



VCU

Virginia Commonwealth University
VCU Scholars Compass

Theses and Dissertations

Graduate School

2016

Investigating the Effects of a Parent-Mediated Intervention on Latino Parent-Child Verbal Interaction and Children's Receptive Vocabulary

Patricia G. Onorato
Virginia Commonwealth University

Follow this and additional works at: <https://scholarscompass.vcu.edu/etd>

 Part of the [Bilingual, Multilingual, and Multicultural Education Commons](#), [Developmental Psychology Commons](#), [First and Second Language Acquisition Commons](#), [Latin American Studies Commons](#), and the [Reading and Language Commons](#)

© Patrica G. Onorato 2016 All Rights Reserved

Downloaded from

<https://scholarscompass.vcu.edu/etd/4600>

This Dissertation is brought to you for free and open access by the Graduate School at VCU Scholars Compass. It has been accepted for inclusion in Theses and Dissertations by an authorized administrator of VCU Scholars Compass. For more information, please contact libcompass@vcu.edu.

© Patrica G. Onorato 2016
All Rights Reserved

INVESTIGATING THE EFFECTS OF A PARENT-MEDIATED INTERVENTION ON
LATINO PARENT-CHILD VERBAL INTERACTION AND CHILDREN'S
RECEPTIVE VOCABULARY

A Dissertation submitted in fulfillment of the requirements of the degree of Doctor of Philosophy
at Virginia Commonwealth University

by

Patricia Giuffra Onorato, Ed.S., NCSP
Bachelor of Arts, Pontifical Catholic University of Perú 1996
Master in Special Education, Hampton University, 1997
Educational Specialist in School Psychology, College of William and Mary, 2003

Director: Yaoying Xu, Ph.D.
Professor, Counseling and Special Education

Virginia Commonwealth University
Richmond, Virginia
November, 2016

Acknowledgment

The members of my committee have been with me from the beginning of this journey. Their guidance and support helped me every day to get to the finish line. I want to thank Dr. Evelyn Reed, my advisor, who always had the most interesting and motivating questions, insightful feedback, and positive points of view. I also want to thank Dr. Yaoying Xu, my dissertation chair, whose knowledge, expertise, advice, and dark chocolate made this study possible. I appreciate Dr. Chin-Chih Chen and Dr. Sarah Price for introducing different perspectives to my study, answering numerous questions, and empowering me to continue searching for answers.

Although not part of my committee, I want to thank Dr. Tom Farmer who listened to my original research question, quietly smiled, politely explained that it would take my entire career as a researcher to answer that question, and pushed me to think again and reframe it.

I am thankful for Katie McCaughey, my second data observer, who took breaks from her Marathon trainings to instead, get trained to watch videos and code for me; and to Christina Manikus at the Sacred Heart Center in Richmond who helped me finding interested families.

The real champions in this project were the three Latina mothers and their three sons. I will be forever grateful for letting me enter their homes and their lives. They shared precious as well as difficult moments with me and trusted me from the moment we met.

I could not have spent the endless hours studying and writing for this endeavor without the company and encouragement of my fellow doctoral students, private ESL tutors, hard working mothers, and friends Katie Best and Serra DeArment. We did it ladies.

I also want to acknowledge the Bowmer family and the Thomasson family, without their friendship, support, love for my family, and frequent babysitting help I could not have been able to leave for hours and days to work on this massive project.

Dedication

This dissertation is dedicated to my family. To my mom who has always been my number one fan and continues to show me what unconditional love is; to my dad who taught me to always question established constructs and contemplate novel ideas, and who kept pushing me to stay awake working at night when he was just waking up on the other side of the world; to my grandfather who put Academia in my horizon since I was a little girl; to the entire Onorato clan for always rooting for me; and to the Zapatero family for always being there.

This dissertation is specially dedicated to Mike, Bianca, and Luca. To my husband, Mike, who jumped on this adventure with both feet and never doubted that we could get it done. You are my balance when insanity attempts to take over, thank you for all the weekends that you gave me to work on my goal, I could not have done it without your love. To my daughter Bianca, for your patience, understanding, and the most loving drawings and little notes of support I could have ever received... “Just keep working.” To my son Luca, for your sweet hugs and kisses when I needed them the most. I hope that the two of you grow up believing in yourselves as much as you believe in me, and always reach for your goals.

Table of Contents

List of Tables.....	x
List of Figures.....	xi
ABSTRACT.....	xii
I. INTRODUCTION.....	1
Statement of the Problem.....	3
Rationale for Study of Problem.....	4
Statement of Purpose.....	6
Literature/Research Background.....	6
Research Questions.....	7
Methodology.....	8
Definition of Terminology.....	10
Summary.....	12
II. REVIEW OF LITERATURE.....	14
Conceptual Framework	15
Search Methods.....	16
Language Development.....	17
Family role in language development.....	18
Socioeconomic status and language development.....	21

Language development and second language acquisition.....	23
Language development and early literacy.....	25
Parent-Mediated Interventions.....	30
Intervention.....	34
Summary.....	37
III. METHODOLOGY.....	38
Research Design.....	39
Settings.....	40
Participants.....	40
Data Collection.....	42
Dependent Variables.....	43
Instruments.....	43
Observation protocol.....	43
Parent component.....	43
Child component.....	44
The Bracken School Readiness Assessment, 3 rd edition, Spanish edition.....	44
Intervention.....	45
Language is the Key.....	45
Phases.....	47
Baseline condition.....	47
Intervention condition.....	48
Data Analysis.....	49

Interrater Reliability.....	50
Treatment Fidelity.....	51
Social Validity.....	51
Limitations.....	51
IV. RESULTS.....	53
Research Question 1.....	54
Research Question 2.....	55
Overall results.....	56
Children’s total verbalizations (initiation, questions, and responses).....	58
Children’s statements (initiations and responses).....	60
Children’s initiations.....	62
Children’s questions.....	64
Parents’ total verbalizations (initiation, questions, and responses).....	66
Parents’ statements (initiations and responses).....	68
Parents’ initiations.....	70
Parents’ questions.....	72
Research Question 3.....	74
Receptive vocabulary.....	74
Treatment Fidelity.....	76
Social Validity.....	76
Summary of Results.....	77
V. DISCUSSION.....	79

Socioeconomic Status, Language Development, and Young English Learners.....	80
Research question 1.....	80
Parent-Mediated Interventions.....	81
Research question 2.....	81
Language Development and Early Literacy.....	84
Research question 3.....	84
Study Implications.....	85
Future Research.....	87
Study Limitations.....	89
Extraneous variables.....	89
Videotapes.....	90
Young children.....	90
Treatment Fidelity.....	91
Social Validity.....	91
Summary.....	92
LIST OF REFERENCES.....	93
APPENDICES.....	100
Appendix A: Recruitment Flyer.....	101
Appendix B: Observation Protocol.....	102
Appendix C: Bracken School Readiness Assessment, 3 rd edition, Spanish.....	105
Appendix D: Language is the Key Synopsis.....	106
Appendix E: Testing Consent/Participation Agreement.....	108

Appendix F: Participants Demographic Information.....	112
Appendix G: Initial Interview.....	114
Appendix H: Literacy Ideas Handout.....	115
Appendix I: Strategies Handouts.....	116
Appendix J: Fidelity Checklist.....	118
Appendix K: Social Validity Questionnaire.....	122
VITA.....	123

List of Tables

1. Demographic Information.....	42
2. Pre and Post Receptive Vocabulary.....	73
3. Pre and Post School Readiness Skills Standard Scores.....	74
4. Pre and Post Percentage Growth by Area.....	75

List of Figures

1. From L1 development to L2 literacy.....	15
2. Parent-child verbal interactions graph.....	57
3. Children’s total verbalizations graph.....	59
4. Children’s statements graph.....	61
5. Children’s initiations graph.....	63
6. Children’s questions graph.....	65
7. Parents’ total verbalizations graph.....	67
8. Parents’ statements graph.....	69
9. Parents’ initiations graph.....	71
10. Parents’ questions graph.....	73

Abstract

INVESTIGATING THE EFFECTS OF A PARENT-MEDIATED INTERVENTION ON LATINO PARENT-CHILD VERBAL INTERACTION AND CHILDREN'S RECEPTIVE VOCABULARY

By Patricia Giuffra Onorato, Ph.D.

A Dissertation submitted in fulfillment of the requirements of the degree of Doctor of Philosophy
at Virginia Commonwealth University

Virginia Commonwealth University, 2016

Director: Yaoying Xu, Ph.D.

Professor, Department of Counseling and Special Education

This study aimed to investigate parent-child verbal interactions in Spanish in a group of Latino preschoolers growing up in the United States through a parent-mediated program at home, and the effects of the program on their receptive vocabulary in Spanish. A single subject multiple baseline across participants design was used in the study. The participants were 3 Latino mothers and their sons, with low family income, living in the United States. The intervention taught the mothers strategies to enhance their children's language through a sharing-book activity. The study lasted for 6 weeks during which baseline and intervention conditions

data were collected through videotapes of the Dyads' mealtimes. The results of the study showed that their verbal interactions were functional, brief, and typically not extended to children's activities. The number of verbal interactions increased for 2 of the 3 Dyads from baseline to intervention condition and decreased for 1 of them. The children's receptive vocabulary and school readiness skills increased after the intervention as showed by pre and post intervention assessments. The social validity survey suggested that Latina mothers found the project beneficial since, it not only increased their children's interest in books, but also their own motivation to share books with them. Research and practical implications were discussed.

Chapter I

Introduction

The role that parents play in their children's language development has been studied for many years. Researchers have found that the quantity and quality of language exposure vary from child to child, and these differences influence the level of language skill eventually achieved (Elliot, 1999; Farver, Xu, Lonigan, & Eppe, 2006; Farver, Xu, Eppe, & Lonigan, 2013; Hart & Risley, 1995; Hart & Risley, 1999; NRC, 2000). Researchers with different perspectives about language development agree that environment and children's predisposition to learn the language play a central role; however, they also emphasize the importance of the infant's verbal interactions with caregivers (Vukelich, Christie, & Enz, 2008). Vygotsky (1978) described this interaction with caregivers as facilitating the child's language growth and explained that learning should be matched with the child's developmental level. He differentiated the *actual developmental level* from the *zone of proximal development*: the *actual developmental level* defines functions that have already matured, allowing a child to complete certain activities independently; while the *zone of proximal development* defines those functions that are in process of maturation. The *zone of proximal development* "is the distance between the actual developmental level as determined by independent problem solving and the level of potential development as determined through problem solving under adult's guidance or in collaboration with more capable peers" (Vygotsky, 1978, p. 86).

The National Center for Educational Statistics's review of 2013 data (2016) showed that enrollment in public elementary and secondary schools between fall 2014 and fall 2025 is projected to decrease for White students from 25.0 million in 2014 to 23.5 million in 2025, fluctuate for Black students around 7.8 million, increase for Latinos from 12.7 million to 14.7 million, and increase for Asians/Pacific Islanders from 2.6 million to 3.1 million. Many Latino children growing up in the United States develop a home language (L1) prior to starting Kindergarten. Establishing a strong L1, in this case Spanish, is difficult because they are also exposed to a second language (L2), English, through informal experiences at home and in the community. They do not have full exposure to either language, making their L1 limited and L2 under developed. When they enter Kindergarten, the amount and quality of exposure to English language significantly increases and so does the need to use it fluently in order to be academically successful. At the meantime, research has shown that L1 development has an important role in L2 acquisition (Cummins, 1980). According to Cummins (1980), the cognitive/academic aspects of L1 and L2 are interdependent, and the development of proficiency in L2 is partially a function of the level of L1 proficiency at the time when the intensive exposure to L2 begins.

In the context of United States education, English is the second language for many Latino children entering Kindergarten and is a foundation for literacy development and school success. However, many dual language learners (DLLs) growing up in the United States are at-risk for poor educational outcomes due to the limited exposure to either L1 or L2 and the fact that oral language serves as the foundation for later literacy skills. Ford (2010) stated that alphabet knowledge, phonological awareness, print knowledge, and vocabulary have been identified as

early literacy skills that are robust predictors of children's later literacy achievement in the native language and in a second language; however, research has shown that those are weak skills for many Latino English Learners (ELs) entering and finishing preschool when compared with monolinguals (Cárdenas-Hagan, Carlson, & Pollard-Durodola, 2007; Castro, Paez, Dickinson, & Frede, 2011; Espinosa & López, 2007; Hammer, Jia, & Uchickoshi, 2011; Huennekens, 2009). The sizes of DLLs' Spanish and English vocabularies vary significantly; resulting from differences in the amount of input they receive in the two languages, the amount of time they are read to, and parental educational levels.

Statement of the Problem

Studies have suggested that differences in vocabulary development manifest early in a child's life and seem most closely correlated to a variety of risk factors associated with low socioeconomic status (SES) (Hart & Risley, 1995; Hart & Risley, 1999; Odom, Pungello, & Gardner-Neblett, 2012; O'Hara & Pritchard, 2010). Children from low SES families seem to have limited quantity and quality of linguistic input, when compared to children from wealthier families (Pruitt & Oetting, 2009; Nelson, 2010). Data showed that 34 percent of Latino children under the age of 18 were in families living in poverty, and Spanish speaking children learning English as a second language during the preschool years are the most likely of all preschool children to live in poverty and to have a mother or guardian without a high school education (Espinosa & López, 2007; NCES, 2014). Even though the seminal study conducted by Hart and Risley (1995) in the United States did not focus on ELs, studies of language development conducted in other countries showed similar results. For example, research studies in Lima, Perú showed that preschoolers from low SES performed lower than students from middle and high socioeconomic

status in measures of oral vocabulary and language comprehension (Arenas, 2012; Giuffra, 2000.) Based on the existing literature in and out of the U.S., we hypothesized that for Latino children living in low SES in the United States, the exposure to words per hour is similar to that of their monolingual peers growing up in low SES in the United States. Considering the conceptual framework of language interdependency in the process of second language acquisition (Cummins, 1980), it is fair to expect that children with low vocabulary development in L1 may struggle learning vocabulary in L2, that is, English.

The NCES (2014) reported in the Condition of Education publication that great percentages of English Learners (ELs) in our schools are still falling behind. Several factors may be influencing this outcome; some of them are that many Latino children are growing up in poverty, and their native language development, by the time they enter Kindergarten, is behind their native English-speaking peers. These data indicate that the diversity of cultures and languages entering public schools continues to grow, and considering the achievement demands that children have now starting in Kindergarten, it is not surprising that many ELs are falling behind.

Rationale for Study of the Problem

The NCES (2014) reports showed that ELs are constantly at risk for poor academic outcomes. Statistics have consistently showed that Latino children begin Kindergarten with school readiness skills behind those of their monolingual peers and their academic skills remain behind throughout their academic careers as high school status dropout rates are higher for ELs than their monolingual peers, and college attendance rates are lower than their monolingual peers (NCES, 2014). The achievement gaps between ELs and non-ELs students in the National

Assessment of Educational Progress reading assessment in 2013 were 38 points at the 4th-grade level, 45 points at the 8th-grade level, and 53 points at the 12th grade level; 5.4 percent of Latino students drop out of school between 9th and 12th grade in 2012; 12.7 percent of Latinos 16-through 24-year-olds were not even enrolled in high school and did not have a high school diploma by October 2012; and only 31 percent of Latino graduates enrolled in college 2 years within graduation (NCES, 2015). Latino ELs begin preschool scoring 1 to 2 standard deviations below monolingual norms in both Spanish and English in their receptive and expressive vocabulary as well as in auditory comprehension and the problem does not stop in the elementary years (Hammer et al., 2011).

The review of the literature on language development has continued to show the importance of parent-child interactions for vocabulary growth (Hart & Risley, 1995, Hart & Risley, 1999; O'Hara, 2010, Vygotsky, 1962). Hart and Risley (1995) studied vocabulary growth rates in children from birth to 3 years old by observing 42 families for 2.5 years. Their data revealed significant differences in the amount and types of interactions between parents and children. The most important difference when comparing the families by SES was the amount of talking the parents did with their children. Children in homes where the parents were professionals heard 382 words an hour, while children raised in homes on welfare heard an average of 167 words an hour (Hart & Risley, 1995). Other studies have corroborated the findings from Hart and Risley (1995), indicating that children from low SES families have been shown to have limited input, in terms of quantity and quality, when compared to children from wealthier families (Pruitt & Oetting, 2009). Conversations in low SES families are often short, do not extend beyond practical concerns, and children from low SES often have very concrete

language and difficulty understanding the abstract, decontextualized language of school (Nelson, 2010). Research has shown that parent-mediated interventions are important for young children's early language and literacy skills development (Hancock, Kaiser & Delaney, 2002; Hart & Risley, 1995; Snow, Barnes, Chandler, Goodman, & Hemphill, 1991; Vukelich, Christie, & Enz, 2008; Vygotsky, 1978); however, limited research has examined the parent-mediated interventions for Latino parents of preschoolers growing up in the United States, and even less research has been done in naturalistic settings such as the child's home.

Statement of Purpose

This study aimed to investigate parent-child verbal interactions in Spanish in a group of Latino preschoolers growing up in the United States through a parent-mediated program at home. The study also examined the effects of a parent-mediated program on their children's receptive vocabulary development in Spanish (L1). The intervention involved a structured story time activity that provided parents with strategies to strengthen their verbal interactions when sharing books with their child.

Literature/Research Background

When aiming for rich language growth, developmental level, parental involvement, and socioeconomic status are important factors to be considered. Language skills begin to develop during infancy and follow similar steps and sequences across languages going from vocalizations, one-word, two-word phrases, and so on; however, the quality and quantity of language exposure vary from child to child, and these differences influence the level of language skill eventually achieved (Elliot, 1999; Farver et al., 2013; Hart & Risley, 1995; IM & NRC, 2000).

Studies have shown that differences in vocabulary development manifest early in a child's life and seem most closely correlated to a variety of risk factors associated with low SES (Hart & Risley, 1995; O'Hara, 2010; Odom, Pungello, & Gardner-Neblett, 2012). Exposure to a second language is also a factor to consider when studying differences in vocabulary development. In the context of U.S. education, English fluency is a foundation for literacy development and school success. Considering that the cognitive/academic aspects of L1 and L2 are interdependent and that the development of proficiency in L2 is partially a function of the level of L1 proficiency at the time when the intensive exposure to L2 begins (Cummins, 1980), it is important to strengthen L1 before children begin attending school. Hammer et al. (2011) stated that oral language serves as the foundation for later literacy skills; therefore, an understanding of language development and second language acquisition of ELs is needed in order to improve their pathway to reading achievement.

Since research has shown that a strong foundation in L1 facilitates the acquisition of L2 (e.g., Cárdenas-Hagan et al., 2007; Cummins, 1980; Hammer et al., 2011), and several perspectives emphasize the importance of the infant's verbal interactions with caregivers (Hancock, Kaiser, & Delaney, 2002; Snow et al., 1991; Vukelich, Christie, & Enz, 2008; Vygotsky, 1978) it is necessary to explore and consider the effects that Latino parental involvement has in their children's native language (L1) development.

Research Questions

By examining parent-child verbal interactions during a structured story time activity this study addressed the following questions:

1. How do Latino parents verbally interact with their children during the day and during mealtimes?
2. What is the effect of a home-based parent-mediated intervention on parent-child verbal interactions?
3. Does a home-based parent-mediated program increase children's receptive vocabulary in Spanish?

Methodology

The study used single subject multiple baseline across participants design. Single subject research is a type of study used to examine whether an intervention has the intended effect on an individual, or on many individuals viewed as one group (Barlow, Nock, & Hersen, 2009; Kennedy, 2005; Rakap & Rakap, 2014; Richards, Taylor, Ramasamy, & Richards, 1999.)

The multiple baseline design helps control for threats to internal validity, such as maturation and test-retest, by having study participants receive multiple baseline observations in a staggered format before using the intervention. The participants are tested with the treatment given at different time points for different individuals, allowing researchers to have a better understanding of whether or not the treatment is effective (Silver-Pacuilla, Brown, Overton, & Stewart, 2011.) Multiple baselines across participants design is an appropriate method to teach children a skill that they cannot “unlearn.” This design is also ethically appropriate because if the intervention is effective, the researcher does not have to withdraw the treatment in order to establish functional relation between the independent variable (IV) and the dependent variable (DV).

Twelve Latino families expressed interest in the study; 5 of them met the criteria and were invited to participate. All of them agreed to participate; however, 2 of the parents were not able to provide videos during the baseline condition and decided to leave the study. Participants who met the following criteria were included in the study:

1. Spanish was the parents' native language
2. Spanish was the primary language spoken at home
3. Family income was under poverty line (by 2015 Census guidelines)
4. Children were between 3-5 years old and had not started attending school in English
5. Children's results from the Bracken School Readiness Assessment - Third Edition – Spanish version (BSRA-3S) were below the average range ($75 \geq SS \leq 89$).

Initially, parents went through an individual information session where the researcher explained the purpose of the study, obtained consent from the parents who expressed interest, and measured the child's receptive vocabulary using the Bracken School Readiness Assessment, 3rd edition, Spanish version, (BSRA-3S) (Bracken, 2007) to obtain mastery percentages as the baseline data. The baseline data for parent-child interactions were established by videotaping each dyad's interactions for ten minutes during mealtimes. The videotapes provided data that were charted in a graphic form and visually analyzed to determine the level, trend variability, and direction (Kennedy, 2005; Richards et al., 1999) of the dependent variable. After one week, the first dyad obtained three baseline data points, and they received the one-hour workshop provided by the researcher. The program *Language is the Key* (Washington Learning Systems, 2006) was used during the workshop. *Language is the Key*, in the Spanish version, uses four strategies summarized as CARRO: **C**omment and wait; **A**sk questions and wait; **R**espond by

adding a little more; **Repeat in Spanish Once** more. Parents received information on how to apply the strategies using books to engage in verbal interactions with their children. Following the workshop, the dyad continued to videotape their mealtimes, for a total of six weeks, to gather information about their verbal interactions. The second dyad received the intervention two weeks into the study with seven baseline data points, and the third dyad received the intervention after three weeks with ten baseline data points. At the end of the six weeks, the children's receptive vocabulary was individually measured again with the BSRA-3S (Bracken, 2007) to determine presence or absence of growth. The parents met with the researcher to complete a questionnaire to address social validity. Social validity is defined as the estimation of the importance, effectiveness, appropriateness, and/or satisfaction various people experience in relation to a particular intervention" (Kennedy, 2005, p. 218). In order to account for treatment fidelity, a one-page handout with the five strategies was provided to each parent and a short questionnaire was reviewed with them weekly to verify they were following all the strategies. The researcher visited the parents once per week; during those visits she gathered the videos and reviewed the treatment fidelity checklist with the parents.

