 6.73/min to 17.12/min, with a mean of 9.03/min (Table 6). Finally, the rate of total number of different words (TNDW) during baseline ranged 2.18/min to 9.09/min, with a mean of 4.72/min (Table 7).

Emilio's oral language production remained stable and did not increase during intervention (Figures 2, 3, 4). The descriptive data indicated that Emilio's mean length of utterance in words (MLUw) ranged from 1.26 to 2.5 with a mean of 1.81 (Table 5). Emilio's total number of words (TNW) ranged from 5.3/min to 15.03/min, with a mean of 10/min (Table 6). Finally, the rate of total number of different words (TNDW) during intervention ranged 2.47/min to 6.73/min, with a mean of 4.54/min (Table 7). Results from the PND calculation indicated that the intervention was ineffective for Emilio's MLUw, TNW, and TNDW with a PND of 9%, 0%, and 0% respectively.

Joaquin. As demonstrated in Figures 2, Joaquin's baseline data were low level, flat trend showing low variability. Joaquin's total number of words (TNW) and total number of different words (TNDW), as evidenced in Figures 3 and 4, was variable across the baseline data points. The descriptive data indicated that Joaquin's mean length of

utterance in words (MLUw) ranged from 2.44 to 3.71 with a mean of 2.89 (Table 5). Joaquin's total number of words (TNW) ranged from 7.64/min to 21.49/min, with a mean of 15.21/min (Table 6). Finally, the rate of total number of different words (TNDW) during baseline ranged 4.18/minute to 8.79/min, with a mean of 6.59/min (Table 7).

During intervention, Joaquin's mean length of utterance in words (MLUw) slightly decreased indicating a data pattern that showed low level and variability (Figure 2). Joaquin's total number of words (TNW) and total number of different words (TNDW) increased during intervention and occurred at a moderate level with high variability (Figure 3 and 4). The descriptive data indicated that Joaquin's mean length of utterance in words (MLUw) ranged from 2.22 to 2.94 with a mean of 2.59 (Table 5). Joaquin's total number of words (TNW) ranged from 17.68/min to 32.44/min, with a mean of 24.4/min (Table 6). Finally, the rate of total number of different words (TNDW) during intervention ranged 7.92/min to 13.86/min, with a mean of 10.79/min (Table 7). Results indicated a PND of 0%, 55%, and 77% for MLUw, TND, and TNDW respectively.

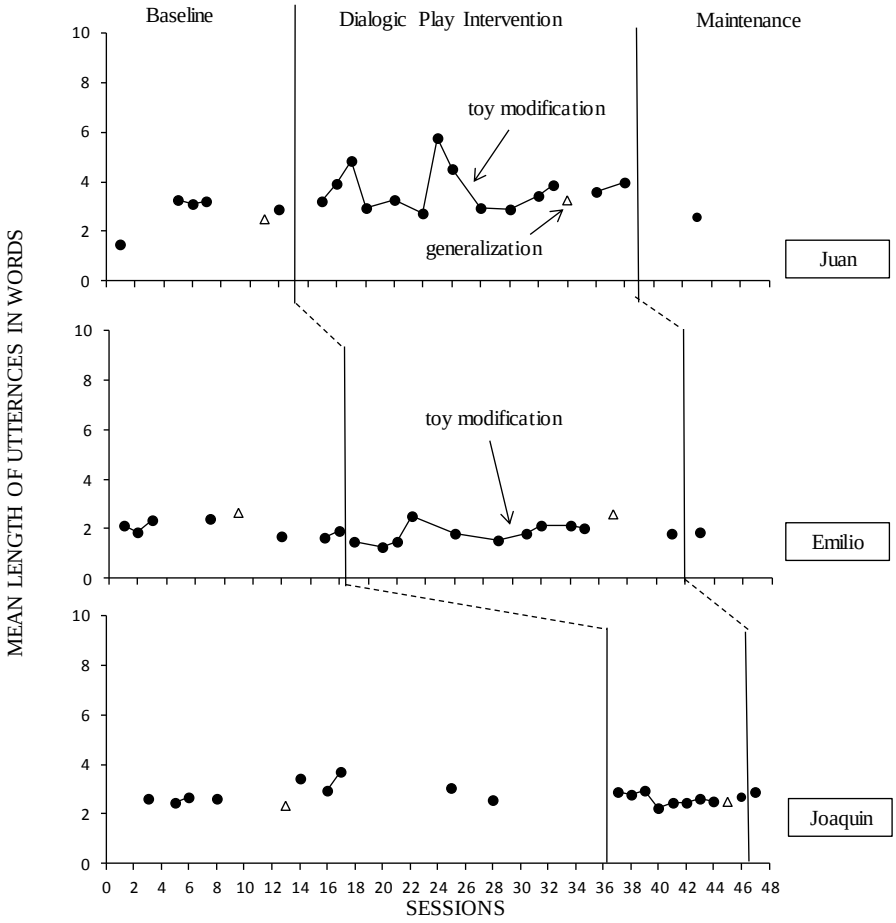

Figure 2: Mean length of utterances in words (closed circle) and generalization (open triangle) for Juan, Emilio, and Joaquin.

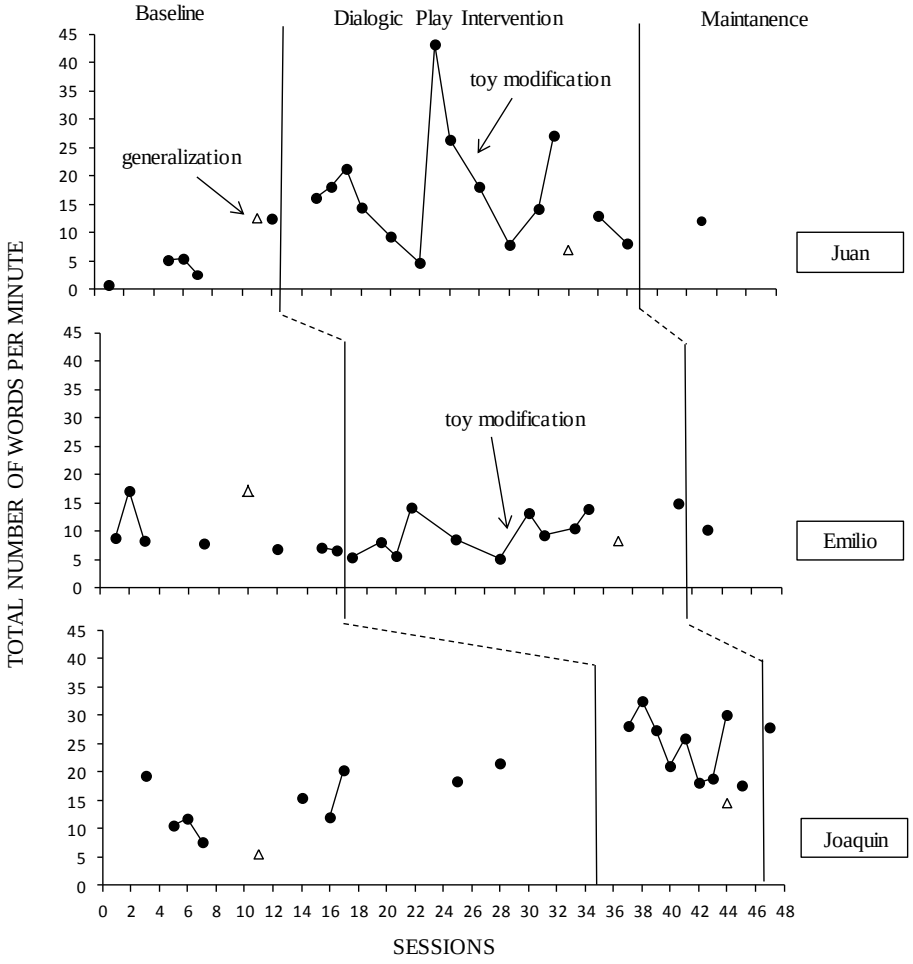

Figure 3: Total number of words per minute (TNW) (closed circle) and generalization (open triangle) for Juan, Emilio, and Joaquin.

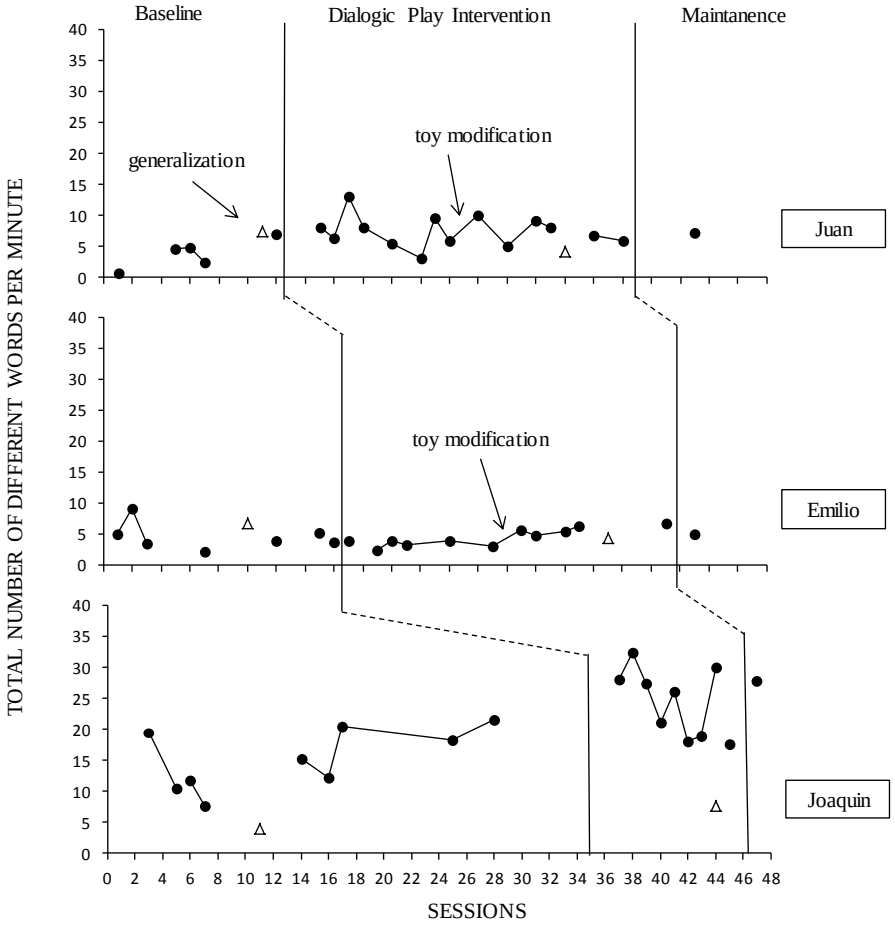

Figure 4: Total number of different words (TNDW) per minute (closed circle) and generalization (open triangle) for Juan, Emilio, and Joaquin.

Table 5: Phase means, range, and Percentage of Nonoverlapping Data (PND) for child's mean length of utterance in words (MLUw)

	Baseline		Dialogic Play Intervention		
Participant	Mean	Range	Mean	Range	PND
Juan	2.79	1.5 - 3.25	3.7	2.71 – 5.78	64%
Emilio	2.01	1.67 – 2.43	1.81	1.26 – 2.5	9%
Joaquin	2.89	2.44 – 3.71	2.59	2.22 – 2.94	0%

Table 6: Phase means, range, and percentage of Nonoverlapping Data (PND) for child's total number of words (TNW) per minute

	Baseline		Dialogic Play Intervention		
Participant	Mean	Range	Mean	Range	PND
Juan	5.29	.74 - 12.43	17.29	4.73 – 43.13	50%
Emilio	9.03	6.73 - 17.12	10	5.3 – 15.03	0%
Joaquin	15.21	7.64 – 21.49	24.4	17.68 - 32.44	55%

Table 7: Phase means, range, and Percentage of Nonoverlapping Data (PND) for child's total number of different words (TNDW) per minute

	Baseline		Dialogic Play Intervention		
Participant	Mean	Range	Mean	Range	PND
Juan	3.94	.74 – 7.07	7.51	3.23 – 13.03	71%
Emilio	4.72	2.18 – 9.09	4.54	2.47- 6.73	0%
Joaquin	6.59	4.18 – 8.79	10.79	7.92 – 13.86	77%

Research Question 3: What is the effect of the parent's implementation of dialogic play strategies on Latino preschoolers' free language narrative skills?

