More Than Words: The Relations Between Teacher-Child Interactions, Classroom Context, and Latino DLLs' School Readiness

A dissertation submitted by

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in partial fulfillment of the requirements for the degree of

Doctor of Philosophy

in

Child Study and Human Development

Tufts University

May 2016

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Abstract

Increasingly, studies have shown that early childhood education programs are an effective way to promote young children's school readiness and long-term outcomes. However, there is still debate in the field about what constitutes a high-quality preschool experience for DLLs to foster their optimal positive development. To better serve DLLs, research needs to focus on how having access to two languages uniquely affects their learning. This dissertation examined the relations between teacher-child interactions, a consistently cited feature of high-quality preschools, characteristics of classroom context, and DLLs' school readiness skills. The three studies in this dissertation used multiple methods but all focused on low-income Latino DLLs. Study 1 utilized the latest Family and Child Experiences Survey (FACES), a secondary data set representing the population of children who entered Head Start in the U.S. for the first time in fall 2009. In Study 2 and 3, data were taken from a local Head Start program that consisted of 11 classrooms where more information was collected on DLLs' initial English and Spanish skills and teacher language ideologies.The first set of findings discussed the positive associations between teachers' speaking Spanish and students' socio-emotional skills but not language outcomes. The second set of findings show how higher concentrations of DLLs were linked to lower language and socio-emotional outcomes. Implications for preschool programs and teacher professional development are discussed as well as potential directions for future research.

Key words: dual language learners; school readiness; early childhood education;

Acknowledgements

It still amazes me that 10 years have passed since I left the Philippines to go on an adventure in the U.S. The adventure lasted longer than expected and has reached a milestone with the work I have done for this dissertation. First, I would like to thank my mentor, Christy, for her unwavering belief in me. I will always be grateful for her mentorship and our conversations where she always found a way to put things into perspective and remind me of my reasons for doing this work when things were difficult. I look forward to more meaningful conversation and collaborations with her in the future. I am also thankful to my committee members, Jayanthi, Mike and Liz, for their feedback, enthusiasm and encouragement.

I express my heartfelt gratitude to the Head Start Student Research grant and the Tufts Student Research grant that funded my dissertation research. I have felt that this experience has helped me grow exponentially as a researcher. I am eternally thankful to East Boston Head Start Director, Mary Dooley, and the staff and teachers, children, and families who welcomed me warmly and made me feel a part of their classrooms for the past four years.

I am fortunate to have received many sources of support throughout this process. My cohort, Judith, Lisette, Maggie, and Brandon, who did not allow me to quit before the miracle. The many students on the RISE team, particularly Sunah, Amy, Lok, and Brooke who were by my side in the classrooms and at 105 College Avenue. To all my More than Words research assistants, especially Kristine and Michele, for being almost as excited as I was coding the qualitative data. My fellow students at Eliot-Pearson (Elizabeth, Mariah, Lerzan, and Elise to name a few), and my ARC tutors, Elana and Dan. I am grateful for all of you without whose

limitless encouragement, feedback, patience, and laughter this dissertation would not have been completed. To my family and friends in the Philippines who kept me company as I worked or needed a break and never failed to share what was going on back home. To my family and friends in the U.S. who adopted me and made me feel like I always had family to visit in Philadelphia, New York, Chicago, Boston, and Seattle.

To my family, my parents, Victor and Marita, my *berks*, who never stopped encouraging me to pursue my passion. My papa, the original Dr. Limlingan, who continues to inspire me with his love for teaching and learning, his eloquence, and his belief that being able to do good and do well is always possible. My mama, who I admire for the way she is able to balance a household and a business with grace and style. She taught me the value of working hard and being independent but not forgetting to appreciate and take care of family and friends. To my siblings, Kuya, Ate, and Luigi for your updates and stories that helped me feel like I never left Manila. I feel so blessed to have you as my family and hope to always make you proud.

Finally, I am forever grateful to my husband, Kevin Takeo. I may have met you during the later part of this journey but you have given a new meaning to my life. I am excited to have you by my side as we continue on to the next chapter of this adventure together!

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CHAPTER 1: INTRODUCTION

In the United States, one of the current challenges preschools face is the ability to meet the needs of increasing numbers of children with diverse experiences. A salient characteristic among the growing population of preschool children is that they live in households where a language other than English is spoken (Fortuny et al., 2009). These children, who are in the process of learning two or more languages, are referred to as English Language Learners (ELLs)[1], Dual Language Learners (DLLs), bilinguals, or multilinguals (Office of Head Start Administration for Children and Families [OHSACF], 2013). By the year 2030, almost half of all school-aged children will be classified as DLLs (Thomas & Collier, 2002). In Head Start, a program with a long history of serving culturally and linguistically diverse families, 29% of children enrolled are classified as DLLs (OHSACF, 2013). In recent years, policymakers have begun to pay more attention to DLLs not only because of their increasing numbers (Gil, 2015), but also because of research that has shown gaps in achievement between DLLs and their monolingual English-speaking peers (Reardon & Galindo, 2009; Rumberger & Arellano, 2004). Additionally, Spanish-speaking DLLs who come from low-income households also often enter kindergarten one standard deviation below the average reading and math skills of more socioeconomically and diverse Spanish speakers (Reardon & Galindo, 2009).

To address the need for better educational supports for DLLs, many states have begun to invest heavily in preschool, as evidence suggests that DLLs who attend high-quality preschool programs show gains in language, social, and academic skills (Buysse et al., 2014). However, there is still debate in the field about what constitutes a high-quality preschool experience for

[1] In this dissertation, the term DLLs is used to refer to bilingual children, or second language learners who are exposed and given opportunities to learn two or more languages. Different terms such as ELLs, bilinguals, and second language learners will be used interchangeably to refer to DLLs.

DLLs to foster their positive development. More and more, educators recognize that although general elements of high-quality early childhood education programs can serve as the foundation for teaching all young children, this knowledge is insufficient to promote the optimal learning of DLLs (Goldenberg, Hicks, & Lit, 2013). In response to their unique needs, the Office of Head Start developed additional standards specifically for DLLs (Office of Head Start, 2010).

Addressing DLLs' language needs is important because preschool typically represents one of the first forms of sustained contact DLLs have with the English language, U.S. culture, and mainstream society at large (Collins et al., 2011). Among immigrant groups, families from Latino backgrounds are one of the largest and fastest-growing populations and are more likely to maintain their native language, Spanish, at home than members of other ethnic groups (Arriagada, 2005). Among DLLs in Head Start, 84% come from Spanish-speaking homes (OHSACF, 2013). In addition, families from Latino backgrounds are also less likely to have a fluent English-speaking adult at home (Espinosa, 2010). These characteristics make it unsurprising that Latino children enter preschool with less English fluency and have more difficulty acquiring English proficiency than their peers. This is a concern for both academic success and socio-emotional outcomes as research suggests that reaching a level of English proficiency at an early age has an effect on DLLs' socio-emotional outcomes in later grades (August & Shanahan, 2006; Halle, Hair, Wandner, McNamara & Chien, 2012).

The socio-emotional development of children is influenced by language, as it is the principal medium for interactions with others (Rogoff, 2003). Within the context of acquiring two languages, DLLs learn how to negotiate varying sets of cultural expectations that may have different goals for behavior and result in distinctive patterns of socio-emotional development. Examining U.S. peer-reviewed journals between 2000 and 2011, Halle, Whittaker, Zepeda,

Rothenberg, Anderson, Daneri, Wessel & Buysse (2014) found that although studies that focused on DLLs' socio-emotional development were sparse, these studies suggested that DLLs tend to be judged by teachers as higher on measures of self-control and interpersonal skills, and lower in levels of problem behaviors compared to English-speaking monolinguals. Thus, building the knowledge base related to DLLs' socio-emotional development may be key to promoting DLLs' overall school readiness skills.

Given the challenges DLLs face, researchers need to investigate how DLLs' proficiency in both languages during the early years is developed and maintained, and how bilingualism affects their socio-emotional development. To carry out this kind of research, new ways of conceptualizing how different factors influence DLLs' development are necessary to capture how accessing two languages uniquely contributes to DLLs' developmental processes (Beltran, 2012). In preschool, teacher-child interactions, a consistently cited feature of high-quality preschools (Hamre & Pianta, 2007; Howes et al., 2008), provide opportunities for students to practice their current language skills, deepen their understanding of how their languages work, and process new words and concepts (Schechter & Cummins, 2003). These verbal interactions between teachers and DLLs have been found to be more important than mere exposure to English in promoting children's language competence (Saunders & O'Brien, 2006; Piker & Rex, 2008) and have also been linked to children's positive development in math, literacy, and social skills (Downer et al., 2012; Galindo & Fuller, 2010).

In the field of applied developmental science, multiple methods have been used increasingly to examine developmental processes that may be difficult to understand by relying on either quantitative or qualitative methods alone (Weisner, 2005). For instance, in examining behavior and belief systems, quantitative data are useful for capturing the prevalence of a

particular practice and detecting relations among different variables, whereas qualitative data can shed light on the meanings, functions, goals, and intentions of the practice (Yoshikawa, Weisner, Kalil & Way, 2013). In this way, multiple methods are better able to increase our understanding of complex questions by providing information not just on the occurrence of a behavior, but also on the meaning and reasons behind the behavior. Thus, for this dissertation, a combination of quantitative and qualitative data is critical for co-informing the understanding of the developmental and ecological processes that are distinct to DLLs.

It is also increasingly the case that researchers can use multiple sources of data within the same study to obtain quantitative and qualitative information concerning their research questions. For instance, several nationally representative secondary data sets on young children are readily available and give researchers access to high-quality quantitative data at a substantially lower cost. In their targeted review, Halle et al. (2014) found that the majority of the studies that examined DLLs' socio-emotional development relied on large-scale or nationally representative data sets. Although it is common in any emergent literature that data come primarily from limited sources, as the field progresses, using multiple lenses provides a more nuanced understanding of complex phenomena (Hughes, Rodriguez, Smith, Johnson, Stevenson & Spicer, 2006). By using primary data, researchers can include measures that address their specific research question and provide more useful details to facilitate our understanding of the relations found with secondary data. In summary, this dissertation used innovative ways for applying multiple methods, such as using a combination of secondary and primary data, as well as quantitative and qualitative data in order to significantly expand on the limited knowledge base related to DLLs' school readiness.

Prior to discussing the three studies of this dissertation, relevant theoretical frameworks are reviewed in the next section to serve as a framework for understanding how various classroom-related variables examined are connected to DLLs' school readiness skills. Then, the empirical literature on the socio-emotional and language development of DLLs is reviewed, including salient child, family, and classroom characteristics. The literature is summarized and an overview of the three studies that comprise this dissertation is presented before describing each study in detail in Chapters 2 through 4. Finally, Chapter 5 is the overall discussion across the three studies where results are integrated, limitations are addressed, and implications for policy and directions for future research work are discussed.

Guiding Conceptual Frameworks

The Developmental Interdependence Hypothesis

There is mounting evidence suggesting that one of the effective ways DLLs can increase their proficiency in English is by simultaneously increasing their proficiency in their home language (August & Shanahan, 2006; Castilla, Restrepo & Perez-Leroux, 2009; McCabe, Tamis-LeMonda, Bornstein, Cates, Golinkoff, Hirsh-Pasek, Hoff, Kuchirko, Melzi, Mendelsohn, Paez, Song & Guerra, 2013). With this evidence, organizations such as the International Reading Association and the National Association for the Education of Young Children (Goldenberg et al., 2013) have endorsed the idea that the development of language and literacy skills in a child's native language (L1) is crucial for the development of skills in a second language (L2). These results support the Developmental Interdependence hypothesis, which posits that competence in L2 is partially a function of the type of competence already developed in L1 at the time when intensive exposure to L2 occurs (Cummins, 1991). The principle of interdependence between languages, or transfer, is understood by the notion of "comprehensible input" (Krashen, 1982), wherein DLLs' knowledge of their L1 makes L2 more understandable.

It is important to note that the more similar one language is to the other, the more potential there is for language transfer. For bilingual children whose L1 and L2 share similar orthographic and phonological characteristics, their L1 metalinguistic and phonological awareness account for significant variance in L2 literacy skills, such as spelling, word recognition, pseudo word reading, and reading comprehension (Comeau, Cormier, Grandmaison, & Lacroix, 1999; Hancin-Bhatt & Nagy, 1994; Gottardo, Yan, Siegel, & Wade-Woolley, 2001; Stuart-Smith & Martin, 1997). A study with Chinese ESL learners with alphabetic L1 backgrounds (Gottardo et al., 2001), however, showed that children's L1 phonological awareness

was related not only to their L2 phonological awareness, but also to their L2 reading skills. These findings imply that although similarities among languages facilitate language learning, children's ability to reflect on and manipulate structural features of a particular language can be applied to their L2, whether it is typologically different from L1 or not. Moreover, by accessing knowledge in their L1 while developing their knowledge in L2, DLLs are able to link new learning with prior information to further their understanding of the world (Office of Head Start, 2008). In this way, DLLs who are familiar with concept X in their L1 will have an easier time learning concept X in their L2 if intentional connections regarding concept X are made between languages (Cummins, 1991).

Simultaneous versus sequential DLLs. In addition to understanding how the development of L1 and L2 are interdependent, for young DLLs, understanding two ways a second language is acquired, either simultaneously or sequentially, is also important. Simultaneous acquisition of two languages takes place when children are exposed to two languages before 3 years of age (Tabors, 2008). On the other hand, sequential or successive acquisition occurs when children develop a second language based on the skills of the first language that has already been acquired to some degree (Tabors, 2008). The basics of the child's first language have been learned, but he or she now must learn the specific features, grammar, vocabulary, and syntax of the second language (Espinosa, 2010). Although children who learn both languages simultaneously follow a similar developmental trajectory as monolingual children, the development process for DLLs who acquire language sequentially follows a different progression in areas such as vocabulary skills and interpersonal communication (Espinosa & Lopez, 2007; Genesee, Paradis & Crago, 2004). The different patterns of development in sequential bilinguals are highly sensitive to characteristics of the child and

language-learning environment. This dissertation focused on DLLs who are acquiring language sequentially, because many Latino DLLs enter Head Start with less English fluency than do their monolingual peers (Espinosa, 2010).

Ecocultural Theory and the Bioecological Model

Ecocultural Theory. Ecocultural theory posits that every cultural community provides developmental pathways for children within some ecological and cultural (ecocultural) context (Weisner, 2002). This theory acknowledges the contributions of an individual's environment (i.e., the ecology) and his or her culture (the meanings, beliefs, values, and conventional practices learned and shared by members of a community). Understanding an individual's beliefs and behavior through the ecocultural theory lens requires an examination of the routines or activity settings, as well as the ecological and institutional forces that impact his or her everyday activities (Weisner, 2002). Activity settings include interdependent elements related to who participates in the activity setting, the salient goals, values, and beliefs that underlie and organize these activities, and the recurring patterns of social interactions, or scripts (Cooper & Denner, 1998).

Through their involvement in everyday routines and cultural practices, children learn the social rules of behavior and language (Fuller & Garcia-Coll, 2010; Rogoff, 2003). Even if some aspects of culture are overt, many unconscious behavioral patterns exist and children learn these patterns by observing and participating in daily social activities (Espinosa, 2010). Given the prominent role of ecology and culture in development, the ecocultural theory recognizes that positive developmental outcomes for children correspond to what the community perceives as desirable outcomes for children.

Bioecological Model. The bioecological model explains that human development takes place primarily through proximal processes (Bronfenbrenner & Morris, 2006). Proximal processes are characterized by bidirectional interactions occurring on a fairly regular basis, over extended periods of time, that become increasingly complex. In the classroom, everyday conversations between teachers and students are the primary proximal processes that develop language proficiency. In learning languages, regular conversations shared between two individuals are one of the ways of developing proficiency in understanding and speaking. The power of these proximal processes to influence development varies substantially as a function of the characteristics of person and context (Bronfenbrenner & Morris, 2006). Teacher and student are active participants with both influencing how the interactions take shape. Another important concept in the bioecological model is that development is a function of forces emanating from multiple settings and from the relations among these settings. Context is conceptualized as a set of nested structures.

Application/Integration of Conceptual Frameworks

For DLLs, the process of becoming proficient in English is a complex relation consisting of interactions between family and child characteristics, classroom and teacher characteristics, as well as school and state policies. The different theories in language and child development serve as a guide to our understanding of how children's development in English and their home language is influenced by their interactions and participation in regular routines and cultural practices in the preschool classroom. It is important to look at classroom interactions and instructional practices that support DLLs' second language acquisition in the preschool classroom, as these will likely have an effect on DLLs' English proficiency and home language

proficiency, as well as implications for their current and later socio-emotional and cognitive development.

Although the ecocultural theory has been largely applied on work with families, some concepts can also be applied to the school setting. For instance, from the ecocultural theory, we understand that children learn the social rules of behavior and language by participating in everyday cultural practices (Fuller & Garcia-Coll, 2010; Rogoff, 2003). As DLLs start spending a substantial amount of time in the classroom they begin to learn appropriate ways to behave in this setting, particularly during routines. The classroom is also often their first consistent encounter with their second language, English. Classroom-appropriate behavior and language may differ from the appropriate ways of behaving and using language at home or in the community. In the context of the American preschool classroom, language serves as a tool to guide children's participation.

Applying concepts of the bioecological model, we view interactions between teachers and students every day throughout the school year as a proximal process that drives development. The bioecological model also acknowledges that interactions are bidirectional, and in the case of interactions in the classroom, teacher and student are active participants, with both influencing how the interactions take shape. By focusing on interaction, researchers seek to understand how, through language routines, cultural traditions in the daily activities of the classroom contribute to gaining access to learning and to the dominant construction of knowledge (Green & Dixon 1993; Piker & Rex, 2008). In this way, preschool classrooms can be viewed as sites of specific situated cultural and language practices, where teachers and students come together to negotiate meanings and understandings. Thus, for preschool age DLLs who are

learning language sequentially, not only are their everyday home routines important, but also classroom routines and interactions play a role in shaping their use of and feelings toward their first and second languages.

Apart from understanding activities and interactions which take place in the classroom, conceptual frameworks need to account for the multilevel nature of contexts, including the nesting of individuals within classrooms and families, classrooms within schools, school districts, and communities, and the larger society. Both the ecocultural and bioecological perspective take into account the broader ecological and institutional forces that impinge on the everyday activities of families, as well as teachers and schools. An example of one of the broad institutional forces that affect DLLs' English proficiency is immigration and biculturalism.

Immigration and Biculturalism

Many immigrant families hope to move to the United States permanently in search of better opportunities. Adults most frequently cite access to educational advantages and future work for their children in their decision to immigrate (Suárez-Orozco & Suárez-Orozco, 2001). Depending on their situation, new immigrants not only have to find jobs and quickly learn how different systems such as employment, transportation, and health care operate, but they also have to adjust to their new communities. If they have children, new immigrants have the additional challenge of trying to raise their families in ways that are appropriate to their new communities, while at the same time reconciling this with their native culture. Although the majority of Hispanic DLLs are of Mexican origin, substantial proportions have origins in Puerto Rico, Central America, South America, Cuba, and the Dominican Republic, with varying immigration histories and demographic backgrounds (Furman & Negi, 2010). Similar to the multiple changes experienced by their parents and other caregivers, children from immigrant families are also

learning to adapt to the constraints and opportunities within their new contexts. The process experienced by individuals adapting to a culture is known as acculturation, whereby the newcomers are expected to accommodate to the language, traditions, and behaviors of the new, dominant culture (Berry 1997; Padilla & Perez, 2003). As part of the acculturative process, newcomers often experience challenges related to identity, familial separation (Smart & Smart 1995), and language conflicts (Hovey, 2000; Ward & Kennedy, 1994).

More recently, research has highlighted another form of adaptation, referred to as biculturalism, which involves combining and synthesizing aspects of the two cultures into a unique blend (Schwartz, Unger, Zamboanga & Szapocznik, 2010). Biculturalism may vary in the way it is exhibited, with some individuals preferring to keep aspects of their heritage and receiving culture separate, often because they perceive conflict and incompatibility between these two contexts. On the other hand, other individuals may opt to blend their two or multiple identities together, as in the case of some Cuban Americans in Miami who celebrate the Thanksgiving holiday with a combination of traditional Thanksgiving food and Cuban cuisine (Benet-Martınez & Haritatos, 2005). Another example is using cultural identifications that represent a combination of heritages, such as Chicano or “Nuyorican,” that are not generally found in the countries of origin of Mexico and Puerto Rico. Benet-Martınez and Haritatos (2005) found that “blended” bicultural individuals tended to report higher self-esteem and lower psychological distress than those who kept their heritage and receiving cultural streams separate. Further, a cross-national, longitudinal study found that adults who have fluency in their parents’ heritage language and the language of the settlement society, and who identify with and participate in both cultures, adjust more successfully than do those with other acculturation profiles (Sam, Vedder, Ward, & Horencyzk, 2006; Suarez-Orozco & Suarez-Orozco, 2001). One

hypothesis for the positive outcomes found in blended bicultural individuals suggests that the consistent availability and flexibility in

accessing both cultural identities within the person's daily repertoire increases the ease of activating the correct cultural schema in any given situation.

An ecological perspective opens up our conceptualization of acculturation to include change processes operating at the social setting, social network, organizational, institutional, community, and policy levels (Tseng & Yoshikawa, 2008). There is a need to look not only at immigrants adapting to the new culture, but also a need to examine how receiving communities learn to interact effectively with immigrants. Language conflict is one of the primary challenges faced by immigrants who move to the United States. In the American context, bilingualism associated with immigrant families is often regarded as a transitional or temporary stage in the process of assimilation to the dominant culture, frequently referred to as a subtractive bilingual context (Baker, 2011). In a subtractive context, the second language is acquired with the aim to replace or demote the first language (Baker, 2011). In contrast, a bilingual context is described as additive when the second language learned is unlikely to replace or displace the first language and individuals have positive attitudes toward the use of both languages (Baker, 2011). This is usually the case for languages that are thought to be equally prestigious, such as the use of French and English in regions of Canada. A majority of the studies that explore bilingualism and cognitive development have observed children in a context of "additive bilingualism," in which middle-class language majority children learn a second language in a supportive cultural context with little or no threat to their native language (Winsler & Espinosa, 1999).

Conceptual Model

This study uses a conceptual model that incorporates ideas from ecocultural and bioecological frameworks to examine the relations between teacher-child interactions, classroom context, and Latino DLLs' school readiness.

--- Insert Figure 1 about here ---

Figure 1 illustrates how elements are nested within each other, emphasizing that relations are embedded within a multilevel system, where each level has a dynamic bidirectional influence on the others (Bronfenbrenner & Morris, 2006; Sabol & Pianta, 2012). The model views teacher and student as active participants, operating within contexts that range from proximal to more distal: the classroom, school, community, and broader society. Teacher-child interactions are viewed as the primary proximal mechanism for developing DLLs' school readiness skills in the classroom. Although the relation between teacher and student is bidirectional, because of the developmental needs of young children, teachers play a central role in facilitating interactions that affect the overall instructional and emotional support available to DLLs in the classroom. In addition, teacher-child interactions are shaped by the ecocultural context of their particular classroom and are influenced by salient classroom environment and individual child characteristics. At a broader level, teacher-child interactions are influenced by teachers' language ideologies that are also affected by other factors, such as the amount of professional development related to second language acquisition, experience working with linguistically diverse populations, self-efficacy working with DLLs, and proficiency in their students' home language. Finally, teachers' broader ecocultural context, or the environments in which teachers are situated, has an impact on their language ideologies. These consist of U.S. language ideologies, including federal and state policies and local community language ideologies.

Overview of Dissertation Studies

Developing DLLs' socio-emotional skills is an important aspect of promoting their overall school readiness, but more research is essential for understanding and developing aspects of socio-emotional skills that are distinct to DLLs. To address these gaps in the literature, this dissertation examined various aspects of the conceptual model presented in Figure 1. Broadly, the conceptual model indicates that DLLs' school readiness is influenced by teacher-child interactions, which vary depending on classroom environment characteristics and child and family characteristics. Teacher-child interactions are also influenced by teachers' language ideologies. All three studies focused on Latino DLLs[2], as families from Latino backgrounds are one of the largest and fastest-growing populations and are more likely to maintain their native language, Spanish, at home than members of other ethnic groups (Arriagada, 2005). These Spanish-speaking DLLs also come from low-income households and often enter kindergarten one standard deviation below the average reading and math skills of more socioeconomically advantaged Spanish speakers (Reardon & Galindo, 2009).

This dissertation consists of three complementary studies. The first study, (Chapter 2: The Relations Between Teacher-Child Interactions, Classroom Language Context, and Latino DLLs' School Readiness Skills: A Study Using the Family and Child Experiences Survey) uses the Head Start FACES 2009 cohort data for secondary data analysis. Using FACES 2009 is ideal because the new data collected related to DLLs, including information on Spanish use by teachers in the classroom and classroom quality, as measured by the dimensions of the Classroom Assessment Scoring System (CLASS), can be examined. Information on Spanish use

[2] Since all three studies in this dissertation focus on Latino DLLs, the term DLLs will be used to refer to DLLs who identify as Latino unless otherwise stated.

in different activity structures (i.e., whole group and reading) and classroom language composition (e.g., percentage of Spanish-speaking children) will also be used.

Study 2 (Chapter 3: The Relations Between Teacher-Child Spanish Interactions, Classroom Language Context, and Latino DLLs' School Readiness Skills: Findings From a Local Head Start) is built on the information from global measures of classroom quality and lead teacher Spanish use for instruction in the secondary data with primary data that captured teacher-child interactions at the individual level. Capturing individual teacher-child interactions provided more details about the types of interactions in Spanish as well as the frequency with which teachers used Spanish in the classroom. To extend information gathered in secondary data, primary data will also include more nuanced information on classroom language composition by describing the class in terms of initial levels of English skills. Finally, Study 3 (Chapter 4: A Qualitative Study on Teachers' Language Ideologies and Classroom Practice), used semi-structured interviews, given the limitations with validated measures of teachers' language ideologies. Semi-structured interviews were designed to allow teachers to provide detailed explanations of their experiences and are appropriate when examining complex topics such as language ideologies.

CHAPTER 2: THE RELATIONS BETWEEN TEACHER-CHILD INTERACTIONS, CLASSROOM LANGUAGE CONTEXT, AND LATINO DLLS' SCHOOL READINESS SKILLS: A STUDY USING THE FAMILY AND CHILD EXPERIENCES SURVEY

Although the education field has traditionally emphasized developing children's academic abilities, for children to be successful, schools must place equal importance on helping children grow holistically; children's cognitive and academic development is interrelated with their social, emotional, and physical development. For example, research has found that very early patterns of socio-emotional and behavioral problems influence not only the course of social and emotional development, but also the acquisition of academic and cognitive skills (McWayne, Fantuzzo, & McDermott, 2004). If children have difficulty managing their behavior and social interactions, they may have a difficult time learning to read or concentrating during other academic tasks (Kochenderfer-Ladd, 2004). This highlights the interconnectedness between socio-emotional development and academic success.

Although some socio-emotional research on monolingual children is applicable to DLLs, there may be other developmental and ecological processes that are distinct to DLLs because of their ability to access two languages. For example, research on the cognitive abilities of DLLs suggests that having two languages influences children's metalinguistic awareness, or the ability to reflect on language use (Barac et al., 2014). Another aspect of language development that relates to DLLs' social and emotional development entails understanding that a speaker's feelings can be determined not only by content, but also by altering his or her speaking rate, pitch level, pitch contour, and voice quality, known as paralinguistic cues (Morton & Trehub, 2001). Adults often employ a wide range of cues, including social and contextual cues, to understand the intended meaning of the other speaker, especially a potentially ambiguous one.

Although young children are able to make a distinction between facial expressions and what a person really feels, they find it difficult to use paralinguistic cues and tend to rely on what the speaker says rather than how the person sounds when interpreting emotions (Morton & Trehub, 2001).

DLL children, however, may be more adept in using paralinguistic cues, such as the tone of voice when interpreting a speaker's affect. A study by Yow and Markman (2011) found that although monolingual and DLLs were equally capable of using tone of voice to identify emotion when there was no conflicting content, bilingual children were better able than their monolingual peers to judge emotion when content was in conflict with tone of voice. This shows how bilingual children's heightened sensitivity to communicative context may contribute uniquely to their social and emotional development and supports the evidence found by Halle et al. (2014) that preschool DLLs have at least equal if not better socio-emotional outcomes compared to native English speakers. To serve DLLs better, research needs to account for their distinct developmental trajectories and communicative contexts, building on DLLs' strengths.

The Preschool Classroom as a Context for Language Learning

The preschool classroom constitutes a setting that is an integral part of young children's language learning experience. According to Tabors (2008), DLLs who are sequential second-language learners generally follow a four-stage development sequence when they enter preschool classrooms. First, DLLs use their home language even if others don't understand them. Second, when DLLs realize their home language cannot be used to communicate, they enter a period where they rarely speak and use non-verbal means to communicate. At this stage, even if DLLs are non-verbal, it is still a period of active learning because they are learning the features, sounds, and words of the new language (receptive) but are not yet verbally using the new language to communicate. The third stage involves telegraphic or formulaic speech. After observing the new language, DLLs begin using phrases in the new language they have heard from others. Often, children may not understand the meaning of the words they are saying but use these phrases because they observed that these phrases were effective in communicating with others. Finally, the fourth stage is when children are able to create their own phrases and thoughts in the new language.