Some of the limitations for this study were the inability to generalize results due to a small sample, the need to rely on parents' self-assessments for treatment fidelity, and changes in home environments and routines.

Definitions of Terminology

- Native language or L1: The main language spoken by the child from birth.
- Second language or L2: The language the child learns once some features of the native language are already established. For this study English is considered the second language.

- Receptive vocabulary: The bank of words that the child is able to understand. For the preschoolers participating in the study, receptive vocabulary was measured by percentage of words they knew using a school readiness inventory.
- Parent-child verbal interaction: The back and forth use of sounds and words to relay a message, request a need, and/or share an experience between a parent and his or her child.
- Parent-mediated interventions: The process by which the adult guides and supports the child's learning by building on what the child is already able to do; it has also referred as scaffolding (Wood, Bruner, & Ross, 1976 as cited in Cole, Maddox, Lim, & Notari-Syverson, 2002).
- English learners (ELs) or English Language Learners (ELLs): Children whose home language is not English or who primarily speak a language other than English in the home (Espinosa & López, 2007).
- Dual language learners (DLL): The office of Head Start defines DLLs as children who acquire two or more languages simultaneously, and learn a second language while continuing to develop their first language. The term "dual language learners" encompasses other terms frequently used, such as limited English proficient, bilingual, English language learners, English learners, and children who speak a language other than English.
- Limited English Proficient (LEP) Student: According to the federal definition described in Public Law (PL) 107-110, the Elementary and Secondary Education Act of 1965 (ESEA), also known as the No Child Left Behind Act of 2001 (NCLB), an LEP student in the Commonwealth of Virginia is a student:

A. who is aged 3 through 21; B. who is enrolled or preparing to enroll in an elementary school or secondary school; C. i) who was not born in the United States or whose native language is a language other than English; and who comes from an environment where a language other than English is dominant; OR ii) (I) who is a Native American or Alaska Native, or a native resident of outlying areas; and (II) who comes from an environment where a language other than English has had a significant impact on the individual's level of English language proficiency; OR iii) who is migratory, whose native language is a language other than English, and who comes from an environment where a language other than English is dominant; AND D. whose difficulties speaking, reading, writing, or understanding the English language may be sufficient to deny the individual i) the ability to meet the State's proficient level of achievement on the State assessments described in section 1111(b)(3) of the ESEA; ii) the ability to achieve successfully in the classrooms where the language of instruction is English; or iii) the opportunity to participate fully in society. [Title IX, Part A, Sec. 901, (25)]

Summary

This study examined the effects of a home-based intervention program for Latino parents of preschoolers growing up in low SES on their verbal interactions with their children. This study also examined the effects of the home-based intervention on the children's Spanish receptive vocabulary. The review of the literature has shown us that: 1) interactions with caregivers facilitate the child's language growth, 2) a well-developed native language eases the process of second language acquisition, 3) children growing up in poverty are exposed to less

quantity and quality of language than children from families with more economic resources, and 4) there is a large amount of Latino children growing up in poverty in the United States. It is the researcher's belief that if parents are informed about, and understand how much influence they have in their children's language development, they will take advantage of the opportunity to make changes that may be beneficial for their children's school success. Approaching the task in a collaborative way, where parents provide input about strategies they see feasible in their daily routines, may decrease the likelihood of dyads attrition.

Chapter II

Review of Literature

Language acquisition is a very important milestone in childhood development as it serves as the foundation for other developmental skills. A well-established native language has been associated with the facilitation of second language acquisition, reading progress, and school success (Cárdenas-Hagan et al., 2007; Cummins, 1980; Hammer et al., 2011); however, great percentages of English learners (ELs) in our schools are still falling behind (NCES, 2014). This review of literature focused on the importance of parental involvement in native language development (L1) in Latino preschool children from low socio economic status (SES) living in the United States (U.S.). L1 development has an important role in second language (L2) acquisition. In the context of the U.S. education, English is the second language for ELs and is a foundation for literacy development and school success. Cummins (1980) explained that the cognitive/academic aspects of L1 and L2 are interdependent, and the development of proficiency in L2 is partially a function of the level of L1 proficiency at the time when the intensive exposure to L2 begins. Hammer et al. (2011) stated that oral language serves as the foundation for later literacy skills; therefore, an understanding of language development and second language acquisition of ELs is needed in order to improve their pathway to reading achievement.

This chapter also presents the search methods and search terms that were used to select relevant research articles for this literature review. The researcher synthesized the literature in

language development as well as the role that parents and socio-economic status play on it, followed by a discussion on the importance of first language development on second language acquisition. Finally the researcher explored naturalistic language intervention approaches including parent-mediated intervention.

Conceptual Framework

The review of the literature has shown that: a) parents play an important role in the development of their children’s vocabulary, b) children from low socio-economic backgrounds are less exposed to rich language from their parents, c) a large number of Latino children growing up in the United States come from low socio-economic status, d) a strong foundation in the native language facilitates the development of a second language, e) second language acquisition (English) is needed for development of literacy, and f) literacy is crucial for school success (Figure 1).

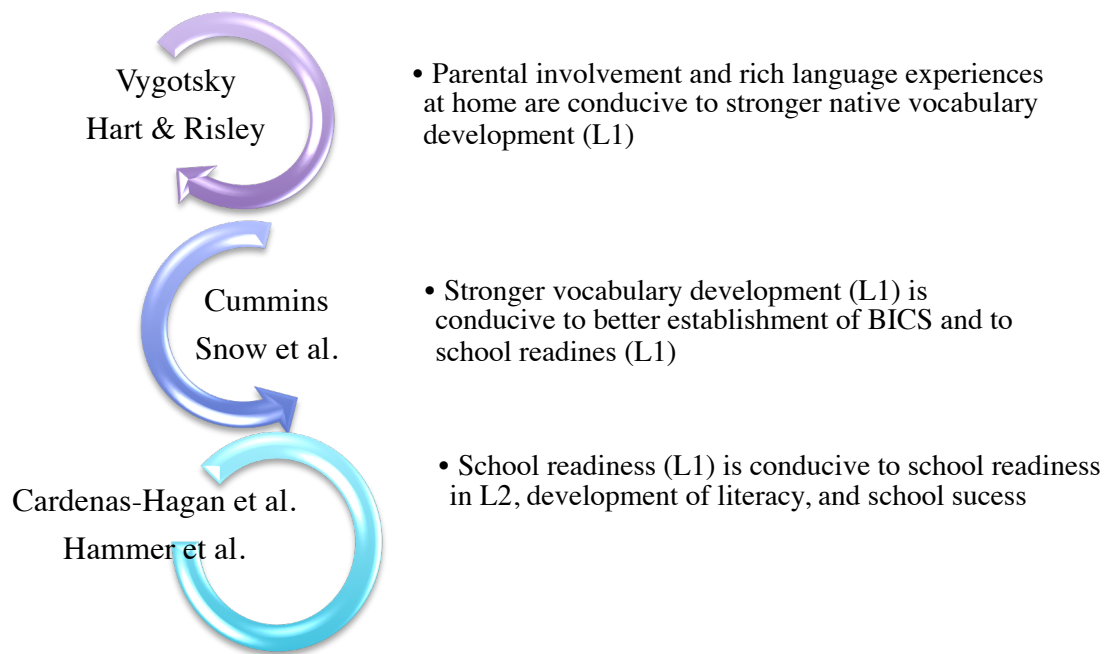


Figure 1. From L1 development to L2 literacy

Search Methods

In order to gather information for this literature review, books, U.S. government's websites, national associations' websites, national institutes' websites, and scholarly journals were searched electronically through library catalogs and educational databases such as ERIC Clearinghouse and PsycINFO.

The snowball method was used to select articles, books, and government reports and to conduct additional search by authors and search terms. Approximately 50 articles were identified; however, 31 were included in this literature synthesis. Twenty-eight articles were peer-reviewed studies and 3 were dissertations from universities in the U.S. and in Lima, Perú. Twenty-nine of the studies presented information on children younger than 5 years old and 2 were about children up to 8 years old. The year of publication of the articles and dissertations ranged from 1977 to 2013, the books ranged from 1962 to 2009, and the government reports from 2000 to 2015. Some of the search terms used were:

- Native language: Language development, verbal interactions, maternal language, receptive language
- Family role and language development, Latino parents, parents belief, family involvement
- Socio-economic status and language development, language development and poverty
- Second language acquisition, cross linguistic transfer, transfer of skills, bilingual children's vocabulary
- Preschool English learners, preschool English language learners, preschool dual learners, preschool bilingual students, Latino preschool children and Head Start programs
- Emergent literacy skills development, oral language and literacy

- Parent-mediated interventions, naturalistic interventions, routine interventions

Language Development

During the first 5 years of life, children's brain growth, language and social-emotional development move rapidly, and all is impacted by both positive and negative experiences (Porter, 2014). The knowledge that children gain by exploring their environment is invaluable; infants and children are able to make sense of their surroundings and learn a great deal from observing the world around them (Pinkham, Kaefer, & Neuman, 2012). In 2000, The National Research Council (NRC) and the Institute of Medicine (IM) established a committee to work on integrating the science of early childhood development in order to update scientific knowledge about the nature of early development and the role of early experiences. The committee concluded that children begin the learning process long before they start attending school; and stated that what is learned at the beginning of life establishes a set of capabilities, orientations to the world, and expectations about the behaviors of things and people who affect the selection and processing of new experiences. Among the many accomplishments that characterize the years from birth to 5, the committee emphasized three domains: 1) Negotiating the transition from external to self-regulation, which includes learning to regulate one's emotions, behaviors, and attention; 2) Acquiring the capabilities that support communication and learning; this includes the early development of language, reasoning, and problem solving; and 3) Learning to relate well to other children and forming friendships which highlights their emerging capacity to trust, to love and nurture, and to resolve conflict constructively.

Even though language and learning seem to be very resilient processes, which will develop independently of environment or culture, the quality of the language children learn

depends on specific features of the environment in which they learn it, such as parents' responses (Hammer et al., 2011; Hart & Risley, 1999; NRC, 2000). Three types of deviations from the norm were identified by the NRC as expected to have effects on the language-learning process: deviations in the environment that affect the quantity or quality of the linguistic input children receive, deviations in the organism that affect the way children process their linguistic input, and deviations in the organism that affect the general ability of the learner. Below are some of the aspects that may positively or negatively influence language development and learning.

When aiming for rich language growth, developmental level, parental involvement, socioeconomic status, and/or the presence of a second language in the home are important factors to be considered. Language skills begin to develop during infancy and follow similar steps and sequences all over the world going from utterances, one-word, two-word phrases, and so on; however, the quality and quantity of language exposure vary from child to child, and these differences influence the level of language skill eventually achieved (Elliot, 1999; Farver et al., 2013; Hart & Risley, 1995; NRC, 2000).

Family role in language development. Different perspectives have explained the way children develop language. They all agree that environment and children's predisposition to learn the language play a central role. However, some perspectives also emphasize the importance of the infant's verbal interactions with caregivers (e.g., Vukelich, Christie, & Enz, 2008). Decades ago, Vygotsky (1978) described this interaction with caregivers as facilitating the child's language growth and explained that learning should be matched with the child's *actual developmental level* as well as with her or his *zone of proximal development*. Research studies nowadays continue to show the importance of interactions with caregivers related to language

development. Researchers for the Campaign for Grade-Level Reading (2015), whose goal is to increase the number of children from low-income families reading proficiently at the end of third grade, reviewed studies and issued a brief about the role of parent-child verbal interactions on language and literacy development. Based on their review they determined that:

- Parent-child verbal interaction is strongly associated with the development of children's vocabulary and emergent literacy skills.
- Parent-child verbal interactions are associated with development of conceptual knowledge (e.g. vocabulary, understanding of narrative and story structure); which together with subsequent development of decoding skills (e.g. phonological awareness, letter knowledge) leads to literacy.
- Researchers link the achievement gap between children from high and low SES to differences in quality and quantity of verbal interaction in families from high and low SES.
- Verbal interactions between parent and child is part of a constellation of income-associated home characteristics and family practices that influence reading readiness.

According to Snow (1991), children gain experience in different aspects of language through different activities such as establishing conversations with others, listening to stories, engaging in explanations and personal narratives, and by creating fantasy worlds. Fittingly, Hancock, Kaiser, and Delaney (2002) developed a single subject design study, replicated across 5 participants, to evaluate the effects of an intervention that taught parents to support their preschool children's communication skills and manage their behavior. The participants of their study were parents from low SES backgrounds and their children. The children were presenting with language delays, and emergent behavior problems. Parents attended 30 individual sessions

and were taught to be responsive to their children's communication and to provide contingent consequences for their children's behavior. The research team also assessed generalization to interactions at home and maintenance of intervention efforts. The results showed that parents learned the communication and the behavior management strategies, generalized these strategies to interactions at home, and maintained positive changes 6 months after the intervention. Children also showed positive changes in their communication skills and behavior during the intervention, but maintenance and generalization of these effects were more variable.

Gesell, Wallace, Tempesti, Hux, and Barkin (2012) also completed an intervention study throughout a community-based randomized controlled trial delivered mostly to Mexican immigrant parents of preschool-age children. The intervention group was exposed to a Dialogic Reading Model, while the control group was part of a healthy lifestyle program. The participants in the study were self/defined Latino/a, had a child aged 2-6 years old who was not enrolled in kindergarten or any healthy lifestyle program, had a valid phone number, and planned on remaining in the city for 6 months. The intervention group parents attended three monthly 60-minute sessions based on the Dialogic Reading Model—C.A.R. (Comment and Wait, Ask Questions and Wait, and Respond by Adding More), which taught parents to have a conversation about pictures in books, with the goal of enhancing verbal exchanges with the child in the parent's native language. After the 3-month intervention, results showed that parental involvement was effective in improving the value Latino immigrant parents place on their children's active participation in joint reading. The results of this study suggested that Latinos' educational outcomes may be improved by educating parents on the value of playful conversations with young children while reading books in one's native language. Gesell et al.

(2012) summarized that previous studies had shown that a) parents are given an important tool for participation in their child's education, b) the early exposure to literacy fosters later literacy development, and c) efforts to improve school readiness are more effective when they involve families and communities (Reese, & Gallimore as cited in Gesell et al., 2012; Gonzalez & Uhing as cited in Gesell et al., 2012).

As mentioned earlier, children's developmental level and parents' interactions are important aspects in language development. However, these two aspects vary significantly when socioeconomic status and second language acquisition are also considered.

Socioeconomic status and language development. During the preschool years, young children learn by informal experiences, which have a deep impact in their development of knowledge. However, children from socioeconomically disadvantaged backgrounds are not always exposed to a vast variety of experiences. The National Center for Children in Poverty (NCCP, 2014) stated that more than 16 million children in the United States live in families with incomes below the federal poverty level. The NCCP also indicated that poverty could impede children's ability to learn, and could contribute to social, emotional, and behavioral problems, poor health and poor mental health. Studies have shown that differences in vocabulary development manifest early in a child's life and seem most closely correlated to a variety of risk factors associated with low SES (Hart & Risley, 1995; Odom, Pungello, & Gardner-Neblett, 2012; O'Hara, 2010).

Hart and Risley (1995) studied vocabulary growth rates in children from birth to 3 years old by observing 42 families for 2.5 years. They recruited a demographic range of families, from highly educated upper SES families to families on welfare, and analyzed relationship between

the parenting the 42 children had received before age 3 and the children's accomplishments at ages 9 and 10 when they were in 3rd grade. Their data revealed significant differences in the amount and types of interactions between parents and children. In a typical hour, the parents in the 13 professional families spent nearly twice as much time interacting with their children as did the parents on welfare. They gave their children affirmative feedback an average of more than 30 times per hour, twice as often as the working class parents and 5 times as often as the welfare parents. The children in the welfare families heard a prohibition twice as often as they heard affirmative feedback. The most important difference when comparing the families by SES was the amount of talking the parents did with their children. Children in homes of professional parents heard 382 words an hour, while children raised in homes on welfare heard an average of 167 words an hour.

Current studies have corroborated the findings from Hart and Risley (1995), indicating that children from low SES families have received limited linguistic input, in terms of quantity and quality, when compared to children from wealthier families (Pruitt & Oetting, 2009). Children from low SES families are engaged more in talk about immediate daily living concerns such as what to eat, wear, and do or not do. Conversations in low SES families are often short, do not extend beyond practical concerns, and children from low SES often have very concrete language and difficulty understanding the abstract, decontextualized language of school (Nelson, 2010).

Even though the seminal study conducted by Hart and Risley (1995) did not focus on ELs, we could hypothesize that for Latino children living in low SES in U.S., the exposure to words per hour is similar to or less than that of their monolingual peers. Latino ELs begin

preschool scoring 1 to 2 standard deviations below monolingual norms in both Spanish and English in their receptive and expressive vocabulary as well as in auditory comprehension (Hammer et al., 2011) and the problem does not stop in the elementary years. The United States Census Bureau (2013) data showed that between 2009 and 2011 Latino students had a 5% drop out level between 9th and 12th grade; from the students who actually graduated, only 31% enrolled in college 2 years within graduation. These discouraging facts bring us to the review of another aspect that may affect language development, which is second language acquisition.

Language development and second language acquisition. For young learners, language acquisition involves cognitive, social and physical engagement over long periods during development. In learning a first language, a child discovers both the power of language and the characteristics of a particular language at the same time. The second language learner already knows the importance of language as a tool and has some idea about how it works; he or she has different expectations and exhibits different behaviors from the child who is discovering language for the first time (Philip, Oliver, & Mackey, 2008).

Typically developing children learn a first language in the context of social interaction within the child's family structure, beginning with the production of recognizable sounds around the age of 1, and continuing intensively throughout the preschool period. When children are in their 3rd year, they understand most adult sentences and have the underlying cognitive ability to order events and tell stories. Most of the basic skills of oral language are acquired by the time a child is about 5 years old (Klass, 2008; Tabors, 1997). Vygotsky (1962) stated that success in learning a foreign language is contingent on a certain degree of maturity in the native language. He explained that a child can transfer the system of meanings he already possesses in his native

language to the new language, and that a foreign language facilitates mastering the higher forms of the native language.

According to Tabors (1997), it is difficult to be precise when talking about children and second language acquisition since there is no consensus on the specific age when we can say a child is learning a second language rather than two languages at the same time. She described two types of second language acquisition: simultaneous and sequential acquisition. Simultaneous acquisition of two languages occurs when children are exposed to both languages from a very early age; while sequential acquisition occurs when a child begins to learn a second language after the first language is at least partly established. She also proposed various factors that may make a difference in second language acquisition: aptitude, as some people are more talented as second language learners; social, as some people are more outgoing and more willing to take risks as second language learners; and psychological, as some people are more motivated because they want to become like the people who speak the language they are trying to learn.

According to Cummins (1980), second language acquisition developmental stages start with basic interpersonal communication skills (BICS) followed by cognitive academic language proficiency (CALP). BICS are the "surface" skills of listening and speaking, which are typically acquired quickly by many students, particularly by those from language backgrounds similar to English who spend a lot of their school time interacting with native speakers. CALP is the basis for a child's ability to cope with the academic demands placed upon her in the various subjects. While many children develop native speaking fluency within 2 years of immersion in the target language, it takes between 5 to 7 years for a child to be working on a level with native speakers as far as academic language is concerned. Most Latino children growing up in the U. S. do not

begin to develop BICS in English until they enter school, which puts them behind their native English speaking peers by 5 years. Researchers have recommended that instruction of ELs should emphasize the development of both oral language and early literacy skills (Castro et al., 2011) as well as the education of parents about the benefits of engaging with their children in playful conversations while reading books in their native language (Gesell et al., 2012; Huennekens, 2009).

The review of literature presented to this point has indicated that most Latino ELs from low SES begin school with weak L1 development, which negatively affects their L2 acquisition. Educators and early intervention practitioners are not always well trained to understand the stages of second language acquisition nor are they equipped to accurately assess ELs, which has contributed to the misrepresentation of young ELs in early childhood special education (Guarino, Buddin, Pham & Cho, 2009; Hardin, Roach-Scott & Peisner-Feinberg, 2007; Morrier & Gallagher, 2010). Research has shown that children with rich oral language experiences at home tend to become early readers and have high levels of reading achievement during the elementary grades (Dickinson & Tabors, 2002; Vukelich et al., 2008). Below is a review of research studies that support this point.

Language development and early literacy. Ford (2010) stated that alphabet knowledge, phonological awareness, print knowledge, and vocabulary have been identified as early literacy skills that are robust predictors of children's later literacy achievement in their native language and in a second language. As mentioned earlier, those are weak skills for Latino ELs entering and finishing preschool when compared with monolinguals (Hammer et al., 2011).

Lack of understanding about the developmental stages of second language acquisition as well as limited availability of appropriate tools to evaluate young ELs can increase the risk for misrepresentation in special education. These facts ignite our interest in enhancing the process of second language acquisition in order to improve early literacy development and reduce mislabeling since the ethnic overrepresentation of students in special education programs in the U. S. has been a recognized problem for more than 30 years (National Institute for Urban School Improvement, 2001).

A review of the language and literacy development of dual language learners (DLLs) growing up in the U. S. showed that many DLLs were at-risk for poor educational outcomes due to the fact that oral language serves as the foundation for later literacy skills and that there are individual differences in the sizes of children's Spanish and English vocabularies, resulting from differences in the amount of input children receive in the two languages, the amount of time children are read to and parental educational levels. With this information in mind it is fair to say that understanding of DLLs' language development is needed in order to understand their reading development (Castro et al., 2010; Hammer et al., 2011). Hammer, Lawrence, and Miccio (2008) investigated the relationship between the receptive language development of children attending Head Start and their kindergarten reading outcomes. The researchers followed 88 bilingual children who attended Head Start for 2 years. The group was divided in two based on whether the child was exposed to Spanish only at home prior to entering Head Start or exposed to Spanish and English. The children's receptive language skills were assessed in the fall and spring of their 2 years in Head Start. Their emergent reading abilities were tested in the spring of their kindergarten year. The results were analyzed through growth curve modeling. Major

findings revealed that children's English and Spanish receptive language abilities increased during the 2 years in Head Start, and their early reading abilities in English were within the typical range of monolingual norms at the end of kindergarten; however, their early reading skills in Spanish were almost 1 standard deviation below the mean or lower. The growth in English and Spanish language abilities during Head Start predicted their early reading abilities in English.