Juan. Following the 4th baseline session, generalization language samples were obtained while Juan and Ana played with his plastic car ramp. After the 11th intervention session, generalization was conducted while Juan and Ana used his Monsters INC® plastic connectors. The duration of the generalization play sessions ranged from 5:36 min to 8:55 min. The difference between the pre and post-generalization probes in mean length of utterance in words (MLUw) for Juan was 2.49 to 3.25 with a .76 increase.

Emilio. Following the 4th baseline session and 10th intervention session, Emilio and Martina played with familiar toys his mother brought from home, specifically a chessboard. The duration of the generalization interactive play sessions for Emilio ranged from 5:54 min to 7:19 min. The difference between the pre and post-generalization probes in mean length of utterance in words (MLUw) for Emilio was 2.64 to 2.58 with a .06 decrease.

Joaquin. Following the 4th baseline session, generalization language samples were obtained while Joaquin and his mother played with his plastic magnet shapes. After the

9th intervention session, generalization was conducted again while Joaquin and Manuela used his bristle blocks. The duration of the generalization interactive play sessions ranged from 6:05 min to 6:23 min. The difference between the pre and post-generalization probes in mean length of utterance in words (MLUw) for Joaquin was 2.33 to 2.67 with an increase of .34.

Research Question 4: Will the effects of dialogic play strategies on the oral language development of preschool children be maintained following the conclusion of the intervention?

Maintenance data were collected two weeks following the conclusion of the intervention phases. They were collected during one session for each dyad.

Juan. The maintenance session for Juan lasted for 5:58 min. His mean length of utterance in words was 2.57, which indicated a decrease from the mean MLUw during intervention. Juan's total number of words (TNW) showed a decrease after the two-week break with a rate 12.06/min. Finally, Juan's total number of different words (TNDW) remained stable after the two-week break with a rate of 7.2/min.

Emilio. The maintenance session for Emilio lasted for 6:05 min. His mean length of utterance in words (MLUw) was 1.85. Emilio's total number of words (TNW) remained stable after the two week break with a rate 10.35/min. Finally, Emilio's total number of different words (TNDW) showed an increase after the two-week break with a rate of 5.09/min.

Joaquin. The maintenance session for Joaquin lasted for 4:52 min. His mean length of utterance in words was 2.89. Joaquin's total number of words (TNW) demonstrated a slight increase after the two-week hiatus with a rate 27.84/min. Finally,

Joaquin's total number of different words (TNDW) demonstrated a slight increase as well after the two week break with a rate of 12.69/min.

Research Question 5: What are parent's perceptions of the significance and feasibility of the intervention?

Following the completion of maintenance data, parent participants were asked to complete a social validity questionnaire in Spanish to obtain information regarding their satisfaction with the intervention (Appendix N and O). Specifically, all three parents completed questions that targeted the importance, effectiveness, and practicality of the intervention. The parents completed all five questions using a 5-point Likert scale (from "Strongly Disagree" to "Strongly Agree"). Two parents rated "My child enjoyed participating in the dialogic play session with me", "The Spanish oral language skills of my child have improved after participating in the dialogic play sessions", and "I would like to use the dialogic play strategies in the future as "Agree;" one parent rated these items as "Strongly Agree." Two parents rated "Improving vocabulary and language development in Spanish is important for my child" as "Strongly Agree;" whereas, one parent rated this item as "Agree." Lastly, two parents rated "Other parents might be interested in learning the dialogic play strategies" as "Strongly Agree;" one parent rated this item as "Neutral." See Table 8 for social validity results.

Table 8: The parent's social validity questionnaire responses

Questionnaire item	SD	D	N	A	SA
1. My child enjoyed participating in the dialogic play session with me (parent).				2	1
2. Improving vocabulary and language development in Spanish is important for my child.				1	2
3. The Spanish oral language skills of my child have improved after participating in the dialogic play sessions.				2	1
4. I would like to use the dialogic play strategies in the future				2	1
5. Other parents might be interested in learning the dialogic play strategies.			1		2

Note. SD = Strongly Disagree; D = Disagree; N=Neutral; A = Agree; SA = Strongly Agree

Research Question 6: What is the effect of the parent's implementation of dialogic play strategies on the use of empathy in the parent and child interactions?

The *Measurement of Empathy in Adult-Child Interaction* (MEACI) rating form was completed post hoc to further examine the impact of the intervention on parent-child interactions. It was composed of three subscales which included communication of acceptance of the child, allowing child self-direction, and adult's involvement with child with 1 being the highest level of empathy and 5 being the lowest level of empathy. Two baseline and two intervention videos were randomly selected and scored by Paloma after the end of data collection. Table 9 shows the MEACI scores for each of the mothers.

Ana. For subscale 1, Ana received a score of 3 on both baseline videos and a score of 2 and 3 on the intervention videos. A higher score of 2 suggested she provided verbal recognition of behavior only in an accepting way. For subscale 2, Ana was given the highest score of 1 for all four videos. For subscale 3, Ana scored a 2 and 3 on the

baseline videos and a score of 1 for both intervention videos. Ana's intervention scores indicated higher levels of empathy after learning the CARRO strategies.

Martina. For subscale 1, Martina received a score of 2 and 4 on the baseline videos and a score of 2 and 3 on the intervention videos. A higher score of 2 suggested she provided verbal recognition of behavior only in an accepting way. For subscale 2, Martina received a score of 2 and 4 on the baseline videos and a score of 4 and 2 on the intervention videos. For subscale 3, Martina scored a 2 and 3 on the baseline videos and a score of 1 and 2 on the intervention videos. The highest score (1) implied Martina was fully attentive to Emilio more than the objects or stimuli.

Manuela**.** For subscale 1, Manuela received a score of 1and 2 on the baseline videos and a score of 1 on both intervention videos. The highest score of 1 indicated Manuela provided verbal recognition of feeling. For subscale 2, Manuela received a score of 1 both baseline videos and a score of 1 and 2 on the intervention videos. A score of 1 suggested Manuela showed a willingness to follow Joaquin's lead. For subscale 3, Manuela scored a 1 on both baseline videos and a score of 1 and 2 on the intervention videos. The highest score of 1 implied that Manuela was fully attentive to Joaquin more than the objects or stimuli.

Table 9*:* Measurement of Empathy in Adult-Child Interactions (MEACI) results

Ana	B#1	B#2	I #1	I#2
Subscale 1	3	3	2	3
Subscale 2	1	1	1	1
Subscale 3	2	3	1	1
Martina	B#1	B#2	I#1	I#2
Subscale 1	2	4	3	2
Subscale 2	2	4	4	2
Subscale 3	2	3	2	1
Manuela	B#1	B#2	I#1	I#2
Subscale 1	2	1	1	1
Subscale 2	1	1	1	2
Subscale 3	1	1	1	2

CHAPTER 5: DISCUSSION

The theoretical framework underlying the current investigation is to a great extent influenced by the works of Bronfenbrenner (1979) and Vygotsky (1978). Vygotsky's sociocultural theory emphasizes the social aspect of learning and development as well as assuming play, along with higher mental functions, originates from social interactions among the child and his/her parent or caregiver (Vygotsky, 1978). Parents who provide a linguistic scaffold by modeling, questioning, and explaining while conversing and play can facilitate the development of children's receptive and expressive language skills. The second argument central to the theoretical framework of this study was Urie Bronfenbrenner's (1979) ecological systems theory. This theory describes how a child grows and develops within the context of his/her environment.

Using elements from both theorists help set the foundation for teaching Latino parents to foster their child's expressive oral language development through the use of dialogic play. Participants were from a select Latino population identified as being exposed to the most risk of language delays as a result of poverty, limited English proficiency, and the fact that they were currently receiving speech and language services. Since the current study involved working with children who were already exposed to such risk factors, it was vital to provide an intervention that intended to promote positive parent-child interaction. By including the parent in the intervention, they are recognized as the most-immediate support system influencing the child's overall development. This

coincides with Bronfenbrenner's microsystem, which refers to groups that most directly impact the child's development such as the family and school. The current study aimed to address the importance of parent-child interaction by instructing parents to implement the dialogic play strategies (CARRO) through the use of the *Language is the Key* program. This chapter discusses points relating to the results of the study, specific contributions, limitations of the study, recommendations for future research, and implications for practice.

Effects of the Intervention on the Dependent Variables

Two analyses were employed to obtain the results of this study. The first was a visual analysis of the data designed to determine the specific level, trend, variability, overlap, and immediacy of effects. The second analysis determined data overlap between phases (i.e., baseline and intervention) using the percent of non-overlapping data (PND). Results from both analyses indicated the intervention did not demonstrate a functional relation. However, by utilizing descriptive statistics and the PND method, some positive results among the dependent variables were noted for Dyad 1 and Dyad 3. The discussion below will highlight research findings and provide possible explanations in support of those results for each of the research questions.

Research Question 1: To what extent do Latino parents implement the *Language is the Key* dialogic play strategies (CARRO) with their children?

The results of this study showed that following the instructional sessions, the Latino parents increased their use of the first two CARRO strategies. The use of the other two strategies was weak and almost nonexistent.

When Ana first entered the study, she appeared to engage in parallel play with Juan that resulted in limited interaction and language. Following the parent instructional session, Ana began to move from parallel play to cooperative play. Ana and Juan participated in conversational dialogue and turn taking. Ana's involvement with Juan changed. She provided Juan with her full attention, and her focus shifted away from her personal play activities to Juan's play activities (Bratton, 1993).

Martina entered the study already using some of the CARRO strategies during play. She commented on what Emilio was doing during his play, and she asked questions. Her use of some of the CARRO strategies during play resulted in a high baseline from the beginning leaving little room for improvement. Nonetheless, it appeared that Martina had difficulty with wait time after making comments or asking questions and there was a decreasing trend in her data during the intervention phase. It is unsure what contributed to this decrease. On the issue related to wait time, Dale et al. (1996) and Lim and Cole (2002) found similar concerns in their studies. Dale et al. (1996) reported a high rate of maternal utterance indicating "insufficient time for [child] response" or an inability to slow down to allow time for their children to respond or answer questions (p. 232). Additionally, interview data from Lim and Cole's (2002) study with Korean mothers indicated difficulty with them exercising wait time. One of the Korean mothers in the test group attributed the wait time difficulty to a standard in the Korean culture - the inability to wait in general. It is not certain that the Latino culture is the same as the Korean culture in regard to the existing wait time, but Martina had difficulty with wait time as well. Furthermore, Dale et al. (1996) found that children at risk for language delays needed additional time to comprehend and respond to the parents' comments or

questions. Emilio demonstrated the most-significant language delays of all three of the children and had the lowest levels of verbal responses during the play sessions. Without adequate time to respond, Emilio's limited oral language production may have been hindered.

Manuela also entered the study using some of the CARRO strategies at a moderate rate. She commented on what Joaquin was doing during his play and asked questions. Even though Manuela utilized the CARRO strategies during baseline, she made some improvement after her instructional session on the use of the dialogic play strategies. She appeared to comment more on what Joaquin was doing and asked him more questions during the intervention phase.

On average, the parents' implementations of the CARRO strategies demonstrated a preference for the strategies comment and wait (C-commente y espere) and ask questions and wait (A- averigue-haga preguntas y espere). The other strategies of respond by adding a little more (R- responda agregando un poco mas) and repeat again in Spanish (RO- repita otravez en Español) showed no increase in the rate of response following the parent instructional sessions. In fact, no positive change occurred at all with the use of those two strategies. However, it should be noted that none of the parents spoke fluent English, so it may have been difficult for them to understand the words spoken in English by their children in order for them to repeat them again in Spanish (RO). Moreover, the children rarely spoke in English, necessitating little use of this strategy. Tardaguila-Harth (2007) found similar results for the dialogic reading steps with regard to repetition in Spanish for her Latino mother participants. All of the mothers' rates of repetitions in Spanish failed to show any considerable gains due to their child's limited use of English.