In early childhood settings, studies show that warm, sensitive, well-organized, and cognitively stimulating interactions between teachers and students are linked to young children's social, language, and cognitive development (Howes, Burchinal, Pianta, Bryant, Early, Clifford & Barbarin, 2008). For DLLs, teacher-student interactions provide opportunities for students to practice their current language skills, deepen their understanding of how languages work, and process new words and concepts (Schecter & Cummins, 2003). Verbal interactions between teachers and DLLs have been found to be more important than mere exposure to English in promoting children's language competence (Piker & Rex, 2008; Saunders & O'Brien, 2006) and

have also been linked to children's positive development in math, literacy, and social skills (Downer et al., 2012).

Use of Children's Home Language in the Classroom

Although many questions remain about practices that foster the positive development of DLLs, previous studies have shown mixed results related to the use of Spanish in the classroom. There is work that suggests that high-quality care combined with bilingual instruction might be especially beneficial for DLL children's academic and social learning during preschool (Burchinal, Field, Lopez, Howes, & Pianta, 2012; Chang Crawford, Early, Bryant, Howes, Burchinal, Barbarin, Clifford & Pianta, 2007; Vitiello, Downer & Williford, 2011). For instance, in their study, Burchinal and colleagues (2012) found that Spanish-speaking children's reading and math scores were higher when they received more instruction in Spanish and attended classrooms with more responsive and sensitive teachers. On the other hand, results from Vitiello et al. (2011) showed that, controlling for children's baseline English proficiency, the amount of Spanish instruction was negatively associated with the likelihood of DLLs attaining English proficiency; however, they note that the negative effect of Spanish instruction on English proficiency decreased as the amount of rich, elaborate instruction increased. Thus, these studies provide evidence of the potential benefits of having teachers use children's home language in high-quality interactions and also point to the need of understanding additional factors that may vary the effects of using children's home language on DLLs' school readiness skills.

Salient child and family characteristics. In addition to teachers' influence, part of the classroom context consists of the child and family characteristics of the individual children who are a part of the class. As discussed earlier, children are not passive recipients of environmental influences, and their characteristics play a key role in their experience in the classroom. Among

the salient child characteristics important to consider are DLL children's proficiency in their home language and English and child gender (Coll, Crnic, Lamberty, Wasik, Jenkins, Garcia, & McAdoo, 1996).

Child characteristics. Variation in individual DLLs' proficiency in both languages may affect the way DLLs communicate with their teacher and peers, which in turn, affects the kinds of social interactions they experience. For example, some children may be able to understand and speak in Spanish and English, whereas other children may be able to understand both languages but can only converse in one of their two languages. Another significant individual child characteristic is gender. Portes and Schauffler (1994) found that among Latino children, girls had greater bilingual language competence and were more likely to be fluent bilinguals. The authors suggest the reason for differences in gender may be due to the fact that males and females often participate in different social environments. The authors speculate that Latino girls may spend more time in the home environment, which exposes them to greater contact with parents and the Spanish language. Hammer, Lawrence, Rodriguez, Davison and Miccio (2011) also found that gender may play a complex role with DLLs where parents may use their native language more with girls than with boys.

Family characteristics. Research with young children often includes measures of their caregiver characteristics, such as family income and parent education and employment, as these have an impact on children's developmental outcomes. For instance, studies often measure parent education, as there are frequent associations between the level of education and differences in language and educational practices in the home. Specifically, studies have found that parent education was a robust predictor of child vocabulary knowledge (Kreisman, 2012; Letts, Edwards, Sinka, Schaefer & Gibbons, 2013). Another important factor associated with

DLLs' development is family socioeconomic status (SES). However, it is often difficult to disentangle the influence of SES with other factors such as language status, parents' emotional well-being, and literacy (Halle et al., 2014). Immigrants are a heterogeneous group and vary greatly in terms of income, education, and occupational status depending on the circumstances and reasons for immigration. In the U.S., Latinos are among the nation's most diverse racial/ethnic groups with a wide range of characteristics including country of origin, U.S. versus foreign nativity, and level of education (Wildsmith, Ansari & Guzman, 2015). Collectively, however, DLL students on average are more likely than their native English-speaking peers to have an immigrant parent, live in a low-income family, have parents with limited formal education, and be raised in cultural contexts that do not reflect mainstream norms in the United States (Hernandez, Denton & Blanchard, 2011). Poverty rates for children coming from immigrant families vary depending on the English fluency of their parents. The proportion of poor families rises from 26% for children with only English-fluent parents to 44% for mixed-fluency parents, and 68% for children with parents who are fluent in their native language only (Hernandez, Denton, McCartney & Blanchard, 2012). Kennedy and Park (1994) report that the significant relation between use of English at home and reading achievement at school for Hispanic children disappeared when SES was controlled. This suggests that the effect of SES on English reading achievement was stronger than language proficiency. Researchers therefore need to account for the additional risks DLLs face in other areas, such as parent education levels, family income, and parent English language proficiency.

Salient Classroom Environment Characteristics

Among the features of the classroom environment that need to be considered when understanding teacher-child interactions are the linguistic composition of the students in the class and the activity structure where interactions take place.

Classroom linguistic composition. Classroom linguistic composition is a particularly salient characteristic for classrooms with DLLs, as teachers may decide to use one language over another depending on the number of students who are proficient in each language and the degree of their proficiency. For example, researchers have found that beyond effects attributable to instructional quality, the language skills of children's classmates were a significant and unique predictor of language growth (Mashburn, Justice, Downer & Pianta, 2009). In another study in classrooms with DLLs, Atkins-Burnett, Sprachman, Lopez, Caspe & Fallin (2011) found that teachers in high DLL concentration classrooms used cues from the environment to facilitate children's understanding of what the teacher is talking about, known as contextualized language, relative to de-contextualized language, in both English and Spanish when compared with teachers in low DLL concentration classrooms. In a qualitative study, Chesterfield, Hayes-Latimer, Chesterfield, and Chavez (1983) observed that students who showed the greatest increases in English language proficiency, in classrooms where a majority of students were predominantly Spanish-speaking, were those who used relatively more English over time with the teacher.

Classroom activity structure. Another element to consider relates to the different activity structures where teacher-child interactions take place. Although U.S. preschool classrooms share common features with respect to classroom structure (e.g., large group, small group, free choice, meals, and routines), research has generally overlooked structural features of the classroom that can facilitate teacher-child interactions (Dickinson, Darrow and Tinubu,

2008). For example, teachers may view large group settings as a time for teacher-directed instruction but may not view transitions or routines such as lining up for the bathroom as such. In a qualitative study, Dickinson et al. (2008) found that the classroom area affected the nature and extent of teacher-child conversations. Specifically, teachers in their study were more likely to explicitly teach words and ideas and ask thought-provoking questions in the block area than they were during dramatic play and, as a result, extended conversation was more common during block play. On the other hand, dramatic play was an area where teachers tended to engage in the recollection of past events, pretend play, and use a richer mix of novel words. Preliminary work from the RISE project also suggests that language use differs depending on the classroom structure and language functions (Limlingan, Dong, Miller, McWayne, Mistry, Zan, Brenneman & Greenfield, 2014). Qualitative data showed in Head Start classrooms where the dominant language and culture is Spanish/Central and South American, the home language is often used for social conversations, classroom routines, and translation. These instances only occurred when teachers were speaking with an individual child, and rarely during small or large group curriculum-related instruction. In summary, these studies suggest that preschool classroom activity structure and classroom areas can shape teacher-child conversations, and attention needs to be paid to the specific contexts in which these teacher-child conversations take place.

Research Questions and Hypotheses

The present study used quantitative methods with a nationally representative sample to examine the relations between teacher-child interaction, classroom context, and DLLs' language and socio-emotional skills and addressed the following questions:

1. Do child characteristics (i.e., child age, child gender, child initial English language screener score), and family characteristics (i.e., maternal education, maternal employment, parent marital status) predict DLLs' language and socio-emotional outcomes?
2. Do classroom characteristics (i.e., lead teacher Spanish use, global classroom quality), teacher characteristics (i.e., teacher ethnicity, years of teaching, teaching certificate on DLLs), and classroom language context (i.e., percentage of Spanish speaking children in class, Spanish use in whole group, Spanish use in reading) uniquely predict DLLs' language and socio-emotional outcomes?

For Research Question 1, the child characteristics identified, initial English language screener score and child gender and age were hypothesized to be significantly associated with DLLs' language and socio-emotional outcomes based on prior literature (Barbarin et al., 2013; Hammer et al., 2009; Han, 2010; Portes & Schauffler, 1994). Given that the Latino DLL came from a sample that was primarily low-income, no significant associations were expected for maternal education, maternal employment and parent marital status. For Research Question 2, teacher-child interactions, measured by lead teachers' Spanish use for instruction and global measures of classroom quality, was hypothesized to be positively associated DLLs' language and socio-emotional outcomes based on prior research showing relations between Spanish use and classroom quality and gains in children's language, social, and academic skills for Latino preschool DLLs (Burchinal et al., 2012; Chang, 2007; Downer et al., 2012). Significant relationships were also predicted between classroom language composition and DLLs' language and socio-emotional outcome but given the limited research in this area, there was no prediction of the direction this relationship would be in.

Methodology

Data

Secondary data come from the Head Start Family and Child Experiences Survey (FACES) 2009 cohort. The Head Start FACES is a periodic longitudinal study that uses a national probability sample of Head Start children, families, classrooms, and programs. Using the Head Start FACES 2009 cohort data set is ideal because changes were made to measures to address a need for a focus on particular groups, including DLLs (West, Tarullo, Aikens, Malone, & Carlson, 2011). Data were collected from a sample of 3- and 4-year-old children entering Head Start for the first time using direct assessments, face-to-face, and computer-assisted teacher and parent interviews, classroom observations, and questionnaires. Data collection began in fall 2009 and was completed in spring 2012. This study uses data collected during two points of children's first year in Head Start: fall 2009, which will be known as Wave 1, and spring 2010, referred to as Wave 2. More information about the survey design is available in the FACES Technical and Progress Reports (West et al., 2011).

Sample

Participants in the FACES 2009 cohort included a complex sample of 60 programs, 129 centers, 486 classrooms, and 3,149 newly enrolled children in Head Start. In order to minimize the effects of unequal weighting on variance estimates in selecting programs, centers, and classrooms, FACES 2009 used a probability proportional to size (PPS) approach. This was followed by simple random sample for selecting children within a class (West et al., 2011). About 94% of eligible children's parents gave their consent for their child to participate. The cumulative response rate was generally high, at 94% for the child assessments and 97% for teacher reports, respectively.

Given the need of information for the growing number of DLLs in the population, FACES 2009 added questions to information previously collected on families and children who speak a primary language other than English. For this study, we focused on children identified as Latino and Spanish-speaking. This sample included 730 children. Child and family characteristics detailed below are also shown in Table 1.

Child characteristics. The average age of children when they entered Head Start was 46.32 months. In this subsample, a little more than half (51%) of the children were male and all the children were identified as coming from Latino backgrounds. Only 1% of children reported that they had an Individualized Education Plan (IEP).

Family characteristics. Several family characteristics were included in the study such as mother's education and mother's employment. A little more than a third (37%) of mothers indicated they had a high school degree or higher and 35% of mothers were working either full or part time. In terms of marital status, 42% of parents reported being married. Given that the subsample focused on Latinos, additional family characteristics are reported to understand the heterogeneity that exists within this population. Whereas most children (93%) were born in the U.S, the majority of parents (82%) were both born in a different country. Of the parents who were born outside of the U.S., a majority (71%) of mothers came from Mexico. A little less than half (46%) of the mothers were living in the US between 6 and 10 years and 91% percent of families reported speaking Spanish at home.

Teacher demographics. There were 200 teachers that taught the 730 children in this subsample. Almost all (98%) of the teachers were female and 49 (25%) of the teachers were identified as Latino or Hispanic origin. Two-thirds of the teachers either had an associate's

degree (34%) or a bachelor's degree (36%). Teachers averaged 8.4 years of experience working at Head Start.

Data Collection Procedure

Prior to data collection, FACES 2009 introduced the use of a Field Enrollment Specialist (FES) to improve sampling procedures from previous FACES cohorts. FESs were responsible for conducting on-site classroom and child sampling and the consent process prior to data collection. Siblings and children who joined the class after the FES visit were not included in the sample.

Once data collection started, all children began assessments with two subtests from the Preschool Language Assessment Survey (*pre*LAS), Simon Says, and the Art Show (together known as the language screener). The language screener was used to determine whether children from a non-English speaking home had sufficient English language skills to understand the questions and directions of the assessments and to respond orally as needed. Based on this language screener, children were either given assessments in English or Spanish. Children who were identified as coming from Spanish-speaking homes were also given a Spanish assessment for receptive vocabulary.

Assessors used standardized child assessment materials with instructions to show children pictures posted on easels and asked children questions, then entered children's responses into a laptop. For calculating assessment starting (basal) and stopping (ceiling) points, assessors used the computer-assisted personal interview (CAPI). Teachers reported on children's skills using either a web-based questionnaire or a pencil and paper questionnaire whereas information from parents was captured using a computer-assisted personal or telephone interviewing (CAPI or CATI) process.

For classroom observations, a trained observer visited classrooms during Wave 2, spending at least four hours in each class to ensure observation of a variety of classroom activities. Observations were captured on paper documents and entered in a computer once completed. Observers tried to stay as unobtrusive as possible, staying in less-traveled areas of the classroom and limiting their interactions with children.

Measures

Classroom quality. The Classroom Assessment Scoring System (CLASS; Pianta, LaParo & Hamre, 2006) is an observational tool designed to measure classroom quality across three broad domains of interaction. First, the instructional support domain includes three dimensions (i.e., concept development, quality of feedback, and language modeling) that show ways in which teachers are supporting cognitive and language development. Emotional support is the second domain and focuses on teachers' abilities to support the social and emotional needs in the classroom. It consists of four dimensions: positive climate, negative climate, teacher sensitivity, and regard for student perspective. Finally the domain of classroom organization has three dimensions (i.e., behavior management, productivity, and instructional learning formats), all related to the management of student behavior and time in the classroom. Each domain score is the average score from each of these dimensions. Each dimension is scored on a seven-point scale (1 = "minimally characteristic" to 7= "highly characteristic"). To carry out the observations, a trained observer rates the teacher-child interactions occurring in preschool classroom on the 10 dimensions. Participating classrooms were observed for a total of four observation cycles, with each observation cycle lasting 20 minutes long.

Reliability for this subsample ranged from 0.78 for classroom organization, 0.82 for emotional support, and 0.84 for instructional support. Average interrater reliability for the full

sample (within one point of ratings from master raters) was 87%. Prior research on the CLASS has shown reliable and valid assessments of the quality of the preschool experience for English-dominant children and for Spanish-speaking children who are learning English (Downer et al., 2012).

Teacher Spanish use. FACES 2009 asked several questions related to teachers' language use in the classroom. For this study, we focused on the lead teachers' response to questions about the language used for instruction in the spring. Specifically, we used the question, "[In addition to English] who speaks Spanish? Is it you/lead teacher, the assistant teacher, classroom aide, or volunteer?" For this variable, out of 200 lead teachers, a total of 96 (48%) reported using Spanish. For ease of interpretation, a new categorical variable (Lead Teacher Spanish Use) was created to indicate whether the lead teacher used Spanish for Instruction (1 = used Spanish, -1 = did not use Spanish).

Language outcomes. This study uses measures of language outcomes from child assessment data collected at Waves 1 and 2. Children's receptive language development in both English and Spanish was measured with the Peabody Picture Vocabulary Test-4th edition (PPVT-4; Dunn & Dunn, 2007) to English-speaking children and Test de Vocabulario de Imagines Peabody (TVIP; Dunn, Lugo, Padilla & Dunn, 1986) to Spanish-speaking children, respectively. Although the PPVT-4 and TVIP both measure receptive abilities, they are not comparable because each test uses different norming samples as described below. It is possible to report Spanish-speaking children's progress in both English and Spanish using the PPVT-4 and TVIP scores separately while considering the different norming groups used for each measure. However, because both measures were not normed with bilingual children residing in the U.S.,

children's scores must be understood as rough estimates of receptive vocabulary (Hindman & Wasik, 2015).

To assess receptive language, both the PPVT-4 and the TVIP instruct children to say or indicate, by pointing, which of four pictures best shows the meaning of a word said aloud by the assessor. The measure provides a raw score and an age-normed standardized score (*M* = 100, *SD* = 15 across the standardization sample). Reliability for the fall and spring in the full sample ranged from 0.97 and 0.95 for the PPVT-4 and 0.93 and 0.94 for the TVIP respectively[3].

The PPVT-4 established age norms on a national sample of 4,000 children and adults tested across the United States in 2004. PPVT-4 scores are highly reliable, with the test publisher reporting internal consistency reliability (alpha) coefficients ranging from 0.96 to 0.97 and test-retest reliability ranging from 0.92 to 0.96. For the TVIP, the median internal consistency reliability reported by the publisher is 0.93, and its established age norms are based on a sample of same-age peers in Mexico and Puerto Rico in the mid-1980s (West et al., 2011).

Socio-emotional outcomes. DLLs' social and emotional outcomes consisted of teacher reports of children's cooperative behavior and approaches to learning. Reliability for the fall and spring for the full sample[1] was 0.89 and 0.89 for the children's cooperative behavior and 0.91 and 0.92 for children's approaches to learning.

Cooperative behavior was measured using 12 items taken from the Social Skills Ratings System (SSRS; Gresham and Elliott 1990). Using a scale of 0 ("never") to 2 ("very often"), teachers indicated how often a child engaged in cooperative behavior such as helping put things away, complimenting classmates, and following rules when playing games.

[3] Due to data sharing restrictions for item level data, reliability for the PPVT-4 and TVIP could not be calculated for the Latino subsample.

Approaches to Learning was measured using six items from the ECLS-K (U.S. Department of Education, 2002). Teachers rated children's motivation, attention, organization, persistence, and independence in learning by indicating the extent to which a statement such as "follows teachers' directions" was characteristic of the child from a scale of 1 ("never") to 4 ("very often').

Family and child characteristics. Several child and family characteristics were included in analysis. Information was collected through interviews conducted with children's primary caregivers, more than 90% of whom were their biological mothers. Child race, the primary variable used to identify the subsample, was based on parent responses about their race and ethnicity. Children could be identified as belonging to one or more of several racial/ethnic groups: 1) White, Non-Hispanic 2) African-American non-Hispanic 3) Hispanic/Latino 4) American Indian or Alaskan native 5) Asian or Pacific Islander, non-Hispanic, 6) multiracial/biracial non-Hispanic and 7) other race, non-Hispanic. Information to identify whether Latino children were Spanish speaking came from parent and teacher reports at Wave 1.

Other child characteristics included child age (in months), child gender (female=-1; male=1), and child language screener score (did not pass=-1; passed=1). Family characteristics were measured using mother education (less than high school=-1; high school or higher=1), employment (not working=-1; working full or part time=1) and parent marital status (not married=-1; not married=1).

DLL classroom composition. The classroom composition variable was created from a question at Wave 1 that asked teachers, "What is the percentage of children who speak Spanish in your class?" The average class composition of Spanish-speaking children was 48% (*SD* = 37.75).

Data Analysis Plan

To create the Latino subsample, the children's race variable was used and was based on parent interview questions at Wave 1 related to race and ethnicity. From the full sample of 3,149 children, a total of 1,275 children were identified as Latino. Several variables were used to determine if Latino children were Spanish-speaking, such as parent interview questions at Wave 1 related to home language use and the constructed variable, A1_LANG. There were 859 children who were identified as such and given the English and Spanish receptive language assessments.

Once the Latino subsample was created, data were cleaned and missing data patterns were analyzed. FACES 2009 coded several types of missing data classified as legitimate skips, item non-responses (e.g., missing data on items in a given instrument) and unit non-response (e.g., an entire instrument was missing for the case). Data was considered legitimately missing if items were not applicable to the respondent based on prior (screener) responses. Other legitimate non-responses were when a respondent answered that he or she did not know, or refused to a question. Out of the 859 children, 59 were dropped because missing data were classified as not applicable, a legitimate skip. An additional 70 children were removed from the subsample because of missing Level-2 data.

Descriptive statistics were examined to evaluate normality assumptions for all the variables and are shown in Table 2. Acceptable levels of skewness and kurtosis were set at 2.0 (Gravetter & Wallnau, 2014). Then, bivariate correlations were conducted to determine whether relations existed between any of the variables of interest prior to running the multilevel models and shown in Table 3 and 4. To account for the nested structure of the data (non-independence), this study used multilevel modeling. For outcomes, two-level models were conducted to account

for nesting of students (Level-1, *n* = 730) within classrooms (Level-2, *n* = 200). Specifically, classroom level variables were used as main effects to explain variation in spring language and socio-emotional outcomes, controlling for child and family characteristics.

First, unconditional models were tested to examine DLLs' spring English language proficiency and socio-emotional outcomes, and the degree to which these scores differed by individuals as well as between classrooms. Then, spring school readiness scores were analyzed controlling for child (i.e., child gender, child age, initial English and Spanish skill, child fall language, and socio-emotional scores) and family (i.e., mom education, mom employment, and parent marital status) characteristics. Next, Level-2 variables were added to the model to explore the effect of teacher-child interactions (i.e., Lead Teacher Spanish Use and Instructional Support, Emotional Support, Classroom Organization) and classroom context variable (i.e., Spanish Use in Whole Group, Spanish Use in Reading, % of Spanish-speaking DLLs in class) on language and socio-emotional outcomes. A likelihood ratio test was used to determine model fit of two nested models by comparing the difference in deviance statistics and degrees of freedom between models (Peugh, 2010). For all models, restricted estimation maximum likelihood (REML) was used. Centering decisions were based on substantive research questions of interests as recommended by Enders and Tofighi (2007). For Research Question 1, centering within cluster (CWC) was used because primary interest was in how level-1 variables (i.e., family and child characteristics) predicted language and socio-emotional outcome. For Research Question 2, because the substantive research question of interest concerned how Level-2 variables (i.e., teacher-child interactions and classroom context) uniquely predicted language and socio-emotional outcomes, grand mean centering was used for Level-1 and 2 predictors. In addition, the longitudinal weight, PRA12OCW, accounted for the complex sample design and included

data from parent interviews in combination with teacher reports or child assessment data in Wave 1 and 2, as well as teacher interview data in Wave 1 and 2 and child's classroom observation data in Wave 2. Finally, for ease of interpretation in analysis, all continuous predictors were standardized (z-scores) and categorical predictors were effect-coded. Effect sizes were also calculated as a way to provide an estimate of the strength of the relationship between Level 1 and 2 predictors and outcomes. Effect sizes were calculated by dividing the regression coefficient of significant predictors by the square root of the total variance accounted for in the model. All multilevel analyses were conducted using *HLM7* software (Raundenbush, Byrk, & Congdon, 2013).

Results

Table 2 reports descriptive statistics for the language and socio-emotional assessments of the Latino subsample. Using standardized scores compared to the mean of 100 (*SD* = 15), descriptive data revealed that English receptive language had a mean of 61.87 (*SD* = 20.31) in the fall and 72.29 (*SD* = 15.61) in the spring, an increase of around ten points. For Spanish receptive language, the scores remained the same, with the mean score for the fall of 84.20 (*SD* = 13.04) and 84.21 (*SD* = 15.09) in the spring. For socio-emotional skills, the mean score for social skills was 15.54 (*SD* = 4.75) for the fall and 17.79 (*SD* = 4.44) in the spring. For approaches to learning, 1.75 (*SD* = 0.71) was the mean score in the fall and 2.00 (SD=0.71) in the spring.

Intercept-Only Model

Prior to conducting the full model analyses, an unconditional (intercept-only) model was run to examine variance component estimates. Table 5 shows the intraclass correlation coefficients (ICC), calculated by taking the variance between groups and dividing it by the total variance. Because the ICCs were generally non-zero (except for Spanish receptive language

skills), a multilevel modeling approach was appropriate for the data, as this shows classroom membership accounted for variance in spring outcomes for language and socio-emotional skills. ICC values of 0.05 to 0.20 are common in cross-sectional MLM applications in social science research studies (Muthen, 1991; 1994).

Latino DLLs' Spring English Receptive Language Skills

Results for English receptive language spring outcomes are presented in Table 6. Results from model 2 (random intercepts) were used to answer Research Question 1. The regression coefficient relating to the fall English receptive skills score (b = 11.44, p = .001) was positive and statistically significant. To address Research Question 2, level 2 predictors were included in the model as seen in model 3. Classroom composition was negative and statistically significant (b = -1.61, p = .024). The difference between deviance scores and degrees of freedom between models 2 and 3 was compared and model 3 was determined to be the better-fitting model. This suggests that holding child and family characteristics (i.e. child age, child gender, child English language screener score, maternal education, maternal employment and marital status) and teacher and classroom characteristics (i.e. global measure of classroom quality, teacher Spanish use for instruction, teacher Spanish use for whole group, teacher Spanish use for reading, teacher work experience, teacher ethnicity and teacher DLL course) constant, that; classroom composition uniquely predicts English receptive language skills in the spring. Specifically, classroom composition had a negative effect, indicating that for every standard deviation increase in percentage of Spanish-speaking children teachers report in their class, the model predicts a 1.61-point decrease in spring English receptive language skills. It also predicts an increase in 11.44 points for spring English receptive language for every standard deviation

increase in fall English receptive language skills. The estimated effect size of percentage of Spanish-speaking children in a class was .16 or one eighth of a standard deviation.

Latino DLLs' Spring Spanish Receptive Language Skills

Spanish receptive language results are presented in Table 7. Results to answer Research Question 1 are shown in Model 2. The regression coefficient relating to fall Spanish receptive skills score (*b* =8.87 , *p* = .001), child age (b =1.69 , p = .009), and maternal education (b =1.01 , p = .051) was positive and statistically significant. Classroom-level predictor variables were then added to the model as seen in Model 3. Comparing differences in deviance and degrees of freedom indicated that Model 2 was the better fitting model. This suggests that controlling for child gender, child English language screener score, maternal employment and parental marital status, for every standard deviation increase in Spanish receptive fall scores, child age, and maternal education the model predicts a 8.87-point 1.69-point and 1.01-poin increase in Spanish receptive spring scores respectively. The estimated effect size for child age was .14 and maternal education was .19 or approximately one sixth of a standard deviation.

Latino DLLs' Spring Social Skills

For Research Question 1, Model 2 in Table 8 shows results regarding whether child and family characteristics predicted Latino DLLs' social skills in spring. First, the regression coefficient relating to fall social skills scores (*b* = 2.40, *p* = 0.001) and maternal education (*b* = 0.42, *p* = 0.026) were positive and statistically significant. In addition, the regression coefficient relating to child gender (*b* = -0.77, *p* = 0.001), was negative and statistically significant.

To answer Research Question 2, class-level predictor variables were included as shown in Model 3. All Level-1 predictors retained significance. In addition, classroom composition (*b* = -0.54, p = 0.025) was negative and statistically significant. Model fit test indicate that Model 2

was the better-fitting model. This suggests that controlling for child age, child initial English language screener score, maternal employment and parent marital status, for every standard deviation increase in social skill fall scores, the model predicts a 2.40 score increase in social skill spring scores. It also suggests that the mean expected change in social skills in the spring is 0.77 for females and 0.42 for children whose mothers had a high-school education or higher. The estimated effect of child gender was .45 and maternal education was .25 or almost half and one-fourth of a standard deviation respectively.

Latino DLLs' Approaches to Learning Skills

Similar to the previous results, Table 9 presents results for Research Question 1 and 2. The regression coefficient relating to fall approaches to learning skills score (b = 0.35, p =0 .001) was positive and statistically significant whereas child gender (b = -0.09, p = 0.003) was negative and statistically significant. When class-level predictors were added to the model, all significant Level-1 predictors retained significance. In addition, the Level-2 predictors, lead teacher use of Spanish (b = .16, p = 0.003), were positive and statistically significant whereas class language composition was negative and statistically significant (b = -0.08, p = 0.046). This suggests that holding child and family characteristics (i.e. child age, child English language screener score, maternal education, maternal employment and parent marital status) and teacher and classroom characteristics (i.e. global measure of classroom quality, teacher Spanish use for whole group, teacher Spanish use for reading, teacher work experience, teacher ethnicity and teacher DLL course) constant, the mean expected in spring for approaches to learning scores is 0.16 points higher when lead teachers reported using Spanish for instruction, and 0.09 higher when children were girls. It also suggests that for every standard deviation increase in percentage of Spanish-speaking children teachers report in their class, the model predicts a 0.08-point

decrease in spring approaches to learning skills. The estimated effect size for child gender was 2.38, Spanish use for instruction was 3.80, and classroom language composition was .95.