These findings are consistent with Cummins' (1979) hypothesis of "developmental interdependency" which proposes that the level of L2 competence which a bilingual child attains is partially a function of the type of competence the child has developed in L1 at the time when the intensive exposure to L2 begins. When the development of L1 vocabulary and concepts are strongly promoted by the child's linguistic environment outside of school, then intensive exposure to L2 is likely to result in high levels of L2 competence at no cost to L1 competence.

Cárdenas-Hagan et al. (2007) investigated the development of early language and literacy skills among Spanish-speaking students. They worked in 2 large urban school districts, 1 middle-size urban district, and 1 border district with a total of 1,016 ELs in kindergarten. Students were administered a comprehensive battery of tests in English and Spanish, and classroom observations provided information regarding the language use of the teacher in English and in Spanish. Their results suggested a relationship between L1 abilities and L2 acquisition, which indicated that L1 competence mediated the acquisition of L2 at the time that a child began to acquire L2. Early Spanish skills, such as letter name and sound identification, phonological awareness, and oral language composite, predicted English outcomes at the end of kindergarten after controlling for early English skills. Regardless of the language of instruction, the students

who at the beginning of the year had stronger letter name and sound identification skills in L1 performed at higher levels in L2 at the end of the year even when those skills were initially low in L2.

Farver et al. (2013) studied children's early literacy skills in both English and Spanish at entry to preschool to investigate the pattern of association among those skills and their families' language and literacy practices. Their participants were 392 primarily Latino immigrant families and their children. Mothers completed questionnaires about their families and their home literacy environment (HLE). Children's emergent literacy skills were measured in English and Spanish at the outset of the preschool year. Using the HLE measure, the researchers explored the role of parents, the role of siblings, the language of the HLE, home literacy resources, and acculturation. Their results showed that the average child arrives at preschool with oral language skills in both Spanish and English that are lower than what is generally expected for non-at-risk, non-ELs children. There were positive within-language correlations between the constructs for the HLE-parent factors and families' home literacy resources in English and Spanish. The relation between the home literacy resources and sibling-child reading was significant only for English since Spanish speaking parents read to their children in Spanish. However, older siblings, who may read and speak better English than their parents, help their younger siblings develop literacy skills in English. Within both languages, the HLE-parent factor was positively associated with children's English and Spanish oral language skills.

Hammer, Davison, Lawrence, and Miccio (2009) also conducted a study that focused on mothers' reported language usage to their children during 2 years in English Immersion Head Start programs and kindergarten. Participants in the study were seventy-two children and their

mothers who were recruited from Head Start Centers located in an urban area of central Pennsylvania. In order to participate in the study, children had to be eligible to attend Head Start financially for 2 years; pass the Denver-II screening test, with no teachers' or parents' concerns about their development; pass a hearing screening; and have a mother who spoke a Puerto Rican dialect of Spanish. Children's English and Spanish vocabularies were assessed in the spring and fall of each year. Their emergent literacy abilities were evaluated beginning of spring of their first year in Head Start and in the fall and spring of their 2nd year in Head Start and kindergarten. Trained evaluators were female and fluent in either English or Spanish. Growth curve models, based on children's raw scores, were used by the investigators to assess the influence of mother-to-child language and children's gender on children's English and Spanish receptive language and English early literacy reading skills over five time points. Results showed that children's English vocabulary and emergent literacy increased during their 2 years in Head Start and kindergarten, but were unaffected by the language in which mothers communicated with them. On the other hand, mothers' use of Spanish when interacting with their children influenced children's Spanish vocabulary development. Gender did not affect children's developing Spanish or English vocabulary or their emergent literacy skills. An important implication of this study is that Spanish does not need to be viewed as a threat to children's developing English abilities, especially when children attend school in English. The investigators recommended that educational personnel refrain from instructing Spanish-speaking mothers to speak only English to their children. They stated that if mothers continue to speak to their children in their native language, they will be able to produce well-formed and rich language models for their children and children's developing language abilities are fostered.

Considering Cummins' interdependence hypothesis (1979), which states that the development of underlying proficiency with language is important because children are able to apply what they know in L1 to learn a L2, it is important to encourage parents to speak to their children in their native language.

Parents-mediated interventions. The field of early intervention currently works under some important influential factors such as family centeredness, natural environments, and partnership. It was in the early 1970s when researchers considered that parents could be taught to implement interventions with their children. In the 1980s the focus was on giving parents more authority in the decision-making process and on working with them as partners rather than trainees. In the mid-1990s, the idea of working with parents as partners in delivering interventions for children at-risk or with disabilities took another step forward with the start of interventions implemented in the children's natural environments. Researchers began to consider that learning opportunities occurred during the child's daily routines and family life (Dunst, 1985; Dunst, Trivette, & Deal, 1994; McWilliam, 2010; Tudor, 1977). The Individuals with Disabilities Education Improvement Act in 2004 (IDEIA) emphasized the importance of parent-child interactions in the home environment and mandated that interventions for young children with disabilities be implemented within their natural and typical learning opportunities. Several research studies have been developed implementing interventions with parents and their children in their natural environments.

In 2006, Chao, Bryan, Burstein, and Ergul studied the effects of a family-centered intervention that involved parents promoting their children's language during their routine-based activities in their natural environments on a weekly basis. The researchers selected forty-one

children from 3 to 5 years old who were considered to be at-risk for language and behavior problems. They were from three developmental preschools in the Phoenix metropolitan area with their ethnic distribution reflecting the demographics of the State of Arizona. The children were randomly assigned to a control group and an intervention group. The control group had 9 boys and 10 girls, while the intervention group had 14 boys and 8 girls. Children in the control group participated in the pre- and post-testing phases of the study but their parents did not receive training and were not required to attend regular meetings or to submit weekly and monthly assessments of their children. Parents of the children in the intervention group were trained to use the Child Behavior and Language Assessment (CBLA) and were taught to complete weekly assessments of their children and to submit monthly summaries. They also participated in an ongoing “parent-professional dyad” relationship with project staff where they set goals to be implemented during typical daily routines. Researchers analyzed the data with one-way analysis of covariance (ANCOVAs) to examine pre- and post-test scores. Their results showed that the family-centered intervention was an effective method of empowering parents to identify needs, implement strategies, and promote the children’s language and behavior performance. It also implied that plans that are developed around individual family’s cultural values and beliefs meet IDEA mandate to include parents in decision making of their children’s education.

Justice, Skibbe, McGinty, Piasta, and Petrill (2011) studied a home-based storybook reading intervention for children with language impairments. The research involved 62 children and their parents, and each dyad completed a 12-week intervention program. In order to participate in the study, the children have to pass a bilateral hearing screening, receive a standard score of 80 or higher on a nonverbal measure of cognitive skills, have no difficulties with

sensory, motor or neurological development by parental report, and show significantly depressed language skills when compared with typically developing peers. Significantly depressed language skills was operationally defined as receiving a score below the 10th percentile on at least two subtests of the Test of Language Development-Primary, third edition (TOLD-P:3) and a composite standard score ≤ 85 on the Spoken Language or Syntax Quotient of the TOLD-P:3. Parents in the treatment group implemented print-focused reading sessions, while parents in two comparison groups implemented sessions focused on either storybook pictures or phonological concepts. Their results showed that many parents of children with language impairments could feasibly implement a print-referencing intervention in their homes. Children with language impairments who were exposed to the intervention experienced accelerated growth in one of the outcomes studied as compared with children who were exposed to typical reading. Parents perceived the intervention favorably, especially when related to their perceptions of children's experiences. Some of the limitations in this type of research included that they could not explain the reason for their participants' attrition (23%) and that the sample included only English-speaking families, which made it difficult to determine whether the results could be generalized to non-English-speaking parents and children.

In 2011, Roberts and Kaiser completed a meta-analysis study of parent-mediated interventions and found positive effects on a child's language. Common strategies implemented across studies were: a) responding to child communication, b) increasing quality of linguistic input, c) adjusting the balance of adult-child communication, and d) expanding or recasting child communication. Limitations were also highlighted. For example, the majority of studies did not describe parents' training procedures, which made it difficult to determine what strategy resulted

in parents' change. In addition, most studies did not measure parent use of intervention strategies or examine the relationship between parent strategy use and child language growth. Also, only one study included children with receptive and expressive language impairments and typical cognitive development.

Continuing their studies of parent-mediated language interventions, Roberts and Kaiser (2012) stated that the model of training should be a triadic intervention which requires a three-level method of monitoring and measuring parent training, parent implementation of intervention strategies, and child language outcomes. In a triadic intervention, they explained, success depended on parents' learning and using the strategies frequently and accurately enough to influence their children's development. One of their studies attempted to investigate the extent to which a parent-mediated "enhanced milieu teaching" (EMT) intervention improved language skills in toddlers at-risk for persistent language impairment (LI). EMT is a conversation-based model of early language intervention that uses child interests as opportunities to model and prompt language use in everyday contexts. The study was a small randomized group design where 62 children with and without LI and their parents participated. Families were recruited through the city Early Intervention Services, pediatrician's offices, a speech and hearing center and community advertisement. The children with LI included in the study were between 24-42 months of age, had a cognitive standard score of 80 or greater, and expressive, receptive and overall language delays (SS=79 or less). The children with typical language (TL) included in the study had a cognitive standard score of 90 or greater, and average receptive, expressive and overall language development (SS=90 or greater). Children were excluded from the study if they had a diagnosis of any disability other than LI, had hearing difficulties, symptoms of a motor

speech disorder, spoke a language other than English, or demonstrated signs of autism spectrum disorder. The children with LI were randomly assigned to the treatment or control group. At the end of the intervention children in the treatment group used 50 more total words than children in the control group. They also had significantly higher global expressive language scores than children in the control group. As part of their discussion the researchers acknowledged that their results were difficult to generalize to different cultures due to the make up of their sample being mostly participants from the mainstream American culture. They suggested though, that the parent training procedures and language support strategies used might be adapted to fit the individual needs of families from different cultural backgrounds.

Intervention

The *Language is the Key* (Washington Learning Systems, 2006), which was developed by Cole, Maddox, Lim, and Notari-Syverson in 2002, was the intervention used for this study. It is based on a comprehensive framework using Dialogic Reading (Whitehurst, Falco, Lonigan, Fischei, DeBaryshe, Valdez-Menchaca, et al., 1988), and it is feasible to be used with families from different cultures. *Language is the Key* prepares parents to promote children's language development through activities that are easy for parents to implement in their natural environments. It also provides guidance for parents raising bilingual children in the United States. Cole et al. (2002) stated that the program was developed based on three researched-based principles:

- Early language is critical to later academic success
- Parents can use simple language facilitation strategies after brief training.

- Strengthening a child's first language – the one spoken at home – will also support the development of English.

The *Language is the Key* program was developed using the Dialogic Reading framework; however, it differed from earlier Dialogic Reading models because it reduced the number of specific strategies to three. The video programs were developed in six languages so parents could use their native language with their children. The program and videotape scripts were submitted for review to early childhood experts representative of diverse cultural backgrounds to assure broad cultural relevance and it included training features that have been shown to be the most effective in teaching adults.

Dale, Crain-Thoreson, Notari-Syverson, and Cole (1996) conducted a study in English showing the effectiveness of the strategies used in *Language is the Key*. They worked with 33 children, ages 3 to 6 years of age and their mothers comparing a joint-book reading technique, a version of Whitehurst's Dialogic Reading Program (Whitehurst et al., 1988), with language facilitation through general conversational instruction. The sample was formed by 33 mother-child dyads including 24 boys and 9 girls who had mild-to-moderate language delays. The dyads were assigned randomly to the book-reading program or to the conversational program. Both programs emphasized interaction and a responsive style of communication with children. Results analyses showed that the book-reading program led to increases in what/who questions, imitation, open-ended questions and expansions, while the conversational strategy led to increased use of expansions. The effects of the programs were more marked on the parents' use of language than on the children's language. However, they found increase in the number of different words produced after the intervention as well as in their mean length of utterances.

They did not find significant changes in overall engagement or specific responses to adult utterances during the intervention, except for an increase in verbal responses to adult questions, which they hypothesized was just a consequence of the increased rate of what/who questions from parents. Based on the results, the researchers concluded that parents of young children with language delays could learn important language facilitation skills from relatively brief and simple instructional programs.

Lim and Cole (2002) conducted a study in Korean that also showed the effectiveness of the strategies used in *Language is the Key*. Participants in their study were 21 Korean-speaking children, 9 boys and 12 girls, and their mothers who were recruited through the Korean Saturday School and Korean churches in the Seattle, Washington area. The children, ages 2.0 years to 4.3 years, were typically developing, acquiring Korean as their first language at home, and being introduced to English in preschools. The study was a pretest-posttest experimental design with one treatment and one control group, which were randomly assigned. Parents in the experimental group attended a one-hour intervention training using picture books as a medium for language facilitation. The study was based on talking about picture books, not just directly reading the book. The results of the study indicated that intervention around picture book interactions with young children through use of specific language facilitation techniques had positive effects on children's language performance. The mothers in the sample appeared to learn the techniques effectively after a short period of instruction. The children responded to the changes in mother's interaction style with increased talkativeness, more vocabulary use, and longer utterances compared with the children from the control group.

Summary

The number of Latino children entering kindergarten with low native language development increases rapidly and steadily. They begin school with many disadvantages because they lack the resources to improve their native language, they need to learn how to read and write in a language that they do not know, and often their teachers are not well trained to understand the stages of second language acquisition. These children, who enter kindergarten with minimal levels of English proficiency if any, are expected to begin developing literacy. These children, who come to school with weak native language skills, often have difficulty becoming proficient in English, which negatively affects their literacy development. As a result, many are referred to receive comprehensive evaluations for special education consideration, and without appropriate screening and diagnostic tools they may end up being misidentified. This review of literature has shown: a) risk factors that Latino preschool children growing up in the United States have to face when entering school, b) the importance of parental involvement in language development, and c) the relationships between L1, L2 and literacy. This review also showed some indicators that if the native language is strengthened before starting school, children may have a better chance for school success. Considering that language development starts from the day a child is born, it makes sense to consider teaching parents with ELs growing up in United States how to become more involved in strengthening their children's native language before starting school. There is a need for more research studies that explore opportunities for parental involvement in strengthening children's native language and its effects on their second language acquisition.

Chapter III

Methodology

Research has shown that a strong foundation in L1 facilitates the acquisition of L2 (Cárdenas-Hagan et al., 2007; Cummins, 1980; Hammer et al., 2011), and several perspectives emphasize the importance of children's verbal interactions with caregivers (Hancock, Kaiser, & Delaney, 2002; Snow et al., 1991; Vukelich, Christie, & Enz, 2008; Vygotsky, 1978). However, a gap exists in literature regarding parental involvement in their children's native language (L1) development for Latino parents raising children in the United States. Theoretically, by helping strengthen the native language before children become immersed in formal education in English, parents will be helping set the foundations for their children's second language acquisition. This study aimed to examine the effects of a parent intervention program on 1) parent-child verbal interactions and 2) the children's home language receptive vocabulary. Using a structured story time activity the researcher attempted to address the following questions:

1. How do Latino parents verbally interact with their children during the day and during mealtimes?
2. What is the effect of a home-based parent-mediated intervention on parent-child Spanish verbal interactions?
3. Does a home-based program increase children's receptive vocabulary in Spanish?

In this chapter the researcher explained the details of the methodology of the study, including the research setting, the sample selection and data sources. The researcher also described the instruments and methods for data collection and analysis. Finally, the researcher discussed the measures selected to enhance the validity and reliability of the study, and identified potential limitations.

Research Design

The study used single subject multiple baseline across participants design to address the above mentioned research questions examining parent-child verbal interactions and the receptive vocabulary growth of participating children. Single subject research is a type of study to examine whether an intervention has the intended effect on an individual, or on many individuals viewed as one group. The individual serves as his or her own control by comparing his or her performance under 1 standard condition with the other standard condition (e.g., baseline and intervention) (Barlow, Nock, & Hersen, 2009; Tawney & Gast, 1984). The multiple baseline design helps control for threats to internal validity, such as maturation and test-retest, by having multiple baseline observations of the participant before using the intervention. The participants are tested with the treatment given at different time points for different individuals, allowing researchers to have a better understanding of whether or not the treatment is effective or if a functional relation is established between the treatment and the dependent variable (Silver-Pacuilla et al., 2011). Multiple baseline across participants design is an appropriate method to teach children a skill that cannot be untaught. It is also appropriate for ethical reasons, that is, if the intervention was effective, the researcher does not have to withdraw the treatment in order to establish a functional relation between the independent variable and the dependent variable.

Changes in the individual's performance between the baseline and the intervention were visually analyzed. There are 4 types of changes that can be observed across conditions: a) changes in level, b) changes in trend, c) changes on variability, and d) a combination of those changes. In addition, the content from the parents' responses was analyzed, coded, and organized into themes. This study included three sets of data analyses: 1) visual analyses examining the four types of change, 2) qualitative data about the parent-children verbal interactions, and 3) pre- and post- data about the children's receptive vocabulary.

Settings

Prior to implementing the study, the researcher conducted a screening phone interview and met with the parents 3 times. Every meeting took place in the families' homes. During the first meeting, the researcher collected demographic information (Appendix F), explained the process to the parents, and collected consent to participate (Appendix E). The second session was used to measure the children's vocabulary (Appendix C) and the researcher completed the initial interview (Appendix G). On the third session the parents received feedback on the vocabulary results, were trained using the flip cameras if they qualified, and were provided with a handout with strategies to enhance language skills (Appendix H) if they did not qualify. During the study, the data collection for the baseline and intervention conditions took place in each family's home during a mealtime routine as well as the one-hour workshop with the intervention and weekly or biweekly meetings to collect the videos and review treatment fidelity.

Participants

Three dyads consisting of Latino children and their parents from low SES class in a suburban area of Virginia participated in this study. Recruitment was conducted through word of

mouth and/or by posting flyers (Appendix A) in settings usually attended by individuals from the Latino community such as churches offering Spanish services, places with English lessons for adults, public libraries, and Latino grocery stores. The researcher met with a Latino liaison from a religious congregation in the area, which provides a variety of services to Latino families. The liaison distributed flyers and briefly explained the research project to the families during their meetings. The participants that were included in the study met the following criteria: a) Spanish was the parents' native language; b) Spanish was the primary language spoken at home; c) Family income was under poverty line (by Census 2015 guidelines), d) Children were between 3-5 years old and had not started attending school in English; and e) Children's results from the Bracken School Readiness Assessment - Third Edition – Spanish version (BSRA-3S) were below the average range ($75 \geq SS \leq 89$).

Fifteen parents contacted the researcher and after a brief phone interview, 9 appointments were made with families that appeared to meet the criteria. Five of the 9 families agreed to participate. The parents who decided not to be part of the study were not comfortable with videotaping their families. Three out of the 5 families stayed throughout the 6 weeks that the study lasted; 2 families communicated to the researcher during baseline condition that they did not have time to videotape their children several times per week and left the study. The participants were 3 Latino mothers and their preschool aged sons (See Table 1), from low SES, who lived in a suburban area of Virginia.

Table 1

Demographic Information

	Mother 1	Mother 2	Mother 3	Child 1	Child 2	Child 3
Marital Status	Married	Married	Married	--	--	--
Number of Children	4	2	2	--	--	--
Age	31 - 35	26 - 30	20 - 25	3y8m	3y8m	3y10m
Gender	Female	Female	Female	Male	Male	Male
Educational Level	6 th grade	5 th grade	5 th grade	--	--	--
Years in the USA	10 - 15	10 - 15	10 - 15	Birth	Birth	Birth
Work/Stay at Home	Stay	Stay	Stay	--	--	--
Monthly Income	\$1400.00	\$1600.00	\$1800.00	--	--	--

Data Collection

The initial phase of the study consisted of 3 sessions with each family. During the first session the researcher gathered demographic information, explained the purpose of the study and obtained their consent to participate. Then, on a second session, each child's receptive vocabulary in Spanish was measured and the parents participated in an interview regarding their family's verbal interactions and mealtimes routines. Finally, during the third session, results of the BSRA-3S were shared and the mothers were trained on how to use the flip cameras for the videotapes. The second phase lasted for 6 weeks and consisted on weekly visits to gather the videotapes with the data for each family's baseline condition, introduce the intervention, collect the videotapes with the data during intervention condition, and check for treatment fidelity. The

final phase involved measuring again the children's receptive vocabulary in Spanish and completing an interview with each mother to check for social validity.

Dependent Variables

The study investigated two dependent variables: parent-child verbal interactions, which was analyzed through visual analyses, and children's home language receptive vocabulary, which was measured using a school readiness inventory and analyzed through a pre- and post-intervention test.

1. Parent-child verbal interactions: Defined as the quantity of verbal exchanges between parent and child.
2. Children's home language receptive vocabulary: Defined as their receptive knowledge of words typically used in school such as numbers/counting, letters, colors, sizes/comparison concepts, and shapes.