In the current study, the parents' difficulty using the more sophisticated dialogic reading and play strategy, *respond by adding a little more*, may be explained by the verbal patterns of interaction of Latino families when socializing their children (Rogers, 2001). Valdes (1996) conducted an ethnographic study comparing parent-child interactions with ten families in three different regions of Mexico. Her results suggested that mothers of Mexican descent socialized their children by being direct and asking several questions. To further support this claim, Perry et al. (2008) suggested that Latino families in her study provided their children with more direct instruction while participating in literacy activities and less opportunity to follow the child's lead and expand upon what the child was saying. The literacy activities involved parents playing with materials from literacy bags to teach language concepts to their children. Consequently, being direct may insinuate that the child is expected to respond to what the parent says; yet, the parent does not expand on what the child says.

The findings previously discussed and presented in this study indicate more intensive parent training approaches may have been needed. Barton and Fettig (2013) examined the training features of several parent-implemented interventions. When looking at effective parent training practices, some important commonalities were reported. Performance-based feedback, modeling, and opportunities for practice were the most frequently cited components of effective parent and practitioner training. Several additions could have strengthened the parent training component in the current study such as: (a) providing the parents with motivational and practical incentives such as educational toys and gift cards (DeBruin-Parecki, 2009), (b) providing the parents with positive, yet corrective, statements by showing particular examples of the parents'

behavior during the videotaped sessions, and particularly (c) using coaching and modeling with immediate feedback before, during, or after the play sessions to facilitate the use of all four CARRO strategies and to ensure the use of wait time.

Research Question 2: What is the effect of the parent's implementation of dialogic play strategies on the oral language production of Latino preschoolers at risk for language delays?

Parent participants in this intervention demonstrated minimal to no change in their use of the CARRO strategies; and predictably, a change in child behavior did not occur. However, the following measures did provide some information regarding the child participants' responses to parents' use of CARRO strategies. In the current study, the analysis of the mean length of utterance in words (MLUw), the rate of the total number of words (TNW), and the rate of the total number of different words (TNDW) varied among child participants. Juan's mean length of utterance in words (MLUw) increased slightly from baseline to intervention. Interestingly, Juan's mean MLUw (M=3.7) during intervention was 0.17, higher than the "normal" MLUw mean (M=3.53) for a 5-year-old male as provided by the SALT play database (Miller, Andriacchi, & Nockerts, 2011). Juan demonstrated an above-average mean length of utterance in words (MLUw) when compared to his same age typically developing peers suggesting his oral language production was within the average range for a child his age. Juan entered this study with average scores on the PLS-4. Yet, he was receiving speech and language therapy in Spanish two times a week, for 30 minutes. His speech goals focused on answering questions, retelling a story, and maintaining an appropriate topic during a conversation. Juan's PLS-4 pre-scores indicated a standard score of 92 in receptive language and a

standard score of 98 in expressive language. Following the conclusion of the study, Juan received a standard score of 99 in receptive language and a standard score of 101 in expressive language. Both sets of scores were in the normal/average range and Juan's post scores were slightly higher.

Emilio's mean length of utterance in words (MLUw) remained low and stable from baseline to intervention. When comparing Emilio's mean MLUw (M=1.81) with the SALT play database, his results demonstrate at least two standard deviations below the "normal" MLUw mean (M=3.53) for a 5-year-old male. Furthermore, Emilio's mean length of utterance in words (MLUw), as evidenced by his transcripts, could have been affected by the repeated occurrences of counting games during the sessions. During intervention sessions, Martina introduced several counting activities and asked Emilio to count the toys (e.g., plastic squares, Popsicle sticks, fruit and animal manipulatives). When Emilio counted to a high number without pausing, those numbers would have counted as a single utterance (e.g., sentence or phrase). Counting resulted in a higher mean length of utterance in words (MLUw) when in reality he was not actually speaking in phrases. So, with the exclusion of Joaquin's counting activities, his true mean length of utterance in words (MLUw) may have been lower. Emilio entered this study with scores on the PLS-4 more than two standard deviations below the mean and receiving speech and language therapy in Spanish two times a week, for 30 minutes. His speech goals focused on articulation, vocabulary, answering questions, object identification, using 4-5 word sentences, and following directions. Emilio's PLS-4 scores before starting the study indicated a standard score of 53 in receptive language and a standard score of 53 in expressive language. Emilio demonstrated delays in both areas. Following the conclusion

of the study, a bilingual speech and language therapist administered the PLS-4 assessment again. Emilio received a standard score of 71 in receptive language and a standard score of 56 in expressive language. His PLS-4 scores at the end of the study continued to indicate a significant delay in his primary home language.

Joaquin's mean length of utterance in words (MLUw) decreased slightly from baseline to intervention as well. Joaquin's mean MLUw (M=2.59) during intervention was at least one standard deviation below the SALT play database mean (M=3.47) for a 4-year-old male (Miller, Andriacchi, & Nockerts, 2011). His lower score indicated that he was delayed in his oral language when compared to his same age typically developing peers. Joaquin entered this study with an average standard score (96) on the PLS-4 in receptive language and a delay of one standard deviation below the mean in his expressive language score (75). He was receiving speech and language therapy in Spanish two times a week for 30 minutes. His speech goals focused on articulation, "wh" questions, and object identification and function. Following the conclusion of the study, the bilingual speech and language therapist administered the PLS-4 assessment again. Joaquin received a standard score of 101 in receptive language and a standard score of 100 in expressive language. Both scores fell within the normal to average range.

It is important to point out that the SALT's normed sample comprised of typically developing children whose native language was English. Thus, when utilizing SALT's play database, caution should be applied to English language learners. Moreover, using the mean length of utterance in words (MLUw) as the primary dependent variable may have been problematic. This measure may not be appropriate because of the low level of intelligible words and low level of utterances produced by the child participants. Since

the SALT software only includes intelligible words or phrases in its calculations, the child participants' mean length of utterances in words (MLUw) may have been affected due to speech articulation problems resulting in trouble with intelligible speech. When a child uses unintelligible words in an utterance their mean length of utterance in words (MLUw) is compromised. For example, during Joaquin's second intervention session, he said, "And XXX wall XXX door." The XXX's indicated an unintelligible phrase or word, so the only words that were counted for the mean length of utterance in words (MLUw) calculation were "and, wall, door." Emilio and Joaquin both demonstrated difficulties with articulation of words during the sessions. Their articulations difficulties were confirmed by the targeted goals developed by their speech and language therapists.

Interestingly, results for the total number of words (TNW) and the total number of different words (TNDW) for Juan and Joaquin were more favorable. Juan and Joaquin's total number of words (TNW) and the total number of different words (TNDW) increased slightly from baseline to intervention.

Emilio's results for the total number of words (TNW) and the total number of different words (TNDW) were marginal. His total number of words slightly increased from baseline to intervention with an increase in the mean of 0.97. Emilio's TNDW slightly decreased from baseline to intervention with a decrease in the mean of 0.18.As indicated previously, Emilio's mother, Martina, used high levels of comments and questions during the play sessions with little wait time. Her questioning pattern was predominately closed-ended, typically resulting in Emilio answering "yes" or "no". These responses could help to explain the slight increase in the total number of words (TNW)

and a decrease in the total number of different words (TNDW). With minimal magnitude of change, Emilio did not appear to respond to this intervention.

For the child participants in this study, the use of the parent implemented CARRO strategies in a play context involving toys, but not books, may not have been intensive enough to make a substantial impact. This study was conducted using the parent as the interventionist and did not include the entire *Language is the Key* intervention package. Perhaps a more intensive parent intervention using books and toys in addition to coaching and modeling with immediate feedback is warranted. It is possible that the addition of books and the use of the dialogic reading component could have provided more promising results. There is an abundance of research that supports the use of dialogic reading as an early literacy intervention. However, this research with the Latino population is limited (Tardaguila-Harth, 2007; Cohen, Kramer-Vida, & Frye, 2012), and to date, no research has been conducted with the Latino population that included dialogic play. Tardaguila-Harth (2007) conducted a study to investigate the effects of migrant Latino mothers' implementation of dialogic reading strategies on the oral language development of their preschoolers with language delays as well as their ability to implement the intervention with fidelity. The study was conducted in the children's home and the results indicated that the mothers were able to successfully implement the majority of the dialogic reading strategies. The children's production of oral language also increased. For the current study, it might have been beneficial to add a book component to the dialogic play intervention and deliver the intervention in the parents' home. Another possibility could be the utilization of the CARRO play strategies by the child's teacher in the classroom. Since play is an integral part of many preschool

curricula, the use of the CARRO strategies could be naturally embedded into the children's daily classroom routines. Play interventions are teacher and parent-friendly, and carried out in a variety of settings, and can positively affect a child's development (Sualy et al., 2011). Having a consistent and more intensive intervention delivered in the home and school could be more beneficial for improving oral language development and vocabulary in preschoolers who are ELL and at risk for language delays.

Other types of parent-child play interventions may also be important to consider when thinking about the impact of play on children's language development. Play interventions have been used to implement goals in a variety of domains such as social-emotional, communication, and motor development. In 1997, Girolametto, Pearce, and Weitzman conducted a study that explored the effects of educating parents to teach specific target words to their toddlers with expressive vocabulary delays during play sessions at home. Twenty-five mothers received training in the *Hanen Program- It Takes Two to Talk* (Girolametto, Greenberg, & Manolson, 1986; Manolson, 1992*).* The 11-week intervention included eight evening sessions to teach program strategies and three home visits to provide parents with individual feedback regarding their progress. During these visits, mothers were videotaped interacting with their children in free play and these videotapes were subsequently reviewed to provide immediate feedback on the use of their program techniques. Providing immediate coaching as needed was another aspect of the intervention. During the 2.5-hour evening workshop sessions, parents observed videotapes illustrating program techniques and engaged in interactive lectures, role plays, and focused discussions. During the 4-month interval between pretest and posttest, children used more target words in naturalistic situations, used more words in free-play

interaction, and were reported to have larger vocabularies overall as measured by parent report. The results indicated that the time intensive, multifaceted play intervention produced positive gains in the children's vocabulary. Perhaps the dialogic play intervention in the current study would have been more effective if it had included additional parent instructional sessions in a workshop format and provided parents with immediate coaching and feedback.

Research Question 3: What is the effect of the parent's implementation of dialogic play strategies on Latino preschoolers' free language narrative skills?

The purpose of the generalization measure was to determine the child participants' ability to generalize their oral language skills across different but familiar play materials. However, given the marginal improvement in the parents' use of CARRO and the children's minimal gains in oral language skills it was unlikely that the skills would have generalized to the children's favorite toys. Nonetheless, the results of the generalization probes provide some interesting information.

During the generalization probes, the parents were asked to bring the child's favorite toy to the session. Juan and Joaquin's mean length of utterance in words (MLUw) during generalization was similar to those demonstrated during both baseline and intervention. They appeared to talk about the same amount when playing with their own toys (e.g. plastic car ramp, Monsters INC ® plastic connectors, chessboard, plastic shape magnets, and bristle blocks) as they did with the toys provided by the experimenter. Interestingly, Emilio's mean length of utterances in words (MLUw) was higher in generalization when compared to his baseline and intervention data. He appeared to talk more with his own toy, a chessboard. Emilio and Martina manipulated

the chessboard and appeared to turn it into an action figure game. They took turns and competed to eliminate each other's figures. Perhaps the increase in Emilio's language was due to the familiarity and likability of the game, which supports the idea that using a preferred toy can increase a child's play and oral language skills (Trawick-Smith et al., 2014). Toy selection could have played an important role in influencing the parent-child interactions and oral language skills of the children.

Research Question 4: Will the effects of dialogic play on the oral language development of preschool children be maintained following the conclusion of the intervention?