Summary of Study 1: National Sample

The goal of Study 1 was to investigate the relations between teacher-child interactions, classroom context, and DLLs' language and socio-emotional outcomes using a nationally representative sample of low-income Latino children enrolled in Head Start. Findings provided partial evidence for Research Question 1's hypothesis that child gender, and age and were significantly associated with DLLs' socio-emotional outcomes but these demographic variables were not related to language outcomes. Research Question 2's hypothesis regarding teacher-child interactions was also only partially supported, with this study finding a positive association between lead teacher Spanish use and Latino DLLs' approaches to learning skills but not with global measures of classroom quality and language outcomes.

For Research Question 1, several child and family characteristics significantly related to DLLs' socio-emotional outcomes. First, female Latino DLLs had higher English receptive language scores, social skills and approaches to learning scores in the spring compared to male Latino DLLs. Prior research has shown girls having significantly higher levels of language and socio-emotional competence than boys (Barbarin, 2013; Portes & Schauffler, 1994). Another explanation could be related to studies that find that girls in Latino immigrant families often take on more family-oriented responsibilities (Arriagada, 2005; Suarez-Orozco & Suarez-Orozco, 2001). Taking on more family-oriented responsibilities, such as assisting their mothers with the care of younger children, may be an experience relevant to girls in the classroom when trying to help their younger classmates. In terms of family characteristics, maternal education was found to be positively associated with DLLs' English and Spanish receptive language and social skills.

Mothers with more formal education had children who were reported to have higher Spanish receptive language and cooperative behavior such as helping put things away, complimenting classmates, and following rules when playing games. For family characteristics, maternal education was significantly related to DLLs' Spanish receptive language and social skills. Prior research has shown that higher levels of maternal education were associated with lower levels of children's behavioral problems, suggesting that more highly educated mothers experience better emotional well-being (Hughes & Ensor, 2009).

For Research Question 2, a positive association was found between one of the measures of teacher-child interactions (i.e. lead teacher Spanish use), but no significant associations were found between global measures of classroom quality (i.e., Instructional Support, Emotional Support, and Classroom Organization from the CLASS), the other measure of teacher-child interactions. The significant positive associations between lead teacher Spanish use and approaches to learning are consistent with prior research that has shown a link between Spanish use and gains in Latino preschool DLLs' social skills (Burchinal et al., 2012; Chang et al., 2007). However, prior research using the CLASS with Latino samples has revealed mixed findings. For example, a study by Downer and colleagues (2012) found significant positive associations between the three CLASS dimensions and preschool children's social competence and letter-naming skills regardless of their language status (DLL or non-DLL) or ethnicity (Latino or non-Latino) (Downer et al., 2012). Higher-quality instructional language was also linked to greater learning in Spanish and English with Spanish-speaking DLLs using the FACES 2006 data set (Hindman & Wasik, 2015). On the other hand, Lopez and colleagues (2011) examined the CLASS in elementary school and found that whereas several CLASS subdimensions (i.e., respect for student perspective, productivity, and concept development) were positively related

to achievement with non-Hispanic students, the only CLASS subdimension that was significant for Hispanic students was quality of feedback, which was negatively associated with their achievement. The author explained that this counterintuitive finding might be a result of having students with lower achievement eliciting higher levels of quality of feedback from teachers but also considered that the CLASS may not be fully capturing the needs of Hispanic students.

The non-significant results in this study suggest that there may be important characteristics related to supporting DLLs not captured in the CLASS, such as measuring both initial English and Spanish skills of DLLs and more information about the language used (i.e. English, Spanish or other language) during observations of teacher-child interactions. First, variations in individual DLLs' initial skills in English and Spanish might affect the way DLLs communicate with their teachers and peers which, in turn, might affect the kinds of interactions they experience. For instance, Han (2010) found differences in DLLs' socio-emotional skills based on their initial language proficiency in English and home language, with fluent bilinguals and non-English dominant bilingual children having the highest levels of approaches to learning compared to non-English monolingual children. Although the current study included Latino DLLs' initial English skills, results were not significant and may be related to the PreLAS assessment not being a comprehensive measure. As previously mentioned, the PreLAS was used as an English language screener and only two of the five subtests (i.e. Simon Says and Art Show) were used. Only data on the raw scores on these two subtests were available, which did not take into account children's age In addition, while research has shown the importance of the home language in development of the second language for sequential DLLs (Castila et al., 2009), DLLs' initial Spanish skills were not included in the model because this information was not collected in the data set. Second, it is unclear whether teachers used Spanish during CLASS

observations, and if they did use Spanish, the frequency of Spanish use. In the same way, although lead teacher Spanish use for instruction was positively related with approaches to learning, this variable is unable to inform us about the type of interactions teachers used Spanish for or the frequency with which teachers used Spanish, an observation made by Hindman and Wasik (2015) in their use of FACES 2006. In other words, although the variables used to capture teacher-child interactions in this study provided some information related to DLLs' school readiness skills, important information is lost by measuring these aspects of teacher-child interactions separately. Thus, it is important to have information about the types of talk teachers use, the language in which these interactions are occurring, and the frequency of these interactions.

Finally, this study found associations between classroom language context and DLLs' language and socio-emotional outcomes. In this study, classroom language context was measured by teacher reports of the percentage of Spanish-speaking students. Results showed that in classrooms with fewer Spanish-speaking children, Latino DLLs had higher English receptive language scores and were rated higher on social skills and approaches to learning. It is possible that classrooms with fewer Spanish-speaking children had more monolingual English-speaking children, who are found to perform higher than DLLs on English language measures (Oller & Eilers, 2002; Páez, Tabors & Lopez, 2007). Although DLLs tend to be judged by teachers as higher on measures of interpersonal skills compared to their monolingual English-speaking peers (Han, 2010), having more Spanish-speaking children in a classroom might encourage DLLs to use Spanish in the classroom. It is possible that teachers might perceive classrooms with more Spanish-speaking DLLs as behaving less cooperatively if these students use their own language frequently to speak to one another. However, the reasons for these findings remain unclear, since

there was no data on the languages of the other children in the same class. It is quite possible that the other children in class have strong initial English skills and communicate easily with their teacher, especially compared to their Spanish-speaking classmates. These significant findings between classroom language composition and Latino DLLs' language and socio-emotional outcomes showed the importance of conducting more research to understand these findings on classroom language composition more clearly, and underscored the importance of examining the role of peers in the development of DLLs' school readiness skills (Mashburn et al., 2009).

CHAPTER 3: THE RELATIONS BETWEEN TEACHER-CHILD SPANISH INTERACTIONS, CLASSROOM CONTEXT, AND LATINO DLLS' SCHOOL READINESS SKILLS: FINDINGS FROM A LOCAL HEAD START

This study seeks to build on the findings from the literature and Study 1 by exploring other ways of measuring teacher-child interactions, classroom context, and DLLs' school readiness. One of the main differences between Study 1 and Study 2 is the way that teacher-child interactions were conceptualized. In the secondary data set, teacher-child interactions were measured by lead teacher Spanish use and global measures of classroom quality. Results from Study 1 found positive and significant relations between lead teachers reporting Spanish use for instruction and low-income, Latino DLLs' approaches to learning. As discussed earlier, previous studies have shown mixed results related to the use of Spanish in the classroom. To further understand what these mixed findings mean, it would be beneficial to have more nuanced information about the nature of teacher-child interactions in Spanish. For instance, there may be classrooms where Spanish is utilized, but teachers may use it primarily for disciplining students. This differs from teachers who incorporate the use of Spanish in their curriculum to help DLLs understand English words or concepts by providing the Spanish translation, making intentional connections between languages, or elaborating on children's questions.

In Study 1, with respect to the global measure of classroom quality, there were no significant relations found between emotional support, instructional support, classroom organization, and any language and socio-emotional outcomes. Understanding the lack of relations between these variables required further investigation. Prior research recommends measuring the learning of individual bilingual children to better understand the influence of classroom quality on DLLs (Solari, Landry, Zucker, & Crawford, 2011). Thus, Study 2

expanded this investigation by examining the interactions between individual Latino DLLs and their teacher in Spanish such as giving directions, providing information, and requesting language. In summary, it is important to not only include whether Spanish is used in the classroom and the general level of classroom quality but to look for ways to capture more complex descriptions of individual teacher-child interactions that provide information about the types of language (e.g., giving directions, providing contextualized and decontextualized information, and requesting language) teachers are using in what language (i.e., English and Spanish) with individual Latino DLLs.

In addition to understanding the types of teacher-child interactions taking place in different languages, it is also important to learn more about the contexts in which these teacher-child interactions take place. In Study 1, class context was operationalized to examine the percentage of Spanish-speaking children that teachers reported they had in their class. Results showed a negative and significant effect between classroom language composition and Latino DLLs' English receptive language skills, as well as their social skills and approaches to learning. Given that the classrooms at the local Head Start consist of students that are majority Spanish-speakers, we extended the meaning of classroom language composition by using information of their initial English language assessment and determining a percentage of children who did not pass this when they were assessed during the beginning of the school year for both Spanish-speaking and Non Spanish-speaking children in each class.

Finally, in relation to child outcomes, a frequent limitation cited in the studies reviewed is that information on school readiness, operationalized as DLLs' English and initial Spanish language skills, is only collected initially and discontinued once DLLs pass the English language screener (Lugo-Neris, Jackson, & Goldstein, 2010). Without information on Spanish language

skills at the end of the school year, research is unable to capture fully the dual language development of DLLs. This issue was identified by Downer, Lopez, Grimm, Hamagami, Pianta, & Howes (2012) as greatly limiting the capacity to answer questions about how classroom context may differentially contribute to the development of skills in both languages simultaneously. Primary data collected captured DLLs' initial skills in English and Spanish using two subtests from a language assessment as well as a more comprehensive measure of English and Spanish to provide a more comprehensive picture of how language skills relate to their school readiness skills. Additionally, Study 1 used language-specific measures, which accounts for DLLs' knowledge of languages separately whereas Study 2 uses conceptual scoring, which accepts answers in either language and thus considers skills in both together. Research on DLLs' language proficiencies is distributed across languages, which is related to the amount of language input in each language and to differences in the contexts of language exposure (Genesee et al., 2004; Pena, Gillam, Bedore, & Bohman, 2011).

Research Questions and Hypothesis

The goal of Study 2 was to further understand the relations between teacher-child interactions, classroom context, and Latino DLLs' school readiness using different conceptualizations of teacher-child interactions and classroom context. This study was designed to extend and expand on the information provided by Study 1. Specific research questions were as follows:

1. Do child characteristics (i.e., child age[4], child gender, initial English and Spanish language screener level, fall scores), family characteristics (i.e., parent education,

[4] Although child age was initially included as one of the variables in the model in Study 2, the final model excluded child age because the language and socio-emotional measures account used are standardized scores and already take child age into account.

parents' years in the United States), and teacher-child interactions (i.e., teacher Spanish use for giving directions, requesting language, providing contextualized and decontextualized information) uniquely predict DLLs' language and socio-emotional outcomes?

2. Do teacher characteristics (ethnicity, years of teaching experience) and classroom language context (% of DLLs in class who did not pass English Prelas) uniquely predict DLLs' language and socio-emotional outcomes?

Consistent with the hypothesis in Study 1, significant associations were predicted between child and family characteristics, particularly child gender and initial English and Spanish language screener level, and DLLs' language and socio-emotional outcomes based on prior literature (Barbarin, 2013; Hammer et al., 2009; Han, 2010; Portes & Schauffler, 1994) for Research Question 1. For Research Question 2, positive associations were also predicted between teacher-child interactions, measured by lead teacher Spanish talk (i.e. giving directions, requesting language and providing contextualized and decontextualized information), and DLLs' language and socio-emotional based on prior research showing relations between Spanish use and classroom quality and gains in children's language, social, and academic skills for Latino preschool DLLs (Burchinal et al., 2012; Chang, 2007; Downer et al., 2012). Significant relations were also predicted between classroom language composition and DLLs' language and socio-emotional outcomes but given the limited research in this area, there was no specific prediction about the direction of these relations.

Methods

Sample

Primary data were collected from a Head Start program in the Northeast, consisting of 12 preschool classrooms with 221 children enrolled. The predominant language and culture was Spanish/Central and South American (77% of families identified as Hispanic). Out of the 170 children identified as Latino in the sample, 162 families joined the study for a participation rate of 95%. Additional information for classroom composition was also collected from 24 children who were not identified as Latino. Demographic characteristics of the Latino children are shown in Table 10. There were slightly more male children (56%) and the average age at the time that fall assessment began was 4.23 (*SD* = 0.60). More than half of the parents reported that they were working either full or part time (65%) and 57 percent of the families lived in two-parent households. The majority of parents in the sample (94%) were born outside of the U.S. with more than half (62%) coming from El Salvador. The average number of years parents lived in the U.S. was 10 years (*SD* = 5.70*)* and they spoke either Spanish (61%) or both English and Spanish (36%) at home.

From the 12 classrooms, 11 classrooms consented for a participation rate of 92%. All of the teachers were female and a little less than half (46%) identified as Latino. Most teachers either had an associate or bachelor's degree and the average number of years working with preschool DLLs was 16.27 years (*SD* = 6.51*).* More than half (54%) of the teachers were born outside of the U.S. Teachers had lived in the U.S. for an average of 26.67 years (*SD* = 3.56).

Data Collection Procedures

After the researcher obtained IRB approval in mid-October 2014, teachers were recruited during the Head Start program's weekly staff meeting. Teachers also met with the researcher

individually or in small groups after class to explain the project in more detail and answer questions more in depth. For parent recruitment, together with nine bilingual research assistants, classrooms were visited during morning drop off to explain the project and obtain consent. Once parents gave their consent, members of the research team asked them to complete demographic forms.

Child assessments and the teacher report measures began in November 2014 as part of fall data/pre-test data collection efforts. One of the activities related to fall data collection was the development of a protocol for selecting a subsample of DLLs to participate in more in-depth language assessments and classroom observations. Currently, there is no standard way of determining the language proficiency of DLLs in the field. Parent report, teacher report, and direct child assessments are common ways to determine language proficiency of DLLs. For determining language proficiency, a comprehensive approach that utilizes multiple methods and combines information gathered from more informal assessments and psychometrically sound direct assessments will best guide assessment (Barrueco, Lopez, Ong, & Lozano, 2012). In this study, language dominance was determined through multiple sources of information; parent, teacher, and child report and the Pre-LAS, a language screener that assess children's receptive and expressive language in Spanish and English. All children were assessed using the English Pre-LAS. In addition, if the child was identified as a Latino Spanish-speaking DLL by either the parent or the teacher, he or she was assessed using the Spanish Pre-LAS. Based on this, the following language groups were formed: 1) children who scored a 3 or below on the English and Spanish Pre-LAS; 2) children who scored a 3 or below in the English Pre-LAS and a 4 or 5 in the Spanish Pre-LAS; 3) children who scored a 3 or below in the Spanish Pre-LAS and a 4 or 5 in the English Pre-LAS; and 4) children who scored a 4 or 5 on the English and Spanish Pre-LAS.

These groups were used to select children in each classroom to yield a range of children who participated in more comprehensive language assessments and classroom observations. There were 8-10 Latino DLLs in each of the 11 classrooms selected to participate in the Preschool Language Scale (PLS), conducted November 2014 – March 2015. In addition to the child assessments, teachers were also asked to complete questionnaires on children's socio-emotional skills. Teachers completed these questionnaires during December 2014 and early January 2015 and again in May 2015.

The subsample of DLLs selected in each classroom was observed during March 2015 using the Language Interaction Snapshot (LISn). Prior to conducting the classroom observations, a bilingual graduate student and the researcher were trained to use the LISn by first attending a training over Skype in October 2014 followed by training on site at a Head Start program in New York City. Finally, from mid-January to February 2015, eight bilingual research assistants were trained to conduct the LISn. Inter-rater reliability between research assistants and the bilingual graduate student ranged from 88% to 94%. Eight to ten children were observed in each classroom for a total of 105 children. For each observation period, research assistants stayed in the classroom for at least 1 ½ hours over a period of 2 – 5 days.

Measures

Teacher-child interactions. The Language Interaction Snapshot (LISn; Atkins-Burnett, Sprachman, & Caspe, 2010) was selected to measure teacher-child interactions because of its ability to capture how the classroom language environment can differ for children, particularly DLLs. The LISn is an observational measure designed to capture naturally occurring conversation between a focus child and a conversational partner such as the teacher, teacher assistant, and other children. The LISn follows a time sampling method. During an observation,

an assessor follows a focus child and codes all the categories of talk by language in a 30-second observational cycle. There are 10 observation cycles for a total 5-minute period referred to as a snapshot. To obtain a picture of the range of language within a classroom, each child was observed between four to five snapshots for a total of 20 to 25 minutes.

Teacher-child interactions were measured as the four types of talk initiated by a teacher or an elaboration in response to a child (i.e., gives directions, requests language, and provides contextualized and decontextualized information). The category, *gives verbal directions*, refers to statements teachers use that prompt a child to do something that does not require a verbal response. The directions are primarily intended to manage behavior rather than enhance the language environment. *Requests language* is often in the form of a question and is used when a teacher asks for information connected to the environment, facial expression, or physical movement. For example, while looking at a red block, the teacher asks, “What color is this?” Finally *providing information* includes the times when the teacher offers information to the child. This information is either contextualized (i.e., teacher gives information about things that are present at that time and gives the child contextual cues of what he or she is talking about) or decontextualized (i.e., teacher gives information about an object or feeling that is not present. More specific examples and ways to use each code are available in the LISN training manual (Atkins-Burnet, Sprachman, & Caspe, 2010). Reliability of LISn for types of teacher talk initiated by the teacher in Spanish for this sample was 0.67. To prepare data for analysis, data were entered using a template from the instrument developers. For each snapshot, each of the four types of Teacher talk in Spanish was added together. Then the scores of each snapshot were added together and divided by the number of snapshots (either four of five snapshots per child) each child had.

Expressive and receptive language skills. DLLs' expressive and receptive langauge skills were measured using the Preschool Language Scale – Fifth Edition (PLS-5; Zimmerman, Steiner & Pond, 2012). The PLS-5 is an individually administered test that can be used with Spanish monolingual or Spanish-English DLLs from birth through 7 years. There are two main subscales to assess children's language skills. Auditory comprehension (AC) focuses on receptive language skills, and expressive communication (EC) measures expressive language skills. The PLS-5 uses dual language administration which gives credit for skills exhibited in either language without giving credit for the same skills exhibited in both languages (Zimmerman et al., 2012). Researchers propose dual language administration is a more valid representation of a bilingual child's language abilities (Bedore et. al., 2005). In the context of the PLS-5 this means that Spanish items are administered first, and items missed in Spanish are then administered in English. Standard scores for the two scales in PLS-5 and a total language composite are based on the number of correct responses, regardless of language. Norms for the PLS-5 are based on 1,150 Spanish-speaking children who lived in the United States. This revised version using a normative sample was stratified to match the 2008 U.S. Census data for the primary caregiver's education level and reflects socioeconomic shifts in the population. Internal consistency coefficients for the receptive and expressive language subscales and total scale range from 0.80 to 0.97 across age groups (Zimmerman et al., 2012). For the PLS-5, raw scores were computed by subtracting the number of incorrect items from the last item that the child responded to. The standard scores were identified from technical appendices provided by the authors (Zimmerman et al., 2012).

Socio-emotional skills. DLLs' socio-emotional skills were measured using the Penn Interactive Peer Play Scale (PIPPS-T; Fantuzzo, Sutton-Smith, Coolahan, Manz, Canning, &

Debnam, 1995). The PIPPS, developed with Head Start teachers, staff, and parents, is a contextually relevant, culturally valid behavioral rating scale to assess children's social competencies in peer play. The 32-item teacher version has three dimensions: Play Interaction, Play Disruption, and Play Disconnection. Play Interaction includes items that reflect prosocial, creative, and cooperative behavior such as "comforts others who are hurt or sad" or "shares toys with other children." On the other hand, Play Disruption measures aggressive or antisocial behaviors that interfere with interactions. This includes behaviors such as "does not take turns" or "disrupts play for others". Finally Play Disconnection were items that described withdrawn and avoidant play behaviors such as "hovers outside play group" and "confused in play." Teachers rated each item on a 4-point Likert-scale "never, seldom, often, or always") Analyses revealed adequate internal consistency, with Cronbach's alpha coefficients of 0.89, 0.92, and 0.91 (Fantuzzo et al., 1995) and validity has been established for use with Latino preschool children (Bulotsky-Shearer, Lopez, & Mendez, 2016). To prepare data for analysis, t-scores were created using the items from the exploratory and factor analyses of the Latino sample conducted by Bulotsky-Shearer et al. (2016).

Approaches to learning. DLLs' approaches to learning were measured using the Learning to Learn Scale (LTLS; McDermott Fantuzzo, Warley, Waterman, Angelo, Gadsden, & Sekino, 2011), a new scale especially designed to reveal many differential facets of learning behavior and to be sensitive to change over time (McDermott et al, 2011). The LTLS is a 55-item measure that rates the consistency of each statement on a 3-point scale (i.e., "consistently applies, sometimes applies, does not apply") Teachers are asked to answer questions thinking about each child's behavior during the past month. Prior exploratory factor analyses revealed seven dimensions: strategic planning, effectiveness motivation, interpersonal responsiveness to

learning, vocal engagement, sustained focus in learning, and acceptance of novelty and risk (McDermott et. al., 2011). These subscales can be an aggregate score and used as a general factor. Raw scores of the LTLS were entered in Excel files, then sent to the test developers for scoring. Scores were given as t-scores with a mean of 50 (*SD* = 10).

Family and child demographics. A demographic form was used to gather most information about family and child characteristics. In addition, information such as child age, ethnicity, and gender was cross-checked with teachers and class lists. The majority of caregivers who completed the form were parents or stepparents (99%) and female (71%). Children's race was determined by whether the parent identified as "Latino" on the demographic form or if the teacher identified the child as Latino. More details of the form can be seen in Appendix A.

Initial English and Spanish language skills. Information about Latino DLLs' initial skills in English and Spanish was based on two subtests from the Preschool Language Assessment Survey (preLAS): Simon Says and the Art Show for English version and *Simon Dice* and *Repeticion Frases* for the Spanish version. These subtests were taken from the Oral Language Development Scale (OLDS) of the preLAS 2000 (Duncan and De Avila, 1998). For Simon Says and *Simon Dice*, an assessor asks a child to follow the instructions that Simon says (for example, "Simon says, 'Touch your toes'"). The Art show asks children to tell the assessor the name of the object he or she is pointing to. For *Repeticion Frases*, an assessor asks a child to repeat a Spanish phrase after he or she says it. For all subtests, possible scores range from 0 to 10, with higher scores indicating greater receptive and expressive language ability in English or Spanish. These subtests are considered a language-specific test because children must provide responses in English for the answer to be considered incorrect.

Classroom language composition. Information about classroom language composition was based on the the scores from two PreLAS subtests: Simon Says and the Art show taken in the fall as previously discussed. Data were collected from the full sample (both Latino and non-Latino children). To determine classroom composition, a percentage was calculated based on the children who scored below 5 in each subtest (which was considered as not passing) divided by the total number of children in the class. Percentages ranged from 33 to 93% not passing Simon Says with an average percentage of 59%.

Data Analysis Plan

The Latino sample consisted of 162 children who were identified as Latino in the parent demographic form. Descriptive statistics were examined to evaluate normality assumptions for all the variables. Acceptable levels of skewness and kurtosis were set at 2 (Gravetter & Wallnau, 2014). Then, bivariate correlations were conducted to determine whether relations existed between any of the variables of interest prior to running the multilevel models and are shown in Table 13 and 14. For family characteristics, given that the majority of the sample were immigrants, the variable "parent years in the U.S." was included. To account for the nested structure of the data (non-independence of data), this study used multilevel modeling for students (Level-1, n = 162) within classrooms (Level-2, n = 11). Because here, unlike Study 1, teacher-child interactions were measured at the child level, the primary interest was in looking at these effects, and in whether these effects would hold, controlling for child and family, teacher, and classroom characteristics.

First, unconditional models were tested to examine DLLs' spring English language proficiency and socio-emotional outcomes, and the degree to which these scores differed by individuals as well as between classrooms. Then, spring school readiness scores were analyzed

with Level-1 variables that included child characteristics (i.e.,fall language or socio-emotional scores, child age, child gender, child English proficiency, child Spanish proficiency), family characteristics (i.e., parent years living in the U.S.), and teacher-child interactions (i.e., teacher Spanish talk). Next, Level-2 variables were added to the model separately to explore the effect of teacher characteristics (i.e., ethnicity, years of teaching experience) and classroom language composition (i.e., percentage of children in a class who did not pass the English Pre-LAS in the fall) on language and socio-emotional outcomes. A likelihood ratio test was used to determine model fit of two nested models by comparing the difference in deviance statistics and degrees of freedom between models (Peugh, 2010). Finally, for ease of interpretation in analysis, all continuous predictors were standardized (z-scores) and categorical predictors were effects-coded. Centering decisions were again based on the primary research question of interest. Given that the substantive research question focused on individual teacher-child interactions which was measured at Level-1, group mean centering was used as recommended by Enders and Tofighi (2007). In addition, to account for the small number of level 2 clusters, restricted maximum likelihood (REML) estimation was recommended to alleviate bias in level-2 variance components with as few as 5 clusters (Browne & Draper, 2006) . Effect sizes were calculated to provide an estimate of the strength of the relationship between the level-1 and 2 predictors and the outcomes. All multilevel analyses were conducted using *HLM7* software (Raudenbush, Bryk, & Congdon, 2013).

Results

Table 11 reports descriptive statistics for the language and socio-emotional skills for this sample. For the PLS-5, using standardized scores to compare the mean of 100 (*SD=15)*, the average in the fall for auditory comprehension was 103.78 (*SD* = 15.15) and expressive

communication was 97.01 (*SD* = 17.05). The mean scores of the PLS in the spring were slightly lower than in the fall, with the average for auditory comprehension at 99.81 (*SD* = 12.51), and the average expressive communication score at 96.91 (*SD* = 14.47).

For socio-emotional outcomes, both the LTLS and PIPPS used t-scores with a mean of 50 and a standard deviation of 10. The average score for the general factor of the LTLS was 55. 77 (*SD* = 9.18) and increased to 59.12 (*SD = 9.00)* in the spring. For the Play Interaction factor of the PIPPS, the average score in the fall was 50.45 (*SD* = 10.55*)* which increased in the spring to a mean score of 55.28 *(SD = 9.91).* On the other hand, Play Disruption and Play Disconnection had mean scores of 47.02 *(SD*= 11.21*)* and 50.04 (*SD* = 9.71*)* that decreased in the spring to 46.98 (*SD* = 10.38) and 48.00 (*SD* = 10.25), respectively. These scores indicate that during the course of the school year, teachers reported an increase in positive social behavior and a decrease in negative social behavior for Latino Spanish-speaking DLLs.

Intercept-Only Model

Prior to conducting the full model analyses, an unconditional (intercept-only) model was run to examine variance component estimates. Table 15 shows the intraclass correlation coefficients (ICC), calculated by taking the variance between groups and dividing it by the total variance. Similar to Study 1, because the ICCs were generally non-zero (except for receptive language), the multilevel modeling approach was appropriate for the data as this showed that classroom membership accounted for variance in spring outcomes for language and socio-emotional skills.

Latino DLLs' Expressive Language Skills

Multilevel model results for expressive language skills are presented in Table 16. Model fit tests indicated that Model 3 was the best fitting model. Results from this model show that the

only predictor in the model that was positive and significant was fall expressive language skills score (b = 6.90, p = 0.001). This suggests that controlling for child gender, parent years in the US, teacher Spanish talk, child initial English and Spanish language level, % of children who did not pass the English PreLAS and teacher ethnicity, for every standard deviation increase in fall expressive language, the model predicted a 6.90 increase in the score of expressive language in the spring.

Latino DLLs' Receptive Language Skills

Table 17 presents multilevel model results for receptive language. The regression coefficients relating to fall Spanish receptive skills score (b = 5.94, p = 0.001) was the only positive and statistically significant variable, similar to expressive language skills. Classroom level predictor variables were then added to the model as seen in Model 3. Although there were no significant level 2 predictors, Model 3 was determined to be the best-fitting model based on comparing the difference in model deviance and degrees of freedom using a chi-square distribution. All significant Level-1 predictors retained their significance. This suggested that controlling for child gender, parent years in the US, teacher Spanish talk, child initial English and Spanish language level, % of children who did not pass the English PreLAS and teacher ethnicity, for every standard deviation increase in fall receptive language, the model predicted an increase of 5.94 points for spring receptive language.

Latino DLLs' Spring Approaches to Learning

Similar to the receptive and expressive language skills, results of the multilevel model for approaches to learning in Table 18 show that the only significant predictor in the model was children's fall approaches to learning score (b = 4.42, p = 0.001). Although there were no significant Level-2 predictors, Model 3 was determined to be the best-fitting model based on

comparing the difference in model deviance and degrees of freedom using a chi-square distribution. This suggests that controlling for child gender, parent years in the US, teacher Spanish talk, child initial English and Spanish language level, % of children who did not pass the English PreLAS and teacher ethnicity, for every standard deviation increase in fall approaches to learning scores, the model predicts an increase of 4.42 in spring approaches to learning scores.