Instruments

Observation Protocol. An observation protocol was developed and used to observe the parent-child verbal interactions during the baseline and during the intervention phases (Appendix B). The protocols were developed based on the work of Whitehurst et al. (1998); Dale, Crain-Thoreson, Notari-Syverson, and Cole (1996); and Lim and Cole (2002) and included some categories based on the contents of the intervention program:

Parent component. It was used to observe and quantify parents' initiation, questions, and response through:

1. Commenting: making a verbal statement

2. Closed-ended questions: questions that elicited a yes/no response, a pointing response, or a one-/two- word label
3. Open-ended question: questions that elicit a full sentence or several sentences
4. Responding: making a verbal statement following a child's question

Child component. It was used to observe and quantify children's initiations, questions, and response through:

1. Commenting: making a verbal statement
2. Questions: a verbalization that looks for information or to gather attention
3. Yes/no, labeling or pointing response: a response that is short in nature
4. Extended response: making a verbal statement following a parents' open ended- question

The Bracken School Readiness Assessment, 3rd edition, Spanish edition (Bracken, 2007.) The BSRA-3S version was used to measure children's receptive knowledge of pre-academic concepts prior to beginning the intervention (Appendix C). The children listened to the examiner naming color, letters, numbers, shapes and size concepts and they had to point to the answer. The BSRA-3S is a norm-referenced, individually administered test for children 3.0 to 6.11 years old, in approximately 10-15 minutes, and includes five subtests to assess basic concepts related to school readiness: Colors, letters, numbers/counting, size/comparison, and, shapes. The raw scores of the Spanish version can be translated to percent mastery. Ortiz, Clinton, and Schaefer (2014) studied the convergent and discriminant validity for scores on the Spanish Record Form of the Bracken School Readiness Assessment, Third Edition, Spanish edition (BSRA-3) (Bracken, 2007). Participants in their study included a sample of 68 Hispanic, Spanish-speaking children ages 4 to 5 years enrolled in preschool programs in Puerto Rico. The

scores obtained from the BSRA-3 Spanish Record Form were compared with scores from the Nonverbal Index of the Kaufman Assessment Battery for Children, Second Edition, and the Preschool and Kindergarten Behavior Scales, Second Edition. Their results showed that the correlation between school readiness scores and nonverbal intelligence was significant and moderate in the positive direction. The correlations between school readiness scores and behaviors were low while significant discriminant validity was demonstrated using Steiger's Z test to compare correlations of similar and dissimilar constructs.

Intervention

Language is the Key. *Language is the Key* (Washington Learning Systems, 2006) (Appendix D) is a set of 2 training videos that teach parents and teachers how to: a) prepare children for literacy and learning, b) enhance language development, and c) encourage positive parent-child interactions. Each set of *Language is the Key* includes:

1. Talking & Books: (20 minutes) shows how to use picture books to promote language development and early literacy.
2. Talking & Play: (20 min) shows how to promote language and literacy when children are engaged in play or everyday activities.

The program uses the Dialogic Reading framework, which has been evaluated by the What Works Clearinghouse (WWC) and concluded effective in improving language skills in young children, including children with disabilities. *Language is the Key* differs from Dialogic Reading in that it reduces the number of specific strategies to three by combining similar strategies to make it easier for parents to remember and use.

Each video begins with a narrator reminding parents about the important role they play in their children's language development. Parents can see examples of children and adults looking at pictured-books together while the narrator mentions different ways that they can support language development during everyday interactions. The examples illustrate the program's overarching goal of following the child's lead and demonstrate different ways to do so. The three strategies and instructional points illustrated in the video are summarized as C-A-R to make it easier for the parents to remember:

1. C: Comment and wait. Describing the pictures in the books and then pausing to allow time for a response. A longer wait-time also lets the child know the adult is interested in what the child has to say.
2. A: Ask questions and wait. Parents interact with their children using open-ended and closed questions.
3. R: Respond by adding a little more. The adult repeats what the child says and then expands the utterance with one or two new words allowing the child to hear the next level of difficulty.

In the Spanish version the narrator also emphasizes the importance of learning the language spoken at home and encourages parents to use the language they know best with their young children. An extra strategy for Spanish speaking parents is to:

4. R-O: Repeat in Spanish One again. This strategy encourages parents to repeat mixed phrases (English-Spanish) produced by their children entirely in the heritage language.

The 10 picture books that each family received were selected from a recommended list of Spanish books for preschoolers created by Reading Rockets (WETA Public Broadcasting, 2015).

Reading Rockets is a national multimedia initiative offering information and resources on how young kids learn to read and is guided by an advisory panel made up of researchers and experts in the field of reading. The books selected gave parents contexts to prompt dialogues about colors, shapes, numbers, opposites, sizes and other pre-academic vocabulary.

Phases

Initially, parents who contacted the researcher went through an individual information session at their home where the researcher explained the purpose of the study and the criteria to be included in it, and obtained consent to measure the children's expressive vocabulary and agreement to participate in the process (Appendix E). Once consent was secured, each child's pre-academic vocabulary (dependent variable) was individually evaluated with the Bracken School Readiness Assessment, 3rd edition, Spanish edition (Bracken, 2007). The results of the assessment were used to select 5 parent-children dyads whose children's receptive vocabulary scores fell below the average range ($SS \leq 89$). The researcher contacted the parents to provide them with the results and explained to them whether they qualify to participate. The families that did not qualify received a handout in Spanish with ideas to work at home with their children's language skills (Appendix H), a children's book, and a booklet in Spanish about preparing children for preschool.

Baseline condition. To collect baseline data the dyads were provided with a video camera and asked to record themselves three times per week for ten minutes each time during meal times. Parents were trained in their home on how to use the video camera so they could do it on their own without observers intruding their privacy. Due to time restrictions of the study, baselines were established after 1 week for Dyad 1, after 2 weeks for Dyad 2, and after 3 weeks

weeks for Dyad 3. The data points of the parent-child verbal interactions were analyzed by trend, level, direction, and variability using the observation protocol.

Intervention condition. After one week, and three videotapes, Dyad 1 was introduced to the intervention “Language is the Key” (independent variable). Books and materials were provided as well as a handout (Appendix I) that parents could use for guidance to help with treatment fidelity. The intervention program uses 3 strategies summarized as CAR: Comment and wait; Ask questions and wait; and Respond by adding a little more. A 4th strategy, Repeat in their own language, is added when working in a language different than English. The intervention was shared with the first parent in her home. The parent and the examiner watched a 20 minute-video that demonstrated the 4 strategies through images of parents sharing books with their children. After watching the video, the parent had an opportunity to practice with her own child using the books provided by the researcher. They also received the handout that summarized the strategies. Dyad 1 was asked to continue implementing the intervention at home, at least 3 times per week, 15 minutes each time, for a period of 5 weeks, while looking at picture books and using all of the 4 strategies. Dyad 1 was also asked to continue videotaping their mealtimes for 10 minutes for a period of 5 weeks or until eighteen data points were collected. After the 6 weeks the child in Dyad 1 was administered the BSRA-3S again to collect information on vocabulary growth. Dyad 2 recorded themselves for 2 weeks providing with 7 sessions before the intervention was introduced and then followed the same schedule as Dyad 1. Dyad 3 videotaped themselves 3 weeks before getting the intervention and then followed the same schedule as Dyad 1 and Dyad 2. A total of 6 weeks was required to gather all the data.

Data Analyses

To answer the research questions, the parents' interviews, the videotapes and the children's performance on the pre- and post- intervention tests were analyzed. The researcher observed the frequency of parent-child verbal interactions through videos. The researcher also examined the fidelity of the implementation through weekly questionnaires and 1 observation session mid-way throughout the study. To gather information for the first question, "How do parents verbally interact with their children during mealtimes?" the researcher completed interviews with the mothers and watched the videos recorded during the baseline. The content of the interviews and videos was reviewed, analyzed, and organized into themes.

The second question, "What is the effect of a home-based parent-mediated intervention on parent-child Spanish verbal interactions?" was answered after the researcher collected data from the mealtime videos recorded after the intervention and using single subject design (SSD) visual analysis techniques. Level of change between phases, trend within and between baseline and intervention phases, immediacy of response to the intervention, percentage of non-overlapping data, and standard mean difference (SMD) were obtained, analyzed, and interpreted. The use of SMD has been recommended to estimate effect size for single subject designs, in addition to visual analysis, by several researchers (Beeson & Robey, 2006; Kratochwill, Hitchcock, Horner, Levin, Odom, Rindskopf & Shadish, 2012; Olive & Franco, 2008). For this study we used a variation of Cohen's (1988) *d* statistic as calculated by Busk and Serlin (1992, pp. 197-198), which takes under consideration the variance of the results. According to Olive and Franco (2008) the SMD approach offers several strengths such as average data are used resulting in a formula that may be used in all studies, no data need to be discarded due to factors such as

overlapping data, and the SMD calculation results in an actual *d* score making it more interpretable by readers.

Children participating in the study were administered a school readiness test before and after the intervention in order to answer the last question, “Does a home-based program increase children’s pre-academic receptive vocabulary in Spanish?” Percentages and standard scores of pre- and post- data were compared to determine the presence or lack thereof vocabulary growth.

Interrater Reliability

Inter-rater reliability, or inter-observer agreement (IOA), refers to monitoring the consistency with which the dependent variable (parent-child verbal interactions) was observed and measured with reliability between different observers. The goal of IOA is to establish the degree to which measures that are being taken of people’s behavior are consistent (Kennedy, 2005). For this study an event sampling technique was used to record the frequency of occurrences of behavior and the two observers’ recording of responses was compared. Each verbalization was coded as 1 occurrence, unless the same verbalization was repeated immediately (“Mami quiero leche” = 3 verbalizations; “Mami, mami, mami, quiero leche” = 3 verbalizations). The primary data collector coded 100% of the videotapes, while the second observer coded 38% that were randomly selected. The second observer was a trained school psychologist fluent in Spanish. A minimum average of 80% agreement for 25% of the data is considered acceptable for observer consistency (Hartmann, 1977; Stemler, 2004). The inter-observer agreement average obtained for this study was 94% for 27% of the sessions.

Treatment Fidelity

The researcher visited each dyad weekly, gathered the videos of the week and completed a fidelity checklist for treatment fidelity. Once during the study, around the third week, the researcher also observed each mother while implementing the intervention and completed the fidelity checklist (Appendix J). The information gathered from the fidelity checklists was used at the end of the project to guide discussions, conclusions, and recommendations for researchers, practitioners, and parents.

Social Validity

At the end of the study, each parent completed a questionnaire (Appendix K) to address the social validity of the study. Social validity is defined as the “estimation of the importance, effectiveness, appropriateness, and/or satisfaction various people experience in relation to a particular intervention” (Kennedy, C. 2005. p.218). The questionnaire in this study had 6 items that explored the mothers’ thoughts regarding whether the intervention provided with all the needed materials, taught them new strategies, helped increase their children’s vocabulary, was easy to understand, easy to implement, and easy incorporate in their family routines. The researcher met with the mothers individually to present results of the study, discuss their thoughts, and gather suggestions.

Limitations

One of the limitations for this study was expected to be the inability to generalize results due to the small sample size as the nature of single subject research. It was also difficult to predict and/or avoid changes in home environment and routines throughout the 6 weeks of the

study. The need for the mothers to videotape themselves during several consecutive weeks discouraged some of them from participating in the study.

Chapter IV

Results

This study aimed to investigate parent-child verbal interactions in Spanish in a group of Latino preschoolers from low-income families growing up in the United States through a parent-mediated program at home. The study also examined the effects of the program on the children's receptive vocabulary development in Spanish. Studying Latino parent-child verbal interactions is important because research has shown that Latino children growing up in the United States are at-risk for poor educational outcomes and those risk factors appeared to be closely related to socioeconomic status, parent-child verbal interactions, and language development (Hart & Risley, 1995; Hart & Risley, 1999; Nelson, 2010; Odom, Pungello, & Gardner-Neblett, 2012; O'Hara & Pritchard, 2010; Pruitt & Oetting, 2009). Census data from 2015 showed that 34% of Latino children in the United States under the age of 18 were growing up in families living in poverty; children from low SES families have been shown to have limited quantity and quality of linguistic input when compared to children from wealthier families; and Spanish speaking children learning English as a second language during the preschool years are the most likely of all preschool children to live in poverty and to have a mother or guardian without a high school education. In order to develop literacy and improve chances for school success, children in the United States need to be fluent in English by the time they enter Kindergarten; however, a great percentage of Latino children enter school with weak native language skills which affects the

development of proficiency in English (Cummins, 1980; Espinosa & López, 2007; NCES, 2014; US Census Bureau, 2015). When considering all the risk factors, the researcher explored whether a parent-mediated intervention could have positive effects on the children's vocabulary development and overall verbal-interactions. The intervention involved a structured story time activity that provided parents with strategies to strengthen their verbal interactions when sharing books.

To address the research questions, the researcher employed a single subject multiple baseline across participants design to observed parent-child verbal interactions during family routines, specifically mealtimes. Additionally, the researcher conducted interviews with the mothers and administered individual assessment of the children's receptive vocabulary.

Research Question 1

How do Latino parents verbally interact with their children during the day and during mealtimes?

During the initial meeting with each mother, demographic data were collected as well as information on the parent-child typical daily routines, mealtimes, and types of verbal interactions. The content of the mothers' responses was coded, analyzed, and organized into the following themes.

Their verbal interactions with their children are functional. The mothers explained that when they talk to their children during the day, the verbal exchanges are usually related to things they need to get accomplished. They give their kids directions such asking them to get ready to leave the house, to sit at the table to eat, and/or to pick up toys from the floor.

Their verbal interactions with their children during the day are brief. They mentioned that most of the verbal interactions are short instructions or directions that they give to children. Often the children's responses are nonverbal since they comply without engaging in a conversation.

Their verbal interactions are typically not extended to children's activities. Mothers in the study reported that they do not tend to sit down to talk or play with their children but spend time next to them completing chores while the children play or watch television. The review of the videos showed that when the mothers sat with their children, they mostly responded to their questions or comments and less frequently asked questions or initiated interactions themselves.

They tend to engage in more meaningful conversations during dinnertime when most or all the members of the family are together. The three mothers explained that when the other members of the family are present - older siblings, fathers, and/or grandparents - it is more likely for longer conversations to emerge. Those dinnertime conversations were usually related to how everyone's day went at school or at work. Mother 1 reported that sometimes they would engage in conversations about the times she and her husband lived in their native country. Mother 2 explained that saying a prayer before dinner was important and a way for them to talk.

Research Question 2

What is the effect of a home-based parent-mediated intervention on parent-child verbal interactions?

In order to answer this question, the researcher reviewed the videotapes, and tallied frequencies of parent-child verbal interactions using the observation protocol. All the data were graphed and visually analyzed by interpreting the trend, level, and variability. The immediacy of

effects following the presentation of the intervention, the percentage of data points that did not overlap (PND) between phases, and the standard mean difference (SMDall) was also calculated to check for intervention effectiveness.

Overall results. The researcher visually analyzed the graph presenting with all verbal interactions (initiations, questions, and responses) between the mothers and their sons (See Figure 2). Data were missing from the first 2 weeks after the intervention was introduced for Dyad 1. The visual analysis showed that Dyad 1 and Dyad 2 had an increase in parent-child verbal interactions from baseline to intervention condition while the interactions decreased for Dyad 3. When looking at the results within the intervention phases, Dyad 2 and Dyad 3 showed an upward trend while Dyad 1 had a downward trend. No immediacy of response to the intervention was observed for any of the Dyads. Dyad 1 showed data stability during baseline and intervention phases, Dyad 2 had a stable baseline but variability during the intervention phase, and Dyad 3 had high variability in both baseline and intervention phases. Data from Dyad 1 presented with 75% of non-overlapping data (PND), Dyad 2 showed 33%, and Dyad 3 had 0% while the standard mean difference (SMDall) calculated to estimate effect size was larger for Dyad 1($d=2.9$) than for Dyad 2($d=0.6$).

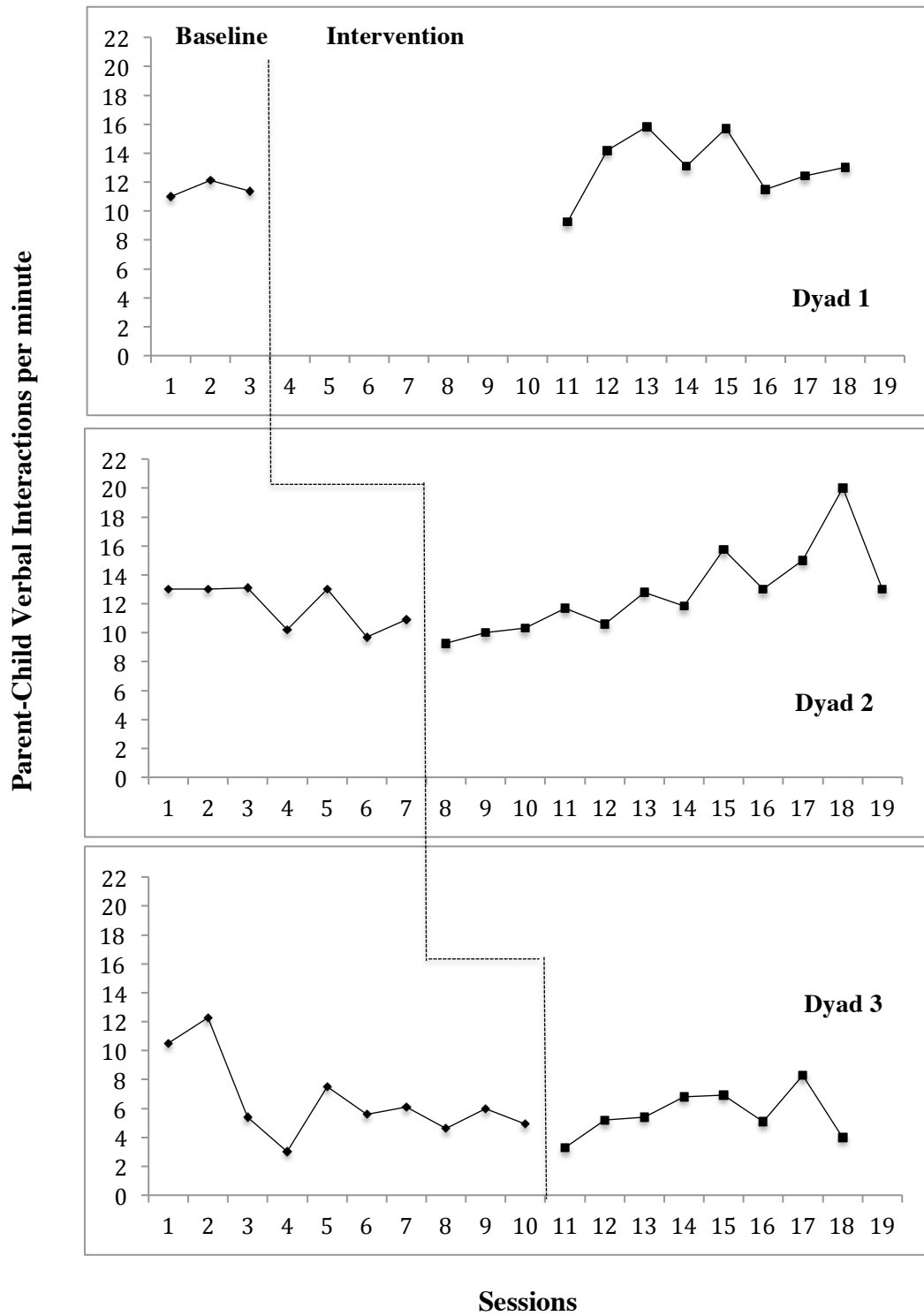


Figure 2. Parent-child verbal interactions graph

Children's total verbalizations (initiations, questions, and responses). Child 1 and Child 2 showed increases in level from baseline to intervention phase, while Child 3 showed a decrease (See Figure 3). Child 1 and Child 2 also showed an upward trend within the intervention phase while Child 3 presented a downward trend. No immediacy of response to the intervention was observed for any of the children. Baselines were stable for Child 1 and Child 2 and intervention phases were stable for all three. The PND observed was 87.5% for Child 1, 58.3% for Child 2, and 0% for Child 3 and the effect size was the same for Child 1 ($d=1.9$) and Child 2 ($d=1.9$).

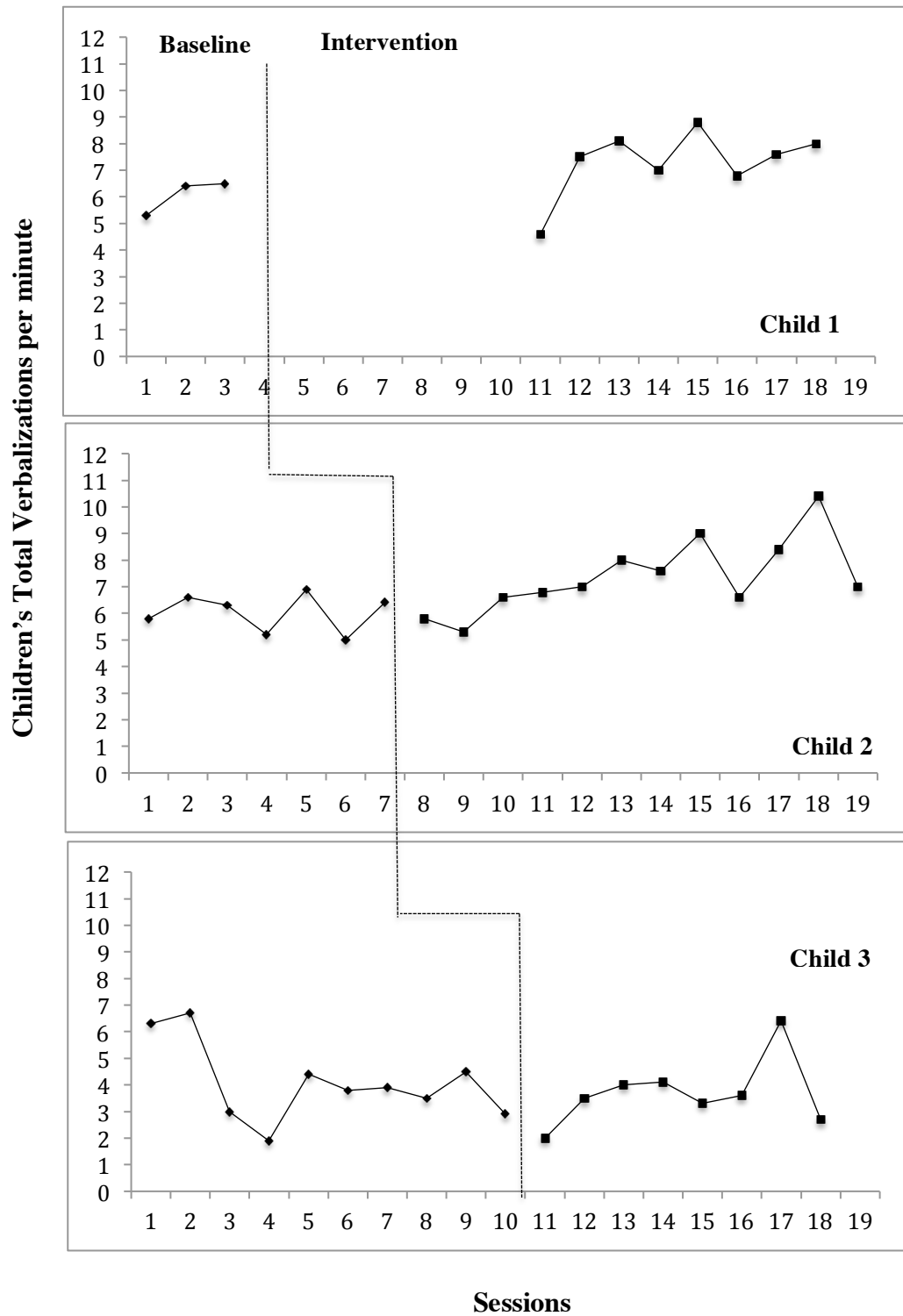


Figure 3. Children's total verbalizations graph

Children's statements (initiations and responses). The verbal statements produced by Child 1 and Child 2 increased in level from baseline to intervention phase, and the researcher also observed an upward trend within the intervention phase for both of them (See Figure 4). Child 3 showed a decrease in level from baseline to intervention phase and a flat trend within the intervention phase. There was no immediacy of response to the intervention for any of the children. Baseline data were stable for Children 1 and 2 while intervention data were stable for all three. The PND observed was 87.5% for Child 1, 66.7% for Child 2, and 12.5% for Child 3. The effect size was larger for Child 1 ($d = 1.8$) than for Child 2 ($d = 1.5$).