The children's overall production of mean length of utterance in words (MLUw), total number of words (TNW), and total number of different words (TNDW) during this phase of the study were comparable to those witnessed during intervention. Given that the study did not demonstrate a functional relation and oral language skills did not improve, the maintenance data continued to reflect the overall weak results exhibited throughout intervention.

Research Question 5: What are parent's perceptions of the significance and feasibility of the intervention?

Findings from the social validity questionnaire indicated that all parents felt their children enjoyed participating in the dialogic play sessions, and they would use the dialogic play strategies in the future. They all agreed that improving and maintaining vocabulary and language development in Spanish was important for their child, and that the Spanish oral language skills of their child improved following the intervention. The parents also appeared to be committed to the intervention because of the cultural value.

This also coincides with the Latino culture that places the needs and importance of their children above other family member's needs (Vlach, 2002). These findings are further supported by Perry et al. (2008). They conducted a study that investigated continuity and change in home literacy practices of Hispanic families with preschool children. Their results indicated that parents valued interactive literacy activities that promoted family connections and they demonstrated a strong desire to facilitate their child' language development. Moreover, their families also voiced their beliefs regarding the need for their children to maintain their home language. Involving parents in their child's language intervention can impact the quality of the parent-child relationship, parent-child interactions, and parent satisfaction with language interventions. Results from this study indicated that parents were satisfied with the impact that the intervention had on their child's speech and language development.

Research Question 6: What is the effect of the parent's implementation of dialogic play strategies on the use of empathy in the parent and child interactions?

The final research question was added post-hoc to examine if there was a qualitative effect in the parent-child interactions between baseline and intervention. Examination of the extent to which the parents in this study demonstrated empathy was measured through the *Measurement of Empathy in Adult-Child Interaction* (MEACI) rating form. This form specifically looked at the dynamic, qualitative parent-child relationship. The MEACI composed of three subscales which included communication of acceptance of the child, allowing child self-direction, and adult's involvement with child with 1 being the highest level of empathy and 5 being the lowest level of empathy. (Bratton, 1993). It is important to note that the *Language is the Key* program did not

specifically focus on the use of empathy, and the parent participants were not given additional instruction on increasing empathy during this study. The experimenter chose to add this measure as a way to further explore any patterns or relationships between the parent-child interactions during play that otherwise may have been undetected by the targeted dependent measures.

Empathy refers to an adult's sensitive understanding and acceptance of the child's current feelings and the adults' ability to communicate this understanding to the child (Stover et al., 1971). Research supports the notion that parental empathy can augment children's development and can provide specific attention to children's individual needs (Landry et al., 2011). By demonstrating empathy, parents can help increase their child's ability to process new learning experiences during daily routines (Landry et al., 2011).

The results of the empathy measure indicated that all three parent participants demonstrated moderate to high levels of empathy in at least one subscale during baseline and intervention. Ana appeared to show the most improvement as demonstrated by her higher levels of empathy during intervention as compared to baseline. The largest improvement occurred in subscale 3 which concentrated on parent-child interaction. Ana received a score of 2 and 3 during baseline in which she mostly engaged in parallel play with Juan. They both engaged in play activities, just not with each other. Ana and Juan appeared to be self-involved and used very little language. A score of 2 suggested she had a high level of attention but she concentrated almost exclusively on the activities, rather than the child. A score of 3 indicated marginal attention. An example of this score on the third subscale would be the adult was involved in her own activity to a degree that interfered somewhat with attention to the child. For intervention, Ana scored a 1 on both

randomly selected videos. The higher empathy score implied Ana was fully attentive to Juan more than the objects or stimuli. With the exception of a score of 3 on the communication of acceptance of child, all of her scores showed some improvement in empathy during the intervention videos.

Martina was the only parent who was given a lower score of 4 during baseline and intervention. She received this score once in the subscale of communication of acceptance of the child and twice in the subscale of allowing child self-direction. With 5 being the lowest score, a score of 4 is worrisome indicating little to no empathy demonstrated (Bratton, 1993). For communication of acceptance of the child, a score of 4 indicated Martina used slight or moderate verbal criticism stated or strongly applied. An example of this score would be "Today you don't want to play well with this," while removing the selected toy from Emilio's hands and replacing it with another toy she has selected. A score of 4 suggested Martina directed or instructed Emilio to do something. An example of this score would be "Now we're going to play with these." Martina did show some signs of increased empathy during intervention video 2 when she received the score of 1 in subscale 3 and scores of 2 in the other two subscales. It is important to mention that the *Language is the Key program* and the dialogic play intervention encouraged the parent to let the child take the lead during the play session. In some cases, when the child's language production was limited, the parent would attempt to initiate a new activity or ask questions with the intention of promoting oral language. These attempts would often put the control of the interaction and lead on the parent. Martina seemed to have a pattern of taking control and telling Emilio what to do during the interactive play sessions. Interestingly, parents of children with language impairments

often adopt a more directive, less responsive style of interaction, perhaps in response to frequent frustrations in communication (Dale et al., 1996). Findings from the current study were also similar to a study conducted by John, Halliburton, and Humphrey (2013) in which they focused on qualitative and quantitative differences between maternal and paternal play interaction behaviors with their preschool children. Home observations of 18 mother-child and father-child play interactions were on a qualitative analysis basis. The qualitative analyses indicated that during play interactions with their preschool children, mothers tended to structure, guide, teach, and engage in empathic conversations, whereas fathers tended to engage in physical play, behave like the child, follow the child's lead, and challenge them. The maternal pattern described by John et al., (2013) was seen in Martina as she appeared to structure, guide, and teach Emilio during the play sessions.

Of the three parent participants, Manuela appeared to demonstrate the highest amount of empathy during the four videos. Since high levels of empathy were present during baseline as well as intervention, Manuela's use of empathy cannot be attributed to the dialogic play intervention. Moreover, results should be cautiously interpreted because of the small video sample size.

Specific Contributions of this Study

As noted previously**,** there has been little research done on oral language production and play with Latino preschoolers and their parents. Even with disappointing results, the current study adds to the paucity of that research. First, parent participants were taught only the dialogic play component, not the dialogic reading component of the *Language is the Key* program. Previous research that isolated play as the primary

intervention component focused on increasing social interaction and play skills (Lifter et al., 2011). This study used play as the primary intervention approach with Latino families with children considered at risk for language delays. Two of the three parents in this study learned two of the four dialogic play strategies (CARRO) and implemented them with their children. Even though these results were comparatively weak, they add to the paucity of research that focused solely on the dialogic play component of the *Language is the Key* program. Moreover, the results from this study suggest a need for more intensive coaching and modeling with immediate feedback to facilitate parents' full use of the dialogic play strategies.

Second, as shown in the social validity data, parent's responses were positive in rating the importance of the selected skills, the social acceptance of the intervention, and the social significance of the skill change. These findings could suggest that the dialogic play strategies (CARRO) may offer a way to increase parent involvement. The level of parent involvement in this study consisted of play sessions three to four times a week for 10-15 minutes a day. The study also took into consideration the parents' busy schedules, planning the play sessions during drop-off time. Since the parents were satisfied with the intervention, they might be more likely to use the dialogic play strategies in the future and increase involvement in their child's oral language development. Moreover, given that parents valued the importance of the selected skills, they might be willing to participate in a more intensive intervention.

Limitations and Future Research

There are several limitations of this study. First, the results from this study indicated there was not a functional relation; therefore, the intervention as designed was

not supported. Suggestions for redesigning the intervention include providing more training to the parents with frequent opportunities for coaching and performance feedback. Additionally, adding books to the play sessions and choosing more interactive toys might encourage more oral language. Second, due to the small sample size and nature of single case experimental designs, external validity was weakened (Kazdin, 1982). Along with a small sample size, the child participants in this study were all males. This was not the intention; however, these were the only children at the center that fit the entire child participant selection criteria. Moreover, all parent participants were Latina mothers. It is unknown whether the study's findings would be similar with fathers from the same population or other non-English language populations. Future research should be conducted to include a larger sample size, fathers as the primary interventionists, and other English language learner groups.

A second limitation involves the language measurements. The mean length of utterance in words (MLUw) was originally chosen as the primary dependent variable because it was the most commonly cited language sample measure. Moreover, it has often been used to diagnose language impairments since children with speech and language impairments tend to have limited utterance length (Heilmann et al., 2008 & Rice et al., 2010). However, this has proven to be problematic for research purposes because different languages vary significantly in their syntactic structure (Lim & Cole, 2002). Gutiérrez -Clellen et al. (2000) also raised the issue of differences in assessing language samples in Spanish speaking children. Low production, intelligibility, and speech articulation are also problematic and can affect the ability to accurately calculate the mean length of utterance in words (MLUw). In this study, all three of the child

participants had articulation and speech intelligibility concerns as reported by the speech and language therapist and anecdotally by the bilingual research assistants who translated the transcripts. The calculation of MLUw requires an adequate number of intelligible utterances per sample (Rice et al., 2010). The SALT software has recommended that samples between 35 and 65 utterances in length be attained for a reliable and valid language sample of young children speech and language skills (Miller et al., 2011). The number of utterances in words produced by the children in this study ranged from 2-66, with play session ranging from 4-10 minutes in length. The majority of utterances fell below 50. In 2007, Tilstra and McMaster examined the reliability of measures generated from short 1- to 2-min narrative retells produced from preschool children. Results indicated that total number of words (TNW) and the total number of different words (TNDW) were the most reliable when using short samples. Total number of words (TNW) is a measure of productivity; whereas, total number of different words (TNDW) is a measure of lexical diversity that provides a trustworthy estimate of a child's productive vocabulary. The research has supported the use of both TNW and TNDW when investigating children's narrative skills and shown that they are effective measures in identifying preschoolers with language delays (Heilmann et al., 2008). Future research studies may need to target total number of words (TNW) and total number of different words (TNDW) as more robust and reliable measurements when working with a limited number of utterances.

Toy selection and use of toys is a third limitation in the current study. The experimenter had no prior knowledge as to the familiarity and experiences the parent-child dyads had with the toys provided. According to Trawick-Smith et al. (2014), certain

kinds of novel toys may elicit varying levels of interest and language from a parent or a child. For the current study, the dyads may have chosen toys that did not lend themselves well to language production. If so, this could have affected the way they interacted with the toys and each other. Additionally, play and what children play with are critical for development. Toys can encourage thinking and learning behaviors, sustained interest, problem solving, curiosity, communication, collaboration, creative expression, independence, and the ability to enact symbolic transformations (Trawick-Smith et al., 2014). Many of the toys used for this study were designed to encourage creativity through building and experimentation. These types of toys may have enhanced problem-solving skills and independence but may not have elicited oral language. For example, the STEAM toys, such as blocks, plastic sticks, and counting manipulatives were chosen more frequently by the participants in the current study. The use of these toys may have encouraged less oral language. Following the conclusion of the intervention, an informal analysis was conducted to determine which toys were used during the sessions when the child participants engaged in the most language. The findings from these analyses were mixed. Some of the participants used STEAM toys, while others used non-STEAM toys. Juan's mean length of utterance in words (MLUw) was the highest when he played with the catapult, plastic colored animal and fruit counting manipulatives, frogs on lily pads counters, and magnifying glasses. Juan and Ana would create games with these toys and talk about what was happening as they enacted the games. They would see how quickly they could sort the frogs on lily pads counters and then see who had the most or who won. Juan would also use the catapult to see how high he could toss the animal and fruit counting manipulatives into the air. Emilio's mean length of utterance in words (MLUw)

was the highest when he played with the train, small plastic square counters with a counting tray, and Legos. He would push the train and build with the Legos. Emilio and Martina also counted the square counters and put them in the correct place on the tray. As previously noted, much of Emilio's language was repeating what Martina said and counting. Joaquin's mean length of utterance in words (MLUw) was the highest when he and his mother played with markers, paper, and plastic sticks with connectors. They would draw pictures and talk about what they created. They would also use the plastic sticks with connectors to build various structures and verbally describe the structures during the process. Future research studies might include a more intentional method for selecting materials such as learning the child's interests before the start of the study and limiting the use of toys that might not encourage language and communication. Future research might also include specific prompts for eliciting oral language during the play sessions. One adult prompting strategy that could be used is a least-to-most prompting strategy (DiCarlo & Vagianos, 2009). This strategy consists of providing the child with increasing levels of assistance. Barton and Wolery (2008) have found a functional relation between adult implementation of a least-to-most prompting model, combined with positive reinforcement, and increases in play behaviors and oral language with children with disabilities. Parents and other adults are important components to their children's learning and must be involved. When new play materials are introduced, parents may need to explain how to use the toy and narrate what the child is doing and encourage the child to tell them how they are using the toy. Some examples could be scripting scenes for the play, using specific prompts with toys, and providing games that

promote more language such as “I Spy," "I can do that" - Cat in the Hat game, “Guess Who."