Latino DLLs' Spring Socio-Emotional Skills

Tables 19 to 21 report results for Latino DLLs' social-emotional outcomes in the spring, as measured by the three factors of the PIPPS. For Play Interaction, fall scores (b = 3.42, p = 0.001), teacher Spanish Talk (b = 2.31, p = 0.050), and child initial Spanish skills (b = 2.52, p = 0.021) and initial English language skills (b = 2.09, p = 0.035) were positively associated with Play Interaction scores in the spring. When Level-2 predictors were added to the model, all Level-1 predictors retained significance, and no Level-2 predictors were significant. Model 3 was the best-fitting based on fit statistics. This suggests that teacher Spanish talk uniquely predicts interactive peer play (Research Question 1). Specifically, holding child gender, parent years in the US, % of children who did not pass the English PreLAS and teacher ethnicity constant, for every standard deviation increase in teachers' use of Spanish when giving directions, requesting language, or providing contextualized or decontextualized information, there was a 2.31 increase in children's peer play interaction scores in the spring. Similarly, for every standard deviation increase in child initial Spanish skills and initial English skills, the model predicted a 2.52 and 2.09 increase in peer play interactions scores in the spring, respectively. The estimated effect sizes for Spanish talk, child initial Spanish skills, and child initial English skills and Play Interaction is .24, .26, .22, all between one fourth to one fifth of a standard deviation.

For Play Disruption, in Model 2, the significant Level-1 predictor was fall Play Disruption scores which was positive (*b* = 4.98, p = 0.001). When Level-2 predictors were included as seen in Model 3, teacher ethnicity (*b* = -4.40, *p* = .0133) was negatively associated, whereas classroom composition (*b* = -4.12, *p* = .017) was positively associated with Play Disruption scores in the spring. This suggests that holding child gender, parent years in the US, teacher Spanish talk, child initial English and Spanish language level constant, teacher ethnicity and classroom composition uniquely predict Play Disruption scores in the spring. Specifically, indicating that for every standard deviation increase in children who did not pass the English PreLAS, the model predicted a 4.12 increase in Play Disruption. In addition, teachers who were not Latino rated Latino DLLs 4.40 points higher on Play Disruption in the spring. Estimated effect sizes for teacher ethnicity is .56 and classroom language composition on Play Disruption is . 53 or a little more than half a standard deviation for both variables.

Finally, for Play Disconnection, in Model 2, the significant predictors were fall scores (*b* = 3.92, *p* = 0.002) which was positive and significant whereas child initial English skills (b = -2.06, p = 0.047) which was negative and significant. This suggests that child initial English skills predict Play Disconnection scores in the spring. This also indicates that holding child gender, parent years in the US, child initial Spanish language level, % of children who did not pass the English PreLAS and teacher ethnicity constant, for every standard deviation increase in fall Play Disconnection scores, the model predicted a 3.92 increase in Play Disconnection scores in the spring. Accordingly, for every standard deviation decrease in child initial English skills, there was a 2.06 increase in Play Disconnection scores in the spring. The estimated effect size for initial English skills was .19 or one eighth of a standard deviation.

Summary of Study 2: Local Sample

The goal of Study 2 was to further understand the relations between teacher-child interactions, classroom context, and DLLs' school readiness using more detailed and contextualized information from a local Head Start program than was possible with the secondary data set in Study 1. Consistent with Study 1, Research Question 1's hypothesis was partially supported with DLLs' initial English and Spanish skills related to DLLs' socio-emotional outcomes but these demographic variables were not related to language outcomes. Results also provided only partial evidence for Research Question's 2 hypothesis about the positive relations between teacher-child interactions (as measured by Spanish talk) and DLLs' socio-emotional outcomes but not for language outcomes.

In relation to children's characteristics, support for the hypothesis for Research Question 1 found significant associations between DLLs' initial English and Spanish skills and socio-emotional outcomes. Specifically, DLLs' initial English skills were positively related to their interactive peer play and negatively related to disconnected peer play. It is possible that the withdrawn or avoidant behavior that is illustrative of disconnected peer play may be the second part of the four-stage development sequence DLLs undergo. The first stage, as described by Tabors (2008), discusses how when DLLs first enter the preschool classroom, they use their home language even if others do not understand them. Then, the second stage begins when DLLs realize their home language cannot be used to communicate, and they enter a period where they rarely speak and use non-verbal means to communicate (i.e., "the silent period"). The third stage involves telegraphic or formulaic speech, and the fourth stage is when children are able to create their own phrases and thoughts in the new language. On the other hand, DLLs with higher initial English skills and initial Spanish skills also had higher Play Interaction scores. This finding seems to be consistent with research that categorizes DLLs as *fluent or balanced bilinguals* if

they have reached a certain level of language skills in both languages (Collins et al., 2011; Han, 2010), where they have command of both their languages as well as the ability to access and use either depending on when they think it is appropriate.

The findings in this local sample (Study 2) supported and extended the results in the national sample (Study 1) by providing information about the frequency and types of talk teachers use in Spanish that support DLLs' socio-emotional outcomes. Results from the local sample found teacher-child interactions in Spanish were positively related to Latino DLLs' positive play interaction. One of the differences between the national and local samples was how teacher-child interactions were measured. Rather than using separate variables (i.e., lead teacher Spanish use and Instructional Support, Emotional Support, and Classroom Organization dimensions of the CLASS), Study 2 measured teacher-child interactions using one variable that captured the frequency of specific types of talk (i.e., giving directions, requesting language, and providing contextualized and decontextualized information) used by lead teachers in *Spanish*. In addition, Study 2 attempted to include the range of interactions DLLs may have in a classroom by measuring teacher-child interactions at the individual child level, rather than relying on a global measure of classroom quality that measures the experience of teacher-child interactions for students in a classroom on average. Although the frequency of the different types of talk in Spanish observed was quite low, (M=1.04, SD = 2.49, *Range* = 0 - 17), these findings suggest that when Spanish is used for specific purposes, such as giving directions, requesting language, and providing contextualized and decontextualized information, these teacher-child interactions can provide positive results in relation to DLLs' socio-emotional skills. This is consistent with research showing that the quality of language interactions that enhance children's development

include responding appropriately and in a positive manner to the specific content of a child's utterances and encouraging a child to elaborate on his or her talk (Hart and Risley, 2003).

Associations were also found in Study 2 between classroom language composition and the socio-emotional outcome, Play Disruption. Because the majority of the classrooms in the local sample consisted of Spanish-speaking DLLs, classroom language composition was measured by using the initial English language screener scores of all students in the class. Results revealed that the more students in a classroom who did not pass their English language screener, the higher teachers rated children on Play Disruption. This finding suggests that if there are more DLLs in a class who do not yet have the necessary skills in English to communicate with others, they may engage in more disruptive play behaviors. These results are consistent with prior research showing relations between DLLs' limited English language proficiency in kindergarten and higher internalizing and externalizing behaviors, coupled with lower self-control and interpersonal skills in later grades (Dawson & Williams, 2008; Han, 2010).

However, another significant finding related to Play Disruption was that non-Latino teachers rated Latino DLLs higher on Play Disruption than Latino teachers. This finding could be linked to teachers' ethnic match with their students. When teachers and students are of the same ethnicity, or are ethnically matched, teachers are presumably more knowledgeable about the appropriate ways children behave in their culture. Previous studies have found support for ethnic match, with teachers rating their relationship with children more positively if they had the same ethnicity (Saft & Pianta, 2001). Mundt and colleagues (2015) also found a significant positive relationship between teacher ratings of family engagement and their Latino match with their caregivers and hypothesized that Latino teachers may have more flexible expectations related to caregivers with similar backgrounds, whereas non-Latino teachers had higher

expectations and were more likely to have a negative perspective of Latino family engagement. Relating the findings on ethnic match to the Study 2 results, it is possible that non-Latino teachers rated Latino DLLs higher on Play Disruption compared to Latino teachers because they may interpret some behavior as disruptive, especially if the Latino DLLs in class have limited English skills. Non-Latino teachers may also interpret behavior as disruptive if they lack the knowledge of how certain behavior is viewed in Latino culture. For instance, depending on culture and personal experience, talking during meals may be viewed as appropriate or inappropriate behavior.

In summary, to support the optimal development of DLLs, it is important for programs to collect more nuanced information about DLLs' initial English and Spanish skills, the type of Spanish talk (i.e., giving directions, requesting language, and providing contextualized and decontextualized information) teachers use during teacher-child interactions, and the language skills of other children in the class. The positive significant associations between teacher Spanish talk and DLLs' initial English and Spanish skills are promising given other research showing that Spanish-speaking preschoolers with stronger initial social skills help children attain proficiency in English (Kim, Curby & Winsler, 2014; Winsler, Kim & Richard, 2014). Nevertheless, findings from Study 2 are preliminary given that a limited number of predictor variables were modeled due to the small number of total group units (i.e., 11 classrooms). Although adjustments were made to address this issue, and reasonable estimates can be made with small samples, larger samples are still preferable when possible and should be considered in future work (McNeish & Stapleton, 2014).

CHAPTER 4: A QUALITATIVE STUDY ON TEACHERS' LANGUAGE IDEOLOGIES AND CLASSROOM PRACTICE

In the relation between preschool teachers and their students, teachers are responsible for deciding how to implement the curriculum, which affects the overall environment and the kinds of teacher-child interactions that take place. These decisions are informed by teachers' theoretical and pedagogical beliefs and ideologies (Crawford, 1995). Ideologies are social beliefs shared by a group that promote various group interests over others (Van Dijk, 1998). Although it is often the group's ideologies that influence the beliefs and attitudes of its members, nonetheless, depending on personal experiences or other interests, group members can choose to accept or reject particular ideologies (Martinez-Roldan & Malave, 2004). In this way, even if members are influenced by a group's ideology, they are actively processing the information and making decisions about what aspect of the ideology they support. Thus, teachers draw on both personal experiences and broader views in their community in making decisions when implementing curriculum and teaching DLLs.

Language ideology is a term used to characterize a set of beliefs and attitudes shared by individuals toward the learning and use of a particular language in both oral and written forms (Martinez-Roldan & Malave, 2004). It is important to note that language ideology is more than an individual speaker's attitude about the language. It also includes values, practices, and beliefs associated with language use by speakers, and the discourse that constructs values and beliefs at state, institutional, national, and global levels (Blackledge & Pavlenko, 2001). In the larger context of the United States, the changing demographics of the country have heightened issues related to language policies and education reforms. Although there is no official national language in the United States, throughout its history, there has always been an expectation of

linguistic assimilation to English (Wiley, 2014). In a subtractive bilingual context, the question of maintaining one's native language is generally weighed against the perceived need to promote English as the common national language. For instance, groups that advocate for official English laws and English-only instruction view speaking additional languages other than English as a problem and have argued that the spread of Spanish brought by immigrants from other countries jeopardizes the goal of national unity (Crawford, 1995).

Aside from groups that promote English-only law and school instruction, several federal and state policy initiatives indirectly support this language ideology by primarily focusing on English fluency as the goal toward which its citizens and students should strive. Three states have endorsed English-only school instruction and eliminated bilingual education through the passage of Proposition 227 in California, Proposition 203 in Arizona, and the approval of Question 2 in Massachusetts in 2002. At the federal level, No Child Left Behind (NCLB) mandates that minority children, especially English language learners, gain standard English language skills in a short time frame while keeping pace academically with native English-speaking students (Hawkins, 2004). Unfortunately, NCLB does not identify any strategies for how to achieve these outcomes. In addition, despite efforts from federal and state government to create a continuum of education from birth to college, policies related to preschool, elementary, and secondary education remain fragmented (Castro, Garcia, & Markos, 2013). Thus, once DLLs enter the K-12 systems, their abilities in their home language are neither identified nor are they provided with the time and support needed to reach optimal development.

In contrast with this subtractive context, there are groups that advocate for classroom practices that are more consistent with an additive language environment (Castro, Garcia & Markos, 2013). Proponents of this view, many of whom are researchers, point to empirical

evidence that supports the notion that children can competently acquire two or more languages simultaneously. The National Association for the Education of Young Children has also encouraged the use of children's home language with English instruction and offers suggestions for implementation (Goldenberg, Hicks & Lit., 2013). At the federal level, consistent with their mission of addressing the needs of diverse families, the Office of Head Start developed additional standards specifically for DLLs (OHS ACF, 2010). The Office of Head Start supports these standards by publishing reports that incorporate information about second language acquisition (OHS ACF, 2008). Unfortunately, there are currently no explicit links between the Head Start standards informing K-12 instruction (Castro, Garcia & Markos, 2013). Moreover, a majority of standardized measurement and assessment tools used in research with DLLs are currently only available in English, or have a limited ability to capture information on DLLs' home language and its impact on their development. Although measurement and assessment tools currently being developed offer promising new ways to capture the early experiences of DLLs in the home and in the classroom, this inability to measure and assess DLLs' home language contributes to the emphasis on English.

How Dominant U.S. Language Ideologies Influence Local Community Language Ideologies

The local community context is often a reflection of broader societal attitudes. Language ideologies that are popular at the national level affect the language ideologies of local communities and, in turn, affect the language ideologies of individuals living in the community. In terms of schooling, around the world and in the United States, a growing number of children attend schools where the language of instruction is different from the language used at home. Thus, for these children to learn in school, they need to acquire the language spoken at school (Wiley, 2014). Consistent with the expectation that adult citizens learn English, one of the

primary goals of the American educational system is to teach children how to speak and write in English. The dominant language ideology can be reflected in the way local school policies support English and their students' home language. During the transition before kindergarten, there is an expectation in preschool that for children to be "ready" for kindergarten, they need to speak English. Although schools acknowledge their students' home languages, many programs often do not include explicit provisions to address the cultural, linguistic, and educational needs of DLLs.

As members of the local community, teachers also internalize dominant language ideologies and bring them into their schools and classrooms. Although there is limited research describing preschool teachers' language ideology in the American preschool context, the relation between teachers' theoretical beliefs and classroom practice has been explored. In a meta-analysis, Fang (1996) found that teachers teach in accordance with their theoretical beliefs across studies using varying methodologies. There is still some debate, however, about the strength and extent of this relation and how this may vary depending on the subjects to which these theoretical beliefs are related. Studies looking at teacher attitudes and beliefs toward bilingualism, and factors that affect these attitudes and beliefs, are also limited and focus on teachers in the elementary and high-school grades (Fang, 1996).

Some early childhood research has looked at Head Start teachers' beliefs about language and literacy practices (O'Leary, Cockburn, Powell & Diamond, 2010). Although these studies do not focus on teachers working with preschool DLLs specifically, they find that although Head Start teachers supported early literacy, teachers also reported various ways for teaching literacy and expressed uncertainties about how language and literacy practices should be taught, especially to students with limited English proficiency. For example, some teachers had

concerns about when to involve ELLs during vocabulary instruction, how to secure the active participation of ELLs, and what to do if suggested strategies, such as gestures or saying a new word slowly, did not work (O'Leary et al., 2010).

Preschool teachers' uncertainty regarding the best ways to support DLLs' language and social and emotional development may also be compounded by the desire of parents, especially those from immigrant families, who want their children to learn English and who believe that the best way to learn English is through English immersion at school. The message of encouraging only English is reinforced by the program when explicit policies related to home language do not exist. If both parents and local school policies support the notion that learning the home language is solely the responsibility of the family, this will also affect the way teachers use language with their DLLs (Adair & Tobin, 2008). Unfortunately, the strategy of using English at school and the native language at home has been proven to be ineffective and detrimental to the cognitive and social and emotional development of DLLs (Castro, Garcia & Markos, 2013). If DLLs are to maintain their bilingualism and reap its benefits, schools cannot just tolerate it but need to find ways to incorporate the home language in the classroom.

One of the primary challenges for research on teacher language ideology is that it has been focused on teachers in bilingual education programs (Chesterfield, Hayes-Latimer, Chesterfield & Chavez, 1983; Saunders & O'Brien, 2006). Although examining attitudes of teachers in bilingual education programs is informative, many children in the United States are currently enrolled in mainstream, and largely monolingual English, classrooms. Teachers who work in schools that offer bilingual education are usually required to have certifications related to teaching bilingual students, and often have more experience and training with DLLs compared to mainstream teachers who have bilingual students. For example, Karabenick and Noda (2004)

found that regular classroom teachers lacked basic foundational knowledge about DLL issues, despite the fact that 88% taught DLLs. As shown in the research, having more professional development may affect teachers' language ideology, and it is likely that the language ideology of teachers in bilingual education programs and mainstream classrooms can vary substantially.

Another challenge with the research on teachers' beliefs related to DLLs and second language acquisition is that it is often measured using self-assessment questionnaires. Although questionnaires provide useful knowledge as a starting point to understanding beliefs, they are not adequate. For instance, teachers may hold particular language ideologies but may not be able to explain their own beliefs and perspectives clearly because they may not realize they have these beliefs (Solari et al., 2011). It is also possible that even if teachers acknowledge they possess particular language ideologies, they might not have had a chance to reflect on how this relates to their behavior and classroom interactions, as there might be implicit understandings embedded in their actions. Research needs to unpack teachers' embedded beliefs and assumptions further to learn more about the links between teachers' language ideologies and teacher-child interactions.

Factors Influencing Teachers' Language Ideology

Although research describing preschool teachers' language ideology in the U.S. preschool context is limited, studies suggest that the relation between teachers' theoretical beliefs and classroom practice is affected by several factors, including the amount of professional development training related to second language acquisition, years of exposure to diverse classrooms, and level of self-efficacy and proficiency in their students' home language.

Teachers' Professional Development

Many teachers working with linguistically diverse students report having neither specialized certification nor training to teach DLLs (Buysse, Castro & Peisner-Feinberg, 2010;

Gandara, Maxwell-Jolly, & Driscoll, 2005). Lee and Oxelson (2006) found that differences in attitudes existed between K-12 teachers who received and did not receive ESL training related to attitudes toward students maintaining their home language and the primary role of schools in teaching English and the home language. Another study by Garcia-Nevarez, Stafford, and Arias (2005) revealed that attitudinal differences existed among elementary teachers depending on their certification. Bilingual-certified teachers had the most positive attitudes toward bilingualism and were most receptive to home language use for instructional purposes, whereas traditional teachers expressed more negative attitudes and were generally against using the native language for instructional purposes. A study by Buysse et al., (2010) investigated the effects of a professional development intervention, consisting of research-based instructional practices designed to scaffold learning for DLLs. The study found that the intervention led to significant improvements in the quality of teachers' language practices and greater gains in children's phonological awareness. Taken together, these factors indicate that teachers who undergo professional development training have more positive attitudes toward using their students' home language in the classroom. It is important to note that professional development training is more likely to be effective if it includes elements such as information that is practice specific, aligned with instructional goals and the curriculum, and designed to offer guidance and feedback in practice settings (Buysse et al., 2010; Calderon, Slavin, & Sanchez, 2011).

Teachers' Language Proficiency in Students' Home Language

Regular classroom teachers often raise the issue that lacking proficiency in their students' home language hinders their ability to interact with students. Although DLLs do benefit from having teachers who are proficient in their home language (Chang et al., 2007; Lee & Oxelson, 2006; Shin & Krashen, 1996), there is research that indicates it is not essential for teachers to be

fluent bilingually (Hernandez et al., 2012). There is qualitative research that illustrates how students can benefit from teachers who are able to express interest in their students' home language even if they did not speak it (Franquiz & Reyes, 1998; Gillanders, 2007). For example, Gillanders (2007) studied how one monolingual, English-speaking preschool teacher created a positive social environment in which her DLL students learned English by developing a trusting relationship, offering consistent and clear routines, incorporating Spanish instructional materials, utilizing small-group instruction, and modeling positive interactions. Thus, although teachers' proficiency in their students' home language is valuable, it may be equally important for students that their teacher has positive attitudes toward their home language and can integrate students' linguistic and cultural resources into the classroom. Recognizing the value of home language, permitting its use in the classroom, and legitimizing its role in students' learning allows teachers to influence students' development positively, perhaps even more than teachers' fluency in their students' home language does (Franquiz & Reyes, 1998).

Teacher Self-Efficacy

If a person believes that his or her behavior leads to a desired outcome, it is more likely that he or she will behave in a manner consistent with achieving that outcome, more commonly known as self-efficacy. In the education field, self-efficacy refers to teachers' beliefs in their ability to accomplish instructional tasks that lead to desirable, positive changes in students' behavior and achievement (Bandura, 1977, 1995; Guo, Justice, Sawyer, & Tompkins, 2011). For example, self-efficacy influences the way teachers view students who are exhibiting difficulty developing skills in certain areas of instruction. Rather than seeing this difficulty as the fault of their students, teachers with higher levels of self-efficacy attribute this difficulty to their teaching

methods and adjust their methods accordingly (Guo et al., 2011). This belief encourages teachers to make continual improvements to their teaching methods until they are successful.

Teachers without a strong sense of self-efficacy, such that they do not believe they are able to affect student performance positively, may not accept responsibility for motivating students or take the necessary steps to do so. Research has shown that an increased level of teachers' self-efficacy is associated with higher-quality classroom instruction in preschool (Justice et al., 2008) and elementary school (Ginns & Watters, 1995). Although there is less research examining teachers' self-efficacy relating to working with DLLs, there is reason to believe that teachers who do not have confidence in their abilities to address the needs of this growing population may be less likely to implement instructional practice that supports DLLs' development. Earlier studies found that teachers with low self-efficacy believed they had limited influence on the achievement of DLLs (Ashton & Webb, 1986; Bandura, 1995). Ashton and Webb (1986) also found teachers with low efficacy to be less resourceful and believed that ELLs could not learn due to extenuating circumstances.

If teachers are more engaged and believe that there is a need for differentiating instruction to adjust to the specific needs of DLLs, and if they are confident in their abilities to execute these practices, they are more likely to implement instruction that supports DLLs' language development. Tong and Pérez (2009) compared efficacy beliefs and attitudes toward native language instruction among bilingual teachers and ESL teachers and found that there was a strong sense of efficacy among traditionally certified bilingual teachers compared with teachers who went through an alternative program.

Teachers' Experience Working with DLLs

Teachers' previous experience working with DLLs is another factor that has been shown to affect their instructional practice (Garcia-Nevarez et al., 2005; Karabenick & Noda, 2004). The study shows mixed results. Having more experience working with DLLs gives teachers more familiarity with the issues DLLs currently face and allows them more time to see how they can address these issues. Karabenick and Noda (2004) found a significant relation between teacher experience with ELLs and positive attitude. The more teaching experiences teachers had with ELLs, the more positive attitudes they had toward ELLs in their classroom. Shin and Krashen (1996) found that teachers with 11-20 years of experience teaching ELLs had more positive perceptions of their students than teachers with less experience. It is important to consider that the opportunities available for teachers to work with DLLs may also depend on their context. A study by Byrnes, Kiger, and Manning (1997) showed that teachers with more positive attitudes toward ELLs worked with diverse populations in public schools located in regions with strong and supportive messages from state legislation and educational mandates. Thus, teachers in a particular region where there was a larger DLL population had more experience with DLLs, which translated into more positive language attitudes.

On the other hand, some studies have found that teachers' experience working with DLLs may also be detrimental. Many mainstream teachers, especially those whose experiences with ELLs were negative and who did not have ESL training, considered native language maintenance a family concern. Garcia-Nevarez, Stafford & Arias (2005) found that teachers with seven or more years of teaching experience were more likely to develop negative attitudes toward their students' native language because they had to modify curricula to meet those students' needs. In a survey conducted on secondary mainstream teachers, where 78% of the sample had experience teaching ELLs at some point in their teaching careers, Reeves (2006) found that teachers were

concerned with the chronic lack of time to address ELLs' unique classroom needs, perceived increase of teacher workload when ELLs were enrolled in mainstream classrooms, and professional inadequacy to work with ELLs.

Not only are teachers' professional experiences working with DLLs important, but teachers' personal experience with learning languages also significantly affects their beliefs toward native language maintenance and bilingualism (Lee & Oxelson, 2006; Ramos, 2001). Currently, many early childhood teachers in the United States are white, female, monolingual, and middle class (Espinosa, 2010). Their limited cultural knowledge makes it difficult for them to understand some student behaviors and respond to the different cultural backgrounds of their students. Aside from these cultural differences, even if teachers also come from immigrant families from European American backgrounds, they may have not been allowed to speak their home language at school, and were taught to speak only English. Consequently, their personal experiences related to language learning may serve as validation for teachers to expect the same from their DLL students.

Research Questions and Hypotheses

This study uses qualitative methods to answer the following questions related to preschool teachers' language ideologies:

1. What are Head Start preschool teachers' language ideologies?
2. How do Head Start preschool teachers describe the classroom practice they use with DLLs?
3. What are possible links between teacher characteristics, language ideologies, and classroom practice?

For Research Question 3, one or a combination of several teacher characteristics (i.e., professional development training, years of exposure to diverse classrooms, self-efficacy, and

proficiency in their students' home language) was hypothesized to be linked to teachers' language ideologies and classroom practices (Ginns & Watters, 1995). Given that this research question is qualitative in design, however, it will remain open to emergent themes from the data.

Method

Sample

Data were collected from preschool teachers and teacher assistants from a Head Start program in a large northeastern city in the United States described in Chapter 3. From the 12 classrooms, 22 teachers and teacher assistants consented for a participation rate of 92%. All of the teachers were female, and more than half (54%) identified as Latina. Most teachers and teacher assistants had an associate or bachelor's degree and the average number of years working with preschool DLLs was 13 years (*SD* = 7.74). More than half (64%) of teachers were born outside of the U.S. but had lived in the U.S. for an average of 21 years (*SD* = 9.21) More details about the teachers are shown in Table 22.

Measures

Semi-Structured Teacher Interviews. Interview questions were developed from a literature review of factors associated with preschool teachers' beliefs about DLLs and second language acquisition. These topics included teachers' previous work experience with DLLs, self-efficacy, professional development, and proficiency in DLLs' home language. The semi-structured interview guide first explained the study to interviewees and asked for their consent. Then, the interviewer asked several open-ended questions relating to the topics mentioned with follow-up prompts depending on an interviewee's response. For example, the question about teachers' language proficiency asked, "Tell me about your language background." Based on how the interviewee answered this question, additional follow-up questions such as, "What is the

linguistic heritage of your family?" and "What exposure have you had with other languages?" were asked. The final question asked participants if there was anything that was not covered during the interview they thought was important to know related to DLLs. More details about the interview guide are found in Appendix B.

Teacher demographic survey. Teachers completed a demographic survey that included questions about their personal background, language background, and previous work experience with DLLs. There were also several survey questions about activities that teachers implemented in class and the beliefs teachers had about DLLs and second language acquisition, adapted from the Center for Early Care and Education Research DLLs' Family Questionnaire (Hammer, Cycyk, Scarpino, Sawyer & Jury, 2015).

Data Collection Procedure

Interview and survey data were collected to better understand participants' language ideologies and complement the information received from different methods. Semi-structured interviews lasting 30 to 50 minutes were conducted from December 2014 until April 2015. Each interview was audio-recorded with the permission of the interviewees. Once all the interviews were completed, teachers were asked to answer a survey with questions related to their personal background, their experiences working with DLLs, and agreement on statements related to DLLs. All 22 teachers completed the survey in May 2015. Teachers were assigned unique IDs and all audio files of the interviews were kept in a password-protected computer.

Analytic strategy. A phenomenological approach was selected for data analysis to further understand the essence of the teachers' experiences working with DLLs and provide a more nuanced description of their experiences using statements, examples, and meanings. A phenomenological approach was implemented through thematic analysis as outlined by Braun

and Clark (2006). Thematic analysis consists of identifying, analyzing, and reporting repeated patterns of meaning within the data using six steps. The first step consists of transcribing, reading, and re-reading the data noting down initial thoughts and ideas. The second step focuses on generating a list of initial codes, wherein interesting features of the data are coded in a systematic fashion across the entire data set and the researcher codes as many potential themes and patterns and possible. The next two steps, searching for themes and reviewing themes, involve analyzing the codes to determine how different codes may be combined to form an overarching theme. Once themes have been extracted from the entire data set, a thematic map of analysis was generated. The fifth step is defining and naming themes to refine the specifics of each theme and the overall story of the analysis. The last step includes selecting compelling extract examples and relating this back to the description of the themes and the research questions.

For the first step, interview audio files were transcribed by a research assistant and the doctoral student. These transcripts ranged in length from 8 to 14 pages long. Once transcription was complete, each interview was verified by listening to the audio recording together with the transcript and reviewed one last time, finalizing the document. During the course of transcription, memos were written about the interviews that were transcribed and verified. Based on these memos and reviewing the transcripts, a list of additional themes was generated, which were further refined after discussion with committee members as part of the second step. This served as a basis for the first draft of a codebook that included four original themes based on the literature (i.e., years of teaching experience, language proficiency in student's home language, professional development, and self-efficacy) and two more themes (i.e., teachers' language ideologies related to DLLs' development and classroom strategies related to DLLs) were added

after reviewing the transcripts and memos. The unit of analysis for codes was a phrase, sentence, or several sentences that captured the meaning of the code. If there were two codes that a particular quotation could be placed under, the interview excerpt was coded twice or double coded. For example, if a teacher mentioned a phrase that could be coded into two categories, then the phrase was coded twice. Double coding occurred with fewer than 10% of the codes.