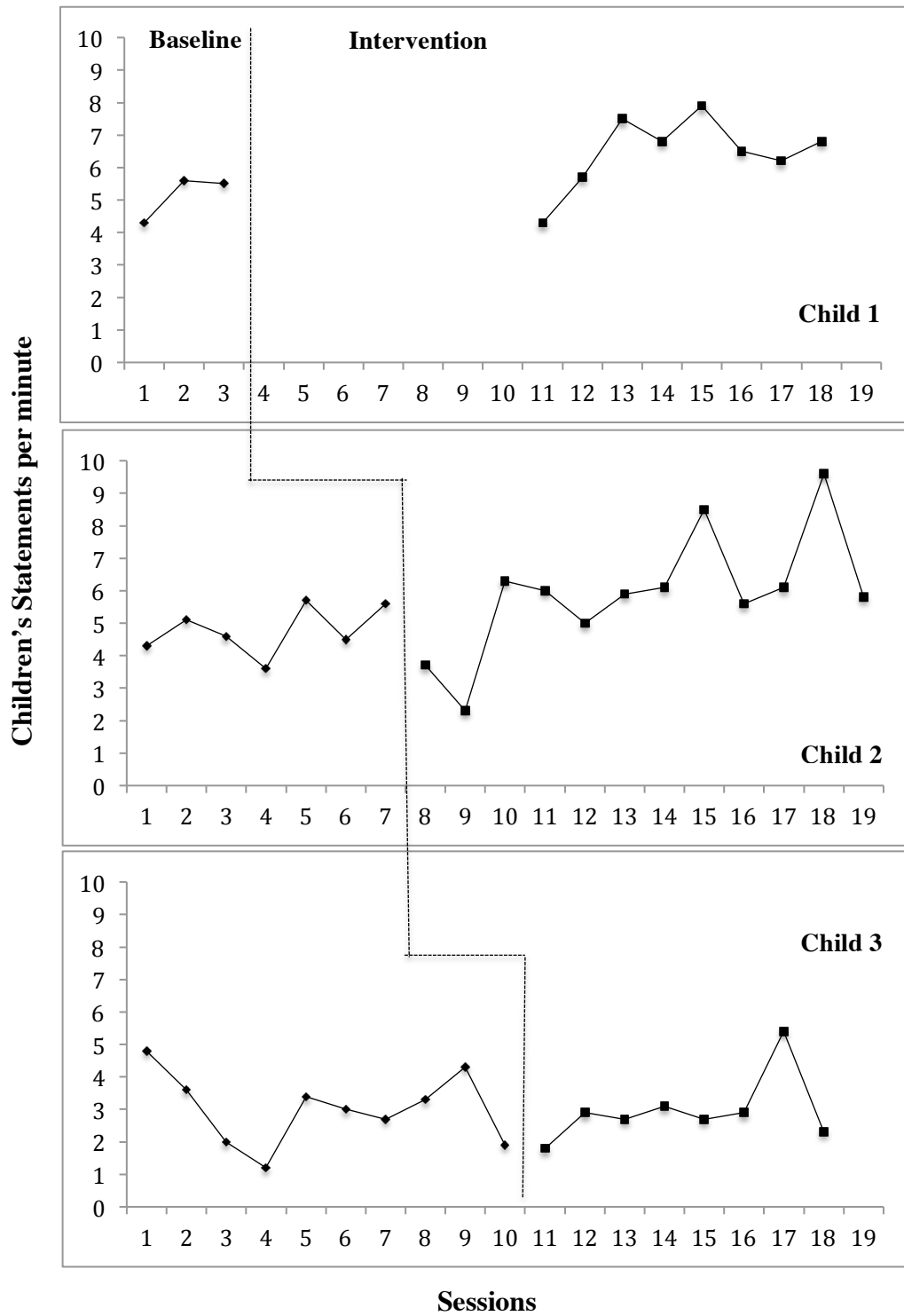


Figure 4. Children's statements graph

Children's initiation. The three children showed an increase in level from baseline to intervention phase and increase in trend within intervention phase (Figure 5). The three baselines showed high variability; however, the three intervention phases were stable. No immediacy of response was observed for any of the children. The PND was 87.5% for Child 1, 83.3% for Child 2, and 12.5% for Child 3. The data also showed larger effect size for Child 1 ($d = 2.3$) and Child 2 ($d = 2.3$) than for Child 3 ($d = 0.2$).

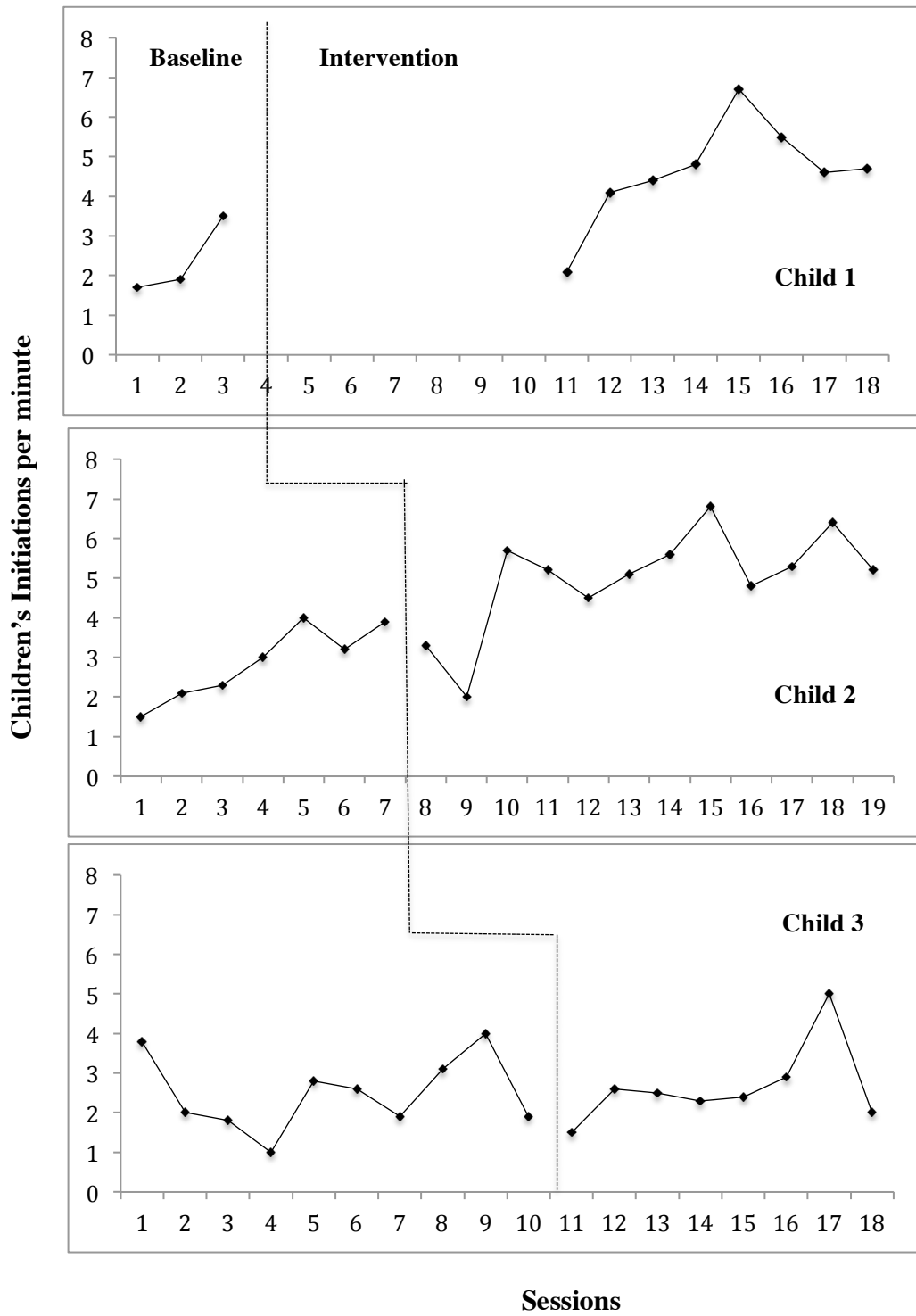


Figure 5. Children's initiations graph

Children's questions. Child 2 showed increase in level from baseline to intervention phase while Child 1 and Child 3 showed decrease (Figure 6). Child 1 showed an upward trend within intervention, and Child 2 and Child 3 presented with downward trends. Immediacy of response to the intervention was observed for Child 2. Baseline data for Child 2 and Child 3 and intervention data for the three children were highly variable. The PND was 40% for Child 1, 40% for Child 2, and 0% for Child 3 with ($d = 0.4$) as the estimate effect size for Child 2.

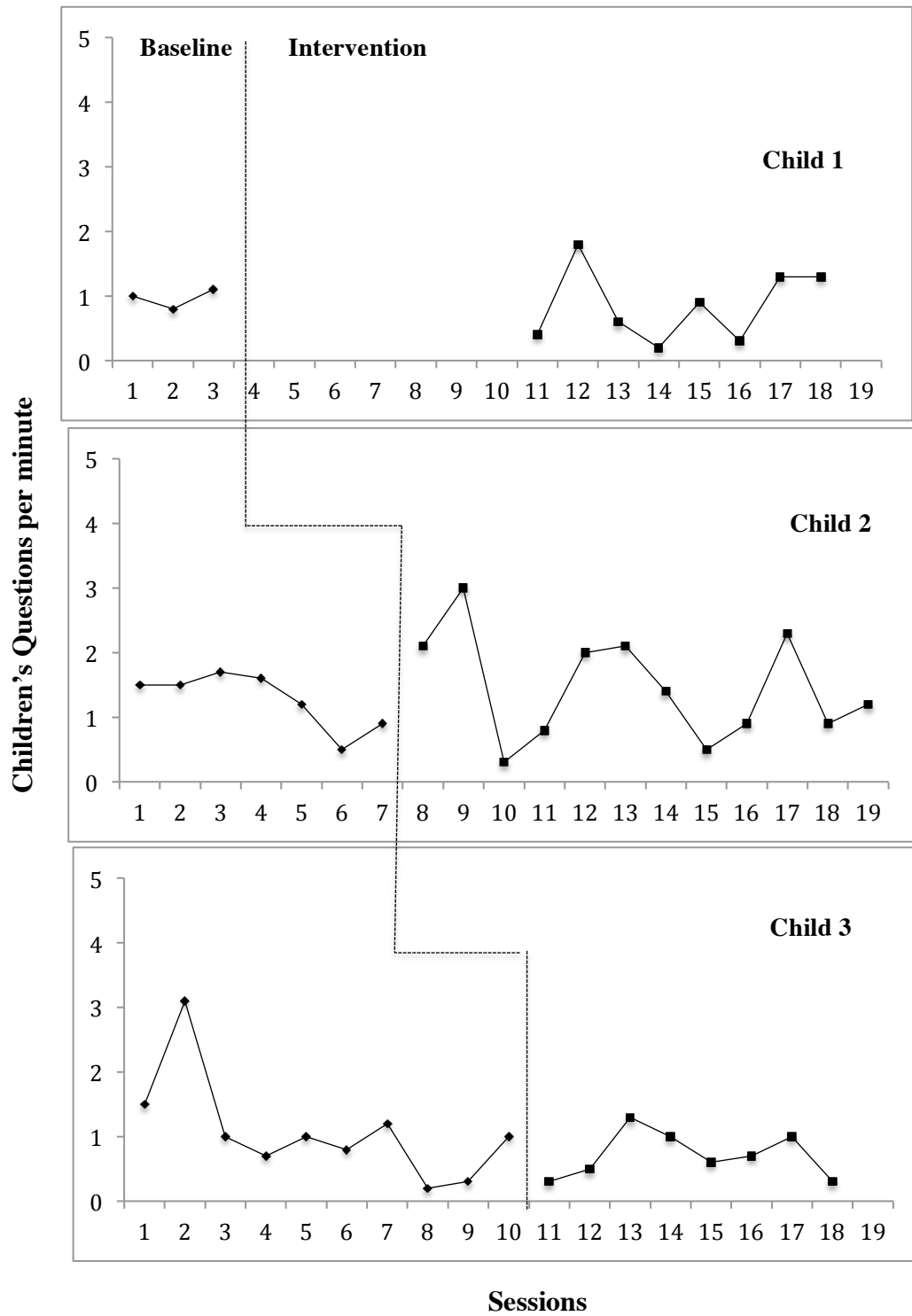


Figure 6. Children's questions graph

Parents' total verbalizations (initiations, questions and responses). Mother 1 showed increase in level from baseline to intervention phase and downward trend within intervention (Figure 7). Mother 2 and Mother 3 did not show increase in level between phases but an upward trend within the intervention phase. There was no immediacy of response to the intervention for any of the parents. Data from baseline and intervention phases were stable only for Mother 1. The PND showed 50% for Mother 1, 10% for Mother 2, and 0% for Mother 3 while effect size for Mother 1 was ($d = 0.9$).

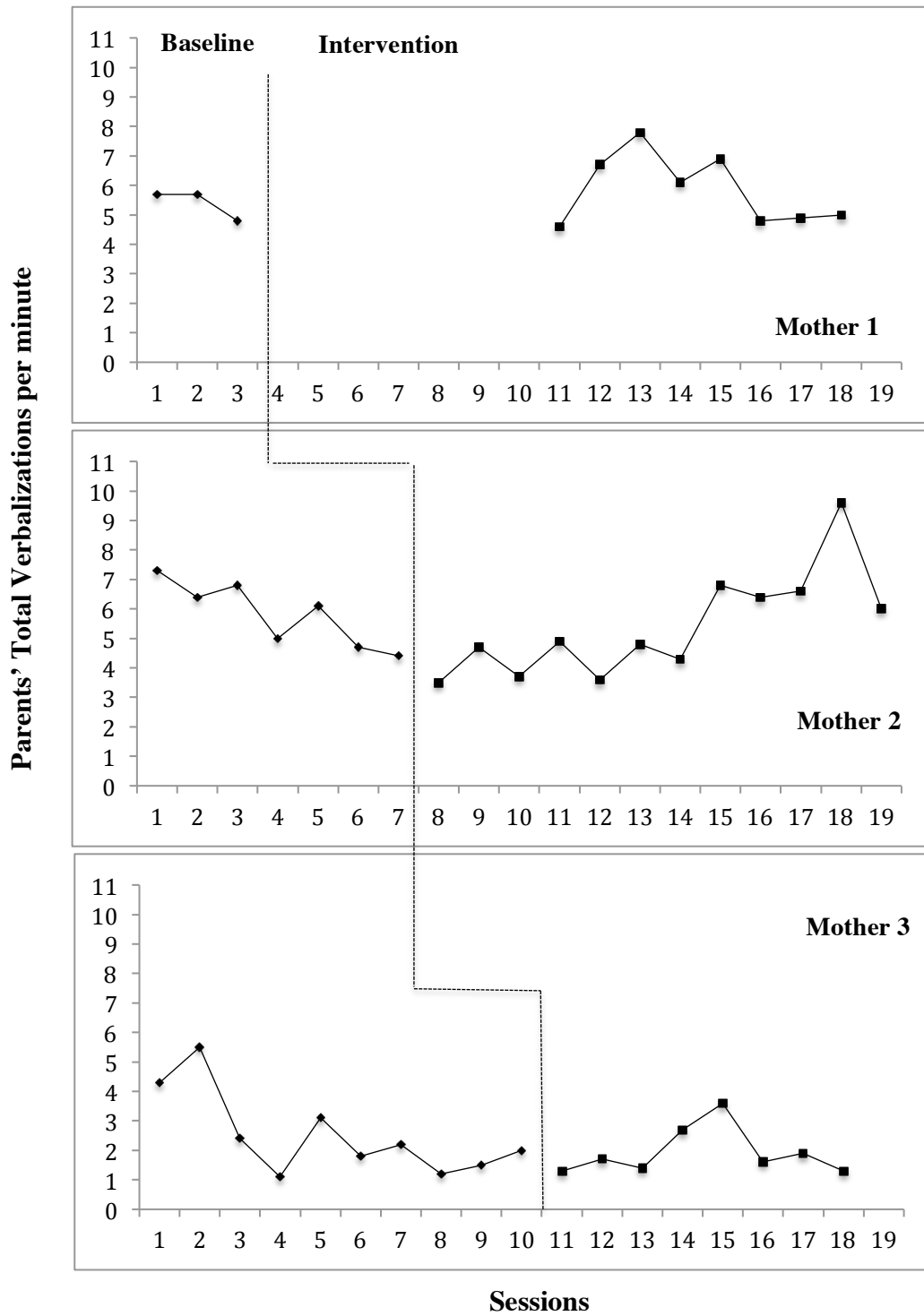


Figure 7. Parents' total verbalizations graph

Parents' statements (initiations and responses). Increase in level from baseline to intervention phase was found for Mother 1 and Mother 2 and an upward trend within intervention phase was found for Mothers 2 and 3 (Figure 8). There was no immediacy of response to the intervention observed for any of the parents. Baseline data for Mother 1 and Mother 2 showed stability, while the rest of the data had high variability. The PND showed 90% for Mother 1, 20% for Mother 2, and 0% for Mother 3, while effect size estimated was larger for Mother 1 ($d=6.4$) than for Mother 2 ($d=0.3$).

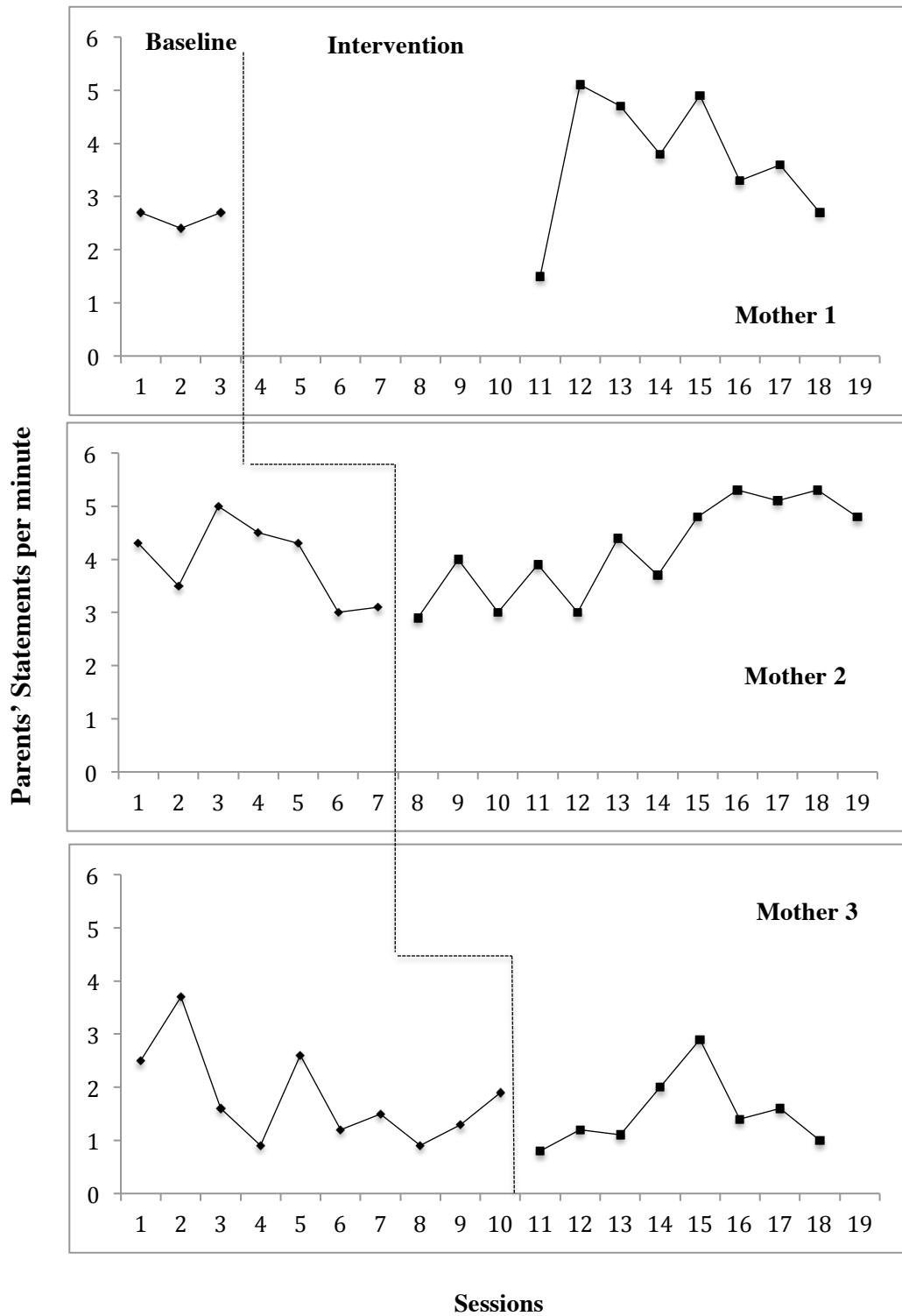


Figure 8. Parents' statements graph

Parents' initiations. Mother 1 and Mother 2 presented with an increase in level from baseline to intervention phase while Mother 2 and Mother 3 showed increases in trend within intervention phase (Figure 9). The researcher observed a stabled baseline and immediacy of response to the intervention for Mother 2. Intervention data for Mother 2, as well as baseline and intervention data for Mother 1 and Mother 3, had variability. The PND showed 90% for Mother 1, 40% for Mother 2, and 20% for Mother 3 and the estimated effect size was larger for Mother 1 ($d=2.7$) than for Mother 2 ($d=0.9$).