Future research could also focus not only on the child’s language development, but also their play development. Even though the focus of CARRO was not to teach play skills, future studies could examine the inclusion of teaching play skills with the use of the CARRO strategies. For example, Sualy et al. (2011) conducted a study in which they specifically examined the play skills of their participants. It included three main components: (a) a story reading session, (b) a play session, and (c) a review session. Two play interventions were implemented in an early childhood setting. Intervention group 1 had a 15-minute play session where the children played with toys and the adult facilitated, modeled, and instructed the children on certain play behaviors. The children were also verbally praised for exhibiting pretend play skills and using language in appropriate ways. Intervention group 2 had five minutes of free play with toy sets that related to the story. After free play, the toy sets were removed leaving only non-toy objects (example of these toys – not sure what they used) for free play with no guidance. Results indicated that children in group 1 moved from exploratory play to pretend play, while the children in group 2 increased their complexity, variety, and representational levels of play. More specifically, the children in group 1 acted on another person or object using non-toy objects to encourage pretend play and creativity. For group 2, the children were able to play with a variety of toys. All of the participants made gains in their play skills. Their play skills were enhanced in different ways due to participating in two separate play interventions. Future research using the dialogic play strategies could focus on children’s oral language production as well as their ability to engage in pretend

play and their use of toys and non-toy objects. According to Myck-Wayne (2010), dramatic or pretend play can facilitate a child's ability to increase verbalizations, vocabulary development, and language comprehension.

A fourth limitation to this study related to the experimenter's dependability on the bilingual research assistants. As a monolingual English speaker, the experimenter's lack of ability to speak Spanish was a definite drawback. The experimenter had to rely on the bilingual research assistants to transcribe the videotapes and conduct parent meetings and instructional sessions. She could not monitor progress on a daily basis and address questions and concerns from the parent. The experimenter also had difficulty accurately assessing the parents' use of wait time due to the language barrier. This put the experimenter at a distinct disadvantage since she was unable to interact with the parent without the use of an interpreter. Moreover, since the bilingual assistant was translating the transcripts, some transcripts were delayed getting back to the experimenter. Future research should include a bilingual experimenter fluent in English and Spanish. The experimenter might also consider hiring a translation service to ensure that translation of the transcripts is timely.

Another limitation to this study involves the limited number of videos used for the empathy measure. Scoring was on four videos for each participant on the *Measurement of Empathy in Adult-Child Interaction* (MEACI) rating scale. Moreover, no one other than Paloma, the bilingual research assistant, scored these videos. Therefore, there was no inter-rater reliability on the empathy measure. Future research should include a larger number of videos per participant with a second experienced observer scoring the MEACI. Future studies might also explore the use of other qualitative measures that examine

behavior and the dynamics of parent-child interactions such as the *Emotional Availability Scales* (EA; Biringen et al., 2000) and the *Dyadic Parent-Child Interaction Coding System* -II (DPICS-II; Eyberg et al., 1994). The *Emotional Availability Scales* provide a method of assessing dyadic interactions between caregiver and an infant or child. The scales consist of four parent dimensions (i.e., sensitivity, structuring, non-intrusiveness, and non-hostility) and two child dimensions (i.e., responsiveness and involvement). DPICS-II is a behavioral coding system used to assess direct observations of parent-child interactions across three situations: Child-Directed Interaction (CDI), Parent-Directed Interaction (PDI), and Clean-Up (CU). Together, these scales measure the verbal interactions between the parent and child and the emotional implication of the interaction. Future research studies might also be conducted using only qualitative research methods such as participant observation, and in-depth interviews and focus groups with parent participants.

Lastly, the current study did not examine the generalization of the effects of the dialogic play strategies on the oral language production of Latino children in different settings outside the specified area in the school environment. Future research should analyze the effects of the intervention in the home environment (Tardaguila-Harth, 2007). The addition of fathers and other family members in a home intervention would provide a broader base for the use of the CARRO strategies (Romski et al., 2011). A different setting and participants could result in more positive language skills and family-child interactions (Hemmeter & Kaiser, 1994).

Implications for Practice

The results of the current study have important implications for early childhood and special educators, speech and language therapists, family liaisons, and early childhood education center directors working with Spanish-speaking children at risk for language delays and their families. Professionals must modify interventions and programs for the populations they serve. Discussion on the implications for practice will center on the importance of involving dialogic play strategies in more intensive family-centered interventions as an approach that could be used by early childhood professionals, in the child's native language, in play, and as a form of milieu instruction.

First, the *Language is the Key program* was designed to be a family-centered intervention. It is family-centered meaning it views the family as a unit and incorporates parents and caregivers, as well as the child with or without a disability (Graham, Rodger, & Ziviani, 2009). Family members are involved in decision-making and are equal members of the team of professionals working with their child, and given respect for their knowledge and expertise. When conducting a family-centered intervention, it is recommended that a professional (a) act as a friend, guide, or informant, (b) convey a belief in parents' abilities, and (c) provide timely, practical information (Graham et al., 2009). For the current study, the experimenter was friendly and provided positive feedback regarding the parents' current abilities with the use of an interpreter. Parents are a natural resource for participating in their child's education and they are usually motivated to help their children (Graham et al., 2009). Many parents spend more time with the child than an educator or service provider, so they are better positioned to know their child's personality and interests (Dale et al., 1996). The *Language is the Key* instructional model drew upon naturally occurring parent-child interactions, recognized

the value of the family unit, and was created to promote children's language development (Cole et al., 2006). In fact, Andres-Hyman et al. (2006) contend interventions that incorporate cultural values shared by Latinos such as *familismo* and being child-centered, will be well received and culturally responsive. *Familismo* can be defined as the value the Latino culture places on family both immediate and extended as a network for support (e.g. emotional, social, and physical) (Andres-Hyman et al., 2006). The *Language is the Key* program involved parents directly responding to their child's language and literacy needs. This coincides with the Latino culture that places the needs and importance of their children above other family member's needs (Vlach, 2002). However, since the parents only used two of the four dialogic play strategies with the children, results from this study suggest parents may need more intensive training and feedback. An intervention that utilizes the previously discussed components and stresses the utilization of play to build and strengthen parental/child interaction, could serve as a promising family-centered strategy for Latino parents, teachers, and other early childhood professionals.

Second, the dialogic play strategies can be implemented by other adults in centers, schools, or the home. Teachers, related service personnel, and other family members could learn the dialogic play strategies and use them to encourage language development in ELLs. These adults could learn to assess child gain in language by collecting language samples in play sessions and when interacting with children in their center, school, or home environment. Also, while using the CARRO strategies, these adults could be encouraged to gather and monitor their child's language samples. Further, adult-child

interactions could be strengthened by encouraging teachers and other early childhood professionals to embed the CARRO strategies into play and book sharing.

Third, the importance of recognizing and incorporating a child's native language cannot be understated. According to Farver, Lonigan, and Eppe (2009) preschool children who are considered English language learners (ELLs) enter programs with varying degrees of English proficiency. Additionally, more than 60% of ELLs in the United States receive predominantly English reading instruction with varying degrees of supplementary support in the native language (Fien et al., 2011). Research suggests that mastery of the child's first language may enhance their acquisition of a second language as well as their language, cognitive, and social development (Lim & Cole, 2002). As evidenced in this study, parents should be encouraged to take a more active role in their child's native language and literacy development by utilizing interactive literacy materials (e.g., toys and books). Moreover, parent participants in the current study expressed that maintaining their child's native language was important. It is necessary to incorporate the child's native language and to include parents and other family members whenever possible. Furthermore, bilingual approaches are more effective in raising literacy rates in children who are learning English as their second language rather than English only approaches (August, Shanahan, & Escamilla, 2009).

Fourth, teachers need to focus on strengthening parent-child relationships and encourage parents to use play could be one possible approach. However, the results of this study recognize that dialogic play may not be enough. The addition of books with toys might enhance the results of the intervention. Prompting and modeling from the interventionist during play could also help the parents imitate those actions and have a

positive influence on their child's language and play skills (Sualy et al., 2011). There are many opportunities for pretend play and language development in preschool classrooms and homes.

Lastly, naturalistic teaching strategies are considered to be developmentally appropriate and have been identified as a recommended practice by the Division for Early Childhood (Sandall, Hemmeter, Smith, & McLean, 2005). Examples of naturalistic teaching strategies include prelinguistic milieu teaching (PMT) and milieu teaching. Characteristics of these approaches include teaching opportunities that are embedded in ongoing activities and promote the development of early nonverbal and verbal communication skills (Fey et al., 2006; Staunton-Chapman & Haddon, 2011). Parents can successfully learn to deliver milieu-based language intervention strategies and generalize them to the home environment (Romski et al., 2011). Dialogic play strategies contain many of the features of PMT and milieu teaching by using the child's interests and initiations to model and prompt nonverbal and verbal language in everyday contexts (Kaiser & Roberts, 2013; Warren, Yoder, & Leew, 2002). Research on PMT and milieu teaching has indicated that these approaches have increased intentional and social communication, as well as linguistic complexity, in children with disabilities (Fey et al., 2006; Kaiser & Hancock 2003; Kaiser & Roberts, 2013; McCathren, 2010; Yoder & Warren, 2001). Moreover, PMT and milieu teaching have been implemented by parents with clear effects on children's use of target nonverbal and nonverbal language and some evidence of generalization to parent-child interactions at home (Fey et al., 2006; Kaiser & Hancock, 2003; Yoder & Warren, 2001). However, it is important for parents to implement the intervention or strategies as it was intended. As evidenced by the results of

the current results, parents who do not implement the full strategy with fidelity may not see growth in their children's language development.

When working with young Latino children at risk for language delays, early childhood professionals must collaborate with families to support their child's oral language skills. Parent implemented interventions should include parent education and training that is responsive, dynamic, developmentally appropriate and effective in promoting positive outcomes for children with and without disabilities and their families (Kaiser et al., 1999).

Specific results from the current study were mixed, yet disappointing. However, the related observations and findings offered insight into the direction of future research. Further, the data acquired from this study can provide early childhood practitioners with a better understanding of what may need to be required to support Latino parents in enhancing oral language production in their young children.

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APPENDIX A: INFORMATIVE PARENT MEETING INVITATION

Department of Special Education and Child Development
9201 University City Blvd, Charlotte, NC 28223-0001
t/ 704.687.8772 f/ 704.687.2916 www.uncc.edu

The Effects of Dialogic Play on the Oral Language Skills of Preschoolers at Risk for Reading Disabilities

Dear Mr. / Mrs._____,

My name is Katie Swart and I am a doctoral student at the University of North Carolina at Charlotte. I am contacting you because you and your child have been recommended by the Director of the Charlotte Bilingual Preschool as possible participants in a study to promote oral language of Latino preschoolers.

I would like to invite you to come to a brief 15-20 minute informative meeting to discuss the details of the study. Any questions, comments, and/or concerns are welcome. The meeting is scheduled after you drop off your child in their classroom for the morning of _____at 8:30 am. I hope you can attend and look forward to meeting you.