Two research assistants were hired to be part of the systematic coding process. As part of the training, research assistants were given an overview of the project and reviewed the teacher semi-structured interview guide, preliminary codebook, and one teacher transcript. To complete training, research assistants were asked to apply the codes on two teacher interviews and write a memo to document their reflections and questions related to coding. After several discussions, the initial codebook was revised to merge codes, add more examples, and include an additional theme, teachers' language ideologies related to parents. The final codebook as seen in Appendix D had a total of 14 codes. This codebook was used for systematic coding of the interviews by the doctoral students and two research assistants.

Once trained, each research assistant was asked to code one more teacher interview to check for inter-rater reliability with the doctoral student. Each research assistant coded half of the transcripts. Inter-rater reliability between the doctoral student and research assistants was checked with 6 or 27% of the interviews. Disagreements in reliability coding were resolved through discussions. Inter-rater reliability ranged from 91% to 95% between the research assistants and doctoral student. All coders wrote memos for each interview and questions were resolved during weekly coding meetings. Coding began in November and was completed in December 2015. All verified transcripts were analyzed using Nvivo version 10.

For the third and fourth steps, the doctoral student analyzed all the interview codes in each theme to look for patterns related to the research question, "What are teachers' language ideologies and how might they influence classroom practice and DLLs' school readiness?" For every theme, the interview quotes were reviewed and given a label or subtheme that summarized the idea of a quote. For every interview quote, it was determined whether the quote fit existing descriptions of the subtheme or if another subtheme was needed. After all the interview quotes under the theme were categorized into subthemes, the doctoral student looked to see if any subthemes could be merged together. In addition, once finalized, the teachers who responded under each subtheme were compared on four different teacher characteristics to see if any response patterns. These teacher characteristics included whether the response came from a teacher or teacher assistant, years of teaching experience, self-reported Spanish fluency, and whether the teacher was foreign or U.S. born. For the last step, the doctoral student named the theme and subtheme, provided a description, and selected compelling examples that were relevant to the research questions.

Results

Results are divided into three sections. The first section looks at how teacher characteristics were related to supporting DLLs using the original themes from the literature review: work experience with DLLs, language proficiency in students' home language, professional development, and self-efficacy. Then the second section focuses on teachers' language ideologies, and included five themes that were more conceptual, relating to knowledge of DLLs and the social aspects of learning. Finally, the last section focused on classroom practice and included four themes related to strategies teachers used to support DLLs including

assessing language abilities informally, facilitating conversations, facilitating connections, and learning more about home language and cultural routines.

Section 1: How Are Teachers' Characteristics Related to Supporting DLLs ?

This section looked at teacher characteristics found in the literature to be associated with teachers' language ideologies. After reviewing the codes, and based on current literature (Mundt et al., 2015; Sawyer et al., 2016) and the results from the national and local sample,, teachers' language skills in Spanish appeared to be particularly salient characteristics when addressing supports for DLLs and were used to create groups to compare teachers' responses in terms of language proficiency, professional development, experience working with DLLs, and self-efficacy. More details of each theme and their sub-themes can be seen in Table 23.

The three groups of teachers are based on teachers' Spanish-speaking language skills: 1) Native Spanish-speaking teachers, 2) Monolingual English-speaking teachers, and 3) Native Other Language-speaking teachers. The native Spanish-speaking group was composed of 11 teachers (teachers=5,teacher assistants=6) and also included teachers who identified themselves as Latino and rated their Spanish proficiency as fluent or native abilities in the demographic survey. All but one of the teachers in this group were born outside of the United States and there was a range of years living, studying, and teaching in the U.S. These teachers represented several countries including El Salvador, Peru, Costa Rica, Colombia, and Puerto Rico. The Monolingual English-speaking teachers consisted of seven teachers (teachers=5, teacher assistants=2) and identified as white or black/African American for their ethnicity. All of the teachers in this group rated their Spanish proficiency to be below fluent or native abilities in the demographic survey. These teachers were born in the United States and had a range of years teaching in Head Start. Finally, the Native Other Language-Speaking teachers consisted of four teachers (teachers=1,

teacher assistants=3) and identified as Asian or other. Similar to the Monolingual English-speaking teacher group, teachers in the Native Other Language-Speaking group rated their Spanish proficiency to be below fluent or native abilities in the demographic survey. These teachers, however, were all born outside of the U.S. representing India, Morocco, and Algeria and spoke their native language fluently.

Language proficiency. There were two subthemes for language proficiency: language learning at home and in the community and language learning in Head Start. The language learning at home and in the community subtheme described teachers' prior experiences learning languages. These experiences were mostly with their parents, children and relatives and as students in elementary, high school and college. Whereas learning language in Head Start described how teachers learned language, either English or Spanish, while at Head Start.

Monolingual English-speaking teachers shared their experiences about hearing other languages at home but also share how they were not encouraged to learn the language from family members. For example, one teacher explains:

> *they didn't teach me but I learned through conversations. Like I knew when my mother and grandmother were talking about something I didn't like to hear, they went to Italian. I remember knowing exactly what they were saying because you pick up, you pick up on the words. So my mother didn't sit me down and teach me. Just conversation [on the] telephone or sitting down conversation. (EBT7)*

These teachers also discussed how they took a foreign language, such as Spanish, but did not retain the language because they were taught the grammar rather than being able to practice and use the other language.

For learning language in Head Start, the Monolingual English-speaking teachers shared how they were learning Spanish on the job from their students, parents, and other teachers. For instance, another teacher shares:

> *I do, I mean I've been picking up, but my tenses are not correct. So I get corrected by my children, my students will correct me and teacher assistant will correct me. And that's fine, I like that. (EBT1)*

Along with learning Spanish on the job, several teachers in the Monolingual English-speaking group mentioned the necessity of learning Spanish given that the majority of children in their classrooms were Spanish speakers. Thus, these teachers used Spanish that was relevant to having conversations with their students, which was in contrast to the technically correct or formal ways of speaking Spanish they learned in school previously.

On the other hand, Native Spanish-speaking teachers talked about using Spanish with parents and other family members and friends at home and in their community. Teachers in this group also talked about trying to speak Spanish with their own children but how they found it challenging to do so living in the U.S. For example:

> *Usually, I speak Spanish and sometimes English because my three little boys living with me, born here and he speak English, all of the time at home. But I try to speak my language for my children's learning. (EBTA11)*

Because the majority of teachers in this group immigrated to the U.S., they mentioned their experiences of being taught English while at school in their home country and also their memories of learning and using English when they first came to the U.S., such as taking English as a Second Language (ESL) classes. For instance, one teacher recounts:

> *…when I came to the U.S., because in Puerto Rico in uni, I can read in English. Because all of the books were in English, I can read and I can understand. But my speaking … I cannot speak at all or understand. I need to go to school. (EBT12)*

A few teachers also explained their reasons for learning English when they moved to the U.S. This included family members encouraging them to learn English, needing to speak English in the neighborhood they lived in, applying for a job, or going to school. Two teachers share:

> *My mom give me the opportunity to learn English. My mom give me opportunity to go to school. My mom paid for the school. My mom bring me here. My mom pushed me. (EBTA01)*

> *Why I decide to learning? because I needed to get my children to the doctor, to be with them and there at school for the parent meeting with my children. For myself too because I'm living here. And the language here is English and I don't want to depend all the time on other people to translate for me (EBTA04)*

For language learning in Head Start, some of the Spanish-speaking teachers discussed learning English in Head Start as volunteers or parents. As these teachers increased their skills in English, they also mentioned how Head Start gave them the opportunity to work as teachers. For instance:

> *Oh wow, they help me a lot. They give me the opportunity to work in here first without knowing enough English. They open doors in the school for me. I really appreciate this job because in here I have to put many opportunities. Sometimes you take how can I say that? Sometimes you use it and sometimes you doesn't but I use everything. yeah I have a lot of support. Teachers reinforce me to listen to them singing, listen to when they are talking. (EBT06)*

Teachers' years of experience working with DLLs. Teachers worked with DLLs an average of 10 years, ranging between 2 to 35 years. In addition to Head Start, these experiences include working in private preschools, elementary school, high school, and after-school programs. The three subthemes were experiences working with Spanish DLLs, experiences working with DLLs, and observations about the changes in community demographics over time. For the first theme, several teachers shared that although the majority of families spoke Spanish, teachers observed variation among their Spanish-speaking families in terms of country of origin, years lived in the U.S., education level, and English proficiency. Teachers also discussed their experiences with DLLs who spoke languages other than Spanish. This included a growing number of children who spoke Arabic and Vietnamese. In addition, teachers who had 10 or more years of work experience with DLLs also mentioned changes in neighborhood demographics.

This seems reasonable as teachers with more experience have more time to observe and witness changes over a period of time. Although being able to make observations about the community does not necessarily mean that these teachers lived in the neighborhood, their observations show an awareness of the neighborhood that the children were a part of and also suggest that teachers have been working at this Head Start for a longer period of time.

The three themes related to work experience seemed consistent across the three groups of teachers. However, several Spanish-speaking teachers also provided more details about the differences in Spanish used by children whose parents immigrated from various countries in Central America. For example:

> *But we can understand them and they can understand us. The language is Spanish but is different…we say dialecto. Like they say different names for things. They have different names Like, gaffas, they call it another name (EBTA08)*

Professional development. The theme of professional development was separated into two subthemes: program support and teacher wish list. Program support described the current support teachers received from their program. Around two-thirds of teachers talked about workshops and trainings they had attended related to DLLs. Some teachers talked about how these workshops were helpful although others found that the material in these workshops were topics that they already knew about and that didn't get more in-depth or extensive. Aside from the workshops for professional development, a little less than half of teachers discussed other program supports that seemed more helpful in supporting teachers with DLLs. Many teachers thought that having a bilingual teacher, or other Head Start staff member who was bilingual, such as the family advocate, was already support itself from the program. A few teachers mentioned they would like to have workshops that focused on supporting parents.

In relation to teachers' wish list related to professional development, many of the English-speaking and other language-speaking teachers expressed their desire to learn more Spanish. Although these teachers expressed their willingness to learn, they also shared their concerns about the time commitment involved and being able to learn Spanish in a more conversational way.

Self-efficacy. Teacher self-efficacy was a theme that had the least number of statements coded from the interviews and only half of teachers were represented overall. Due to the limited statements, statements were not divided into subthemes. Statements under teacher self-efficacy were coded when teachers made specific reference to themselves or other teachers about their influence on students' development. This included giving examples of ways they improved their teaching practice to support their DLL students. For example,

> *I try to bring in the language as much as I can. I try to bring in words or I'll count in Spanish. Just so they know that, so they get a little bit of their home language as well. And not just English. Because like I said, I'm still learning, but it can help me learn and teach them as well. (EBT13)*

There were also two teachers from both the Native Spanish-speaking and Native Other Language-speaking group who related how their personal experiences learning English helped them better understand what their students were going through.

> *... I feel more positive with [child in class] because this is how I am in the beginning me too. You know when I don't understand people, I tried to be away of them…my personal, my personal experience. I understand Bxx and other children that don't speak their mother language how they feel. (EBTA5)*

Section 2: What are Teachers' Language Ideologies?

This section focuses on capturing teachers' conceptual understanding of DLLs' language development. Each of the five themes that emerged from the analysis covered overall ideas of what teachers thought to be important for learning languages. The first three themes related to

the ideas and knowledge teachers had about the language learning process for DLLs (which will be referred to as knowledge of DLLs). The last two themes focused more on teachers' social observations of language learning (which will be referred to as social aspects of language learning). A summary of themes, description, and illustrative examples is presented in Table 24.

Under the knowledge of DLLs category, the three themes were all related to what teachers thought were the mechanisms that allowed young children to learn language. These ideas were often shared during the interview in the form of statements that showed that teachers understood these ideas as factual. The two themes included in the social aspect of learning category also related to mechanisms of learning but highlighted the social nature of language learning. Although teachers also shared observations for this category in the form of statements, there were several instances where teachers also provided concrete classroom examples of how the social aspects actually occurred.

Knowledge of DLLs. The three themes related to knowledge of DLLs were: 1) children learn language with ease, 2) importance of language exposure and English in school, and 3) Spanish at home or as needed in school. First there was the idea that children, simply because they were young children, were going to naturally learn language. Another idea was that children needed to be exposed to language for significant periods of time in order to learn it. These two concepts seemed to be related to the last theme for the contexts of Spanish and English use. Because many teachers believed that the goal of school was to learn English, English seemed to be the preferred language at school and teachers tried to expose their students to English as much as possible. The preference for English at school was also shown in how teachers discussed specific situations where Spanish in school was appropriate. Although teachers seem to value DLLs' home language and observed how a good foundation helped DLLs with English, there

seemed to be an assumption that there was enough exposure of the Spanish language at home for DLLs to keep their language abilities in Spanish. Each of these themes will be presented in more detail, in turn, below.

Children learn languages with ease. In the majority of the interviews across groups, teachers mentioned how children learned language quickly. Teachers believed that young children had an easy time picking up a language and did not seem worried that they would not learn the language eventually. The ease children had with language learning was often discussed in contrast to the difficulty that adults have learning another language.

> *"But like I said when they are young it makes it so much easier. Like the children learn English better than me learning Spanish ...I really do because when I'm older, my brain isn't as spongy as them or you know to absorb" – EBT04*
>
> *To be honest with you, I don't think it is difficult because children learn. (EBTA07)*

Although a majority of teachers thought that young children learn language quickly, a few teachers also acknowledged that DLLs need more time to process what was being said in the classroom and gave them more time to do so. This teacher tries to describe what she thinks is going on as DLLs are processing English:

> *"You know to me it's like you're digesting it and then you answer it again and flipping it and it is coming back out so you have to give them time too. And I'm very, I'm not very patient person but I've learned to at least calm down on that like when I ask them a question to give them a time to process before they answer. Whether it is English or Spanish. They still have to process it." -EBTA06*

In terms of groups, the Native Spanish-speaking teachers discussed how the English language learning process was quicker for DLLs if they entered preschool with a good foundation in their home language, Spanish. For instance, one Spanish-speaking teacher observes:

> *"she was quick because you know why? Because her Spanish was perfect. When the kids have good Spanish they are going to get it like this. Now she speaks English." - EBTA01*

Monolingual English-speaking teachers also made observations about DLLs' Spanish abilities. However, teachers connected the DLLs' Spanish and English skills when children were having difficulties with English. For example, one teachers shares:

> *so two of the holdovers that I got didn't even speak their language. If they have difficulties in their own language then they won't be able to learn but they are talking now (EBTA6)*

Exposure to language is essential for language learning. In the majority of the interviews, teachers discussed how DLLs needed exposure to the language in order to learn the language. Many teachers talked about how children learn English by listening to others speak the language. Listening was one of the first steps in learning a new language. Applying this to the classroom environment, teachers shared how children picked up English by listening and observing what happened during classroom routines. Complementing this notion was the emphasis teachers place in acting as role models so DLLs could hear English frequently and would also encourage DLLs to repeat English words.

> *"And a lot of what the kids do is that they watch. What is everyone else doing? Okay they are lining up so you know. What are they doing? Oh they are getting a cup and napkins and sitting down." -EBT04*

> *"… listening and then he will get it. And then he will start talking. … he will start speaking and then after that you know that he is okay." -EBTA01*

The role of language exposure was also seen in how the home language environment was related to DLLs' language skills. Many teachers discussed the families' role in language learning as primarily to keep talking and to continue using Spanish at home. Teachers discussed how parents did not realize that children were picking up language because children heard it spoken at home.

Teachers also made observations about how the presence of older siblings exposed DLLs to English and provided opportunities to practice speaking English. Additionally, there were a few teachers who talked about the role of environment in exposing DLLs to English. A few teachers had the idea that DLLs who were born in the U.S. were going to learn to speak English. Teachers also further discussed that DLLs would learn English in the U.S. by attending preschool, watching television, and because the broader community in the United States placed more emphasis on English. One teacher shares:

> *"We encourage parents when they go home. Because parents think they are going to get confused if they use two languages so I say if mommy is talking to your children in Spanish, that's fine your child is going to relate that, he is going to use the Spanish with you because you are talking with him in Spanish. And let's say they have an older sibling, the sibling might be speaking only English to the child, so that's fine. The child is going to relate that okay, the sibling is talking to me in English, so I talk in English. Mommy is talking to me in Spanish so I talk in Spanish, now I'm going to use my Spanish." – EBTA07*

Although the idea that language exposure was needed for learning a new language was observed in all groups, there were subtle differences in the ways teachers discussed this by group. The group of Monolingual English-speaking teachers highlighted that they believed that Spanish was mostly spoken at home because most parents were not fluent in English, which is why it was important for teachers to speak English at school. On the other hand, when Spanish-speaking teachers discussed teaching DLLs English, they discussed it in terms of using English together with translating things in Spanish for their students who were DLLs.

Use English at school and Spanish at home or as needed. Although teachers acknowledged the importance of learning two languages and spoke to how they wanted DLLs to keep their home language, many teachers had specific ideas about the contexts for when to use Spanish and English. For more than half of the teachers, there seemed to be a general view that

Spanish was the language already being used at home and encouraged continued use there, whereas English was the language to be used in school. Several teachers discussed how one of the primary reasons for going to school was to learn English. There were several ways in which teachers highlighted the use of English in school. For instance, a few teachers mentioned that some teachers spoke too much Spanish and that this would not help DLLs learn English because it took away exposure time from English. Several teachers also gave specific instances when using Spanish was appropriate in school. The most common examples of when Spanish was appropriate at school were at the beginning of the year or whenever DLLs did not seem to understand what was being said.

> *"I try to do equal but right about now, we are encouraging more English because English is the first language in the school; we do encourage English ." -EBT01*

> *"Oh yeah, I use a lot of English now. I was using a lot of English to them now. I was using in the beginning Spanish words, like the basic words like sientate aquí. venga aqui, lava las manos, let's go to the baño. And those are the basic words for the transition in the classroom and following the classroom routine. So I was using it and now, I'm not using any words. Only the one, they really really need if I see that they are struggling or they get complicated what I meant. So basically I use a lot of English now…" – EBTA10*

In relation to the groups, some of the teachers in both the Native Spanish-speaking and Native Other Language-speaking groups related the challenges of maintaining their home language, often through their personal experiences teaching their own children their language.

> *That's why I enforce to the parent. Keeping the native language the original language at home because English they already learn too fast English. It's everywhere, the school, news, tv, anything, any game is in English. They learn everywhere (EBT05)*

> *for them it is easy to talk English because you know they spend a long time at school they talk English. When they talk with friend, they talk English. When they see TV, they see TV English. When they listen to music, the listen to English music. When they talk with each other, they talk in English. Only with us, with me and my husband, they talk Arabic (EBTA12)*

One of the Spanish-speaking teachers also observed that although she used Spanish in school, she thought there might be additional ways to include it in the curriculum.

> *I think because even though we're using our Spanish, it's not like we have to use it every day.. it's not like it has to be done. (EBTA07)*

Social aspects of language learning. There were two themes that highlighted the social aspect of language learning, particularly ways in which the teacher thought making connections and increasing the level of comfort in the classroom that the child experienced would facilitate the language learning process. These two themes are interconnected but are distinct. Statements related to comfort were the ways in which teachers acknowledged that children, and often their parents, were not comfortable speaking English and wanted to look for ways to help children feel comfortable. On the other hand, making connections looked at the teachers' belief that finding ways to get to know the children and help them connect with school would lead DLLs to become more comfortable and motivated to learn.

Making connections with children and parents facilitates language learning

Teachers shared how they thought that making connections with DLLs was an effective way to facilitate language learning and learning in general. They believed that if their connections with DLLs were strong, DLLs would learn English and other skills they were teaching in the classroom. Teachers cultivated these connections by finding ways to learn more about their students' culture and incorporating this in the class environment. One way teachers got ideas to connect with DLLs was talking to parents. Another important way teachers believed that DLLs would learn language was through their classmates, and teachers encouraged children to form friendships with their peers.

> *we didn't want him sitting by himself and so we would encourage other children who spoke both languages well to sit with him and play with him to see if he would break and decide to speak (EBT03)*

> *But the most important thing that the teacher keep in mind is that connecting with the parent first. Ask the parent how is the child at home, how is the child you know like, ... how is the culture, you know like, ask more questions… I think the basic, basic thing is that when you talk to the parent and you get the information from the parent, that is when you start connecting with the child too. (EBT11)*

Among the different groups, Native Spanish-speaking teachers using Spanish was the most common way to connect to DLLs and their parents. Native Spanish-speaking teachers let DLLs know they understood Spanish and could speak Spanish when they felt DLLs needed this kind of connection. For example one teacher shares:

> *"..They think they are doing something wrong. I say you are doing fine. Axx would get frustrated when he would try to tell me something in English and I had no idea what he was saying. And I would tell him, just tell me in Spanish it's fine, I can understand. And that would make him quiet down."– EBTA03*

For Monolingual English-speaking and Native Other Language-speaking teachers, they discussed the importance of making connections with DLLs even if they didn't speak Spanish. Along with talk about connections, a few teachers also shared their frustrations when they were not able to connect because of their inability to speak DLLs' home language as well as their students' frustration when they could not express themselves in English. They also talked about challenges connecting with parents because of language, particularly if parents were not able to volunteer in the classroom.

> *"Connection is key and you have to value it, no matter [what language] and the last thing I want to say is that it doesn't even, even if you know some Spanish you don't know it as fluently, go for it because a smile is universal. Smile is universal, a touch on the shoulder, that's being kind." (EBT01)*

> *it bothers me when they are coming to me and whether they come to me and they are sad and really excited and they are talking blah blah blah blah mira and I don't know what to say, that's difficult because sometimes when children are not understood, they get frustrated. (EBT04)*

> *I think it would be better for me for them to learn it but … I also think I can make them comfortable enough that I can understand them and I get the point across. And if I can't, I can find someone who can help us*. (EBTA13)

Once children and parents feel comfortable, they will use English. In addition to making connections, teachers thought that once children and their parents felt comfortable, they would start speaking in English. Teachers described initial feelings of discomfort children might experience and also thought parents felt embarrassed, intimidated, and judged because of their limited English skills. There also seemed to be an assumption by several teachers that if children had older siblings, these children heard more English at home and would feel more comfortable speaking English at school.

Although Native Spanish-speaking teachers used their language to help DLLs and parents feel comfortable, several teachers from both Monolingual English-speaking and Native Other Language-speaking groups acknowledged that being able to communicate with DLLs and their parents in Spanish would help them feel comfortable. Teachers also seemed to believe that establishing comfort often took some time. For example, one teacher observes:

> *Maybe a couple of them speak some English, but I am telling you they prefer to speak Spanish because they feel more comfortable speaking in Spanish (EBT12)*

> *Yes, it makes them comfortable because you know maybe it makes them feel that you understand them better you know they are not struggling to get something across to you they might not have the word you know so it makes the level of comfort (EBT03)*

A few teachers explained their idea that a level of comfort was needed before using language to their personal experiences:

> *I think yeah, part of that yeah it influence because I think having a lot of struggling, and I remember feeling that you know, almost the same way, some of the kids feeling. I wasn't young, young, young you know 3 years old but I was 19 years old, feeling like, even if I know the answer I don't want to raise my hand in the classroom. Even if I know what to do I'm feeling afraid that I'm wrong because of the language. (EBT11)*

Teachers also talked about how they observed that DLLs felt more comfortable toward the end of the school year and this is seen when they speak in English. One Spanish-speaking teacher shares:

> *Yes! No, but I love it! And the most thing that I enjoy at the end of the year is that they feel confident. Once they learn to defend their right in English. They feel confident to speak another language. So if somebody's coming and I say "Hi, how are you?" "How do you feel today?" They can name their feeling. They can express themselves. (EBT10)*

Section 3: How Do Teachers Describe the Classroom Practices They Use with DLLs?

This section describes the classroom strategies teachers used with DLLs. The four themes highlight different teacher behaviors as part of formal school practice or informal strategies learned from their experiences teaching young children. For example, all the teachers had something to say about the language abilities of their students, as this knowledge seemed relevant in adapting different activities for the class. However, teachers did not mention any formal tools they used to assess language; rather, they based their assessments on their observations of DLLs' behavior in the classroom. Teachers also seemed to informally facilitate connections using non-conversational strategies when there was no common language in which to communicate. On the other hand, teachers used strategies considered formal as these practices were more widely accepted and encouraged in school. Examples of these include having teachers facilitate conversations and learning about the home language and cultural routines of their students. More details for each theme are described below and are presented in Table 25.

Assessing language abilities informally. Teachers seemed to have informal ways of assessing DLLs' language abilities in Spanish and English. Teachers used the information from these informal assessments to help them decide which language to use and the types of activities DLLs were ready for. Across groups, teachers frequently mentioned that at the beginning of the

school year, many Latino DLLs came in speaking only Spanish. For example, when asked to describe the language abilities of their students when they entered Head Start, one teacher assistant shared:

> *"In the beginning, when the children in the beginning, they were zero in English."*
> *- EBTA11*

In terms of their students' English abilities, teachers discussed how they observed children's behavior to see if they understood what was being said in English, often when teachers asked DLLs to follow directions or participate in classroom routines. It also seemed that teachers had a general sense of when DLLs would start picking up English during the school year (e.g., after a few months, after the holiday break, etc.). Teachers also noticed which of their students could switch between Spanish and English depending on who they were talking to. Below are two examples of teacher assistants sharing their knowledge about DLLs' English abilities:

> *"And I would say, by the middle of the year, like after we're here 5 months in, I think that they're definitely saying phrases and words." (EBTA13)*

> *"Because sometimes even if we are talking to them in English, we think they understand what we are saying but we are not sure. Sometimes they will let us know by acting, moving with their bodies." (EBTA07)*

In addition to making informal assessments about their students, teachers also made informal assessments of parents' language abilities. In general, teachers seem to feel that parents of Latino DLLs felt more comfortable speaking in Spanish, so they would find ways to communicate with parents in Spanish as much as possible.

The themes around informal assessment seemed to be consistent between the three groups of teachers. However, some of the Spanish-speaking teachers made additional comments about DLL students' Spanish language and it was beautiful, perfect, or good. In addition, along with informal assessments about their students' language abilities, both Native Spanish-speaking

and Native Other language-speaking teachers shared how they felt their students were more comfortable expressing themselves in the language spoken at home: Spanish. For example, one teacher shared:

> *They don't know how to speak English. Because some of them doesn't know any at all. You know no words, nothing. Maybe a couple of them speak some English, but I am telling you they prefer to speak Spanish because they feel more comfortable speaking in Spanish (EBT12)*

Facilitating conversations. Across groups, teachers believed that one of their primary responsibilities was encouraging DLLs to start talking initially in any language but eventually use English in school. Given their assessment of the limited English of their students, the most common way teachers helped DLLs understand English was using Spanish to translate what was being said. In all groups, several teachers mentioned that they told their students to use Spanish to communicate if they were not yet able to express themselves in English yet. Teachers also mentioned how they repeated words several times so children had more opportunities to hear what was being said, as well as to allow their students time to process what was being said before responding. To elicit a response from their students, a few teachers also mentioned asking open-ended questions. As the goal was to have their students speaking English, several teachers also mentioned that when they saw that DLLs were able to communicate in English, they would slowly start using less Spanish.

Teachers who were Native Spanish-speaking commented on how they used Spanish together with English to make sure that DLLs understood directions or questions they asked. On the other hand, Monolingual English-speaking and Native Other language-speaking teachers used some Spanish words they knew but primarily relied on their co-teachers, other Head Start staff, and parents to help translate what they were saying into Spanish. One Monolingual English-speaking teacher shares:

> *yeah I'll show them did I say it right? And they'll laugh at me [oh they do?][I laughs] you know, tell me how to say it. and sometimes they won't even and they keep on laughing because they think it's funny [yeah, yea] but I've also had the older kids that I know can speak a little English can you help me translate? Can you help me ask what do you want [oh, yeah, yeah, yea] and they'll do it so they are getting it coming and going. (EBTA06)*

Some of the Monolingual English-speaking and Native Other language-speaking teachers also mentioned how they allowed DLLs to use Spanish in the classroom with their classmates but also asked their students to speak in English if a classmate or teacher who didn't know Spanish joined their group. Although English-speaking and Other language-speaking teachers did their best to overcome their limited knowledge of Spanish, a few teachers expressed their challenges and frustrations when they felt they weren't able to communicate with DLLs or their parents.