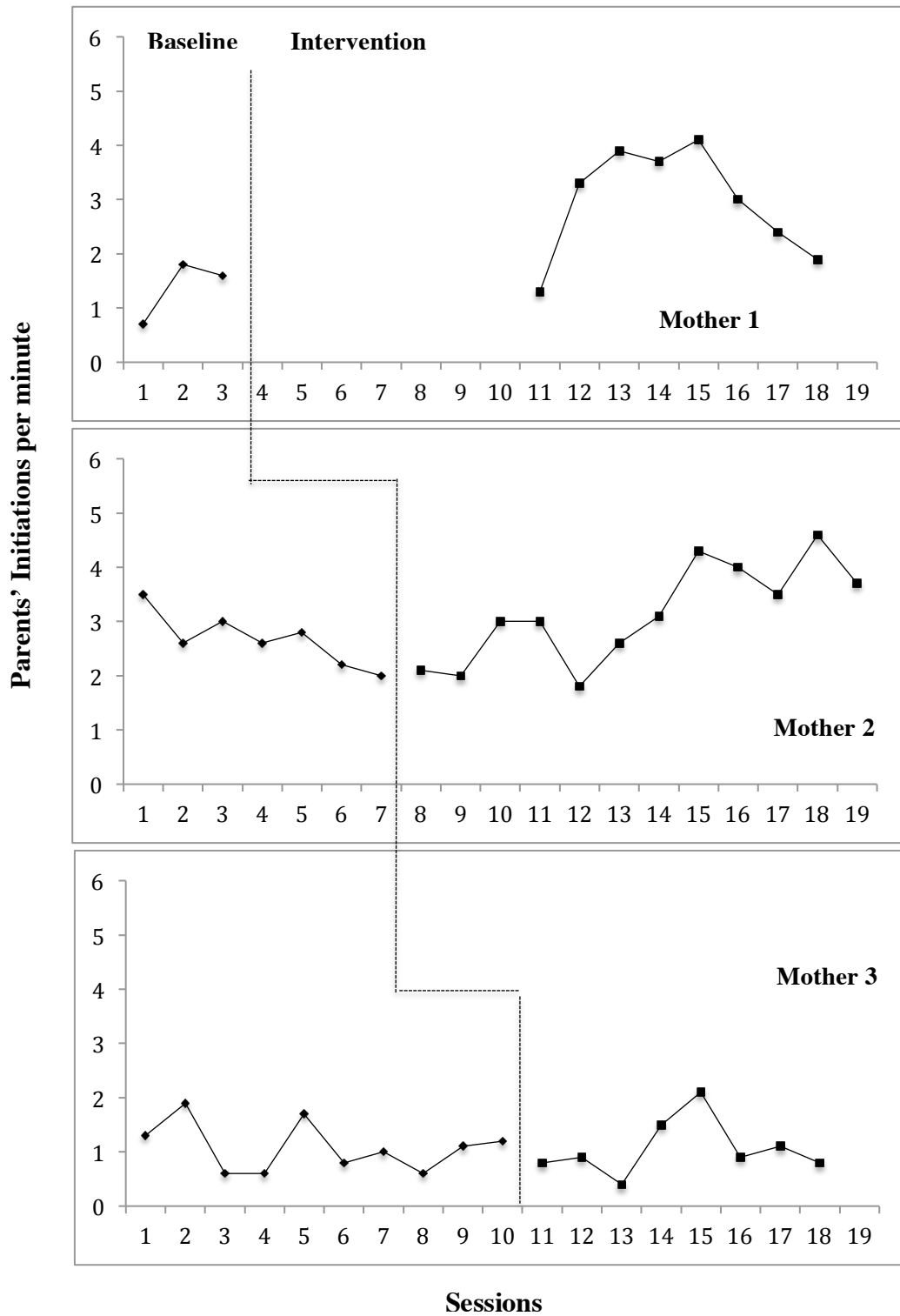


Figure 9. Parents' initiations graph

Parents' questions. The data from Figure 10 showed a decrease in level from baseline to intervention phase for the three mothers, an upward trend within the intervention for Mother 2, and immediacy of response to the intervention for Mother 1. Baseline data for Mother 1 showed stability, while the rest of the data had variability. PND was low for all participants, with 10% for Mother 1 and Mother 2 and 0% for Mother 3.

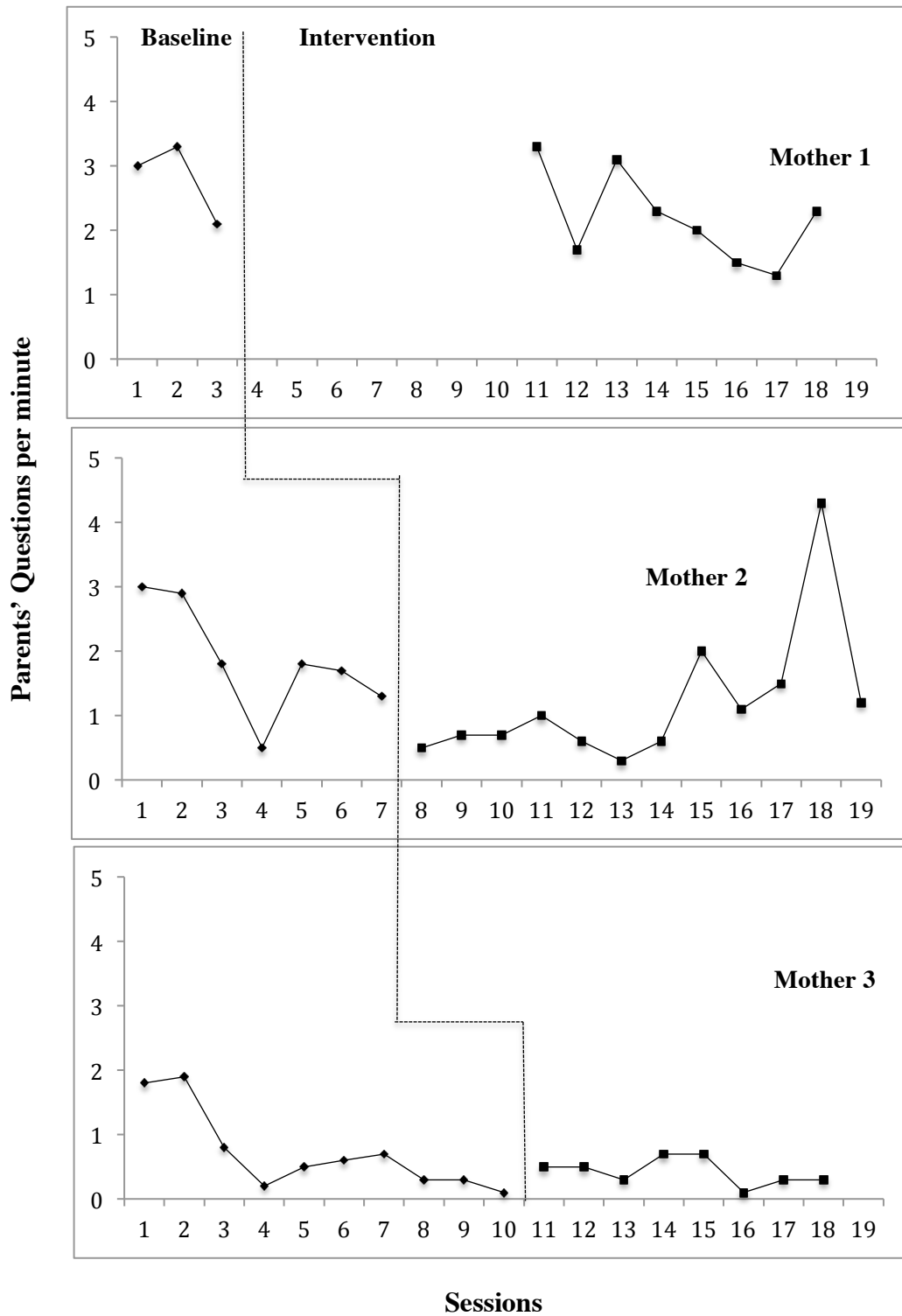


Figure 10. Parents' questions graph

Research Question 3

Does a home-based parent-mediated intervention increase children’s receptive vocabulary in Spanish?

Receptive vocabulary. The BSRA-3S was used to measure receptive vocabulary and school readiness skills before and after the intervention. The children were asked to identify by pointing to eighty-five pictures representing colors, letters, numbers/counting concepts, sizes/comparison concepts, and shapes. The three children showed increase from the pre-test to the post-test in the number of pictured objects they were able to identify correctly (See Table 2). They showed gains of seventeen words for Child 1, nineteen words for Child 2, and nine words for Child 3, with a percentage of increase of 20%, 22% and 11% respectively.

Table 2

Pre and Post Receptive Vocabulary

	Pre		Post	
	# Correct	Percentage	# Correct	Percentage
Child 1	17	20%	34	40%
Child 2	23	27%	42	49%
Child 3	11	13%	20	24%

A School Readiness Skills composite score was also calculated for the three children, with the performance of Child 1 and Child 2 falling within the below average range before the

intervention and within the average range after the intervention; Child 3 increased his performance after the intervention, but his score remained within the delayed range (Table 3).

Table 3

Pre and Post School Readiness Skills Standard Scores

	Standard Score Pre-Intervention	Standard Score Post-Intervention
Child 1	83 (below average)	96 (average)
Child 2	85 (below average)	99 (average)
Child 3	74 (delayed)	79 (delayed)

The percentage of growth for each child on each area of the test is displayed on Table 4. The least amount of growth was observed on children’s knowledge of letters, which stayed the same for Child 2 and Child 3 and increased by 10% for Child 1. The three children showed a growth of 20% on their knowledge of colors, between 10% and 20% on their knowledge of numbers and counting, between 10% and 30% on their knowledge of sizes and comparison concepts, and between 0% and 30% on their knowledge of shapes.

Table 4

Pre and Post Percentage Growth by Area

	Colors		Letters		Numbers Counting		Sizes Comparisons		Shapes	
	Pre	Post	Pre	Post	Pre	Post	Pre	Post	Pre	Post
D1	0.3	0.5	0.0	0.1	0.1	0.2	0.5	0.6	0.4	0.7
D2	0.6	0.8	0.1	0.1	0.4	0.6	0.5	0.7	0.3	0.4
D3	0.0	0.2	0.0	0.0	0.1	0.2	0.3	0.6	0.2	0.2

Treatment Fidelity

Treatment fidelity was measured every week by a short questionnaire completed with the mothers and by one observation completed by the researcher midway through the study. Each week parents reported that each time they practiced the intervention with their children, they spent between 15-20 minutes sharing one or more books. They were not consistent with the amount of times they used the intervention each week, and responses ranged from 2 times some weeks to 4 times on others. The observation completed by the researcher showed that the 3 mothers implemented the intervention with fidelity. They all spent between 15-20 minutes sharing books the day of the observation and kept the handout with the 5 strategies next to them.

Social Validity

After the 6 weeks, the mothers also completed a survey to address social validity. The 3 mothers stated that they found the intervention easy to implement and very useful. They also

mentioned that they were able to remember each one of the 5 strategies consistently. When asked about suggestions to improve the project, all of them reported that they would not change anything about the intervention, but stated that they did have difficulty finding the time to do it three or four times per week and that was easy to forget to videotape. They all mentioned that it was more fun for them to actually share and talk about the books with their children, rather than just reading the story. They were also excited to share that their children were more interested in books after the intervention and had begun to bring the books to them to spend time sharing the stories.

Summary of Results

Overall, the results showed that routinely the verbal interactions between the mothers and their sons were brief, functional, and usually not extended to their children's activities. There was a tendency to engage in more meaningful conversations during dinnertime when all the members of the family were present. The intervention presented to the mothers appeared to have better effects on Dyad 1 and Dyad 2 than on Dyad 3. Increases in overall interactions were observed for Dyad 1 and Dyad 2, increases in the total number of verbalizations were observed for Child 1 and Child 2, increases in the number of statements were observed for Child 1 and Child 2, increases in the number of initiations were observed for Mother 1 and Mother 2, and increases in the number of statements were observed for Mother 1 and Mother 2. The number of verbal initiations increased for all the three children. The intervention also appeared to have positive effects on the children's receptive vocabulary as a positive change was observed between the number pictured objects that the three children were able to identify before and after

the intervention. Furthermore, there was an increase in their School Readiness Skills composite score.

Chapter V

Discussion

The study of parent-child verbal interactions for Latino families in the United States was of interest to the researcher because there is a gap in the literature regarding this population and Latino children growing up in the United States are at-risk for poor educational outcomes due to factors closely related to socioeconomic status, parent-child verbal interactions, and language development. This study was developed under a conceptual framework emphasizing the following components and the interactions between and among these components: Parents play an important role in the development of their children's vocabulary; children from low-socioeconomic backgrounds are less exposed to rich language from their parents; a large number of Latino children growing up in the United States come from low socio-economic status; a strong foundation in native language facilitates the development of a second language; second language (English) acquisition is needed for development of literacy; and literacy is crucial for school success (Cardenas-Hagan et al., 2007; Cummins, 1980; Hammer et al., 2011; Hart & Risley, 1995; Hart & Risley, 1999; Nelson, 2010; Odom, Pungello, & Gardner-Neblett, 2012; O'Hara & Pritchard, 2010; Pruitt & Oetting, 2009; Vygotsky, 1978). A parent-mediated approach was chosen because of the importance of parents' role in their children's development and they have been investigated before with success. (McWilliam, 2010; Dunst, 1985; Dunst, Trivette, & Deal, 1994; Tudor, 1977). The intervention in the current study involved training the

parents to use simple strategies during a structured story time activity that built on what their child was already able to do, which falls into Vygotsky's theory (1978) of matching the child's *actual developmental level* and *zone of proximal development*. The study used single subject multiple baseline across participants design to measure parent-child verbal interactions as well as pre- and post- assessment to measure the children's receptive vocabulary. Three Spanish speaking Latina mothers from low SES and their preschool age sons participated in the study, which investigated two dependent variables: parent-child verbal interactions and children's receptive vocabulary.

Socioeconomic Status, Language Development, and Young English Learners

Research question 1. How do Latino parents verbally interact with their children during the day and during mealtimes? The information provided by the mothers during the initial interview as well as the data from the videos helped answer the first research question. The data obtained in the study corroborated previous findings in the literature as the mothers indicated that their verbal interactions with their children throughout the day were mostly functional, brief, and typically not extended to children's activities. Research studies completed with native English speaking families in the United States showed that children from socioeconomic disadvantaged backgrounds were not always exposed to a vast variety of experiences, and significant differences were found in the amount and type of interactions between parents and children (Hart & Risley, 1995; Odom, Pungello, & Gardner-Neblett, 2012; O'Hara, 2010). The study conducted by Hart and Risley (1995) showed that professional families gave their children affirmative feedback five times as often as parents in welfare and children in welfare heard a prohibition twice as often as they heard affirmative feedback. Other studies found that conversations in low

SES families are often short, do not extend beyond practical concerns, and children from low SES often have very concrete language and difficulty understanding abstract and decontextualized language in school (Nelson, 2010; Pruitt & Oetting, 2009). These findings do not seem to apply only to a specific country or culture as research studies conducted in Lima, Perú with native Spanish speaking children also showed that preschoolers from low SES performed lower than students from middle and high socioeconomic status in measures of oral vocabulary and language comprehension (Arenas, 2012; Giuffra, 2000).

Considering that language acquisition is a major milestone in childhood development, which serves as the foundation for other developmental skills, the results of this study, which aligned with the ones presented above, are alarming for any child growing up in poverty. They are even more troublesome for Latino children growing up in poverty in the United States because they need a strong foundation in Spanish in order to facilitate second language acquisition, reading progress, and school success (Cárdenas-Hagan et al., 2007; Cummins, 1980; Hammer et al., 2011).

Parent-Mediated Interventions

Research question 2. What is the effect of a home-based parent-mediated intervention on parent-child Spanish verbal interactions? Research has shown that parent-child verbal interaction is strongly associated with the development of children's vocabulary and emergent literacy skills (e.g., Hart & Risley, 1995; Snow, Barnes, Chandler, Goodman, & Hemphill, 1991; Vukelich, Christie, & Enz, 2008; Vygotsky, 1978) and parent-mediated interventions have allowed parents to learn strategies to improve communication skills that they can implement at home and across settings (Hancock, Kaiser & Delaney, 2002). Although previous studies have been conducted to

investigate the effects of parent-mediated interventions at different settings (e.g., Chao et al., 2006; Justice et al., 2011; Roberts & Kaiser, 2012), few studies have examined Latino parents' interaction with their children in naturalistic environments such as home-based routines or activities. No research has been done to examine parent-child interactions during mealtimes.

Despite the challenges of extraneous variables in home settings that were out of the researcher's control, several positive outcomes were observed across the three dyads. The results indicated increase from baseline to intervention condition for the three Dyads in the number of parent-child verbal interactions as well as in the number of verbal initiations for the three children, and increase in the number of children's total verbalizations, children's statements, parents' statements, and parent's initiations for two Dyads. These findings compared favorably with previous studies, which showed the effectiveness of parent-mediated interventions in the improvement of children's receptive and expressive vocabulary, verbal interactions, behaviors, and engagement in shared reading (Chao et al., 2006; Gesell et al., 2012; Justice et al., 2011; Roberts & Kaiser, 2011). The strategies used in this study were consistent with Roberts and Kaiser's (2011) categorization of the common strategies used in parent-mediated intervention studies: a) responding to child communication, b) increasing quality of linguistic input, c) adjusting the balance of adult-child communication, and d) expanding or recasting child communication; furthermore, this study introduced a new perspective, which was the observation of the effects of the intervention in their natural environment during mealtimes. The data showed not only the overall quantitative change in parent-child verbal interactions and children's receptive vocabulary, but also provided insights into the quality of their interactions during their mealtime routines. The mealtime scenario was an ideal opportunity that allowed the researcher to

observe a daily routine when parents and children were in the same place and verbally interacting for a specific amount of time. The main challenge of this approach was that the children paused from talking when they were eating, and the more they appeared to like the meal, the least interest they had in talking. It was also difficult to control for one of the mothers to stay at the table during the entire video as she would eat a quick snack and then tried to get chores done around the house.

An interesting finding was the decrease from baseline to intervention condition in the number of questions for the three mothers and Child 1 and Child 3. The researcher believes that one of the recurrent strategies of the intervention, providing wait time, might have had an impact on the particular outcome. According to the intervention protocol, instead of constantly asking questions to facilitate communication, the mothers waited for the children to elaborate on their comments, and at the same time the children did not have to ask questions to get their mothers' attention. On the other hand, Child 2's increased number of questions might suggest the possible impact of extraneous variables that were not part of the design. Child 2's mother went through a traumatic episode during the intervention period for a couple of weeks, which might have changed the nature of their interactions during mealtimes. The child's increased number of questions might indicate his attempt to engage her mother as he was observed to call her name frequently (e.g., "Mami...", "Mami mira ...") in order to gain her attention. A closer look in the videos to the behaviors being displayed around this particular time may help clarify these results.

Participants from Dyad 3 appeared to be the ones that gained the least from the intervention. This result might be related to an extraneous variable that developed during the study. When the study began, the youngest child in the family was still a baby who stayed in her

swing during the videotapes; however, as the weeks passed, she began walking which cause her mother to constantly leave the table to follow her around the kitchen and the living room.

Research has shown that learning opportunities occur during the child's daily routines and family life (Dunst, 1985; Dunst, Trivette, & Deal, 1994; Mc. William, 2010; Tudor, 1977); consistently, this study provided evidence that empowering Latino parents with tools and opportunities to deliver language interventions in the safety of their own home while using their native language enhances those learning opportunities.

Language Development and Early Literacy

Research question 3. Does a home-based program increase children's receptive vocabulary in Spanish? Researchers have stated that alphabet knowledge, phonological awareness, print knowledge, and vocabulary have been identified as early literacy skills that are robust predictors of children's later literacy achievement in their native language and in a second language (Cárdenas-Hagan et al., 2007; Ford, 2010). They have also recommended that instruction of English learners should emphasize the development of both oral language and early literacy skills (Castro et al., 2011) and the education of parents about the benefits of engaging with their children in playful conversations while reading books in their native language (Gesell et al., 2012; Huennekens, 2009). The results of the study were favorable for the three children as they all showed increase in their receptive vocabulary evidenced by the results of the pre- and post- assessments of their knowledge of pre-academic concepts (e.g., numbers and counting concepts, shapes, size and comparison concepts). While variable amount of growth was obtained in the children's ability to identify colors, shapes, numbers, and sizes, the smallest growth was observed in their ability to identify letters. The type of strategies that the mothers

learned and implemented during the research project could explained these results as they narrated stories from the pictures on the books instead of paying attention to print. The intervention emphasized looking at and talking about the pictures rather than reading the words. The mothers in the study learned early in the process that they were not expected to label objects or reference print. They spent their shared-time describing the situations on each page and using adjectives to expand on their children's comments (e.g., they described fruits, counted them, and talked about their sizes, shapes, and flavors). Our results corroborated the findings by Lim and Cole (2002) who studied the effects of the *Language is the Key* parent-mediated program with Korean families. Their results indicated that picture book interactions between parents and children, through use of specific language facilitation techniques, had positive effects on children's language performance and increase their vocabulary use.