Respectfully,

Katie Swart/Doctoral Student
University of North Carolina at Charlotte
phone: 704-756-8468
email: kjmccab1@uncc.edu

APPENDIX B: SPANISH INFORMATIVE PARENT MEETING INVITATION

UNC CHARLOTTE
College of Education
Departamento de Educación Especial y el Desarrollo de los Niños
9201 Ciudad Universitaria Blvd, Charlotte, NC 28223-0001
T/f/ 704.687.2916 704.687.8772 www.uncc.edu

Los Efectos de Juegos Dialógico en las Destrezas de Lenguaje Oral de Niños en Edad Preescolar

Estimado Sr. / Sra. _____,

Mi nombre es Katie Swart y yo soy una estudiante de doctorado en la Universidad de Carolina del Norte en Charlotte. Me pongo en contacto con usted porque usted y su hijo han sido recomendados por la directora del programa Preescolar Bilingüe de Charlotte como posibles participantes en un estudio para promover la lengua oral de los niños latinos preescolares.

Me gustaría invitarle a venir a una breve reunión informativa de 15-20 minutos para discutir los detalles del estudio. Cualquier pregunta, comentario y/o preocupaciones son bienvenidas. La reunión está programada después de dejar a su hijo en su salón de clases por la mañana de _____ a las 8:30 am. Espero que pueda asistir, y esperamos conocerle en persona.

Respetuosamente,

Katie Swart/Estudiante Doctoral teléfono: 704-756-8468

Universidad de Carolina del Norte en Charlotte email: kjmccab1@uncc.edu

APPENDIX C: PARENTAL CONSENT

UNC CHARLOTTE
College of Education

Department of Special Education and Child Development
9201 University City Blvd, Charlotte, NC 28223-0001
t/ 704.687.8772 f/ 704.687.2916 www.uncc.edu

The Effects of Dialogic Play on the Oral Language Skills of Preschoolers

Dear Mr. / Mrs._____,

My name is Katie Swart and I am a doctoral student at the University of North Carolina at Charlotte. You are being asked permission for you and your child, _____to participate in a study to promote oral language of Latino preschoolers.

You will participate in a 3 hour parent educational session to learn how to utilize the dialogic play strategies. After the session, you will engage in one on one dialogic play interactions with your child. The oral language and vocabulary instruction will occur three days per week in the morning for 10-20 minutes from _____to _____at the Charlotte Bilingual Preschool. All sessions will be videotaped in order for me to record your child's oral language. Your child's name will not be used in the video. We will record the number of words your child says during the play sharing time. The videos will be used for the purpose of this study or used in the future for teaching purposes such as professional development for families and teachers, and will not be used for any other purposes.

Your decision for you and your child to take part in this study is completely voluntary. You may refuse at any time during the study for you and your child to no longer participate without penalty. Information gathered during this study will be kept confidential. We will not reveal your identity or your child's identity in this study. There are no foreseeable risks associated with this study. Students participating in the Dialogic Play intervention will likely benefit from the study by expanding their oral language. Parents participating in this study will likely benefit from the study by expanding their language and play interactions with their child. The videos will be kept secure in a locked file cabinet.

If you have any questions regarding this study, please contact Katie Swart at 704-756-8468. UNC Charlotte wants to make sure that you and your child are treated in a fair and respectful manner. If you feel you have been mistreated in any way, or have

questions about research-related injuries during participation in this study, you should contact the Office of Research Compliance, Institutional Review Board for Research and Human Subjects (704-687-1871).

I have read the information in this consent form. I have had the chance to ask questions about this study and about my child's participation in this study. My questions have been answered to my satisfaction. I am at least 18 years of age, and I agree to participate and to allow my child to participate in this study. I understand that I will receive a copy of this form after it has been signed by me and the principal investigator of this research study.

Respectfully,

Katie Swart/Doctoral Student
University of North Carolina at Charlotte
phone: 704-756-8468
email: kjmccab1@uncc.edu

Vivian Correa, Ph.D./Responsible Faculty
University of North Carolina at Charlotte
phone: 704-687-8849
email: vcorrea@uncc.edu

_____
Child's Name (PLEASE PRINT)

_____ _____
Parent's Name (PLEASE PRINT) DATE

_____
Parent's Signature

_____ _____
Investigator's Signature DATE

This study is approved for one year beginning _____
DATE

APPENDIX D: SPANISH PARENTAL CONSENT

Departamento de Educación Especial y el Desarrollo de los Niños
9201 Ciudad Universitaria Blvd, Charlotte, NC 28223-0001
T/f/ 704.687.2916 704.687.8772 www.uncc.edu

Los Efectos de Juegos Dialógico en las Destrezas de Lenguaje Oral de Niños en Edad Preescolar

Estimado Sr. / Sra. _____,

Mi nombre es Katie Swart y yo soy estudiante doctoral en la Universidad de Carolina del Norte en Charlotte. Les pedimos permiso para que su niño(a), _____pueda participar en un estudio para promover el lenguaje oral de niños latinos en edad preescolar.

Usted participará en un entrenamiento para padres de 3 horas para aprender a utilizar las estrategias de juego dialógicas. Después de la formación de los padres, vas a participar en interacciones de juego dialógicas con su hijo. La enseñanza de los juegos dialógicas se harán tres días a la semana en la mañana por 10 a 20 minutos desde _____-_____ en el programa Preescolar Bilingüe de Charlotte. Todas las sesiones serán grabadas en vídeo para que yo pueda apuntar el lenguaje oral de su hijo. El nombre de su hijo no va a ser utilizado en el video. Vamos a grabar el número de palabras que dice su hijo durante el tiempo de compartir en los juegos. Los videos serán utilizados para el propósito de este estudio o utilizados en el futuro para la enseñanza, como el desarrollo profesional de las familias y los maestros, y no serán utilizados para ningún otro propósito.

Su decisión de que usted y su hijo participando en este estudio es completamente voluntaria. Usted puede rechazar en cualquier momento durante el estudio sin castigo. La información recopilada durante este estudio será confidencial. No vamos a revelar su identidad o la identidad de su hijo en este estudio. No hay riesgos previsibles asociados con este estudio. Los estudiantes que participan en la intervención de juegos dialogicas probablemente se beneficiarán con el estudio expandiendo expansión de su lenguaje oral. Los padres que participan en este estudio probablemente se beneficiarán del estudio al expander expansión las interacciones de juego con sus hijos. Los vídeos se mantendroir seguros en un archivador cerrado con llave.

Si tiene alguna duda con respecto a este estudio, póngase en contacto con Katie Swart en 704-756-8468. UNC Charlotte quiere asegurarse de que usted y su hijo son tratados de forma justa y respetuosa. Si usted considera que ha sido maltratado

de algun modo, o si tiene alguna pregunta acerca de la investigación de lesiones durante la participación en este estudio, póngase en contacto con la Oficina de Servicios de Investigación, Junta de Revisión Institucional de Investigación y Sujetos Humanos (704-687 -1871).

He leído la información de este papel de consentimiento. He tenido la oportunidad de hacer preguntas sobre este estudio y sobre la participación de mi hijo en este estudio. Mis preguntas han sido contestadas a mi satisfacción. Tengo por lo menos 18 años de edad, y yo estoy de acuerdo en participar con mi hijo en este estudio. Entiendo que recibiré una copia de este papel después de haber sido firmado por mí y la investigadora principal de este estudio de investigación.

Respetuosamente,

Katie Swart/Estudiante Doctoral — teléfono: 704-756-8468
Universidad de Carolina del Norte en Charlotte — email: kjmccab1@uncc.edu

Vivian Correa, Ph.D./ Profesora responsable — teléfono: 704-687-8849
Universidad de Carolina del Norte en Charlotte — email: vcorrea@uncc.edu

_____
Nombre del Niño (EN LETRA)

_____
Nombre de uno de los Padres (EN LETRA)

_____ _____
Firma de uno de los padres FECHA

_____ _____
Firma de la Investigadora FECHA

Este estudio es aprobado por un año a partir _____
FECHA

APPENDIX E: SUMMARY OF SALT TRANSCRIPT CONVENTIONS

1. Transcript Format. Each entry begins with one of the following symbols. If an entry is longer than one line, continue it on the next line.
$ Identifies the speakers in the transcript; generally the first line of the transcript. Example: $ Child, Examiner
C Child/Client utterance. The actual character used depends on the $ speaker line.
E Examiner utterance. The actual character used depends on the $ speaker line.
+ Typically used for identifying information such as name, age, and context. Example of current age: + CA: 5;7
- Time marker. Example of two-minute marker: - 2:00
: Pause between utterances of different speakers. Example of five-second pause: : :05
; Pause between utterances of same speaker. Example of three-second pause: ; :03
= Comment line. This information is not analyzed in any way, but is used for transcriber comments.

2. End of Utterance Punctuation. Every utterance must end with one of these six punctuation symbols. . Statement, comment. Do not use a period for abbreviations.
! Surprise, exclamation.
? Question.
~ Intonation prompt. Example: E And then you have to~
^ Interrupted utterance. The speaker is interrupted and does not complete his/her thought/utterance.
> Abandoned utterance. The speaker does not complete his/her thought/utterance but has not been interrupted.

3. { } Comments within an utterance. Example: C Lookit {C points to box}. Nonverbal utterances of communicative intent are placed in braces. Example: C {nods}.

4. Unintelligible Segments. X is used to mark unintelligible sections of an utterance. Use X for an unintelligible word, XX for an unintelligible segment of unspecified length, and XXX for an unintelligible utterance.
Example 1: C He XX today. Example 2: C XXX.

5. Bound Morphemes. Words which contain a slash "/" indicate that the word is contracted, conjugated, inflected, or pluralized in a regular manner. The root word is entered in its conventional spelling followed by a slash "/" and then the bound morpheme.
English and Spanish
/S Plural. Words that end in "s" but represent one entity are not slashed.
Examples: kitten/s, baby/s, pants, rana/s, feliz/s, flor/s
English only
/Z Possessive inflection. Examples: dad/z, Mary/z. Do not mark possessive pronouns, e.g., his, hers, ours, yours.
/S/Z Plural and Possessive. Example: baby/s/z

/ED Past tense. Predicate adjectives are not slashed. Examples: love/ed, die/ed, was tired, is bored
/3S 3rd Person Singular verb form. Irregular forms are not slashed. Examples: go/3s, tell/3s, does
/ING Verb inflection. The gerund use of the verb form is not slashed. Examples: go/ing, run/ing, went swimming
/N'T, /'T Negative contractions. Irregular forms are not slashed. Examples: can/'t, does/n't, won't
/'LL, /'M, /'D, /'RE, /'S, /'VE Contractible verb forms. Examples: I/'ll, I/'m, I/'d, we/'re, he/'s, we/'ve

6. Bound Pronominal Clitics (Spanish). Pronominal clitics may be either bound or unbound. When bound, they are preceded by a plus sign. Examples: gritándo+le, déja+lo, dá+me+lo

7. Mazes. Filled pauses, false starts, repetitions, reformulations, and interjections.
( ) Surrounds the words/part-words that fall into these categories. Example: C And (then um) then (h*) he left.

8. Omissions. Partial words, omitted words, omitted bound morphemes, and omitted pronominal clitics are denoted by an asterisk (*).
* Following one or more letters this indicates that a word was started but left unfinished. Example: C I (w* w*) want it.
* Preceding a word indicates that an obligatory word was omitted. Example: C Give it *to me.
/* Following a slash the * is then followed by the bound morpheme which was omitted, indicating the omission of an obligatory bound morpheme. Example: C The car go/*3s fast.
+* Following a plus sign the * is then followed by the Spanish clitic which was omitted, indicating the omission of an obligatory pronominal clitic. Example: C Él está gritándo+*le a la rana.

9. Overlapping Speech. When both speakers are speaking at the same time, the words or silences that occur at the same time are surrounded by angle brackets < >.
Example 1: C I want you to do it < > for me. Example 2: C Can I have that <one>?
E <Ok>. E <Uhhuh>.

10. Linked words. The underscore "_" is used to link multiple words so they are treated as a single word. Examples include titles of movies and books, compound words, proper names, and words or phrases repeated multiple times.