> *we don't discourage them from speaking their language. The only thing, usually that I will say something is at meal time. When we are sitting at a table and there are usually four children to the table. And if there are three that are Spanish speaking and one that isn't, I ask them to kind of speak in English because it isn't fair and they are leaving the one child out. You know or even me, when I'm sitting at the table. It's not that I don't love to hear them speak in their language, I do. But it's like, I want to be part of the conversation. I say to them like I want to do know what they are talking about, I want to talk too. And that's the only time that I would probably say something, not discourage, but say something. I always say to the children it would be really nice if we all spoke English here and at home you know you speak your home language at home. And then I say the same thing to the parents. (EBTA13)*

Another goal teachers had for their students was to have conversations with their classmates to express their needs and opinions in English. Many teachers discussed how they facilitated conversations among their students by providing English words and phrases to join a group or if a classmate didn't want to share or play with them. There were also instances where children would ask teachers what English words meant so they could participate in conversations with their classmates.

Facilitating understanding and connections using non-conversational strategies. In addition to facilitating conversations with others, teachers also mentioned effective ways where they were able to facilitate connections using non-conversational strategies. The strategies discussed for this theme were primarily for Monolingual English-speaking and Native Other language-speaking teachers. However, the non-verbal strategies also seemed to be used by Native Spanish-speaking teachers to support the English learning with the Spanish-speaking DLLs as well as with their students who spoke another language such as those who spoke Arabic and Vietnamese.

One of the most often mentioned strategies to facilitate understanding and connections was using gestures and visual aids. Teachers mentioned how they would often supplement what they said during class routines, such as acting out what they wanted their students to do in the bathroom (e.g., wash their hands) or during meal time (e.g., proper way to use utensils). Teachers also asked their students to use gestures, such as pointing, so teachers could help them with what they needed. In addition to gestures, teachers incorporated pictures, visual aids, and books and linked these materials to the English words they were speaking. For instance:

> *"a lot of gestures, a lot of visible things, a lot of pictures that's what I need to be shown. One step leads to another, follow rules, follow instruction, and follow transitions, with pictures. At the end he was independent in the classroom." (EBT05)*

> *Believe me or not I find a way. When they are here, when [the TA] wasn't here I just used gestures because I mean even if you don't know the language, there are other things I can do. It would be ideal to know the language right? (EBT08)*

Other strategies in this theme required DLLs to speak, such as singing or reading, but were considered non-conversational because students were expected to listen or repeat words rather than use words in the context of conversation. Several teachers talked about how it seemed easier for children to pick up words through singing and incorporated singing in their activities

throughout the day. Teachers would try to sing the same songs in different languages so children could pick up the meaning of the song in both languages. For instance, one teacher shared her experience using songs:

> *"By singing. When I sing in Spanish they say oh Spanish now we are going to do it English, we do it in English and we do it in Spanish. That's the way. Reading in English and Spanish is okay but most of the time I understand… I feel like singing is better because they pick up the words." (EBT06)*

Finally, in addition to encouraging children to talk to each other, teachers shared observations that the reason children were not talking was because they were not socializing with classmates.

> *… a great strength with this is the older children that have been here because now …they will know if a child is crying and we are trying to get him to stop and how do they do that is like comforting them and hugging them and holding them, playing one on one with them with a game. You know pushing them a little bit toward the older children that speak their language (EBTA13)*

Learning about home language and cultural routines. Teachers also addressed the language barriers that existed by learning more about the language and cultural background of their students. Some teachers asked children questions about their families and incorporated this information during class discussion. For example, one teacher talked about how they asked about the jobs of their parents when talking about community helpers:

> *"I use puppets, for example, now we were talking about community helpers. I ask this child what is your father's job and he tells me: My father fixes the window, my father paints the wall. So he works on the construction, right? So I have the puppet, we use the puppet in our hand and we are talking about of you know, construction, firefighter. I help people. You know it is…we use anything that is available to us to help them understand." – EBT10*

Teachers also shared how they asked parents for information about their children's language abilities and family background. Many teachers would encourage parents to continue Spanish at home. During home visits, teachers would ask parents about the goals they had for

their children and how children talked and behaved at home. Teachers believed that being able to have something from home helped students feel more connected and comfortable at school. Teachers also asked parents to spend time in the classroom and if parents were comfortable, to participate in the classroom by sharing recipes, reading a book, or singing songs.

In relation to groups, Monolingual English-speaking and Native Other Language-speaking teachers asked students to help them learn some Spanish words. Parents who were fluent in both English and Spanish also helped these teachers translate things for other parents on behalf of the teachers. For instance:

> *So I'm learning words every day from them. Or I ask one of them like AXX, tell me, how do you say this word in Spanish, so I can speak it to another child who may understand more Spanish than English. So they can understand what I am trying to tell them." – EBT13*

For Native Spanish-speaking teachers, because they also had students who spoke another language, they adopted similar strategies and asked parents to give them words or phrases in their home language so they could use them at school.

Summary of Study 3: Qualitative Study

The two goals of Study 3 were to explore links between teacher characteristics, language ideologies, and reported classroom practice. One of the strengths of Study 3 is its use of semi-structured interviews to allow teachers to reflect on their experiences and explain their ideas in such a way that could not have been captured in a survey. Another strength of this study is its inclusion of perspectives of both teachers and teacher assistants. It was important to include teacher assistants to understand their views because they work together with teachers to implement curriculum, spend a considerable amount of time interacting with children, and tend to be more representative of the communities to which children belong (McWayne, Sekino & Fantuzzo, 2005).

There were five themes which emerged for teachers' language ideologies that revealed possible mechanisms teachers believed facilitated the language learning process and also highlighted the importance teachers placed on the social aspects of language learning. The first theme, *children learn language with ease*, described teachers' belief that all young children would be able to learn language without any difficulties and was often connected to how DLLs would pick up English quickly. The second theme, *language exposure is important for language learning,* referred to the value teachers placed on having DLLs hear a language before being able speak it and emphasized the role of listening and observation in learning a new language. The next language ideology theme, *English in school/Spanish at home or as needed,* was related to the first and second theme in that if teachers believed that all young children learned language easily and frequent exposure helps them learn the new language, then teachers would expose young children to the L2 as much as possible. In the case of Latino DLLs, because several teachers believed that their students already received and continued to get the necessary language exposure to Spanish at home, teachers tried to use English at school as much as possible. The last two themes, *making connections with children and parents facilitates language learning* and *once children feel comfortable, they will use English,* were two social aspects of language learning that the teachers highlighted as interconnected but distinct. In terms of comfort, teachers acknowledged that DLLs, and often their parents, felt uneasy when they used English initially and teachers looked for ways to help children and parents feel comfortable, such as using Spanish words. In terms of connecting, teachers believed that as long as they were able to get to know their students and form a relationship with them, this connection would help DLLs become more comfortable and motivated to learn.

The four themes for classroom practice highlighted different strategies teachers reported in the classroom with DLLs. The first theme, *assessing language abilities informally*, was considered informal because teachers did not mention any formal tools they used to assess language; rather, they based their assessments on their observations of DLLs' behavior in the classroom. Teachers seemed to have a general sense of DLLs' Spanish and English skills at the beginning of the school year, where most observed that Latino DLLs only spoke Spanish. Teachers also shared expectations about when they thought Latino DLLs would start speaking English and how they knew when DLLs understood what was being said in English. The second theme, *facilitating conversations*, included ways in which teachers encouraged DLLs to talk primarily in English but also in Spanish in specific contexts. The most common example was teachers using translation when they did not think their students understood English. Some teachers also mentioned they gave DLLs more time to respond so they could process what was being said in English. The majority of teachers also discussed being role models for English and tried to used English as frequently as possible. *Facilitating connections using non-conversational strategies*, described the ways teachers, especially those who did not speak Spanish fluently, used other non-verbal means to communicate with DLLs. The most commonly mentioned strategies included visual aids, pictures, books, and gestures. Some teachers also used classroom routines to help DLLs understand what was going on. For example, teachers talked about the children watching how their classmates lined up for the bathroom or used utensil during meals and then try it out themselves. Finally, the last theme, *learning about DLLs' language and cultural routines*, referred to the ways teachers gathered information about DLLs and their families. Many teachers asked their students questions about their family and home life and

incorporated this into class discussion. Teachers also asked parents to teach them words in their home language and details about the different things they did at home with their children. Based on previous literature (Sawyer et al., 2016) and results from Study 2, teachers' language ideologies and classroom practices were then examined in relation to teachers' Spanish- speaking skills. Responses of teachers and teacher assistants were re-examined to identify any patterns that existed, and links between teachers' self-reported Spanish-speaking abilities, other teacher characteristics, language ideologies, and classroom practices. The three groups of teachers based on Spanish language skill were: 1) Native Spanish-speaking teachers, 2) Native Other Language-speaking teachers, and 3) Monolingual English-speaking teachers.

Teachers in the Native Spanish-speaking group identified as Latino and reported that they were fluent in Spanish. This group varied in terms of years of living, studying, and teaching in the U.S. All but one was born outside of the U.S. and the rest hailed from several countries, including El Salvador, Peru, Costa Rica, Colombia, and Puerto Rico. In terms of language proficiency, Native Spanish-speaking teachers described using Spanish with family members and friends from their home country and also shared their experiences of learning English. Although a few teachers shared that they learned English in school in their home country, many of the teachers recounted that they started using English regularly only when they moved to the U.S. Many teachers reported learning English by taking ESL classes when they arrived in the U.S. or for some, as parents when they volunteered or worked at Head Start. Related to self-efficacy, a few teachers related these personal experiences learning English with understanding what their DLL students were going through. In terms of language ideologies, one distinct pattern found was that Native Spanish-speaking teachers observed that DLLs who had a good foundation in Spanish learned English quicker than those who did not. Although Native Spanish-speaking

teachers believed that English was to be used in school and Spanish was to be used at home, they discussed their use of both English and Spanish when teaching and raised some challenges they had as parents maintaining Spanish with their own children. Related to classroom practice, Native Spanish-speaking teachers commented more frequently on the level of DLLs' Spanish, provided more details about Spanish dialect differences when describing the families with whom they worked, and were more likely to use Spanish to make sure that DLLs understood directions when facilitating conversation.

The next group of teachers were those who were Monolingual English-speaking. In discussing their language proficiency, this group of teachers identified English as their home language, but also described their previous exposure to other languages. Most of them acknowledged hearing other languages at home but being discouraged from speaking anything other than English. They also shared prior unsuccessful experiences learning another language during formal schooling in high school and college. In terms of language ideology, one of the characteristics of Monolingual English-speaking teachers was the emphasis they placed on connecting with their students who were DLLs, even if they themselves did not speak Spanish. This group of teachers also did not seem concerned about Latino DLLs being able to maintain Spanish, because they assumed it would be regularly used at home. In the classroom, Monolingual English-speaking teachers relied heavily on their co-teacher and other Head Start staff to assist them with translation and discussed being role models for English for their students. They also expressed frustration when there were things they could not share with their students or parents because they did not have the words in Spanish. Finally, they expressed a desire to learn Spanish and discussed how they learned Spanish from their students and parents

while teaching, but raised concerns about the commitment it would entail if they decided to take Spanish classes at a separate time.

Finally, the last group of teachers comprised those who spoke another language, referred to as the Native Other Language-speaking group. These teachers were fluent in another language, such as Arabic and Punjabi, and moved to the U.S. from countries such as India, Morocco, and Algeria. The Native Other Language-speaking teachers shared characteristics with both Native Spanish-speaking and Monolingual English-speaking teachers. Similar to the Native Spanish-speaking teachers, they talked about how they spoke their native language with family members, relatives, and friends from their home country and about their experiences learning English. However, some teachers in this group already spoke multiple languages, such as French, at home and in school and their experience using English in the U.S. was more about adjusting to American English and accents which were different from the English with which they were familiar with – British English. Like the Native Spanish-speaking teachers, they also felt that their personal experiences using and learning English in the U.S. helped them better understand their DLL students when teaching. In terms of language ideologies, Native Other Language-speaking teachers emphasized connecting with their students who were DLLs, even if they did not speak Spanish, just like the Monolingual English-speaking teachers. However, similar to Native-Spanish speaking teachers, they discussed their concerns as parents of maintaining their home language with their own children. In the classroom, similar to the Monolingual English-speaking group, Native Other Language-speaking teachers relied heavily on their co-teacher and other Head Start staff to assist them with Spanish translation. They expressed frustration when they could not share things with their students or parents but they also discussed how they learned Spanish from their students and parents while teaching.

In summary, several themes were identified in Study 3 that helped to illuminate teachers' language ideologies and revealed common classroom practices with DLLs. Although the themes that emerged were shared by most of the teachers and teacher assistants in the sample, there were some patterns that were distinct in terms of language ideology and classroom practice based on teachers' Spanish-speaking abilities. The additional insights from the group of Native Spanish-speaking teachers are likely reflective of their cultural competence as a result of being Latino, as well as their experiences of moving to the U.S. and learning English, which gives them a better understanding of the context of their students and families (Irizarry & Raible, 2011). On the other hand, through their belief about the importance of connecting with their students, the groups of Monolingual English-speaking and Native Other Language-speaking teachers showed that even if they did not speak their students' home language, they still sought ways to connect with their students socially. These effects can create classrooms where DLLs feel comfortable and participate fully (Gillanders, 2007).

CHAPTER 5: OVERALL DISCUSSION

Increasingly, studies have shown that early childhood education programs are an effective way to promote young children's school readiness and long-term outcomes (Heckman, 2011). Studies reviewed between 2000 and 2011 suggest that DLLs benefitted from attending high-quality preschool programs with respect to their language and literacy skills (Buysse et al., 2014). However, there is still debate in the field about what constitutes a high-quality preschool experience for DLLs to foster their optimal positive development. To better serve DLLs, research needs to focus on how having access to two languages might uniquely affect their learning (Garcia & Miller, 2008).

This dissertation examined the relations between teacher-child interactions, a consistently cited feature of classrooms related to the quality of children's preschool experience (Hamre & Pianta, 2007; Howes et al., 2008), other characteristics of classroom context (i.e., classroom language composition), and DLLs' school readiness skills in the areas of language and socio-emotional development. The three studies in this dissertation used multiple methods, but all focused on Latino DLLs, as families from Latino backgrounds are one of the largest and fastest-growing populations in the U.S. and are more likely to maintain their native language, Spanish, at home than members of other ethnic groups (Arriagada, 2005). The DLLs in this dissertation also came from low-income backgrounds; research has shown that among Latino DLLs, children from low-income backgrounds are more likely to have little knowledge of English, which was associated with lower reading and math scores compared to their socioeconomically advantaged Spanish-speaking peers (Garcia & Miller, 2008; Reardon & Galindo, 2009).

To learn more about how to support this low-income Latino DLL population, this dissertation used several methods, both quantitative and qualitative, to co-inform the understanding of the developmental and ecological processes distinct to DLLs. Table 26 described the sample for each study, while Table 27 compared how some of the constructs were measured in the national and local sample. To provide a broad population-based view, Study 1, the national sample, utilized the Family and Child Experiences Survey (FACES) data set, representing the population of children who entered Head Start in the U.S. for the first time in fall 2009. In Studies 2 and 3, data were collected from a local Head Start program that consisted of 11 classrooms, where more information was able to be collected on DLLs' initial English and Spanish skills and teacher language ideologies, to further understand the classroom context in which teacher-child interactions took place. Findings from all three studies were complementary and suggested that DLLs might have unique developmental strengths and needs related to their ability to access two languages. The national and local samples illuminated relations among teacher-child interactions, classroom language context, and Latino DLLs' socio-emotional and language skills to differing degrees. The qualitative data from the local sample shed light on meanings of teacher-child interactions evidenced in the quantitative data by describing teachers' language ideologies and practices related to DLLs.

In this final chapter, results are divided into two sets of findings. The first set of findings discussed teacher-child interactions, measured by the positive associations between lead teacher Spanish use and socio-emotional outcomes as well as the non-significant associations between global measures of classroom quality or language outcomes. The second set of findings focused on classroom language context which showed that higher concentrations of DLLs in preschool classrooms was linked to lower language and socio-emotional outcomes.

Positive Associations Between Teachers Use of Students' Home Language and Students' Socio-Emotional but Not Language Outcomes

The first major finding of this dissertation was the positive association between lead teachers' Spanish use and Latino DLLs' socio-emotional outcomes. In the national sample (Study 1), lead teachers' Spanish use was positively associated with Latino DLLs' approaches to learning, whereas teacher Spanish talk was positively associated with peer play in the local sample (Study 2). One explanation for these positive findings is that for DLLs, using their home language strengthens their relationship with others. Prior research has shown associations between teachers using children's home language and higher levels of closeness between teachers and DLLs (Chang et al., 2007). According to Tabors (2008) sequential DLLs follow a four-stage developmental sequence where the second stage is described as "the silent period" because it is during this time that DLLs realize their home language cannot be used to communicate in the classroom. By using Spanish, teachers communicate to DLLs that they can use their home language at school. Being able to interact with their teachers may help DLLs feel closer and more comfortable in the classroom. This echoes a thematic finding from the qualitative study (Study 3), where the majority of teachers acknowledged that using Spanish was a great way of making social connections with their students and helped them feel comfortable.

Research has often recommended hiring more native Spanish-speaking educators to address the home language needs of DLLs (Garcia & Miller, 2008). However, the reality of cultural and linguistic mismatches between teachers and students in early childhood settings should be addressed to help teachers connect with DLLs, even if they do not share the same background. It is interesting to note in the qualitative study that Spanish use was not limited to Native Spanish-speaking teachers. Although there were times when Monolingual English-

speaking teachers and Native Other Language-speaking teachers expressed frustration at not being able to speak Spanish fluently, these teachers used varying amounts of effort to learn some Spanish to connect with their students. The findings in this dissertation support the idea that although teachers' fluency in their students' home language is valuable, it may be equally important for students that their teachers expressed an interest in and showed respect for their home language and culture (Ballenger, 1992; Franquiz & dela Luz Reyes,1998; Gillanders, 2007). Dissertation results add to this literature by being one of the few studies to provide quantitative data to support Spanish use and qualitative data that explains why teachers' Spanish use is socio-emotional beneficial for Latino DLLs.

Children's individual characteristics, such as age, gender, and initial Spanish and English language skills, played a key role in classroom interactions. These findings are in line with the heuristic model discussed in the introduction that identifies individual child characteristics as a salient classroom environment characteristic that shapes teacher-child interactions. In particular, results suggest that DLLs' initial English and Spanish skills were connected to the ease or difficulty with which they interacted with others. In the local sample, links were found between DLLs' initial English skills and two socio-emotional dimensions: Play Interaction and Play Disconnection. DLLs with lower initial English skills were reported as being more withdrawn or avoidant in play. If DLLs have limited English skills and cannot use Spanish to communicate, this may be reflective of the silent period (Tabors, 2008; Roberts, 2014) as previously discussed. Indeed, teachers in the qualitative study reported that children with limited English language skills were often quiet and had a tendency to stay alone. On the other hand, DLLs with higher initial English skills and initial Spanish language skills had higher interactive peer play scores. Teachers also noticed in the qualitative study that DLLs who were socially competent were

children who could easily switch between languages depending on the language skills of their conversational partner. This suggests that DLLs who have a command of both their languages can use either language as needed. Previous studies in kindergarten have shown that DLLs categorized as *fluent* or *balanced bilinguals* had high levels of interpersonal skills and low levels of behavior problems (Collins et al., 2011; Han, 2010). This dissertation provided further support for collecting information on DLLs' initial language skills as they enter early education settings. Results contributed to the research by measuring initial English skills and Spanish skills and linking initial skills in both languages to socio-emotional outcomes. As previous studies in preschool have only measured initial English language skills (Burchinal et al., 2012; Downer et al., 2012; Chang et al., 2007; Mancilla-Martinez, Christodoulou & Shabaker, 2014), this study provides strong support that proficiency in DLL's home language also contributes to DLLs' development (Castilla, Restrepo & Perez-Leroux, 2009) by measuring DLLs' initial home language skills.

An unexpected result from this dissertation was the lack of relations between teacher-child interactions and DLLs' language outcomes in both the national and local samples. A possible reason for these non-significant findings may be related to the amount of time needed for DLLs to show observable gains in their language skills. Based on research with older DLLs, Thomas and Collier (2002) suggest that DLLs need at least 4 years of schooling in L1 and L2 to achieve on grade level in either of their two languages. Survival analysis conducted by Kim, Curby and Winsler (2014) also indicated that from kindergarten, it took at least 2 years for half of the DLLs in their sample to become proficient in English. Both the national and local samples examined language gains across one school year and this might not have been enough time for

sequential DLLs to produce an increase in language skills, even when their teachers used Spanish in the classroom.

Another plausible explanation for the non-significant associations between teacher-child interactions and DLLs' language outcomes might be linked to the limited use of Spanish by teachers in the classroom. Although the frequency of Spanish use was not collected in the national sample, descriptive findings from the local sample revealed teachers used Spanish once on average during 20-minute observations. Other studies have similarly hypothesized that a link exists between the low rates of Spanish use and the lack of association with language outcomes for DLLs (Burchinal et al., 2012; Chang et al., 2007). Moreover, limited Spanish use by teachers was one of the themes that emerged from the qualitative data where teachers used Spanish in class only on an "as-needed basis". Apart from using Spanish to connect with DLLs, teachers reported using Spanish in cases when DLLs did not understand what was being said in English, often during the beginning of the school year. Toward the latter part of the year, teachers emphasized using less Spanish and as much English as possible. Using Spanish primarily for non-instructional purposes has been documented in previous research (Jacoby & Lesaux, 2014). Findings from this dissertation contributed to this literature by providing quantitative evidence of teachers' limited Spanish use together with qualitative data that provides a plausible reason for why teachers might limit their Spanish use in class. Results suggest that teachers use Spanish in limited amounts primarily to connect with DLLs rather than for instruction. This further suggests that the current amount of Spanish used is enough to increase DLLs' socio-emotional skills, but may not be sufficient to promote Latino DLLs' language skills in either English or Spanish. Although previously quantitative research has shown the low rates of Spanish use in the classroom (Burchinal et al., 2012; Chang et al., 2007) and using Spanish for non-instructional

purposes (Jacoby & Lesaux, 2014), the benefit of using a multiple method approach in this dissertation allowed for the identification of the behavior together with a possible meaning behind the behavior. Future work should consider more studies that use multiple methods to better understand findings and ensure that these findings are relevant to programs to use for areas such as professional development.

Finally, this dissertation contributed to prior research by measuring teacher-child interactions with DLLs in two different ways. First, the national sample, as with previous studies (Vitiello et al., 2011; Burchinal et al., 2012), used two variables: Spanish use and global measures of classroom quality to measure teacher-child interactions (i.e., Instructional Support, Emotional Support, and Classroom Organization from the CLASS). Significant associations were found between Spanish use and socio-emotional outcomes but no significant associations were found with the three CLASS dimensions. Prior research using the CLASS with Latino samples has revealed mixed findings. Significant positive associations were found between the CLASS dimensions and DLLs' language and socio-emotional skills (Downer et al., 2012; Hindman & Wasik, 2015), but a study with Hispanic students in elementary school found negative associations between the CLASS dimension, quality of feedback, and student achievement (Lopez, 2011).

One explanation for the non-significant findings is that important characteristics related to supporting DLLs may not be captured with the CLASS as found in previous work (Lopez, 2011), such as measuring both initial English and Spanish skills and additional information about the language used (i.e., English, Spanish, or other language). These limitations were addressed in the local sample using the Language Interaction Snapshot (LISn). The LISn measured teacher-child interactions using a single variable for the language used (i.e., English, Spanish, or Mixed)

and the type of talk (i.e., lead teachers giving directions, requesting language, and providing contextualized and decontextualized information). Research with monolingual children has shown that responding appropriately and positively to a child's utterances and encouraging a child to elaborate on his or her talk fosters language development (Hart & Risley, 2003). The type of Spanish talk measured in the local sample aligns with this research that fosters language development (Hart & Risley, 2003). However, in the national sample, it is more difficult to determine whether high-quality interactions measured by the CLASS occurred in Spanish because the instrument does not provide this information. Second, ratings on the CLASS are intended to reflect the experience of an average student (Pianta, LaParo & Hamre, 2006). This may not work well for DLLs, as previous studies have highlighted the importance of attending to DLLs' individual needs, given the diversity in their skills, particularly in their two languages (Han, 2010; August & Shanahan, 2006). With the LISn, individual children are the focus of the observations. In the local sample, the children observed were selected based on their initial English and Spanish skills. This was done to capture the range of interactions DLLs with varying language skills experienced in the classroom. Thus, each child had an individual score for Spanish talk rather than using an average score for the class. These two differences in measuring teacher-child interactions may be the reason for the significant findings between Spanish talk and socio-emotional outcomes in the local sample and the non-significant findings between the CLASS and socio-emotional outcomes in the national sample. However, more work needs to be done to find out if other important characteristics related to supporting DLLs are captured in existing measures of classroom quality. By using two different ways to measure teacher-child interactions this dissertation highlights the value of collecting more information about DLLs' initial language skills and the type of Spanish talk on the significant results. Future research

should try to shed more light on the nature and quality of the current learning environment of DLLs.

Higher Concentrations of DLLs in Preschool Classroom Linked to Lower Language and Socio-Emotional Outcomes

The second set of findings of this dissertation pertained to the negative associations between classroom language context and DLLs' language and socio-emotional outcomes. Previous literature has studied classroom composition in preschools in a variety of ways, such as by aggregating the level of externalizing behavior (Yudron, Jones & Raver, 2014), age (Guo, Tompkins, Justice & Petscher, 2014), and socioeconomic status (Reid & Ready, 2013) of children in a class. However, only a few studies have examined classroom composition in preschool by aggregating children's language skills with monolingual children (Justice, Petscher, Schatschneider & Mashburn, 2011; Mashburn, Justice, Downer & Pianta, 2009) and with DLLs (Chesterfield, Chesterfield & Chavez, 1982; Downer et al., 2012). Because research on classroom language composition with DLLs is limited, and because prior studies use different ways to measure this construct, there may be multiple reasons to explain the negative associations found between classroom language composition and DLLs' language and socio-emotional outcomes in the national and local samples. This includes the choice of language teachers make depending on the language of their students, importance of peers in DLLs' development, and teachers' ethnic match with their students.

An important thing to point out is that the national and local samples in this dissertation measured classroom language composition with Latino DLLs in different ways. In FACES 2009, the aggregate classroom language composition was measured based on teacher reports of the percentage of Spanish-speaking students in their class. Results showed that in classrooms with

more Spanish-speaking children, Latino DLLs had lower English receptive language scores and were rated lower on social skills and approaches to learning. These findings might be related to the choice of language teachers make depending on the classroom language composition of their students (Chesterfield et al., 1983). For instance, teachers may use less English in the classroom with more Spanish-speaking children to address the Spanish needs of their students. Another reason teachers might limit their English or use simple English for prolonged periods of time is that they might think their Spanish-speaking students will not understand the English spoken. Unfortunately, if DLLs do not have enough interactions in English, they are likely to have difficulty learning English (Palermo et al., 2014). A study by Chesterfield et al. (1983) found that the more time the Spanish-speaking children spent socializing with teachers in English, the more proficient in English they were likely to become as the preschool year progressed. In terms of socio-emotional outcomes, if teachers are unable to communicate with their students, they might feel less connected to them, which could be linked to DLLs' lower social skills and approaches to learning. For example, teachers shared their frustration in the qualitative data when they were unable to communicate with their students and observed frustration in their students who could not communicate with them. However, it is difficult to draw conclusions about classroom language composition with the national sample because there was no information about the languages spoken by the other children in the class. Before examining associations between frequency of teacher talk in English, Spanish, or other languages and classroom language composition, future research should collect more information about the entire class in terms of the number of home languages represented and how many students speak each home language in a class to further understand class dynamics.

In addition to further understanding how teachers may vary language use depending on classroom language composition, these findings underscore the role of peers in the development of DLLs' school readiness skills. Preschoolers interact with one another more regularly than with teachers (Palermo et al., 2014). A previous investigation with monolingual children also showed that the language skills of children's classmates were a significant and unique predictor of language growth, even beyond effects attributable to instructional quality or individual child language ability (Mashburn et al., 2009). Because all classrooms in the local sample consisted of classrooms where at least 70% of students were Spanish-speaking DLLs, classroom language composition was measured by the percentage of students who did not pass their initial English language skills assessment, which ranged from 33 to 93%. Calculating a percentage of children who did not pass their initial English language assessment was possible because data were collected from all students, Latino and non-Latino, in each class. Results revealed that teachers reported higher Play Disruption scores in classrooms with more DLLs who did not pass their initial English skills assessment. This suggests that if more DLLs in a classroom have weaker English language skills, they might have fewer opportunities to practice with peers with greater language skills who are better equipped to facilitate communication. In another study where the majority of children in the classrooms were Spanish-speaking, Palermo and colleagues (2014) found unique peer effects that contributed to children's expressive vocabulary skills measured by a frequency count of peers' English use during interactions. Although Palermo and colleagues (2014) used a different measure from this dissertation (frequency count of peers' English use versus children's initial English skills), these findings relate to the results of the local sample, by suggesting that children with weaker initial English skills might not frequently interact with their peers in English, particularly in classrooms where the majority of children are Spanish-speakers.

However, if English is the language encouraged in school and used to communicate with peers who do not speak Spanish in the classroom, the inability to communicate in English may frustrate DLLs with weaker initial English skills and cause them to behave disruptively. This explanation is echoed by teachers in the qualitative study who shared how some of their students with limited English skills acted out when they were unable to communicate effectively with their peers. More research needs to be conducted to further document the role of peers in DLLs' development.