Study Implications

The results of the study were consistent with prior findings about language development of native English learners and extended them by adding valuable information for Latino families raising children in the United States. Studies have shown that a strong development of native language positively affects second language acquisition (Cummins, 1980; Philip, Oliver & Mackey, 2008; Tabors, 1997); however, immigrant parents are often told that they need to speak in English to their children so to help them be academically successful at school. It is important to disseminate information to early intervention practitioners, preschool centers, and grade schools regarding that mistaken assumption so that they begin encouraging parents to speak to their children in their native language. Researchers found that students who at the beginning of the year had stronger letter name and sound identification skills in L1 performed at higher levels

in L2 at the end of the year (Hammer et al., 2008) and children's English vocabulary and emergent literacy were unaffected by the language in which mothers communicated with them (Cardenas-Hagan et al., 2007; Hammer et al., 2009). It is essential that practitioners, administrators, and policy makers develop programs that enhance the development of both L1 and L2 through effective instruction across settings such as parent-mediated interventions.

This study's findings are also culturally and linguistically meaningful because they showed that Latino parents in the United States could help their preschool children improve their communication and pre-academic skills by implementing simple strategies to facilitate language at home while speaking to them in Spanish. Considering the importance that Cummins' (1979) hypothesis of "developmental interdependency" has on English learners' academic success in the United States, the fact that parents can be instrumental in that success raises optimism. The results support the suggestion made by Gesell et al., (2012) that Latino's educational outcomes may be improved by educating parents on the value of playful conversations with young children while reading books in one's native language.

Even though the review of the literature showed several studies with English speaking parents and their preschool children (Hart & Risley, 1995; Hart & Risley, 1999; Nelson, 2010; Odom, Pungello & Gardner-Nebblett, 2012; O'Hara, 2010; Pruitt & Oetting, 2009), most of the studies found with Spanish families were conducted while the children were already enrolled in Head Start or some type of Early Intervention programs (e.g., Farver et al., 2013; Hammer et al., 2008; Hammer et al., 2009; Hammer et al., 2011). This study worked with Latina mothers and their children before they were enrolled in any preschool program, which showed that the home

environment could be as enriching as a structured educational program when the parents are provided with appropriate strategies.

The results from this study may provide new data for meta-analysis studies regarding effect size in the area of parent-mediated intervention with Latino families. When this study showed change in the dependent variable from baseline to intervention phase, the proportion of non-overlapping data (PND) and standard mean differences (SMD) were positive. The use of SMD has been recommended for single subject research in addition to visual analysis; however, the statistical results in this study need to be interpreted with caution because of the nature of single subject research, which uses a small number of participants as well as a small number of observations. Additionally, there is not consensus on single subject research literature regarding what specific PND or SMD indicate effectiveness; instead, researchers suggested that a more reasonable approach should be to examine and compare to the available effect sizes from a group of single-subject studies directed toward similar behavior (Beesey & Robey, 2006).

Future Research

The present study was innovative as it introduced observations during the mealtime naturalistic scenario; however, it could be improved by adding a component where parent training occurs more than once and progress in implementations are closely monitored. The parents could be observed twice or three times while implementing the intervention in order to receive feedback on their progress. They could also be videotaped during those observations and the videos watched together with the researcher to analyze strengths and weaknesses. That approach would echo the recommendation made by Roberts and Kaiser (2012) who completed a meta-analysis of studies of parent-mediated interventions, and stated that the model of training

should be a triadic intervention which requires a three-level method of monitoring and measuring parent training, parent implementation of intervention strategies, and child language outcomes. In a triadic intervention, they explained, success depended on parents' learning and using the strategies frequently and accurately enough to influence their children's development.

It will be of value to analyze which different results this study brings if the parents are instructed to use the strategies not only during book sharing time but also throughout their typical daily routines. In this particular project, parents were not guided into generalizing the strategy; however, some effects were still observed in the naturalistic environment during mealtimes.

The mothers in the study suggested one change in the process for the future, which they believed would make the process easier for other parents. They proposed for the researcher to send daily reminding them that it was time to implement the intervention and/or to videotape their mealtime.

Since this study was not focused on social but verbal interactions and non-verbal communication was not taken under consideration, the use of audio recorders rather than videotapes in future studies may increase the amount of parents willing to participate.

Obtaining information regarding the children's hearing acuity as well as their overall reasoning skills may account for experimental control and interpretation when conducting similar studies.

Beesy and Robey (2006) evaluated single-subject treatment research from the Aphasia literature and described that their focus is in determining how much change can be effected by the treatment rather than how fast the change is made. More attention is paid to changes in level

and effect size than to immediacy of the intervention and changes in slope because effect sizes will help to promote evidence-based practice in aphasia and other areas of neurorehabilitation. Single-subject studies of parent-mediated interventions that pay attention to the amount of overall change over time rather than the speed of the change may benefit the field of early childhood development. Studies may need to be longer than the usual single-subject length; however, once a treatment shows to be effective it would be of value to the parents as they can continuously implement it during their daily routines without worrying about seeing quick but lasting effects.

Future researchers may want to consider adding a daily routine to the mealtimes. Even though it allows the opportunity for parents and children to be verbally engaged for approximately 10-15 minutes, as it was explained before, the children stopped talking when eating, which interrupted the flow of the interactions.

Study Limitations

One of the limitations of single-subject research designs is the inability to generalize results due to a small sample; however, the results are very valuable as the data collected are rich in details that other designs do not provide. Difficulty establishing a strong causal connection is another limitation of single-subject research as well as the lack of control for extraneous variables.

Extraneous variables. Extraneous variables that appeared during the study, affected the frequency and length of the videotapes, and might have had negative effects on the outcomes. The most significant extraneous variable was that one of the mothers had a late miscarriage, which put her in the hospital for two days and significantly affected her emotional wellbeing.

Even though she was going through a difficult time, she chose to continue participating in the study. Some behavioral changes were observed in the videos gathered a couple of weeks after her loss; they were shorter than usual, her affect was flat, and her child made extra efforts to gain her attention.

Other extraneous variables might have also contributed to the variability of observations. For example, one of the families had to move from their trailer to the maternal grandmother's trailer in order for both families to save money and a younger sister began to walk; during those times the videos were shorter than usual and the mother had to pay more attention to her newly walker than to her son during the videotaped mealtimes. An older sibling in one of the families broke an arm and had to get a cast and on a couple of sessions after the cast was placed he could be heard in the background talking to the study participants while they were videotaping their mealtime. The other family's car broke down for two weeks, which affected their entire family schedule and their ability to videotape their mealtimes.

Videotapes. The need for the videotapes discouraged several qualifying participants as the mothers were self-conscious about appearing on the videos and thought they were going to feel embarrassed. Two of the mothers who did participate in the study reported that a couple of times they were not able to videotape their mealtimes because the children had meltdowns about being filmed.

Young children. Conducting research with young children is as important for the field of child development as rewarding and sometimes challenging for the researcher who cannot control for the children's rapid changes in attitudes, mood, willingness to participate and/or

interest in talking during a particular time. Some of the videotapes in this study were cut short due to unexpected meltdowns.

Treatment Fidelity

Treatment fidelity was measured every week by a short questionnaire completed with the parents and by direct observation once in the middle of the study. When conducting studies in naturalistic environments, maintaining treatment fidelity can be challenging. For the current study some of the challenges for maintaining treatment fidelity were the presence of the extraneous variable discussed above, the need to rely on parents' self-assessment and self-report, and the need to rely on parents' consistency regarding the number of times they implemented the intervention and the number of times they videotaped their mealtimes each week.

Social Validity

Collecting social validity data in single subject research is critical because social validity helps address the therapeutic criterion of the study (Barlow, Nock, & Hersen, 2009). In other words, it is important for the researcher to investigate how culturally and socially meaningful the study was. Findings of the social validity questionnaire in the current study suggested that parent-mediated strategies to improve native language development with Latino parents are feasible and highly valued. The three mothers found that the study not only increased their children's interest in books, but also their own motivation to share books with them as they liked the "C-A-R-R-O" approach better than reading the words. Studies had shown that through parent-mediated interventions meaningful benefits were obtained: a) parents are given an important tool for participation in their child's education, b) the early exposure to literacy fosters

later literacy development, and c) efforts to improve school readiness are more effective when they involve families and communities (Reese, & Gallimore as cited in Gesell et al., 2012; Gonzalez & Uhing as cited in Gesell et al., 2012). By giving parents in the Latino community tools to foster school readiness, we are increasing the likelihood of their Latino children developing literacy and experiencing success at school.

Summary

The Latino population has been rapidly increasing in the United States for several decades, as well as the number of English learners from a variety of ethnic groups (National Institute for Urban School Improvement, 2001; US Census Bureau, 2015). Strengthening young children's native language development will help increase their chances to successfully develop literacy in English, graduate from high school, attend a higher education institution, and lead a meaningful life (Cárdenas-Hagan et al., 2007; Cummins, 1980; Hammer et al., 2011). Training parents from low SES to implement an intervention at home that will enhance their children's communication skills before entering school has shown to be easy, effective, and well received. By giving parents the tools that they need to help their children succeed, while still using their native language to communicate with them, we are igniting a chain effect system that may benefit Latino children all the way through adulthood.

List of References

- Arenas, A., E. (2012). Desarrollo de lenguaje comprensivo en niños de 3, 4 y 5 años de diferente nivel socioeconómico. (Master's Thesis in Speech and Language, Pontifical Catholic University of Perú, 2012). *Repositorio Digital de Tesis PUCP*. Retrieved from <http://tesis.pucp.edu.pe/repositorio/handle/123456789/1648>
- Barlow, D. H., Nock, M. K., & Hersen, M. (2009). *Single case experimental designs. Strategies for studying behavior change, Third edition*. Boston, MA: Pearson Education Inc.
- Bracken, B. (2007). *Bracken school readiness assessment, Spanish, Third edition*. San Antonio TX: Pearson Education Inc.
- Beeson, P. M., & Robey, R. R. (2006). Evaluating Single-Subject Treatment Research: Lessons Learned from the Aphasia Literature. *Neuropsychology Review*, *16*(4), 161–169. <http://doi.org/10.1007/s11065-006-9013-7>
- Busk PL, Serlin R. (1992) Meta-analysis for single case research. In: Kratochwill TR, Levin JR, editors. *Single-case research design and analysis: New directions for psychology and education*. Lawrence Erlbaum Associates; Hillsdale, NJ.
- Cárdenas-Hagan, E., Carlson, C. D., & Pollard-Durodola, S. D. (2007). The cross-linguistic transfer of early literacy Skills: The Role of initial L1 and L2 skills and language of instruction. *Language, Speech, And Hearing Services In Schools*, *38*(3), 249–259.
- Castro, D. C., Páez, M. M., Dickinson, D. K., & Frede, E. (2011). Promoting language and literacy in young dual language learners: Research, practice and policy. *Child Development Perspectives*, *4*, 195-201.
- Chao, P-C., Bryan, T., Burstein, K., & Ergul, C. (2006). Family-centered intervention for young children at-risk for language and behavior problems. *Early Childhood Education Journal*, *34*(2), 147-153.
- Cohen J. (1988). *Statistical power analysis for the behavioral sciences*. Second edition Lawrence Erlbaum Associates; Hillsdale, NJ.
- Cole, K, Maddox, M., Lim, Y.S., & Notari-Syverson, A. (2002). *Language is the key: A program for building language and literacy. Talking and books and talking and play*. Seattle, WA: Washington Research Institute.

- Cummins, J. (1979). Linguistic interdependence and the educational development of bilingual children. *Review of Educational Research*, 49(2), 222-251.
- Cummins, J. (1980). The cross-lingual dimensions of language proficiency: Implications for bilingual education and the optimal age issue. *TESOL Quarterly*, 14, 175-187.
- Dale, P., Crain-Thoreson, C., Notari-Syverson, A., & Cole, K. (1996). Parent-child storybook reading as an intervention technique for young children with language delays. *Topics in Early Childhood Special Education*, 16(2), 213-235.
- Dickinson, D., & Tabors, P. (2002). Fostering language and literacy in classrooms and homes. Supporting language learning. *Young Children*, 57(2), 10-18.
- Dunst, C. J. (1985). Rethinking early intervention. *Analysis and Intervention in Developmental Disabilities*, 5, 165-201.
- Dunst, C. J., Trivette, C. M., & Deal, A. G. (1994). *Enabling and empowering families*. Cambridge, MA: Brookline Books.
- Elliot, L. (1999). *What's going on in there? How the brain and mind develop in the first five years of life*. New York, NY: Bantam Books.
- Espinosa, L. M., & López, M. (2007). *Assessment considerations for young English language learners across different levels of accountability*. Philadelphia, PA: National Early Childhood Accountability Task Force.
- Farver, J., Xu, Y., Lonigan, C., & Eppe, S. (2006). Home environments and young Latino children's school readiness. *Early Childhood Research Quarterly*, 21, 196-212.
- Farver, J., Xu, Y., Lonigan, C., & Eppe, S. (2013). The home literacy environment and Latino Head Start children's emergent literacy skills. *Developmental Psychology*, 49(4), 775-791.
- Ford, K. (2010). Language and literacy development for English language learners in preschool. In *Promoting early reading: Research, resources, and best practices* (pp. 37-58). New York, NY: The Guilford Press.
- Gesell, S., Wallace, D., Tempesti, T., Hux, V., & Barkin, S. (2012). Increasing Latino parents' verbal interactions with their preschool-aged children. *ISRN Education*, 2012(2012), 1-9. doi:10.5402/2012/652406
- Giuffra, A. P. (2000) *Habilidades cognitivas verbales, nivel socioeconómico y género en escolares de segundo grado de Lima metropolitana*. (Licentiate's Thesis in Educational Psychology). Lima, Perú: Pontifical Catholic University of Perú.

- Guarino, C. M., Buddin, R., Pham, C., & Cho, M. (2010). Demographic factors associated with the early identification of children with special needs. *Topics in Early Childhood Special Education, 30*(3) 162-175. doi: 10.1177/0271121409349273
- Hammer, C., Lawrence, F., & Miccio, A. (2008). Exposure to English before and after entry into Head Start: Bilingual children's receptive language growth in Spanish and English. *International Journal of Bilingual Education and Bilingualism, 11*, 30-56.
- Hammer, C.S., Davison, M.D., Lawrence, F.R., & Miccio, A.W. (2009). The effect of home language on bilingual children's vocabulary and emergent literacy development during Head Start and kindergarten. *Scientific Studies of Reading - Special Issue, 13*(2), 99-121.
- Hammer, C., Jia, G., & Uchickoshi, Y. (2011). Language and literacy development of dual language learners growing up in the United States: A call for research. *Child Development Perspectives, 5*(1), 4-9.
- Hancock, T. B., Kaiser, A. P., & Delaney, E. M. (2002). Teaching parents of preschoolers at high risk: Strategies to support language and positive behavior. *Topics in Early Childhood Special Education, 22*(4), 191-212.
- Hardin, B., Roach-Scott, M., & Peisner-Feinberg, E. S. (2007). Special education referral, evaluation, and placement practices for preschool English language learners. *Journal of Research in Childhood Education, 20*(1), 39-55.
- Hart, B., & Risley, T. R. (1995). *Meaningful differences in everyday experience of young American children*. Baltimore, MD: Paul Brookes Publishing.
- Hart, B., & Risley, T. R. (1999). *The social world of children. Learning to talk*. Baltimore, MD: Paul Brookes Publishing.
- Hartmann, D. P. (1977). Considerations in the choice of interobserver reliability measures. *Journal of Applied Behavior Analysis, 10*, 103-116
- Horner, Carr, Halle, McGee, Odom, & Wolery, (2005). The Use of Single-Subject Research to Identify Evidence-Based Practice in Special Education. *Council for Exceptional Children, 71*(2), 165-179.
- Huennekens, M. E. (2009). *Accelerating second language development in preschool English language learners: a cross-linguistic storybook intervention*. (Master's Thesis). Richmond, VA: Virginia Commonwealth University.

- Institute of Medicine and National Research Council. (2000). *From neurons to neighborhoods: The science of early childhood development*. Washington, DC: The National Academies Press.
- Justice, L., Skibbe, L., McGinty, A., Piasta, S., & Petrill, S. (2011). Feasibility, efficacy, and social validity of home-based storybook reading intervention for children with language impairment. *Journal of Speech, Language, and Hearing Research, 54*, 523-538.
- Kennedy, C. (2005). *Single-case designs for educational research*. New York, NY: Allyn and Bacon.
- Klass, C. (2008). *The home visitor's guidebook. Promoting optimal parent & child development, Third edition*. Baltimore, MD: Brookes Publishing.
- Kratochwill T. R., Hitchcock J. H., Horner R. H., Levin J. R., Odom S. L., Rindskopf D. M., & Shadish W. R. (2013). Single-case intervention research design standards. *Remedial and Special Education, 34*, 26-38. 10.1177/0741932512452794
- Lim, Y.S., & Cole, K.N. (2002). Facilitating first language development in young Korean children through parent training in picture book interactions. *Bilingual Research Journal, 26*(2).
- McWilliam, R. A. (2010). *Routines-based early intervention. Supporting young children and their families*. Baltimore, MD: Brookes Publishing.
- Morrier, M. J., & Gallagher, P. A. (2010). Racial disparities in preschool special education eligibility for five southern states. *The Journal of Special Education, 46*(3) 152-169. doi: 10.1177/0022466910380465
- National Center for Children in Poverty. (2014). *Basic facts about low-income children, children under 6 Years*. Retrieved from http://www.nccp.org/publications/pub_1088.html
- National Center for Education Statistics. (2014). *National assessment of educational progress*. Retrieved from http://nces.ed.gov/programs/digest/d14/tables/dt14_221.12.asp
- National Center for Education Statistics. (2014). *Projections of education statistics to 2022*. Retrieved from <http://nces.ed.gov/pubsearch/pubsinfo.asp?pubid=2014051>
- National Center for Education Statistics. (2016). *The condition of education*. Retrieved from <http://nces.ed.gov/programs/coe/>
- National Center for Education Statistics. (2015). *Trends in high school dropout and completion rates in the United States: 1972–2012*. Retrieved from <http://nces.ed.gov/pubs2015/2015015.pdf>

- National Institute for Urban School Improvement. (2001). *Brief discussion of critical issues in urban education. On the nexus of race, disability, and overrepresentation: What do we know? Where do we go?* Retrieved from <http://www.urbanschools.org/pdf/race.pdf>
- Nelson, N. W. (2010). *Language and literacy disorders: Infancy through adolescence*. Boston, MA: Pearson Education.
- Odom, S.L., Pungello, E.P., & Gardner-Neblett, N. (2012). *Infants, toddlers and families in poverty. Research implications for early child care*. New York, NY: Guilford Press
- O'Hara, S., & Pritchard, R. (2010). *Socioeconomic status and language development*. Pearson Allyn Bacon Prentice Hall. Retrieved from <http://www.education.com/reference/article/socioeconomic-status-vocabulary-development/>
- Ortiz, A., Clinton, A., & Schaefer, B. A. (2015). Construct validity evidence for Bracken school readiness assessment, third edition, Spanish form scores. *Psychology in the Schools*, 52(2), 208–221. doi: 10.1002/pits.21816
- Silver-Pacuilla, H., Brown, S., Overton, C., & Stewart, A. (2011). *Assistive Technology Research Matters*. Washington, DC: American Institutes for Research.
- Philip, J., Oliver, R., & Mackey, A. (2008). *Second Language Acquisition and the Young Learner. Child's Play?* Amsterdam/Philadelphia. John Benjamin Publishing Company.
- Pinkham A., Kaefer T., & Neuman, S. (2012). *Knowledge development in early childhood: Sources of learning and classroom implications*. New York, NY: Guilford Press.
- Porter, S. (2014). Position statement on early childhood development. *Journal of Pediatric Nursing*, 29(2), 187-188.
- Pruitt, S., & Oetting, S. (2009). Past tense marking by African American English-speaking children reared in poverty. *Journal of Speech, Language, and Hearing Research*, 52, 2–15.
- Rakap, S., & Rakap, S. (2014). Parent-mediated naturalistic language interventions for young children with disabilities: A systematic review of single-subject experimental research studies. *Educational Research Review*, 13
doi: <http://dx.doi.org/10.1016/j.edurev.2014.09.001>
- Richards, S., Taylor, R., Ramasamy, R., & Richards, R. (1999). *Single subject research: Applications in educational and clinical settings*. San Diego, CA: Singular Publishing Group.

- Roberts, M., & Kaiser, A (2011). The effectiveness of parent-mediated language interventions: a meta-analysis. *American Journal of Speech-Language Pathology*, 20, 180-205.
- Roberts, M., & Kaiser, A (2012). Assessing the effects of a parent-mediated language intervention for children with language impairments using empirical benchmarks: A pilot study. *Journal of Speech, language, and Hearing Research*, 55, 1655-1670.
- Snow, C. E., Barnes, W. S., Chandler, J., Goodman, I. F., & Hemphill, L. (1991). *Unfulfilled expectations: Home and school influences on literacy*. Cambridge, MA: Harvard University Press.
- Stemler, S. E. (2004). A comparison of consensus, consistency, and measurement approaches to estimating interrater reliability. *Practical Assessment, Research & Evaluation*, 9(4).
<http://pareonline.net/getvn.asp?v=9&n=4>
- Tabors, P. (1997). *One child, two languages: A guide for early childhood educators of children learning English as a second language, 2nd edition*. Baltimore, MD: Paul H. Brookes.
- Tawney, J. W., & Gast, D. L. (1984). *Single subject research in special education*. Columbus, OH: Charles E. Merrill Publishing Company.
- The Grade-Level Reading Campaign. (2015). *The 30 million word gap. The role of parent-child verbal interaction in language and literacy development*. Retrieved from <http://gradelevelreading.net/wp-content/uploads/2013/05/GLR-Issue-brief-on-oral-language-research.pdf>
- The IRIS Center. (2015). *Developing a fidelity checklist*. Retrieved from http://iris.peabody.vanderbilt.edu/module/ebp_03/cresource/q3/p05/developing-a-fidelity-checklist/
- Tudor, K.P. (1977). An exploratory study of teacher attitude and behavior toward parent education and involvement. *Educational research Quarterly*, 2, 22-28.
- U.S. Department of Education. (2004). *Individual with Disabilities Education Improvement Act*. Retrieved from <http://idea.ed.gov/explore/home>
- U.S. Department of Education. (2015). *Elementary and Secondary Education Act. No child left behind*. Retrieved from <http://www2.ed.gov/nclb/landing.jhtml?src=rn>
- U.S. Census Bureau. (2013). *Educational Attainment*. Retrieved from <http://www.census.gov/hhes/socdemo/education/data/cps/2013/tables.html>
- Vukelich, C., Christie, J., & Enz, B. (2008). *Helping young children learn language and literacy. Birth through kindergarten. 2nd edition*. Coston, MA: Pearson Education Inc..