11. Root identification. The vertical bar "|" is used to identify the root word.
English uses: The root words of irregular verb forms such as "went" or "flew" are not identified.
Linked words repeated for emphasis. Examples: C The boy ran very very_very|very fast.
Non-words used in error. C He goed|go[EO:went] by hisself|himself[EW:himself].

Shortened words. C He was sad cuz|because they left.
Spanish uses:
Inflected word forms. Examples: C Había|haber una vez un niño que tenía|tener una rana.
Diminutives. C El perrito|perro tumbó|tumbar las abeja/s.
Linked words repeated for emphasis. C Dijeron rana rana_rana|rana dónde estás.
Non-words used in error.
12. Sound Effects and Idiosyncratic Forms %. The percent sign is used to identify sound effects which are essential to the meaning or structure of the utterance. Non-essential sound effects are entered as comments. Strings of the same sound are linked together. Example 1: C The dog went %woof_woof. Example 2: C The dog barked {woof woof}. The percent sign is also used to identify idiosyncratic forms: non adult-like production of very young children which are consistent in reference to an object, person, or situation. Example 1: C See %vroom {car}. Example 2: C My %coopa {cookie}.

13. Spelling Conventions.
 Filled pause words: AH, EH, ER, HM, UH, UM, and any word with the code [FP]
 Yes words: OK, AHA, MHM, UHHUH (*English & Spanish*)
YEAH, YEP, YES (*English only*)
SÍ (*Spanish only*)
 No words: NO, AHAH, MHMH, UHUH (*English & Spanish*)
NAH, NOPE (*English only*)
 Numbers (*examples*): 21 or TWENTYONE, 17 or DIECISIETE
 Reflexive vs Non-reflexive pronouns (Spanish only)
The following pronouns can be used both reflexively and non-reflexively: ME, TE, SE, OS, NOS. Attach the code [X] when used reflexively. Examples: C El niño se[X] fue con el perro. C El perro me ayudó a conseguir la rana.
 Concatenatives: GONNA, GOTTA, HAFTA, LIKETA, OUGHTA, SPOSTA, TRYNTA, WANNA, WHATCHA
 Other English spellings:
AIN'T HMM NOONE OURS
ALOT HUH NOPE OH, OOH
DON'T LET'S OOP, OOPS, OOPSY UHOH

14. [ ] Codes. Codes are used to mark words or utterances. Codes are placed in brackets [ ] and cannot contain blank spaces. Codes used to mark words are inserted at the end of a word with no intervening spaces between the code and the word.
 Codes used to mark errors in the reference database samples:
[EO:__] marks overgeneralization errors C He falled|fall[EO:fell].
[EW:__] marks other word-level errors C He were[EW:was] look/ing.
[EU] marks utterance-level errors C And they came to stop/ed [EU].
Bilingual databases only
[EW] marks extraneous words C And then the boy is a[EW] sleep/ing.
 Other codes used in the reference database samples:
[FP] marks non-standard filled pause words C The dog (um like[FP]) fell down.
[SI-0], [SI-1], etc. used for subordination index coding C He came back because he forgot something [SI-2].

Bilingual databases only
[CS] marks code-switched words C The dog fell from la[CS] ventana[CS].
[F] marks fragments due to utterance segmentation using C The gopher look/ed out of the hole.
modified communication units C and bit the boy [F].
[I] marks imitations of vocabulary provided by the examiner C And then the :05 <> owl[I] scare/ed him.
E <Owl>.
[WO] marks utterances with non-standard word order C And then fell down the dog and the boy [WO].
[X] marks Spanish reflexive pronouns C El niño se[X] fue con el perro.

Miller, J.F. (2008) SALT: Systematic Analysis of Language Transcripts [Computer software] Language Analysis Laboratory, Madison, WI.

APPENDIX F: EXAMPLES OF ENGLISH TRANSLATION OF TRANSCRIBED VIDEOS

Dyad 1: Baseline
P What are we going to do?
C Oh look!
C Here.

Dyad 1: Intervention
C One.
C I am going to throw them to you okay?
C Put your hands like this.
C Like this.
P A.
P What is this?
P A.
C A giraffe.
C A plane.
C A red plane.
P And this?
C That's green and they are going to fly.
P A kangaroo.
P Take this.
P Look.
C Okay.
P And now?
P What is this?
C Banana.
C Grape and the last one.
P Oh there it is.
P And this is?
P What is this?
C Sheep (in English).
P A little sheep.
P And this is?
C Duck, duck (in English).
P A duck.
C A duck.
P And this is?
P A mini.
C Sheep (in English).
P A mini sheep.
P Now?
P What's that?
P Look for something else.

C Which do you want?
P Whichever you want.
C I want this.
P What's that?
P How do you play this?
C Like this.
C To look for the red.
P To look for the red?
C You are.
P The blue.
P Like your pants.
C And the color yellow.
P There's paper.
C No.
P Yes.
P Yellow?
C Oh there is over there.
P Red?
C Look.
P Your shoes?
C Something red?
C Oh that, oh!
C I tricked you!
C Something blue.
P Something blue?
P The seat.
P I got you!

APPENDIX G: PARENT INSTRUCTION SESSION SCRIPT

1. Ask “Why should we play with young children?” Provide a brief overview of the benefits of shared play.
    - Play is the work of a young child. It has several benefits. When young children play they build their problem solving skills, language, and imagination. Play promotes social skills, physical development, and helps children express their emotions.
2. The bilingual trainer will introduce the dialogic play sharing method and discuss its benefits.
    - The program is called *Language is the Key* and its training model addresses six major areas: Early language, literacy and play development, bilingual language development, family involvement, language facilitation, cultural relevance, and adult learning. The program teaches parents and teachers how to: prepare children for literacy and learning, enhance language development, encourage positive parent-child interactions and is easy-to-learn, easy-to-use, effective, and engaging.
3. Show the *Language is the Key: Play and Talk* DVD demonstrating the shared play intervention.
4. Pause the video after each strategy and ask questions.

5. The bilingual trainer will describe the dialogic play strategies (CARRO).

6. A handout with the CARRO acronym will be provided to the parents

Comment and Wait. Describing what the child is doing during play, then pausing to allow time for a response is an effective way to elicit language. Children need time to think and code their thoughts into language, so it is important for adults to give children at least 5 seconds to respond after they make a comment or ask a question. A longer wait-time also lets the child know the adult is interested in what the child has to say.

Ask Questions and Wait. Adults use two major types of questions to encourage children to talk or respond: open-ended and closed questions. Closed questions are those questions that require a yes-no answer, a pointing response, or a one- or two-word label. Asking a child "What are you playing with?", "Can you give me the horse?" or "What color is the doll's hat?" are examples of closed questions. Remember to wait.

Open-ended questions generally require a more complex response and may require additional "thinking time" on the part of the child to formulate their response. Open-ended questions tend to elicit full sentences or even several sentences. "What is the car going to do after it crosses the bridge?", "What's going to happen next?", or "Why did the little kitten hide under the box?" are examples of open-ended questions. Remember to wait.

Respond by adding a little more. Expanding what a child says helps build language. The adult repeats what the child says and then expands the utterance with one or two new words. This allows the child to hear the next level of difficulty. For example,

if the child says "ball", the adult says "ball, big ball." This reinforces the child's talking, gives her the support for the next level of complexity and provides new information.

Repeat again in Spanish. "Repeat again in the home language" is a strategy for families who speak a language other than English at home. Children who are learning two languages simultaneously frequently mix the two languages. The "Repeat again in the home language" strategy encourages parents to repeat mixed phrases entirely in the heritage language. For example, if a child says, "Yo veo el shark." the parent or teacher would repeat the phrase entirely in Spanish: "Yo veo el tiburon." Repeating the phrase in Spanish helps build the child's vocabulary and language skills.

7. A verbal or written (depends on parent preference) assessment of understanding was conducted wherein the parent identifies the four components of the dialogic play strategies and provide an example for every one of the four strategies of CARRO. Parents will be required to get seven out of the eight items correct before proceeding with the intervention phase of the investigation. Parents that do not obtain a score of 88% (7/8) will participate in a coaching session.

Assessment of Understanding

- Identify the four components of the dialogic play strategies

1. _____

2. _____

3. _____

4. _____

- Provide an example of each strategy

1. _____

2. _____

3. _____

4. _____

Score: ___/8

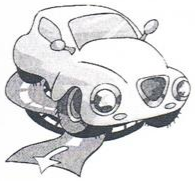
APPENDIX H: CARRO HANDOUT

(Cole, Maddox, Lim, & Notari-Syverson, 2006)

Siga el liderazgo del niño

Hay cuatro pasos muy simples.
Cuando usted usa estas estrategias, los niños
empiezan a hablar mas y usan palabras nuevas.

***C**ommente y espere.*
***A**verigue—haga preguntas y espere.*
***R**esponda agregando un poco más.*
***R**epita...*
***O**tra vez en español.*



CARRO

Language is the Key
Washington Learning Systems

APPENDIX I: LIST OF TOYS

- Real-Life Toys
  - Toy phones
  - Farm animals
  - Cars/trucks/trains
  - Pretend food
  - Medical kit
  - Puzzle
  - Watering can
  - Dinosaurs
  - My little pony
  - Frogs on lily pads
  - Real bugs discovery kit

- Toys for Creative/Emotional Expression
  - Playdough
  - Markers
  - Plain paper
  - Soft foam ball
  - Small assortment of building blocks, legos, and sticks
  - Musical instruments (maracas, triangle, xylophone)
  - Multicolored animal/fruit counters
  - Gears beginning building set

- Toy Modification (4/9/14)
  - Marine life
  - Airport
  - Airplanes/helicopters
  - Puppets
  - Additional farm animals
  - People

(Landreth, 2012, p. 17)

APPENDIX J: MEASUREMENT OF EMPATHY IN ADULT-CHILD INTERACTION

Measurement Of Empathy In Adult-Child Interaction – Directions For Scoring (pg. 1 of 2)

(Scoring examples are attached)

The MEACI is designed to be used by trained researchers and can be used during observations of live or videotaped filial play sessions. The MEACI has been used to rate empathic interactions of parents, teachers, mentors, and professionals in play session with children. Ratings are made every 3-minute interval and scoring is retrospective within each interval. (*Stover, Guerney, & O'Connell (1971) recommended scoring 5-minute intervals. Bratton (1993) adapted the scoring procedure to code six 3-minute intervals).* Research on the 10-session CPRT/filial therapy model that has used the MEACI followed the procedure of Bratton (1993). Directions for scoring each of the 3 subscales include:

Communication Of Acceptance: During each interval, score the highest level of any verbal response of acceptance made by parent/adult, as well as the lowest level of any verbal response of acceptance made. Record high and low score in the appropriate space on the rating form, then calculate the average response score and record in designated space. Calculate the Total Score by summing the average response score for each interval.

Allowing Child Self-Direction: During each interval, score only the lowest level response made by parent/adult. Calculate the Total score by summing all interval scores.

Involvement: At the end of each interval, score the most characteristic level of involvement for the entire interval. Calculate the Total score by summing all interval scores.