Finally, another plausible explanation for the negative associations between classroom language composition and DLLs' language and socio-emotional outcomes might be related to teachers' ethnic match with their students. Findings from the local quantitative sample revealed that non-Latino teachers rated Latino DLLs higher on Play Disruption than Latino teachers did. Prior research has hypothesized that when teachers and students are of the same ethnicity, or are ethnically matched, teachers are presumably more knowledgeable about the appropriate ways children behave in their culture. Previous studies have found support for this ethnic match hypothesis (Mundt et al., 2015; Saft & Pianta, 2001). Relating these findings on ethnic match to the local sample results, it is possible that non-Latino teachers rated Latino DLLs higher on Play Disruption compared to Latino teachers because they may interpret some behavior as disruptive, especially if the Latino DLLs in class have limited English skills. Non-Latino teachers may also interpret behavior as disruptive if they lack the knowledge of how certain behavior is viewed among Latino families. For example, a few teachers in the qualitative study asked their students about what routines they followed during meal time at home to understand how they might behave during meals at school. One of the classroom practice themes highlighted in the qualitative data was learning more about language and cultural routines of their Latino DLL

students and families as a way to connect with their students. This classroom practice is positive as it shows a desire to learn more about their students but also implies a lack of knowledge that needs to be addressed and may come into play when rating Latino DLLs on their behavior in class. In this case, it will be important for future research to consider how different kinds of behavior may be perceived through the perspective of another cultural lens.

In conclusion, the significant associations found between classroom language composition in the local and national samples contributed to the growing but limited literature on how children's peers relate to their development. As theorized in the heuristic model, in classrooms with DLLs, interactions might vary depending on classroom environment characteristics, such as classroom language composition. This dissertation added to the literature by being one of the few studies that examined how the language skills of other children in a classroom were related to Latino DLLs' socio-emotional and language development. This dissertation further contributed to this literature by measuring classroom language composition in different ways in the national and local samples and providing multiple explanations for the similar results found in both studies. Finally, additional insights on the associations found in the quantitative data resonate in the qualitative study where teachers emphasized the importance of peer relationships and encouraged friendships among children to facilitate language learning. These significant findings indicate that classroom language composition is a salient characteristic; more work needs to be done on how best to capture this important construct.

Implications for Policy and Practice

Implications for Programs

With the growing number of DLLs entering the educational system in the U.S., it is critical for schools to better address the needs of their culturally and linguistically diverse

students. Currently, many schools offer a variety of approaches to language instruction such as English immersion, bilingual instruction, two-way immersion, and transitional language instruction. However, the reality is that a majority of students continue to attend schools where the language of instruction is English and where the broader state and national U.S. language environment remains predominantly subtractive. Although researchers, federal programs such as Head Start, and other national organizations like NAEYC strongly support the use of children's home language in the classroom, local preschool programs have the enormous responsibility of putting these policy recommendations into practice in ways that are relevant to their community context and with little preparation and support for doing so. This section discusses implications focusing on three challenges programs encounter when supporting DLLs. Table 28 presents an integration summary and program implications across studies.

The first aspect programs should reflect on is how to support their teachers in balancing the use of English and DLLs' home language in the classroom. Research suggests that English proficiency is a critical underlying factor for DLLs' achievement and much research has been devoted to understanding what factors contribute to DLLs' English skills prior to school entry (Palermo et al., 2014). Although English proficiency is an important factor, results from this dissertation show that initial Spanish language skills also play a positive role in DLLs' socio-emotional development. Previous literature recommends that teachers use students' home language in various ways, even when instruction is essentially in English (Goldenberg, Hicks & Lit, 2013). Dissertation results suggest that teachers primarily use Spanish to connect with DLLs socially but the their limited use of Spanish may not be sufficient to increase DLLs' language skills. With this in mind, programs might think of ways to learn how teachers are using Spanish in the classroom in order to better support them. For example, during regular staff meetings

programs can encourage teachers to share their examples of using their students' home language both socially and for instructional purposes. Other teachers can discuss why this strategy was helpful or suggest how the strategy can be improved, as well as consider whether a similar strategy would work or need to be adapted to their own classrooms Another recommendation in the literature is helping teachers identify initial language abilities DLLs bring to preschool to ensure appropriate instruction (Bandel, Atkins-Burnet, Castro, Wulsin, & Putnam, 2012). Programs could ask teachers to document DLLs' initial skills and progress in English and their home language so teachers consider both languages when thinking about how to optimize interactions. In these ways, programs are able to support their teachers as they find ways to use DLLs' home language in the classroom. By valuing DLLs' home languages, programs are able to communicate to teachers that DLLs' home language skills are a strength they should use. These kinds of changes will lead to DLLs' not only maintaining their home language skills but also strengthening their English skills in the process.

The second aspect pertains to the limited amount of teachers who speak their students' home language, a common challenge frequently raised by programs. Although it is unrealistic to expect teachers to become fluent in the home languages of all their students, there might be ways to integrate the home language into the curriculum and offer alternative ways for teachers to learn more about their students' culture and home language and use these insights when teaching (Ballenger, 1992; Oliveira, Gilmetdinova & Pelaez-Morales, 2016). One of the promising findings in the local sample was Spanish talk being significantly related to DLLs' socio-emotional outcomes, even if teachers did not speak Spanish frequently or were not all Native Spanish-speakers. In the qualitative study, Monolingual English and Native Other Language-speaking teachers learned more about DLLs' language while teaching, not only by asking their

co-teachers or parents to translate what they were saying but also by using their DLL students as a resource. Although informal and inconsistent, teachers seemed to find this way of learning Spanish on the job more effective than taking a language class at a separate time. In fact, although several teachers voiced their desire to learn more Spanish, they also expressed concern about whether they could dedicate the extra time to do so. Given this information, it may be helpful for programs to build on this practice of learning language on the job and find ways to document teachers' growing knowledge of their students' home language. For example, teachers can create a class English-Spanish-other language dictionary that teachers and students update as they learn new words from each other during the year. What is important is that programs are able to capitalize on resources, such as Native Spanish-speaking co-teachers and staff, parents, and DLLs, and the existing knowledge their teachers already have about their students and classroom practices they use. If programs can build their collective knowledge of classroom practices that work with DLLs for their context, this can lead to more intentional ways of supporting the optimal development of DLLs.

The third aspect programs should consider is classroom language composition. This dissertation found significant associations in the national and local samples between the language skills of children's peers and their own language and socio-emotional outcomes. As previously discussed, the language skills of the other students in a class will vary based on the number of DLLs enrolled and the home languages represented. Given their particular context, programs need to reflect on what might be the most appropriate ways to form classes given their population of students. For example, in the local sample, the majority of children in a class were Spanish-speaking DLLs. In this context, it may be beneficial to classrooms where DLLs have varying levels of initial English language skills, because classrooms with more DLLs who had

lower initial English language skills had higher Play Disruption scores. Several teachers in the local sample also discussed in the qualitative study how they use their students with stronger language skills to help their students with weaker language skills understand classroom rules and routines. These strategies may work in the context of classrooms where the majority of students come from Spanish-speaking backgrounds but may work differently in a classroom where there are more children who speak varying languages (Palermo et al., 2014). Thus, programs should consider class composition in terms of children's language skills, particularly in a school where the majority of children are DLLs.

Implications for Professional Development

Teacher professional development is another area that programs can reassess to determine if the opportunities available match the needs of their teachers. This section provides three main ideas to help programs find ways to improve professional development opportunities for teachers. First, apart from program-wide workshops where teachers can benefit from the varying experiences of their co-teachers, it may be helpful to also create smaller groups for professional development depending on salient teacher characteristics, such as skills in students' home language. In the case of the local program, teachers' Spanish-speaking skills was a distinguishing characteristic among teachers, where differences between language ideologies and classroom practice emerged. For example, it may be beneficial for Monolingual English-speaking and Native Other Language-speaking teachers to meet and discuss the classroom strategies they use to address their limited Spanish skills in connecting with and supporting their DLL students' learning. Discussions between teachers who have similar experiences might lead to sharing of relevant classroom practices that work with their limited Spanish abilities.

The second professional development idea is to provide training on how to do comprehensive but fairly brief and simple language assessments with DLLs. As this dissertation and research suggest, teachers who have information about their students' initial Spanish and English skills can use this knowledge to guide instruction and interventions for students (Lesaux, 2012). Although teachers will find ways to assess their DLL students' initial English and Spanish skills by themselves informally, as seen in the local sample, it is difficult to determine the accuracy of these observations. By learning how to do language assessments during professional development, programs and teachers can have a standard way of assessing DLLs' initial language skills and use this as a starting point to document the progress of their students. It will be beneficial for DLLs if programs can find multiple ways to capture information about DLLs' home language and English skills at key times in the school year.

The last professional development idea focuses on ways for teachers to reflect on their language ideologies and possible connections to their teaching. For instance, if teachers believe that children, including DLLs, learn easily, this may lead to teachers not differentiating instruction or making explicit links between DLLs' two languages. Another language ideology was the idea that language exposure was important for language learning, and research shows that learning the meaning of a word requires multiple exposures (Tomasello, 2008). However, not all exposures are equally effective and children benefit the most when new words are explicitly presented in meaningful contexts, such as during conversations (Ruston & Schwanenflugel, 2010). If teachers are not able to make these distinctions with this language ideology, they may decide to unnecessarily prolong exposure to simple words and not provide DLLs opportunities to have more complex interactions. Thus, reflecting on their personal

language ideologies and connecting these with classroom practices will help teachers become more aware and intentional with their teaching.

Limitations and Future Directions

Although this dissertation had several strengths in its use of multiple methods, there were limitations for understanding the relations between teacher-child interactions, classroom context, and DLLs' school readiness. First, in terms of generalizability, the data used in this dissertation focused on low-income Latino children who attended Head Start and were considered sequential DLLs. Findings are specific to this population and might not be generalizable to children in other early childhood settings, to DLLs who do not identify as Latino, to Latino children in other income groups, or to low-income Latino children who acquired multiple languages simultaneously. Although acknowledging the importance of home factors in children's development, this dissertation focused on classroom-related factors and discussed home and family factors in relation to classroom-related factors to further how teachers can find ways to connect with parents and learn more about their students' home language and culture. Previous research has shown the importance of the home environment in predicting initial language skills of DLLs (Hindman & Wasik, 2015) and future work should continue to examine home and family factors related to DLLs' development. In addition, although multiple methods are helpful in thinking about complex questions, the national and local studies in this dissertation are not comparable, because the two samples varied in terms of scope (nationally representative sample of programs versus one local program) and several demographic characteristics of the low-income Latino DLL population, such as country of origin, parent education, and parent employment (Wildsmith, Ansari & Guzman, 2015). Latinos in the U.S. represent a variety of countries, immigrant, and language experiences that might be linked to differences in outcomes.

It is also important to note that the national and local quantitative sample specifically focused on Spanish use by lead teachers. Focusing on lead teachers kept the examinations of interactions consistent in both studies, but future research should include DLLs' interactions with teacher assistants. Previous research has shown differences between teachers and teacher assistants in the practices they endorse in the classroom and how they might behave differently in their interactions with children (Han & Neuharth-Pritchett, 2010). Teacher assistants also tend to be more representative of the communities to which children belong (McWayne, Sekino & Fantuzzo, 2005).

Although many important contributions to our current understanding of dual language development can be made with the measures of language used in this study, another limitation is related to the language measures used. There is still great need for psychometrically sound measures of language proficiency normed on dual language children. For example, in FACES 2009, the Spanish receptive language assessment was normed with children living in Mexico and Puerto Rico in the mid-1980s (West et al., 2011). In addition, measures for initial English and Spanish skills used only two of five available subtests of the PreLAS. Thus, these assessments of initial skills provided only an estimate of DLLs' initial language skills rather than a comprehensive or absolute level. Nevertheless, this assessment provided an indication of the initial English and Spanish skills DLLs entered preschool with and future work should consider ways of measuring DLLs' language skills that are both comprehensive and fairly brief and simple to administer.

Another limitation was the exclusion of variables important for DLLs' development. One of the other important classroom environment characteristics identified in the heuristic model was activity structure. Prior research has suggested that teacher-child interactions may differ

depending on the area of the classroom where conversations take place, referred to as activity structure (Dickinson, Darrow & Tinubu 2008; Jacoby & Lesaux, 2014). Whereas the national sample included two activity structures in the model, Spanish use during whole group instruction and reading, findings were not significant and may be the result of other activity structures where teacher-child interactions take place, such as teacher-directed small group and center time (Limlingan, Miller, Dong, McWayne, Mistry, Zan, Brenneman & Greenfield, 2014). Jacoby & Lesaux (2014) found that extended discourse with teachers was most likely to occur during small-group, teacher-led activity compared to other areas in the classroom. Although the local sample collected more information on several activity structures, such as whole group activity, small group activity, free choice/centers, routines, individual time, meals/snacks, and recess/outside, the variables were not included because of how this data was coded. Codes were not mutually exclusive and it was difficult to determine the specific teacher-child interactions that took place for a particular observation. It will be important for future work to include different class activity structures in its analysis of teacher-child interactions with DLLs but more work needs to be done in thinking of methods to measure activity structures in ways that can be used for analysis.

Finally, although the three studies provided more nuanced information about the relations between teacher-child interactions, classroom context, and DLLs' school readiness skills, this dissertation was unable to examine developmental trajectories of DLLs with cross-sectional data, using only two waves of the four waves of data in the national sample and having collected data at only two points in the local sample. Given the research that shows that suggest that DLLs need at least 4 years of schooling in L1 and L2 to achieve on grade level in either of their two languages (Thomas & Collier, 2002), future research should examine outcomes longitudinally. If

studies are able to collect data on sequential DLLs over longer periods of time, this will provide a clearer picture of the developmental trajectories of DLLs (Páez, Tabors & Lopez, 2007).

Conclusions

In the last few years increasing attention has been paid to how DLLs' developmental trajectories may be distinct from that of their monolingual peers (Halle et al., 2014). Limitations notwithstanding, this dissertation adds to the existing literature by examining the contribution of teachers' Spanish interactions and classroom language composition on Latino DLLs' language and socio-emotional skills. Both national and local studies contribute to the literature by describing distinct features of teacher-child interactions, an important proximal process in DLLs' development. These features include teachers' Spanish use and children's initial English and Spanish language skills and classroom language composition. On the other hand, the qualitative study illuminated teachers' language ideologies, a broader contextual factor, and how these might be linked to classroom practice and teacher-child interactions. Distinct patterns also emerged in the qualitative study that suggest that teachers may differ in language ideologies and classroom practices based on their Spanish-speaking abilities. Much more work remains and future research should further examine the relations between teacher-child interactions, classroom language context, and teacher language ideologies to better understand the distinct developmental trajectories of DLLs.

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Table 1

FACES 2009 Child and Family Characteristics for Latino Subsample

Characteristics	n = 730	
	N	*%*
Child Gender		
Male	369	51%
Child Ethnicity		
Latino	730	100%
Child has an IEP		
Yes	8	1%
Child Country of Birth		
United States	679	93%
Mother Education		
HS Diploma/GED or higher	271	37%
Mother Employment		
Working full or part time	254	35%
Parent Marital Status		
Married	306	42%
Parent Country of Birth		
Both parents born outside of the United States	578	82%
Mother Country of Origin		
Mexico	443	71%
Language Spoken at home		
Spanish	660	91%

Note. IEP = Individualized Education Plan.

Table 2

FACES 2009 Descriptive for Language and Socio-Emotional Assessments for Latino Subsample

Measure	Fall 09		Spring 2010	
	M	*SD*	*M*	*SD*
PPVT	61.87	20.31	72.29	15.61
TVIP	84.20	13.04	84.21	15.09
SSRS	15.54	4.75	17.79	4.44
Approaches to Learning	1.75	0.71	2.00	0.71

Note. *N* = 730. PPVT = Peabody Picture Vocabulary Test; TVIP = Test de Vocabulario de Imagines Peabody ; SSRS = Social Skills Rating System

Table 3

FACES 2009 Bivariate Correlations for English and Receptive Language Skills for Latino Subsample

Measure	*n*	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.	14.	15.	16.	17.	18.	19.	20.
Outcomes																					
1. Spring PPVT Score	647	--																			
2. Spring TVIP Score	625	.07 *	--																		
Level 1 Predictors	611																				
3. Fall PPVT Score	613	.75 ***	-.02	--																	
4. Fall TVIP Score		.10 **	.56 ***	.08 *	--																
5. Child Gender	730	-.03	-.12 *	-.03	.04	--															
6. Child Age	730	-.01	-.06	-.05	-.47 *	.57 *	--														
7. Initial English Language Screener Score	730	.01	-.03	.00	-.22	.67 *	.69 *	--													
8. Maternal Education	708	.09 *	.12 *	.11 *	.39 *	.12	.16	.30	--												
9. Maternal Employment	693	.05	.09 *	.04	.06	.01	-.01	.04	.08 *	--											
10. Parent Marital Status	727	.06	.06	.02	.03	.08 *	.01	.04	.07 *	-.03	--										
Level 2 Predictors																					
11. CLASS Instructional Support	730	.02	-.04	.02	-.05	-.01	.13 **	.05	-.05	.01	-.02	--									
12. CLASS Emotional Support	730	.06	-.04	.07 *	.03	-.02	-.07 *	.01	-.06	.00	-.01	.52 ***	--								
13. CLASS Classroom Organization	730	.00	-.02	.04	.01	-.08 *	.10 **	.03	-.13 **	-.06	.01	.51 ***	.72 ***	--							
14. Teacher Spanish Use	730	-.08 *	.15 *	-.06	.06	-.05	.01	-.07 *	.02	.10 **	.04	.06	-.09 **	-.03	--						
15. Teacher Spanish Use Whole Group	730	-.03	.02	.02	.03	-.06	.05	.01	.02	.11 **	.03	-.04	-.01	-.14 ***	.23 ***	--					
16. Teacher Spanish Use Reading	730	-.02	.02	-.04	.01	-.04	.06	.00	-.02	.03	.07 *	-.05	-.12 **	-.04	.30 ***	.57 ***	--				
17. % Spanish-Speaking Students in class	730	-.24 **	.13 **	-.08 *	.12 ***	-.07 *	-.07 *	-.06	.02	.06	.02	-.03	-.03	.11 **	.35 ***	.18 ***	.24 ***	--			
18. Teacher Ethnicity	722	-.10 **	.14 **	-.08 *	.06	-.03	.01	.00	.02	.04	-.05	-.07 *	-.08 **	-.03	.58 ***	.13 ***	.17 ***	.51 ***	--		
19. Teacher Work Experience	722	-.04	-.04	-.03	-.04	-.05	.03	-.06	-.05	-.02	.02	-.08 *	-.05	.07 *	-.19 ***	-.08 *	-.05	-.07 *	-.14 **	--	
20. Teacher with DLL Certificate	668	.00	.04	.02	-.04	.00	.01	-.06	-.05	-.07	-.07 *	-.02	.02	.12 ***	.14 ***	.07	-.07 *	.18 ***	.30 **	-.04	--

Note. PPVT=Peabody Picture Vocabulary Test; TVIP= Test de Vocabulario de Imagines Peabody; CLASS= Classroom Assessment Scoring System; DLL=Dual Language Learner

Table 4

FACES 2009 Bivariate Correlations for Social Skills and Approaches to Learning for Latino Subsample

Measure	*n*	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.	14.	15.	16.	17.	18.	19.	20.
Outcomes																					
1. Spring SSRS Score	706	--																			
2. Spring Approaches to Learning Score	706	.74 ***	--																		
Level 1 Predictors																					
3. Fall SSRS Score	711	.60 ***	.54 ***	--																	
4. Fall Approaches to Learning Score	713	.55 ***	.58 ***	.75 ***																	
5. Child Gender	730	-.23 ***	-.23 **	-.20 **	-.21 **	***															
6. Child Age	730	.08 **	.17 ***	.20 **	.17 **	.57 *	--														
7. Initial English Language Screener Score	730	.16 ***	.13 ***	.18 **	.17 **	.67 *	.69 *	--													
8. Maternal Education	708	.07 *	.02	.00	.02	.12	.16	.30	--												
9. Maternal Employment	693	-.08 *	-.06	-.03	-.04	.01	-.01	.04	.08 *	--											
10. Parent Marital Status	727	.07	.05	.10 **	.07	.08 *	.01	.04	.07 *	-.03	--										
Level 2 Predictors																					
11. CLASS Instructional Support	730	.04	.05	.01	-.01	-.01	.13 **	.05	-.05	.01	-.02	--									
12. CLASS Emotional Support	730	.08 *	.11 **	.04	.13 **	-.02	-.07 *	.01	-.06	.00	-.01	.52 ***	--								
13. CLASS Classroom Organization	730	.07	.16 ***	.07 *	.10 **	-.08 *	.10 **	.03	-.13 **	-.06	.01	.51 ***	.72 ***	--							
14. Teacher Spanish Use	730	.07 *	.10 **	.09 **	.05	-.05	.01	-.07 *	.02	.10 **	.04	.06	-.09 **	-.03	--						
15. Teacher Spanish Use Whole Group	730	.02	-.06	.04	.03	-.06	.05	.01	.02	.11 **	.03	-.04	-.01	-.14 ***	.23 ***	--					
16. Teacher Spanish Use Reading	730	.11 **	.07 *	.15 **	.06	-.04	.06	.00	-.02	.03	.07 *	-.05	-.12 **	-.04	.30 ***	.57 ***	--				
17. % Spanish-Speaking Students in class	730	.01	.02	.08 *	.04	-.07 *	-.07 *	-.06	.02	.06	.02	-.03	-.03	.11 **	.35 ***	.18 ***	.24 ***	--			
18. Teacher Ethnicity	722	.06	.07 *	.08 *	.07 *	-.03	.01	.00	.02	.04	-.05	-.07 *	-.08 **	-.03	.58 ***	.13 ***	.17 ***	.51 ***	--		
19. Teacher Work Experience	722	.05	.08 *	.03	.03	-.05	.03	-.06	-.05	-.02	.02	-.08 *	-.05	.07 *	-.19 ***	-.08 *	-.05	-.07 *	-.14 **	--	
20. Teacher with DLL Certificate	668	.07	.07	.02	.06	.00	.01	-.06	-.05	-.07	-.07 *	-.02	.02	.12 ***	.14 ***	.07	-.07 *	.18 ***	.30 **	-.04	--

Note. SSRS=Social Skills Rating System; CLASS= Classroom Assessment Scoring System; DLL=Dual Language Learner
* $p < .05$, ** $p < .01$, *** $p < .001$.

Table 5

FACES 2009 Intraclass Correlations for Intercept Only Model for Latino Subsample

Outcomes	ICC
PPVT	0.13
TVIP	0.01
SSRS	0.21
Approaches to Learning	0.28

Note. N=730. PPVT = Peabody Picture Vocabulary Test; TVIP=; SSRS=Social Skills Rating System

Table 6

FACES 2009 Multilevel Model Results for English Receptive Language

Fixed Effects	Model 1				Model 2				Model 3				
	Coeff	*SE*	*df*	*p*	*Coeff*	*SE*	*df*	*p*	*Coeff*	*SE*	*df*	*p*	*ES*
Intercept	72.51	0.95	145	.001	72.69	0.64	139	.001	73.21	0.69	129	.001	
Level 1													
PPVT Fall Score					11.55	0.56	314	.001	11.44	0.54	313	.001	1.13
Child Gender					-0.63	0.53	314	.232	-0.96	0.49	313	.052	
Child Age					-0.08	0.57	314	.877	0.08	0.60	313	.896	
Initial English Language Screener Score					-0.19	0.47	314	.693	-0.20	0.48	313	.671	
Maternal Education					0.03	0.50	314	.956	0.11	0.51	313	.831	
Maternal Employment					0.70	0.54	314	.198	0.81	0.52	313	.119	
Parent Marital Status					0.96	0.61	314	.117	1.21	0.62	313	.054	
Level 2													
CLASS Instructional Support									-0.39	0.76	129	.604	
CLASS Emotional Support									1.64	1.08	129	.131	
CLASS Classroom Organization									-1.32	0.93	129	.158	
Teacher Spanish Use for Instruction									-0.08	0.77	129	.268	
Teacher Spanish Use with Whole Group									-1.00	0.69	129	.153	
Teacher Spanish Use for Reading									0.49	0.72	129	.501	
% Spanish-Speaking Students in class									-1.61	0.70	129	.024	0.16
Teacher Ethnicity									0.08	0.73	129	.909	
Teacher Work Experience									-0.41	0.63	129	.515	
Teacher with DLL Certificate									-0.13	0.63	129	.832	
Random Effects	*Var*	*chi*	*df*	*p*	*Var*	*chi*	*df*	*p*	*Var*	*chi*	*df*	*p*	
Classroom/Teachers (Level 2)	33.40	246.55	145	.001	12.88	231.1	139	.001	13.33	226.75	129	.001	
Children (Level 1)	217.19				93.13				88.57				
Model Fit													
Deviance (-2LL)		4269.27				3442.375				3423.20			

Note. PPVT=Peabody Picture Vocabulary Test, CLASS= Classroom Assessment Scoring System, DLL=Dual Language Learners

Table 7

FACES 2009 Multilevel Model Results for Spanish Receptive Language

Fixed Effects	Model 1				Model 2					Model 3			
	Coeff	*SE*	*df*	*p*	*Coeff*	*SE*	*df*	*p*	*ES*	*Coeff*	*SE*	*df*	*p*
Intercept	72.51	0.95	146	.001	84.00	0.59	138	.001		83.62	0.60	128	.001
Level 1													
TVIP Fall Score					8.79	0.56	340	.001	0.75	8.87	0.57	340	.001
Child Gender					-0.07	0.61	340	.214		-0.73	0.59	340	.222
Child Age					1.69	0.66	340	.011	0.14	1.69	0.64	340	.009
Initial English Language Screener Score					-0.83	0.59	340	.160		-0.78	0.62	340	.204
Maternal Education					1.13	0.53	340	.034	0.19	1.01	0.51	340	.051
Maternal Employment					0.25	0.67	340	.709		0.33	0.66	340	.622
Parent Marital Status					0.47	0.58	340	.441		0.34	0.57	340	.547
Level 2													
CLASS Instructional Support										0.53	0.74	128	.477
CLASS Emotional Support										-0.34	0.83	128	.681
CLASS Classroom Organization										-0.16	0.86	128	.856
Teacher Spanish Use for Instruction										1.83	0.87	128	.038
Teacher Spanish Use with Whole Group										-0.73	0.55	128	.182
Teacher Spanish Use for Reading										-0.42	0.62	128	.505
% Spanish-Speaking Students in class										0.96	0.59	128	.102
Teacher Ethnicity										-0.58	0.78	128	.459
Teacher Work Experience										-0.71	0.62	128	.249
Teacher with DLL Certificate										0.77	0.60	128	.201
Random Effects	*Var*	*chi*	*df*	*p*	*Var*	*chi*	*df*	*p*		*Var*	*chi*	*df*	*p*
Classroom/Teachers (Level 2)	0.50	169.4	146	.090	3.50	149.9	138	.230		0.34	133.94	128	.342
Children (Level 1)	224.41				137.36					135.81			
Model Fit													
Deviance (-2LL)		4423.94				3783.71					3767.25		

Note. TVIP=Test de Vocabulario de Imagines Peabody, CLASS= Classroom Assessment Scoring System, DLL=Dual Language Learners

Table 8

FACES 2009 Multilevel Model Results for Social Skills

Fixed Effects	Model 1				Model 2					Model 3			
	Coeff	*SE*	*df*	*p*	*Coeff*	*SE*	*df*	*p*	*ES*	*Coeff*	*SE*	*df*	*p*
Intercept	17.801	0.273	144	.001	17.97	0.22	139	.001		18.08	0.22	129	.001
Level 1													
SSRS Fall Score					2.40	0.20	381	.001	0.71	2.37	0.19	380	.001
Child Gender					-0.77	0.16	381	.001	0.45	-0.79	0.17	380	.001
Child Age					0.09	0.18	381	.630		0.05	0.19	380	.774
Initial English Language Screener Score					-0.12	0.18	381	.495		-0.11	0.18	380	.528
Maternal Education					0.42	0.19	381	.028	0.25	0.41	0.18	380	.026
Maternal Employment					-0.13	0.22	381	.570		-0.11	0.23	380	.634
Parent Marital Status					0.07	0.20	381	.741		0.09	0.20	380	.665
Level 2													
CLASS Instructional Support										0.08	0.31	129	.810
CLASS Emotional Support										0.35	0.32	129	.274
CLASS Classroom Organization										-0.22	0.37	129	.532
Teacher Spanish Use for Instruction										0.23	0.20	129	.247
Teacher Spanish Use with Whole Group										-0.20	0.26	129	.458
Teacher Spanish Use for Reading										0.44	0.28	129	.122
% Spanish-Speaking Students in class										-0.54	0.24	129	.026
Teacher Ethnicity										-0.25	0.26	129	.344
Teacher Work Experience										0.16	0.17	129	.351
Teacher with DLL Certificate										0.35	0.22	129	.113
Random Effects	*Var*	*chi*	*df*	*p*	*Var*	*chi*	*df*	*p*		*Var*	*chi*	*df*	*p*
Classroom/Teachers (Level 2)	3.56	289.415	144	.001	2.24	268.244	139	.001		1.63	236.07	129	.001
Children (Level 1)	14.76				9.31					9.40			
Model Fit													
Deviance (-2LL)		3232.867				2755.56					2742.14		