Vygotsky, L.S. (1962). *Thought and Language*. Cambridge, MA: The M.I.T Press.

Vygotsky, L.S. (1978). *Mind in society. The development of higher psychological processes*. Edited by Michael Cole, Vera John-Steiner, Sylvia Scribner and Ellen Souberman. Cambridge, MA.; London, England: Harvard University Press.

Washington Learning Systems. (2006). *Language is the Key*. Seattle, WA: Washington Learning Systems, LLC.

Whitehurst, G. J., Falco, F. L., Lonigan, C. J., Fischei, J. E., DeBaryshe, B. D., Valdez Menchaca, M. C., & Caulfield, M. (1988). Accelerating language development through picture book reading. *Developmental Psychology*, 24, 552- 558.

Appendices

Appendix A

Flyer

Estudio en Español con Familias Latinas

Usted está invitado a participar en un estudio de doctorado (VCU) para averiguar si un programa implementado por los padres en su hogar impacta las interacciones verbales con sus hijos y el vocabulario de los niños.

Estamos buscando:

- Padres o Madres Latinos/as que Español sea su lengua materna
- Niños Latinos entre 3-5 años con Español como primer idioma y posible retraso en el lenguaje
- Niños Latinos que aún no asistan a la escuela en Inglés
- Familias con bajos ingresos

- Los padres aprenderán un programa para practicar con sus hijos.
- El vocabulario del niño/a se medirá al inicio y al final del estudio.
- El estudio tendrá una duración de 6 semanas y todas las actividades se llevarán a cabo en la privacidad de su hogar.
- Se les pedirá a los padres que practiquen el programa en sus casas y que filmen las interacciones con su hijo/a durante algunas comidas.
- El investigador proporcionará cámaras y libros para las familias a utilizar durante el estudio y para mantener al final.

Si usted está interesado en participar o necesita mas información por favor póngase en contacto con:

Patricia Onorato
804-901-0529
onoratopg@vcu.edu

Appendix B

Video Observation Protocol

Identifying Information

Observer: (Mccaughey) (Onorato)

Date: _____

Dyad #: 1 2 3 4 5 (circle)

Session#: (circle)

1 2 3 4 5 6 7 8 9 10 11 12
13 14 15 16 17 18 19 20 21 22 23 24

Duration of Session: (circle)


< 5 minutes 5-10 minutes 10-15 minutes >15 minutes

Dyad #.....	Session #.....	
Skills / Frequency	Yes (How often?)	No
Parent		
Parent makes a comment		
Parent asks Yes-No question		
Parents asks Open-ended question		
Parent respond to child's questions		

Dyad #.....	Session #.....	
Skills / Frequency	Yes (How often?)	No
Child		
Statement (Child comments using recognizable word/s)		
Question (Child asks question/s)		
Yes-No Response (Child provides with a ye-no or pointing response)		
Response (Child answers a question with recognizable word/s)		

Appendix C

Bracken School Readiness Assessment. 3rd edition, Spanish



Spanish Edition Record Form

Name _____ M F

School/Agency _____ Grade _____

Teacher _____

Examiner _____


Pretest			
Date of Test	Year	Month	Day
Date of Birth			
Chronological Age			

Posttest			
Date of Test	Year	Month	Day
Date of Birth			
Chronological Age			

Score Summary											
Subtest	Pretest/Posttest	Raw Score (# Correct)	% Mastery*	School Readiness Concepts to Target for Instruction/Remediation							
1 Colors	Pre	10									
	Post	10									
2 Letters	Pre	15									
	Post	15									
3 Numbers/Counting	Pre	18									
	Post	18									
4 Sizes/Comparisons	Pre	22									
	Post	22									
5 Shapes	Pre	20									
	Post	20									
				Pretest/Posttest	Raw Score (# Correct)	% Mastery*	Norms**	Standard Score	Confidence Interval (% Level)	Percentile Rank	Descriptive Classification
School Readiness Composite (SRC)				Pre	85		Local		to		
				Post	85		Local		to		

* See Appendix A for percent mastery calculations for each subtest and School Readiness Composite.


** Local norms can be established at the discretion of each district/agency (see Appendix D).



THE PSYCHOLOGICAL CORPORATION
To reorder, call: 1-800-211-8378

Copyright © 2007 by Harcourt Assessment, Inc. All rights reserved.
Portions of this work were published in previous editions. Printed in the United States of America.
2 3 4 5 6 7 8 9 10 11 12 A B C D E

ISBN 015-4033-86-3



9 780154 033864

Appendix D

Language is the Key

Synopsis of Video Program Talking and Books. Length: 20 minutes.

By Kevin Cole and Mary Maddox “Talking, language, words and sentences... We use them everyday.”

The narrator begins with this simple message about the importance of language. This broadcast quality video program shows parents and teachers how to support early language and literacy development. The program teaches adults evidence-based strategies to use while looking at picture books with young children ages birth to five.

Narrator Linda Kennedy begins by reminding us that we begin learning to talk the moment we are born and we learn language by listening and talking to our parents, our siblings and other adults. Over video examples of children and adults looking at picture books together, the narrator points out how important parents are in teaching children to use language. And that paying attention to early language development will help prepare children for reading, writing and school. There are many ways parents can support language development during everyday interactions.

The program then illustrates the overarching goal of following the child’s lead. “You use what your child is interested in to encourage her to talk.” Video of adults “following the lead” of young children, are shown while the narrator highlights the important features of each interaction.

After demonstrating ways to follow a child’s lead, the narrator teaches viewers how to use three evidence-based strategies for facilitating early language development during while looking at picture books.

The following is a summary of the three strategies and key instructional points illustrated with video and narration.

Comment and Wait. Describing the pictures in the books, 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 do you see?", "Can you point to the cat?" or "What color is the alligator?" 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 chicken doing?",

"What's going to happen next?", or "Why did the girl need a new bicycle?" 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.

The program then presents an easy way to remember the three strategies: C-A-R. C is for Comment. A is for Ask Questions. And R is for Respond by adding a little more. The program concludes by encouraging parents to go home, have fun with their child and practice using the CAR strategies. Catalogues, magazines, even cereal boxes and signs can be used in addition to picture books.

Addendum

Synopsis for Talking and Books in Spanish, Vietnamese, Mandarin, Filipino, and Korean By: Kevin Cole, Mary Maddox, and Young Sook Lim

These versions of Talking and Books feature native speakers of each language and are designed to support families who are English Language Learners. These versions are similar to the English version of Talking and Books with the following exceptions:

Importance of learning the language spoken at home. At the beginning of the program the narrator points out that young children usually benefit when they learn to speak the language spoken at home. The program also encourages parents to "use the language you know best" with their young children.

Repeat again in Spanish, Korean, etc. "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 tiburón." Repeating the phrase in Spanish helps build the child's vocabulary and language skills.

Appendix E

INFORMACION PARA PARTICIPANTES DE INVESTIGACION Y FORMULARIO DE CONSENTIMIENTO

TITULO: Investigando los efectos de una intervención mediada por padres en interacción verbal entre padres e hijos Latinos y en el vocabulario pre-académico de los hijos.

INVESTIGADORES: Dr. Yaoying Xu, Patricia Onorato

VCU IRB NO.: HM20005934

PROPÓSITO DEL ESTUDIO

El propósito del estudio es evaluar si un programa implementado por los padres en su hogar aumenta las interacciones verbales entre padres e hijos en español en un grupo de niños Latinos en edad preescolar que crecen en los Estados Unidos. A usted y a su niño se le pide que participe en este estudio porque él /ella es un niño Latino/Latina en edad preescolar entre 3-5 años de edad que crecen en los Estados Unidos.

DESCRIPCION DEL ESTUDIO, SU PARTICIPACION Y LA PARTICIPACION DE SU HIJO

Si usted decide participar en este estudio de investigación, se le pedirá que firme este formulario de consentimiento después de haber tenido todas las respuestas a sus preguntas y entender lo que va a pasar con usted y su hijo. Como participante, usted estará involucrado en diferentes fases:

1. El estudio se explicará a usted en su casa; usted pasará por una entrevista cara a cara sobre sus características demográficas de la familia; Vocabulario pre-académico de su hijo (el vocabulario aprendido antes de asistir a la escuela) se medirá.
2. Si usted y su hijo reúne los requisitos, el investigador se comunicará con usted dentro de una semana y establecer otra cita en su hogar. Durante esa visita siguiente se le enseñará cómo cinta de vídeo usted mismo y su hijo en su casa durante las actividades de las comidas (desayuno, almuerzo, cena o aperitivos) durante 10-15 minutos cada vez. Usted necesitará una cinta de vídeo usted mismo y su hijo de 5 veces a la semana durante 6 semanas consecutivas.
3. Una vez presentada su primera serie de vídeos, se le presentará con un programa llamado "El lenguaje es la clave". Este programa será presentado a usted en su casa a través de una cinta de vídeo de 30 minutos. El investigador estará con usted durante el vídeo y demostrará a usted cómo implementar el programa con su hijo.
4. Se le pedirá a la práctica las estrategias aprendidas en el programa a la vez que elija, por su cuenta, a 5 veces por semana, durante aproximadamente 10 a 15 minutos cada vez. También se le pedirá que la cinta de vídeo usted y su hijo durante 5 horas de las comidas (desayuno, merienda, almuerzo o cena) cada semana.

5. Una vez que se presenten todos los videos vocabulario pre-académico de su hijo se mide de nuevo en su casa.

6. Los resultados serán compartidos durante una reunión individual en su hogar una vez concluido el estudio.

El estudio se llevará a 6 semanas, las cámaras de vídeo y libros serán proporcionados a usted para mantener y usted será capaz de mantenerlos.

RIESGOS Y MOLESTIAS

Se prevé ninguna molestia para usted o su hijo; Sin embargo, si en algún momento usted o su hijo se convierte en molesto con el proceso, se le anima a comunicar sus preocupaciones con el investigador y / o retirarse del proyecto.

BENEFICIOS PARA USTED Y OTROS

Usted no puede obtener ningún beneficio directo de este estudio, pero, la información que aprendemos de la gente en este estudio puede ayudarnos a diseñar mejores programas para padres e hijos.

COSTOS

No hay costos para participar en este estudio que no sea el tiempo que pasará en su casa en la práctica de las estrategias y rellenar un cuestionario.

PAGO DE PARTICIPACIÓN

Si reúne los requisitos y está de acuerdo en participar, usted también será capaz de mantener la cámara de vídeo y los libros prestados para usted y su hijo al final del estudio. Si usted no califica para el estudio, o si necesita retirar usted también será capaz de mantener un libro para su hijo.

CONFIDENCIALIDAD

Potencialmente información identificable sobre usted consistirá en la entrevista demografía inicial y cintas de vídeo. Los datos se están recopilando sólo para fines de investigación. Toda la información de identificación personal, incluyendo videos, se mantendrá en los archivos protegidos por contraseña y estos archivos serán destruidos una vez que todas las grabaciones han sido analizados y los resultados se han difundido. El acceso a todos los datos se limitará a estudiar el personal.

No vamos a decirle a nadie las respuestas que nos da; Sin embargo, la información del estudio y el formulario de consentimiento firmado por usted puede ser visto o copiarse con fines de investigación de Virginia Commonwealth University. La información personal sobre usted podría ser compartida con o copiada por los funcionarios autorizados del Departamento de Salud y Servicios Humanos y otros organismos reguladores federales.

Lo que encontramos en este estudio se pueden presentar en las reuniones o publicados en los periódicos, pero usted y su hijo nunca va a ser utilizado en estas presentaciones o documentos.

ALTERNATIVAS

La alternativa es no participar en este estudio.

PARTICIPACIÓN VOLUNTARIA Y RETIRADA

Usted no tiene que participar en este estudio. Si decide participar, usted puede parar en cualquier momento y sin penalización alguna. También puede optar por no responder a las preguntas concretas que se plantean en el estudio.

Su participación en este estudio puede ser detenido en cualquier momento por el personal del estudio sin su consentimiento. Las razones pueden ser:

- **usted no ha seguido las instrucciones de estudio;**
- **razones administrativas requieren su retirada.**

PREGUNTAS

Si usted tiene alguna pregunta, queja o preocupación acerca de su participación en esta investigación, comuníquese con:

Patricia Onorato - 804-901-0529

Yaoying Xu - 804-828-5298

El personal investigador / estudio arriba mencionado es la mejor persona (s) para pedir preguntas sobre su participación en este estudio.

Si tiene cualquier pregunta general sobre sus derechos como participante en este o en cualquier otra investigación, puede comunicarse con:

OFICINA DE INVESTIGACIÓN

Virginia Commonwealth University

800 East Leigh Street, Suite 3000

CORREOS. Box 980568

Richmond, VA 23298

Teléfono: (804) 827-2157

Póngase en contacto con este número para hacer preguntas generales, para obtener información u ofrecer de entrada, y para expresar sus preocupaciones o quejas sobre la investigación. También puede llamar a este número si no puede comunicarse con el equipo de investigación o si desea hablar con otra persona. Información general sobre la participación en estudios de investigación también se puede encontrar en <http://www.research.vcu.edu/irb/volunteers.htm>.

CONSENTIMIENTO Y PERMISO

Se me ha dado la oportunidad de leer este formulario de consentimiento. Entiendo que la información acerca de este estudio. Preguntas que quería preguntar sobre el estudio han

sido contestadas. Mi firma dice que estoy dispuesto a participar y permitir que mi hijo participe en este estudio. Voy a recibir una copia del formulario de consentimiento una vez que haya aceptado participar.

Nombre de niño

Nombre del adulto participante / Padre o Tutor Legal (Impreso)

Adulto Participante / Padre o Tutor Legal Firma Fecha

Nombre de la persona encargada de Consentimiento Informado Discusión / Testigo (Impreso)

Firma de la persona que realiza Consentimiento Informado Fecha
Discusión / Testigo

Firma Investigador Principal (si es diferente de la anterior) Fecha

Appendix F

Participants Demographic Information

Parents Names: _____

1. Gender (M) (F)
2. Age (20-25) (26-30) (31-35) (36-40)
3. Country of Origin: _____
4. How long in USA? (< 1 year) (1-5 y) (5 – 10 y) (>10 y)
5. Number of children: _____
6. Age/gender of children _____
7. Amount of Spanish spoken at home:
(Less than 50%) (50-75%) (More than 75%)
8. Amount of English spoken at home:
(Less than 50%) (50-75%) (More than 75%)
9. Can parent read/write in Spanish?
(Can Read) (Can write) (Can read and write)
10. Higher level of education in native country: Mom _____ Dad _____
11. Higher level of education in USA: Mom _____ Dad _____
12. Work or Stay at home?
(Work Full time) (Work Part time) (Stay at home)
13. If parents work, who takes care of children and for how many hours per week?

14. Annual Family Income: _____
15. English fluency: (None) (Social) (Read) (Write)

Child Name: _____

1. Gender (M) (F)
2. DOB _____ CA _____
3. Attends preschool? (Yes - Spanish) (Yes-English) (No)
4. Speaks English? (Yes) (No)
5. Speaks Spanish? (Yes) (No)
6. When did he/she start speaking?
(<6 months) (6-12) (12-18) (18-24) (24-36)
7. How many words (approx.) does he/she know? _____
8. Has he/she been evaluated for a SLI?(Yes) (No)
9. If Yes, when/where and what did the results show?

10. Do you have any concerns about his language development?

Appendix H

Literacy Ideas Handout

Tabla de Resumen

Titulos de Actividades	Nivel	CL	SR	UL	Pagina
1. Introducción para los padres Introduction for parents					1
2. Eschuchando música Listening to music	1		X	X	2
3. Haciendo cosas con música Doing things with music	2		X	X	3
4. Cantando canciones Singing Songs	1		X	X	4
5. Jugando con los sonidos Playing with sounds	1		X	X	5
6. Aprendiendo acerca de rimas Learning about rhymes	2		X	X	6
7. Hablando acerca de poesía infantil Talking about nursery rhymes	3		X	X	7
8. Hablando acerca de alimentos Talking about food	2			X	8
9. Hablando de cosas de afuera Talking about things outside	2	X		X	9
10. Escuchando sonidos diferentes Listening to different sounds	3			X	10
11. Descubriendo letras impresas Discovering print	2	X		X	11
12. Viendo las primeras palabras Seeing first words	3	X			12
13. Aprendiendo mi nombre Learning my name	3	X			13
14. De paséo a la tienda de comestibles Going to the grocery store	2	X		X	14
15. Haciendo un libro palpable Making a touch book	1	X		X	15
16. Haciendo un álbum de fotografías Making a picture book	1	X		X	16
17. Viendo los dibujos en un libro Looking at pictures in a book	1	X		X	17
18. Aprendiendo a como usar libros Learning how to use books	3	X			18
19. Muchas maneras de dibujar Many ways to draw	2	X		X	19
20. Muchas maneras de escribir Many ways to write	2	X		X	20
21. De paséo a la biblioteca Going to the library	2	X			21

CLAVE: Conocimiento de libros y letras = CL, Sonidos y rimas = SR, Uso de lenguaje = UL

© Angela Notari-Syverson 2006 www.wlearning.com

Appendix I

Strategies Handout English

Follow your child's lead

Here are three simple things you can do to help your child talk more and use new words.

C *omment and wait.*

A *sk questions and wait.*

R *espond by adding a little more.*



All you have to remember is

CAR

And don't forget to wait. Give your child time to talk.

Language is the Key
Washington Learning Systems

Strategies Handout Spanish

Spanish

Siga el liderazgo del niño

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

Comente y espere.

Averigüe—haga preguntas y espere.

Responda agregando un poco más.

Repita...

Otra vez en español.



CARRO

Language is the Key
Washington Learning Systems

Appendix J
Fidelity Checklist

1. How many days did you practice the program this week?

(1) (2) (3) (4) (5) (6) (7)

2. What time of the day did you choose?

(Before Breakfast) (Before Lunch) (Before Bedtime)

(Bath time) (Potty Time) (Before Naptime)

Other:

3. Approximately how long was each one of your sessions?

(10-15 minutes) (15-20 minutes) (20-25 minutes)

(25-30 minutes) (More than 30 minutes)

4. When you were looking at books, did you remember to:

a. Comment about the pictures on the book (Yes) (No)

b. Ask closed-ended questions (Yes) (No)

c. Ask open-ended questions (Yes) (No)

d. Wait for responses (Yes) (No)

e. Add to (child's name) talk (Yes) (No)

Fidelity Observation

Date:

Dyad #: 1 2 3 4 5 (circle)

Duration of Session: (circle)

< 5 minutes 5-10 minutes 10-15 minutes >15 minutes

Dyad #.....	Session #.....	
Skills / Frequency	Yes (How often?)	No
Parent		
Comment (Parent comments on pictures from the book)		
Waiting (Parent waits 5 seconds for child's response)		
Yes-No Question (Parent asks a question that requires a yes-no answer or pointing response)		
Waiting (Parent waits 5 seconds for child's response)		
Open-Ended Question (Parent asks a question that requires the child to actually produce a word or utterance)		
Waiting (Parent waits 5 seconds for child's response)		
Adding (Parent repeats what the child say and then expands the utterance with one or two new words.		
Repeat again in Spanish (Parent repeats mixed phrases entirely in Spanish)		

Dyad #.....	Session #.....	
Skills / Frequency	Yes (How often?)	No
Child		
Statement (Child comments using recognizable word/s)		
Question (Child asks question/s about the book)		
Yes-No Response (Child provides with a ye-no or pointing response)		
Response (Child answers a question with recognizable word/s)		
Imitation (Child imitates parent comments)		
Expanding (Child expands after parent comment)		
Repeat in Spanish (Child repeats words or phrase in Spanish after parent)		

Appendix K

Social Validity Questionnaire

1. This sharing book activity taught me ways to use more language when interacting with my child
Strongly Agree Agree Neutral Disagree Strongly Disagree

2. This sharing book activity helped improve my child's vocabulary
Strongly Agree Agree Neutral Disagree Strongly Disagree

3. I understood the steps of the sharing book activity.
Strongly Agree Agree Neutral Disagree Strongly Disagree

4. The sharing book activity was easy to incorporate into my home routine.
Strongly Agree Agree Neutral Disagree Strongly Disagree

5. I had the necessary materials to implement this sharing book activity accurately.
Strongly Agree Agree Neutral Disagree Strongly Disagree

6. The time requirements of this sharing book activity were reasonable.
Strongly Agree Agree Neutral Disagree Strongly Disagree

Adapted by Patricia Onorato, NCSP, from www.iris.peabody.vanderbilt.edu

Vita

Patricia Giuffra Onorato was born on November 19, 1972 in Lima, Perú, is a Peruvian and an American citizen and fluent in Spanish and English. She completed grade school in Lima and graduated from the Pontifical Catholic University of Perú with Bachelor of Arts and a Licentiate in Educational Psychology in 1996. She attended Hampton University in 1997, where she earned a Master of Teaching, returned to Perú to complete her Thesis, and moved to Virginia in 2001 to attend the College of William and Mary where she obtained the degree of Educational Specialist in School Psychology in 2003. Prior to moving to the United States, she worked as an Educational Psychologist in Lima in several preschool centers and private schools for children with learning disabilities. She moved to Richmond in 2003, and began working as a School Psychologist in Henrico County Public Schools where she stayed for 5 years. From 2008, when she became a Nationally Certified School Psychologist, to the current day she has worked for Chesterfield County Public Schools. Her professional interest as an Educational and School Psychologist during the last 20 years has been around preschool age children, early childhood special education, English learners, and children with emotional disabilities. She also provides contract services to several school districts in Virginia completing bilingual psychoeducational evaluations with Spanish speaking students. Beginning the Summer 2016, she became an adjunct instructional faculty at the Virginia Commonwealth University within the Department of Counseling and Special Education.