Note: 1 = Highest Score, 5 = Lowest Score

Communication of Acceptance of Child (Score highest and lowest level)	**Allowing Child Self-Direction:** (Score lowest level only)	**Adult's Involvement with Child:** (Score most characteristics level)
1. Verbal recognition of feeling in an accepting way (voice tone matches)	1. Shows willingness to follow child's lead (no indication to the contrary) (ex: solicited praise that child has overtly asked for would not detract from 1)	1. Full attention to child, watches child as well as activity child is engaged in. Where child shows mood, parent gives no indication of being unaware of this (joint participation or endeavors with the child where the parent concentrates heavily on the activity does not detract from a l, e.g., in role playing, certain games, etc.)
2. Verbal recognition of behavior only (in an accepting way)	2. Child has option for lead-taking. Follows child's leads but mitigates in some way (e.g., invitations, suggestions with choice genuinely left to the child, gives solicited aid or instructions, gives unsolicited praise, volunteers information, asks for information)	2. High level of attention, but parent concentration almost exclusively on activities, per se, rather than child.
3. Social conversation or no conversation	3. Parent takes lead without giving child an option (e.g., unsolicited instruction on how to do or accomplish something, "teaching," praise accompanying a suggestion, question with intent to guide the child)	3. Marginal attention. Involved in own activity to a degree that partially interferes with attention to child. Not "providing company."
4. Slight or moderate verbal criticism stated or strongly implied	4. Directs or instructs child to do something (no previous sign of inertia or resistance shown by child); initiating new activity	4. Partially withdrawn or preoccupied (but responds promptly when alerted or questioned by child)
5. Verbal criticism: argumentative "preaching," openly rejecting feelings or behaviors, abusive. (stronger voice tone)	5. Persuades, cajoles, demands, pushes (implicit is resistance, other involvement, or inertia on the part of the child, which the parent is seeking to overcome); interrupting or interfering in child's activity other than to end the session. Insisting on new activity.	5. Completely preoccupied, self-involved, or shut off (child ignored, must repeat or prompt to get responses from)

This form was developed by Bratton, S. (1993) from information obtained from Stover, L., Guerney, B, & O'Connell, M. (1971) and personal communication with Dr. Louise Guerney (April 12, 1992).

MEASUREMENT OF EMPATHY IN ADULT-CHILD INTERACTION (MEACI)

Rating Form

Rater:	Video Tape Code #:

Communication of Acceptance: Verbal and non-verbal expression of acceptance/rejection

1. Verbally and Non-Verbally Conveys Acceptance of Feelings: *You're proud of..., You really like..., That makes you angry...(voice tone matches)*
2. Verbally Recognizes & Accepts Behavior Only (tracking, giving credit): *You got it that time, You're hitting the..., You really stabbed...*
3. Social or No Conversation: *Mothers aren't very good at that. These are nice toys.*
4. Slight to Moderate Verbal Criticism: *No, not that way. You'll have to be more careful. That's cheating. You'll ruin the paints.*
5. Strongly Critical/Preaching/Rejecting: *(Stronger voice tone) I told you to do it the other way. How stupid! It's not nice to say..., You're being a brat.*

Allowing the Child Self-Direction: Behavioral willingness to follow the child's lead (rather than control the child's behavior)

1. Follows the Child's Lead (no verbal comment necessary): *You'd like me to..., I'm supposed to..., Show me what you want me...(whisper technique.)*
2. Allows Child Option for Lead-Taking but asks/volunteers info, gives praise: *What shall we do? "Good." You can shoot this. You did it right.*
3. Adult Takes Lead (teaching child how to do): *Are you sure that's how..., See if you can do..., Take your time and aim, it might work better...*
4. Directs or Instructs Child (initiates new activity): *Put the doll away first. Why don't you..., Let's play..., Don't put the...*
5. Persuades, Demands, Interrupts, Interferes, Insists: *No, take this one, That's enough, I told you not to..., Give me that!*

Involvement: Adult's attention to and participation in the child's activity (may not always contribute in a positive way)

1. Fully Observant (more attention to child than to objects being used): *involved verbally and with "eyes" (and physically, when invited by child)*
2. High Level of Attention (attention to activity rather than child): *adult is more involved in activity than attending to child's response/behavior*
3. Marginal Attention: *no joint activity, adult involved in own activity to degree that it interferes with attentiveness, occasionally responds to child*
4. Partially Withdrawn/Preoccupied: *infrequently observes but doesn't comment, fails to attend to child's needs but responds when asked by child*
5. Self-Involved/Shut Off: *child ignored for prolonged period, child must repeat or prompt to get a response*

Directions For Scoring: Rating is made every 3-minute interval for a minimum of 6 intervals: Scoring is retrospective.
(Highest score = 1; Lowest score = 5)

Communication of Acceptance	1	2	3	4	5	6	Total Score
Score Highest Level Response							
Score Lowest Level Response							
Average Response Score							
Comments:							

Allowing Self Direction	1	2	3	4	5	6	Total Score
Score Lowest Level Response							
Comments:							

Involvement	1	2	3	4	5	6	Total Score
Score Most Characteristic Level							
Comments:							

Total Empathy Score	Grand Total Score:
Additional Notes:	

This form was developed by Bratton, S. (1993) from information obtained from Stover, L., Guerney, B., & O'Connell, M. (1971) and personal communication with Dr. Louise Guerney (April 12, 1992).

APPENDIX K: DIALOGIC PLAY COACHING SESSION

1. Introduce yourself and purpose of your visit.
2. Refer to the CARRO handout and acknowledge the work the parent has already accomplished (e.g. use of C and A strategies of CARRO for both children).
3. Explain that you will model the strategies with their child and allow them to ask any questions they may have.
4. Prompt the child to choose a toy of their preference.
5. Join the child at the table with their parent.
6. Follow the child and begin the modeling and use of CARRO Strategies.
    a. For some parents the coach may need to stress the use of wait time when commenting and asking questions, as well as the less used strategies of Respond by adding a little more and repeating the word/phrase in Spanish.
7. Upon conclusion of the dialogic play coaching session, review the CARRO strategies and how you used them.
8. Ask the parents if they have any questions and thank them for participating in the coaching session

APPENDIX L: LIST OF TOYS PER PLAY SESSION FOR EACH DYAD

Dyad 1: Ana/Juan

Baseline
Session 1: Small wooden colored blocks
Session 2: Small wooden colored blocks
Session 3: Cars and trucks
Session 4: Small wooden colored blocks
Session 5: Small farm animals with a fence; the small wooden colored blocks

Intervention
Session 1: Playdough; plastic sticks with connectors
Session 2: Small plastic square counters with counting tray
Session 3: Catapult; plastic colored animal and fruit counting manipulatives
Session 4: Catapult; plastic colored animal and fruit counting manipulatives
Session 5: Plastic connectors with wheels
Session 6: Colored plastic ball connectors
Session 7: Frogs on lily pads counters; magnifying glasses
Session 8: Frogs on lily pads counters; magnifying glasses
Session 9: Catapult; plastic colored animal and fruit counting manipulatives
Session 10: Airport with airplanes, helicopters, and people; plastic connectors with wheels
Session 11: Catapult; plastic colored animal and fruit counting manipulatives; farm animals; frogs on lily pads counters
Session 12: Frogs on lily pads counters; magnifying glasses
Session 13: Puppets; small wooden colored blocks
Session 14: Airport with airplanes, helicopters, and people; catapult; plastic colored animal and fruit counting manipulatives

Generalization
Session 1: Plastic car ramp
Session 2: Monsters INC. plastic connectors

Maintenance
Session 1: Farm with animals; pegs and pegboard

Dyad 2: Martina/Emilio

Baseline
Session 1: Plastic sticks with connectors
Session 2: Plastic sticks with connectors
Session 3: Plastic sticks with connectors
Session 4: Train; small plastic square counters with counting tray
Session 5: Plastic sticks with connectors

Session 6: Gears beginning build set; cars and trucks
Session 7: Plastic house; plastic colored animal and fruit counting manipulatives

Intervention
Session 1: Cars and trucks
Session 2: Small plastic square counters with counting tray
Session 3: Cars and trucks; wooden memory game
Session 4: Legos
Session 5: Colored plastic ball connectors
Session 6: Wooden memory game
Session 7: Airport with airplanes, helicopters, and people
Session 8: Colored popsicle sticks
Session 9: Real bugs discovery kit; magnifying glass
Session 10: Airport with airplanes, helicopters, and people
Session 11: Airport with airplanes, helicopters, and people

Generalization
Session 1: Chessboard
Session 2: Chessboard

Maintenance
Session 1: Farm with animals

Dyad 3: Manuela/Joaquin

Baseline
Session 1: Small wooden colored blocks
Session 2: Small wooden colored blocks
Session 3: Plastic sticks with connectors
Session 4: Colored popsicle sticks; plastic connectors with wheels
Session 5: Markers and paper
Session 6: Markers and paper
Session 7: Plastic sticks with connectors
Session 8: Markers and paper
Session 9: Small wooden colored blocks

Intervention
Session 1: Airport with airplanes, helicopters, and people
Session 2: Airport with airplanes, helicopters, and people
Session 3: Airport with airplanes, helicopters, and people
Session 4: Cars and trucks
Session 5: Airport with airplanes, helicopters, and people
Session 6: Airport with airplanes, helicopters, and people; small wooden colored blocks
Session 7: Plastic sticks with connectors
Session 8: Plastic colored animal and fruit counting manipulatives
Session 9: Airport with airplanes, helicopters, and people

Generalization
Session 1: Plastic shape magnets
Session 2: Bristle blocks

Maintenance
Session 1: Wooden tracks with trains and other props

APPENDIX M: PROCEDURAL FIDELITY

Dyad: Date:

Does the instructor provide a brief overview of the benefits of shared play ("Why should we play with young children?" was offered)	YES	NO
Does the instructor introduce the dialogic play sharing method and discuss its benefits?	YES	NO
Does the instructor show the *Language is the Key: Play and Talk* DVD demonstrating the shared play intervention?	YES	NO
Does the instructor pause the video and see if the parent has any questions regarding each CARRO strategy?	YES	NO
Does the instructor describe the dialogic play strategies (CARRO)?	YES	NO
Does the instructor provide a handout with the CARRO acronym to the parents?	YES	NO
Does the instructor allow the parent to ask questions?	YES	NO
Does the instructor ask the parent to provide a verbal of understanding of the four dialogic play strategies?	YES	NO

APPENDIX N: PARENT'S SOCIAL VALIDITY CHECKLIST

The purpose of this survey is to learn more about your impressions of this intervention. Read each statement carefully. After each statement you will see five possible options that determine your level of agreement or disagreement about each statement. Please circle the option that best describes your feelings about the statement. Circle only one phrase for each statement.
Please be sure to answer every item.

Parent: _____ Date: _____

1. My child enjoyed participating in the dialogic play session with me (parent).

Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
1	2	3	4	5

2. Improving vocabulary and language development in Spanish is important for my child.

Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
1	2	3	4	5

3. The Spanish oral language skills of my child have improved after participating in the dialogic play sessions.

Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
1	2	3	4	5

4. I would like to use the dialogic play strategies in the future.

Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
1	2	3	4	5

5. Other parents might be interested in learning the dialogic play strategies.

Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
1	2	3	4	5

APPENDIX O: SPANISH PARENT'S SOCIAL VALIDITY CHECKLIST

El objetivo de esta encuesta es conocer más acerca de sus impresiones de esta intervención. Lee cada declaración con atencion. Después de cada declaración, verá cinco posibles opciones que determinan su grado de acuerdo o desacuerdo acerca de cada declaración. Por favor círculo la opción que mejor describe sus sentimientos acerca de la declaración. Círculo sólo una frase para cada declaración.
Por favor asegúrese de responder a cada tema.

Padre: _____ Fecha: _____

1. Mi hijo disfrutó de las sesiones de juego dialógicas conmigo.

Muy de acuerdo	Acuerdo	Neutral	En desacuerdo	Muy en desacuerdo
1	2	3	4	5

2. Mejorar vocabulario y desarrollo de la espanol es fundamental para mi hijo.

Muy de acuerdo	Acuerdo	Neutral	En desacuerdo	Muy en desacuerdo
1	2	3	4	5

3. Las habilidades de lenguaje oral en espanol de mi hijo han mejorado después de participar en las sesiones de juego dialógicas.

Muy de acuerdo	Acuerdo	Neutral	En desacuerdo	Muy en desacuerdo
1	2	3	4	5

4. Me gustaría utilizar las técnicas de juego dialógicas en el futuro.

Muy de acuerdo	Acuerdo	Neutral	En desacuerdo	Muy en desacuerdo
1	2	3	4	5

5. Otros padres podrían estar interesados en aprender las técnicas de juego dialógicas.

Muy de acuerdo	Acuerdo	Neutral	En desacuerdo	Muy en desacuerdo
1	2	3	4	5