Note. N=730. SSRS= Social Skills Rating SystemCLASS= Classroom Assessment Scoring System, DLL=Dual Language Learners

Table 9

FACES 2009 Multilevel Model Results for Approaches to Learning

Fixed Effects	Model 1				Model 2				Model 3				
	Coeff	*SE*	*df*	*p*	*Coeff*	*SE*	*df*	*p*	*Coeff*	*SE*	*df*	*p*	*ES*
Intercept	1.974	0.046	144	.001	2.00	0.04	139	.001	2.00	0.04	129	.001	
Level 1													
Approaches to Learning Fall Score					0.38	0.04	380	.001	0.35	0.04	380	.001	4.17
Child Gender					-0.10	0.03	380	.001	-0.10	0.02	380	.001	2.38
Child Age					0.07	0.04	380	.103	0.06	0.04	380	.148	
Initial English Language Screener Score					0.00	0.02	380	.981	0.00	0.02	380	.830	
Maternal Education					0.01	0.03	380	.644	0.01	0.03	380	.716	
Maternal Employment					0.00	0.03	380	.993	0.00	0.03	380	.878	
Parent Marital Status					0.02	0.03	380	.375	0.02	0.03	380	.383	
Level 2													
CLASS Instructional Support									-0.04	0.05	129	.467	
CLASS Emotional Support									0.09	0.07	129	.194	
CLASS Classroom Organization									0.02	0.06	129	.784	
Teacher Spanish Use for Instruction									0.16	0.05	129	.003	3.80
Teacher Spanish Use with Whole Group									-0.07	0.05	129	.153	
Teacher Spanish Use for Reading									0.05	0.05	129	.319	
% Spanish-Speaking Students in class									-0.08	0.04	129	.046	0.95
Teacher Ethnicity									-0.08	0.05	129	.105	
Teacher Work Experience									0.03	0.04	129	.357	
Teacher with DLL Certificate									-0.01	0.04	129	.777	
Random Effects	*Var*	*chi*	*df*	*p*	*Var*	*chi*	*df*	*p*	*Var*	*chi*	*df*	*p*	
Classroom/Teachers (Level 2)	0.12	345.46	144	.001	0.11	139	390.63	.001	0.08	326.16	129	.001	
Children (Level 1)	0.346				0.21				0.21				
Model Fit													
Deviance (-2LL)		1124.10				816.92				792.63			

Note. N=730. CLASS= Classroom Assessment Scoring System, DLL=Dual Language Learners

Table 10

Primary Quantitative Data Family and Child Demographics

Demographic Variable	N = 162	
Mean Age (SD)	4.23 (.60)	
Child Gender		
Female	71	(44 %)
Caregiver Education		
No formal schooling	18	(11%)
Some elementary school	15	(9%)
Completed elementary school	29	(18%)
Some middle school and high school	19	(12%)
High school diploma or GED	55	(34%)
Some college or 2-year college	19	(12%)
Bachelor's degree or higher	6	(4%)
Employment		
Works full time or part time	106	(65%)
Family Structure		
I live alone with the child	34	(21%)
I live with the father of the child	92	(57%)
I live with the family	31	(19%)
I don't live with the child	1	(.6%)
Primary Language Spoken at Home		
English	3	(2%)
Spanish	99	(61%)
Both English and Spanish	58	(36%)
Spanish and Other	1	(.6%)
Birth Country		
Not United States	153	(94%)
Country of Origin		
El Salvador	100	(62%)
Columbia	17	(11%)
Honduras	11	(7%)
Dominican Republic	8	(5%)
Other Countries	15	(9%)
Mean # years in the US (SD)	10.59	(5.7)

Table 11

Primary Quantitative Data Teacher Characteristics

Demographic Variable	N = 11	
Gender		
Female	11	(100%)
Ethnicity		
Latino or Hispanic	5	(46%)
White	4	(36%)
Black or African American	1	(9%)
Asian	1	(9%)
Education		
Associate's degree or professional certificate	5	(46%)
Bachelor's degree	6	(54%)
Country of Birth		
United States	5	(46%)
Not United States	6	(54%)
Mean # years in the US (SD)	26.67	(3.56)
Spanish Proficiency		
Not All Well	1	(9%)
Not Well	3	(27%)
Well	2	(18%)
Very Well	5	(46%)
Mean # of years working with preschool DLLs (SD)	16.27	(16.51)

Table 12

Primary Quantitative Data Means for Language and Socio-Emotional Outcomes

Child Outcomes	Fall 2014			Spring 2015		
	n	M	SD	n	M	SD
PLS Auditory Comprehension	95	103.78	15.15	95	99.81	12.51
PLS Expressive Communication	95	97.01	17.05	95	96.61	14.47
General Behavior LTLS	148	55.77	9.18	141	59.12	9.00
Play Interaction	131	50.45	10.55	136	55.28	9.91
Play Disruption	131	47.02	11.21	136	46.98	10.38
Play Disconnection	131	50.04	9.71	136	48.00	10.25

Note.PLS = Preschool Language Scale, LTLS = Learning to Learn Scale

Table 13

Primary Quantitative Data Bivariate Correlations for Receptive and Expressive Language Skills

Measure	*n*	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.
Outcomes												
1. Spring EC Score	95	--										
2. Spring AC Score	95	.64 ***	--									
Level 1 Predictors												
3. Fall EC Score	95	.42 ***	.54 ***	--								
4. Fall AC Score	95	.54 ***	.57 ***	.47 ***	--							
5. Child Gender	162	.10	.22 *	.24 *	.25 *	--						
6. Initial English Language Level	161	.33 ***	.16	.33 ***	.25 *	.16 *	--					
7. Initial Spanish Language Level	152	-.01	.09	.29 **	-.09	.17 *	.19 *	--				
8.Parent Years in the U.S.	149	.20	-.13	.00	.08	.06	.22 **	-.11	--			
9. Teacher Spanish Talk	103	-.04	.13	-.06	.16	.14	-.25 *	-.17	-.11	--		
Level 2 Predictors												
10. Teacher Ethnicity	162	-.13	.10	.09	.08	.06	-.05	-.06	-.05	.32 **	--	
11. % Students Failed English PreLAS	162	.07	-.10	.06	.00	-.07	-.24 **	-.10	-.23 **	.41 **	-.03	--

Note. AC=Auditory Comprehension. EC=expressive communication.
* $p < .05$, ** $p < .01$, *** $p < .001$.

Table 14

Primary Quantitative Data Bivariate Correlations for Socio-Emotional Skills

Measure	*n*	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.	14.	15.
Outcomes																
1. Spring LTLS Score	141	--														
2. Spring Play Intxn Score	136	.73 ***	--													
3. Spring Play Disrupt Score	136	-.45 ***	-.53 **	--												
4. Spring Play Discon Score	136	-.58 ***	-.54 **	.57 **	--											
Level 1 Predictors																
5. Fall LTLS Score	148	.73 ***	.55 ***	-.43 ***	-.41 ***	--										
6. Fall Play Intxn Score	131	.53 ***	.55 **	-.54 **	-.43 **	.71 ***	--									
7. Fall Play Disrupt Score	131	-.39 ***	-.43 *	-.37 **	0.62 **	-.48 ***	-.56 *	--								
8. Fall Play Discon Score	131	-.42 ***	-.37 *	.47 **	.44 **	-.54 ***	-.51 *	.67 ***	--							
9. Child gender	162	.25 **	.23 **	-.13	-.17 *	.48 ***	.23 **	-.23 **	-.20 *	--						
10. Initial English Level	161	.42 **	.27 **	-.11	-.18 *	.37 ***	.23 **	-.12	-.17 *	.15 *	--					
11. Initial Spanish Level	152	.26 **	.23 **	-.15	-.22 *	.29 ***	.26 **	-.13	-.16	.17 *	.19 *	--				
12. Parent Years in the U.S.	149	-.13	-.03	.13	.08	-.03	-.12	.23 **	.08	.05	.22 **	-.11	--			
13. Teacher Spanish Talk	103	-.10	.05	.15	.25 *	-.13	-.09	.05	.11	.14	-.11	-.17	.11	--		
Level 2 Predictors																
14. Teacher Ethnicity	162	.17 *	.40 ***	.03	.40 ***	.13	.29 ***	-.34 ***	-.29 ***	.06	-.05	-.07	-.05	.40 ***	--	
15. Class Composition	162	-.17 *	-.03	.17 *	.32 ***	-.19 *	-.14	.30 ***	.27 **	-.07	-.24 **	-.10	-.23 *	.32 ***	-.03	--

Note. LTLS=Learning to Learn Scale; Play Intxn=Play Interaction; Play Disrupt=Play Disruption; Play Disconn=Play Disconnection; Class Composition= % of DLLs who failed English PreLAS

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

Table 15

Primary Quantitative Data Intraclass Correlations for Intercept Only Model

Outcomes	**ICC**
PLS-AC	.001
PLS-EC	.166
LTLS	.437
PIPPS – Play Interactions	.289
PIPPS – Play Disruption	.391
PIPPS – Play Disconnection	.362

Note. PLS-AC = Preschool Language Scale Auditory Comprehension; PLS-EC = Preschool Language Scale Expressive Communication; LTLS = Learning to Learn Scale; PIPPS = Penn Interactive Peer Play Scale

Table 16

Primary Quantitative Data Multilevel Model Results for Expressive Language

Fixed Effects	Model 1				Model 2				Model 3				
	Coeff	*SE*	*df*	*p*	*Coeff*	*SE*	*df*	*p*	*Coeff*	*SE*	*df*	*p*	*ES*
Intercept	96.55	2.26	10	.001	96.05	2.49	10	.001	96.05	2.68	8	.001	
Level 1													
EC Fall Score					6.90	1.45	66	.001	6.90	1.46	66	.001	0.51
Child Gender					0.74	1.31	66	.574	0.74	1.32	66	.574	
Initial English Skills					1.13	1.49	66	.451	1.13	1.49	66	.451	
Initial Spanish Skills					-1.08	1.50	66	.475	-1.08	1.51	66	.475	
Parent Years in the U.S.					-0.37	1.55	66	.813	-0.37	1.55	66	.813	
Teacher Spanish Talk					2.08	1.58	66	.193	2.08	1.58	66	.193	
Level 2													
Teacher Ethnicity									0.76	2.68	8	.785	
Classroom Language Composition									1.94	2.60	8	.477	
Random Effects	*Var*	*chi*	*df*	*p*	*Var*	*chi*	*df*	*p*	*Var*	*chi*	*df*	*p*	
Classroom/Teachers (Level 2)	35.30	26.99	10	.001	52.00	10	44.2	.001	62.39	41.10	8	.001	
Children (Level 1)	177.45				120.51				120.59				
Model Fit													
Deviance (-2LL)		768.06				623.208				615.11			

Note. N=95, EC=Expressive Communication, ES= Effect Size

Table 17

Primary Quantitative Data Multilevel Model Results for Receptive Language

Fixed Effects	Model 1				Model 2				Model 3				
	Coeff	*SE*	*df*	*p*	*Coeff*	*SE*	*df*	*p*	*Coeff*	*SE*	*df*	*p*	*ES*
Intercept	99.81	1.16	10	.001	99.92	1.48	10	.001	99.90	1.43	8	.001	
Level 1													
AC Fall Score					5.94	1.47	66	.001	5.94	1.48	66	.001	0.57
Child Gender					0.13	1.27	66	.918	0.13	1.27	66	.918	
Initial English Skills					1.88	1.41	66	.187	1.88	1.41	66	.189	
Initial Spanish Skills					-0.73	1.42	66	.608	-0.73	1.42	66	.609	
Parent Years in the U.S.					2.01	1.46	66	.175	2.01	1.47	66	.176	
Teacher Spanish Talk					0.17	1.49	66	.912	0.17	1.49	66	.912	
Level 2													
Teacher Ethnicity									-2.00	1.43	8	.198	
Classroom Language Composition									-0.92	1.38	8	.526	
Random Effects	*Var*	*chi*	*df*	*p*	*Var*	*chi*	*df*	*p*	*Var*	*chi*	*df*	*p*	
Classroom/Teachers (Level 2)	0.16				9.85	17.07	10	.072	7.97	12.85	8	.116	
Children (Level 1)	156.48	9.44	10	.500	106.72				107.29				
Model Fit													
Deviance (-2LL)						604.709				597.25			

Note. N=95. AC= Auditory Comprehension, ES= Effect Size

Table 18

Primary Quantitative Data Multilevel Model Results for Approaches to Learning

Fixed Effects	Model 1				Model 2				Model 3				
	Coeff	*SE*	*df*	*p*	*Coeff*	*SE*	*df*	*p*	*Coeff*	*SE*	*df*	*p*	*ES*
Intercept	58.39	1.97	10	.001	58.23	2.26	10	.001	58.24	2.34	8	.001	
Level 1													
LTLS Fall Score					4.42	0.88	64	.001	4.42	0.88	64	.001	0.49
Child Gender					-0.04	0.65	64	.956	-0.04	0.65	64	.956	
Initial English Skills					1.26	0.69	64	.073	1.26	0.69	64	.073	
Initial Spanish Skills					1.11	0.74	64	.142	1.11	0.74	64	.142	
Parent Years in the U.S.					1.05	0.79	64	.191	-0.77	0.71	64	.286	
Teacher Spanish Talk					1.05	0.79	64	.191	1.05	0.79	64	.190	
Level 2													
Teacher Ethnicity									2.18	2.36	64	.381	
Classroom Language Composition									-1.48	2.29	64	.535	
Random Effects	*Var*	*chi*	*df*	*p*	*Var*	*chi*	*df*	*p*	*Var*	*chi*	*df*	*p*	
Classroom/Teachers (Level 2)	38.69	99.15	10	.001	52.62	159.82	10	.001	56.85	143.15	8	.001	
Children (Level 1)					26.16				26.16				
Model Fit													
Deviance (-2LL)		742.37				507.047				498.72			

Note. N=162. LTLS=Learning to Learn Scale, ES= Effect Size

Table 19

Primary Quantitative Data Multilevel Model Results for PIPPS Play Interaction

Fixed Effects	Model 1				Model 2				Model 3				
	Coeff	*SE*	*df*	*p*	*Coeff*	*SE*	*df*	*p*	*Coeff*	*SE*	*df*	*p*	*ES*
Intercept	55.16	1.81	10	.001	55.66	2.19	10	.001	55.72	2.04	8	.001	
Level 1													
PIPPS Play Interaction Fall Score					3.42	1.03	63	.001	3.42	1.03	63	.001	0.35
Child Gender					-0.87	0.97	63	.370	-0.88	0.97	63	.370	
Initial English Skills					2.09	0.97	63	.004	2.09	0.97	63	.035	0.22
Initial Spanish Skills					2.52	1.06	63	.020	2.52	1.06	63	.021	0.26
Parent Years in the U.S.					-0.95	1.03	63	.361	-0.95	1.03	63	.362	
Teacher Spanish Talk					2.31	1.16	63	.050	2.31	1.16	63	.050	0.24
Level 2													
Teacher Ethnicity									3.79	2.05	8	.102	
Classroom Language Composition									-0.31	2.02	8	.881	
Random Effects	*Var*	*chi*	*df*	*p*	*Var*	*chi*	*df*	*p*	*Var*	*chi*	*df*	*p*	
Classroom/Teachers (Level 2)	29.75	983.6	10	.001	44.76	69.30	10	.001	37.96	48.65	8	.001	
Children (Level 1)	73.28				55.59				55.62				
Model Fit													
Deviance (-2LL)		982.62				546.188				536.32			

Note. N=162. PIPPS= Penn Interactive Peer Play Scale; ES=Effect Size

Table 20

Primary Quantitative Data Multilevel Model Results for PIPPS Play Disruption

Fixed Effects	Model 1				Model 2				Model 3				
	Coeff	*SE*	*df*	*p*	*Coeff*	*SE*	*df*	*p*	*Coeff*	*SE*	*df*	*p*	*ES*
Intercept	46.95	2.16	10	.001	46.38	2.28	10	.001	45.79	1.38	8	.001	
Level 1													
Play Disruption Fall Score					4.98	1.06	62	.001	4.98	1.06	62	.001	0.63
Child Gender					-0.05	0.86	62	.596	-0.46	0.86	62	.596	
Initial English Skills					-0.90	0.90	62	.319	-0.90	0.89	62	.319	
Initial Spanish Skills					0.55	0.97	62	.575	0.55	0.97	62	.575	
Parent Years in the U.S.					1.79	0.94	62	.062	1.79	0.94	62	.062	
Teacher Spanish Talk					-0.78	1.05	62	.464	-0.78	1.05	62	.463	
Level 2													
Teacher Ethnicity									-4.40	1.38	8	.013	0.56
Classroom Language Composition									4.12	1.37	8	.017	0.53
Random Effects	*Var*	*chi*	*df*	*p*	*Var*	*chi*	*df*	*p*	*Var*	*chi*	*df*	*p*	
Classroom/Teachers (Level 2)	45.24	81	10	.001	50.72	89.834	10	.001	14.05	26.54	8	.001	
Children (Level 1)	70.46				46.36				46.23				
Model Fit													
Deviance (-2LL)	976.91				530.34				513.00				

Note. N=162. PIPPS= Penn Interactive Peer Play Scale; ES=Effect Size

Table 21

Primary Quantitative Data Multilevel Model Results for PIPPS Play Disconnection

Fixed Effects	Model 1				Model 2				Model 3				
	Coeff	*SE*	*df*	*p*	*Coeff*	*SE*	*df*	*p*	*Coeff*	*SE*	*df*	*p*	*ES*
Intercept	48.48	2.09	10	.001	48.86	2.42	10	.001	48.81	2.44	8	.001	
Level 1													
Play Disconnection Fall Score					3.92	1.19	63	.001	3.92	1.18	63	.002	0.36
Child Gender					0.84	1.01	63	.413	0.84	1.01	63	.413	
Initial English Skills					-2.06	1.02	63	.047	-2.06	1.02	63	.047	0.19
Initial Spanish Skills					0.08	1.13	63	.947	0.08	1.13	63	.947	
Parent Years in the U.S.					0.74	1.08	63	.498	0.74	1.08	63	.497	
Teacher Spanish Talk					-1.68	1.21	63	.171	-1.68	1.20	63	.170	
Level 2													
Teacher Ethnicity									-0.01	2.44	8	.998	
Classroom Language Composition									3.44	2.39	8	.187	
Random Effects	*Var*	*chi*	*df*	*p*	*Var*	*chi*	*df*	*p*	*Var*	*chi*	*df*	*p*	
Classroom/Teachers (Level 2)	41.63	69.15	10	.001	55.84	76.81	10	.001	56.18	67.95	8	.001	
Children (Level 1)	73.32				61.03				60.90				
Model Fit													
Deviance (-2LL)						553.918				544.63			

Note. N=162. PIPPS= Penn Interactive Peer Play Scale, ES=Effect Size

Table 22

Primary Qualitative Data Descriptive Information of Teacher and Teacher Assistants

Demographic Variable	N = 22	
Mean Age (SD)	44.72	(12.00)
Gender		
Female	22	(100%)
Ethnicity		
Latino or Hispanic	11	(50%)
White	7	(31%)
Black or African American	1	(5%)
Asian	1	(5%)
Other	2	(9%)
Education		
Some college but no degree	7	(32%)
Associate's degree or professional certificate	8	(36%)
Bachelor's degree	7	(32%)
Birth Country		
United States	8	(36%)
Not United States	14	(64%)
Mean # years in the US (SD)	21.80	(9.21)
Mean # of years working with preschool DLLs (SD)	13.8	(7.74)

Table 23

Primary Qualitative Data Salient Teacher Characteristics related to Supporting DLLs' School Readiness

Latino Teachers	**Non-Latino Teachers**	
Native Spanish Speaking Teachers (n=5 teachers, 6 TAs)	**Native Other Language Speaking Teachers (n=1 teacher, 3 TAs)**	**Monolingual English Speaking Teachers (n= 5 teachers, 2 TAs)**
Language Proficiency • Prior personal experiences learning language at home and in local community • Language learning while at Head Start		
- Described speaking Spanish with family members, relatives and friends in their country of origin and in the United States - Discussed ways they learned English in their home country or when they first immigrated to the US - Described experiences as a Head Start volunteer or parent that helped them learn English	- Described speaking other language with family members, relatives and friends in their country of origin and in the United States - Discussed ways they learned English in their home country or and how the English in the U.S was different from how they were taught. - Described current experiences of learning Spanish as a teacher at Head Start with students, parents and co-teachers	- Described previous exposure to other languages at home but not being able to keep the language - Described current experiences of learning Spanish as a teacher at Head Start with students, parents and co-teachers
Years of Work Experience working with DLLs • Observed within group variation in Spanish speaking families they worked with in terms of country of origin, years in the U.S., education level and English proficiency • Described growing number of children who spoke other languages such as Arabic and Vietnamese • Teachers with over 10 years of experience (n=7) observed shift in community demographics		
- Provided more details about Spanish dialect differences among Spanish-speaking children and families		
Profession Development • Discussed program support in terms of workshops attended and other resources such as having a bilingual co-teacher or family advocate • Teacher wish list included things would like to have in relation to supporting DLLs such workshops focused on supporting parents		
	- Wanting to learn more Spanish	- Wanting to learn more Spanish
Self-Efficacy • Ways teachers improved their teaching practice to support their DLL students such as using Spanish		
- Personal experiences learning English helped better understand students' experiences	- Personal experiences learning English helped better understand students' experiences	

Table 24

Primary Qualitative Data Summary of Teacher Language Ideology Themes

Latino Teachers	**Non-Latino Teachers**	
Native Spanish Speaking Teachers (n=5 teachers, 6 TAs)	**Native Other Language Speaking Teachers (n=1 teacher, 3 TAs)**	**Monolingual English Speaking Teachers (n= 5 teachers, 2 TAs)**
Children learn language with ease (n=17) • Majority of teachers made statements about how young children have an easy time learning language especially compared to adults learning language. • The ease of that young children learned language was usually connected to how DLLs would pick up English quickly. • A few teachers mentioned that DLLs need more time to process what was being said in the classroom.		
- DLLs who had a good foundation in Spanish learned English quicker than those who did not have a good foundation in Spanish		- If DLLs are having difficulty in their home language, they will have difficulty learning English
Language exposure is important for Language learning • Majority of the teachers identified language exposure as necessary for learning a new language • Majority of teachers discussed how DLLS were exposed to English in the classroom by observing class routines, listening and hearing English • Many teachers believed that DLLs spoke home Spanish at home but variation existed in the amount of English depending on parents' proficiency and the environment.		
- Discussed the use of both English and Spanish in the classroom when teaching English		- Assume that Spanish was used at home so they needed model English at school when teaching English
English in school, Spanish at home or as needed • Majority of teachers referenced the school as the place to learn English • Several teachers observed the transition to more English than Spanish at the end of the school year • Several teachers shared how parents asked them to teacher their children English • Teachers explained specific contexts they spoke Spanish to DLLs in school (e.g. beginning of the year or when DLLs didn't seem to understand what was being said in English) • Many teachers allowed DLLs to speak Spanish during specific times at school (e.g. when they could not express themselves in English		
- Raise some challenges parents may have with their children maintaining Spanish at home	- Raise some challenges parents may have with their children	

	maintaining their native language at home	
Making Connections with Children and Parents Facilitate language learning • Teachers encouraged DLLs to make connections through friendships with classmates • Teachers shared that they also strived to make connections with parents		
- Teachers spoke in Spanish to connect with DLLs and their parents	- Teachers discussed looking for ways to connect with DLLs, even if they did not speak their DLL students' home language - Some teachers expressed frustration when they were not able to connect to DLLs or their parents because of language barriers	- Teachers discussed looking for ways to connect with DLLs, even if they did not speak their DLL students' home language - me teachers expressed frustration when they were not able to connect to DLLs or their parents because of language barriers
Once children and parents feel comfortable, they will use English (n=17) • Teachers believed that a level of comfort was needed before children would start speaking English. • Teachers observed that their students with older siblings felt more comfortable speaking English • Teachers also talked about wanting to make their parents feel comfortable communicating with them and using Spanish because this made parents feel more comfortable • A few teachers explained the idea of feeling comfortable before using language to their personal experiences		

Table 25

Primary Qualitative Data Summary of Teacher Classroom Practice Themes

Latino Teachers	**Non-Latino Teachers**	
Native Spanish Speaking Teachers (n=5 teachers, 6 TAs)	**Native Other Language Speaking Teachers (n=1 teacher, 3 TAs)**	**Monolingual English Speaking Teachers (n= 5 teachers, 2 TAs)**
Informal Assessment of DLLs' Language Abilities (n=18) • At the beginning of the school year, many teachers had a general of DLLs' Spanish and English abilities. Several teachers mentioned that most Latino DLLs started school only speaking Spanish. • Many teachers had ideas about when they expected DLLs to start speaking English • Several teachers shared how they knew if DLLs could understand what was being said in English especially when asking DLLs to follow directions and classroom routines • Teachers also seemed to have a sense of parents' English and Spanish abilities.		
- Along with informal assessment, a few teachers also commented about DLLs' level of Spanish and how DLLs feel comfortable speaking Spanish	- Along with informal assessment, a few teachers comment about how DLLs feel comfortable speaking Spanish	
Facilitating Conversations (n=22) • Almost all teachers used translations with DLLs especially if they weren't understood in English • Some teachers allowed DLLs more time to respond so they could process what was being said • Majority of teachers use English when speaking with DLLs to serve as a role model for the language • Many teachers encouraged children to talk with their classmates in any language unless they were in a group where someone did not understand Spanish.		
- Used Spanish to make sure that DLLs understood directions or questions being asked	- Relied on their co-teacher, other Head Start staff and parents to translate information - Sometimes teachers mentioned getting frustrated because of the language barrier	- Relied on their co-teacher, other Head Start staff and parents to translate information - Mentioned occasional frustration because of language barrier
Facilitating Connections using Non-Conversational strategies • Many teachers found visual aids, pictures in books helpful to help DLLs understand words • Many teachers use gestures and ask DLLs to show or point to help understand what was needed • Some teachers discussed how learning classroom routine, (e.g. gesturing to wash hands or using utensils and singing) helped DLLs learn language		

• Observations about how friendships among children facilitate connection and comfort		
- Strategies applied when teaching English to Spanish-speaking DLLs and Non-Spanish speaking DLLs		
Learning about DLLs' Language and Cultural Routines • Learning about DLLs family and incorporating it in class discussion • Asking DLLs to teach them Spanish and parents to give them words and translate things in Spanish • Getting information from parents about things they do at home and asking them to volunteer		
- Learning about their non Spanish-speaking DLLs		

Table 26

Description of Sample Across Studies

Study 1: National Sample (Quantitative)	**Study 2: Local Sample (Quantitative)**	**Study 3: Local Sample (Qualitative)**
• Family and Child Experiences Survey (FACES) 2009 • 730 Head Start Latino children • 200 Lead Teachers	• 162 Head Start Latino children • 11 lead teachers • 73% of families identify as Latino	• 11 lead teachers • 11 teacher assistants • 50% Latino and Spanish/English bilingual

Table 27

Comparison of Measures used to for Constructs in the National and Local Sample

Constructs	**Study 1: National Sample**	**Study 2: Local Sample**
DLLs' Initial Language Skills	• Initial English Language Screener Score • English PreLAS (Duncan & De Avila, 1998)	• Initial English and Spanish Language Screener Level • English and Spanish PreLAS (Duncan and
Teacher-Child Interactions	• Teacher Spanish Use (Teacher Report) • Global Classroom Quality; Class Average (CLASS (Pianta, La Paro & Hamre, 2006)	• Teacher Spanish Talk; Individual Child Level • Language Interaction Snapshot (Atkins-Burnet, Sprachman & Caspe, 2010
Classroom Language Composition	• % of Spanish-Speaking Students (Teacher Report)	• % of Students who failed English Language Screener • English Prelas (Duncan & De Avila, 1998)

Table 28

Integration Summary and Program Implications Across Studies

Child and Family Characteristics	**Teacher-Child Interactions**	**Classroom Language Context**
• DLLs' initial English and Spanish skills uniquely contribute to their socio-emotional outcomes (Collins et al. 2011; Han, 2010) • *What information do programs currently collect On DLLs' English and home Language skills?*	• Teachers' Spanish use establishes social connections with DLLs (Chang et al., 2007) • *How, when and why are teachers using Spanish in the classroom?* • *What are the best ways to support teachers with different levels of Spanish-speaking ability?*	• The initial language skills of other children within a classroom play a role in an individual child's development (Palermo et. al., 2014) • *How do programs make decisions about classroom composition?*

Figure 1

Conceptual Framework of Classroom-Related Factors that Influence Dual Language Learners' School Readiness

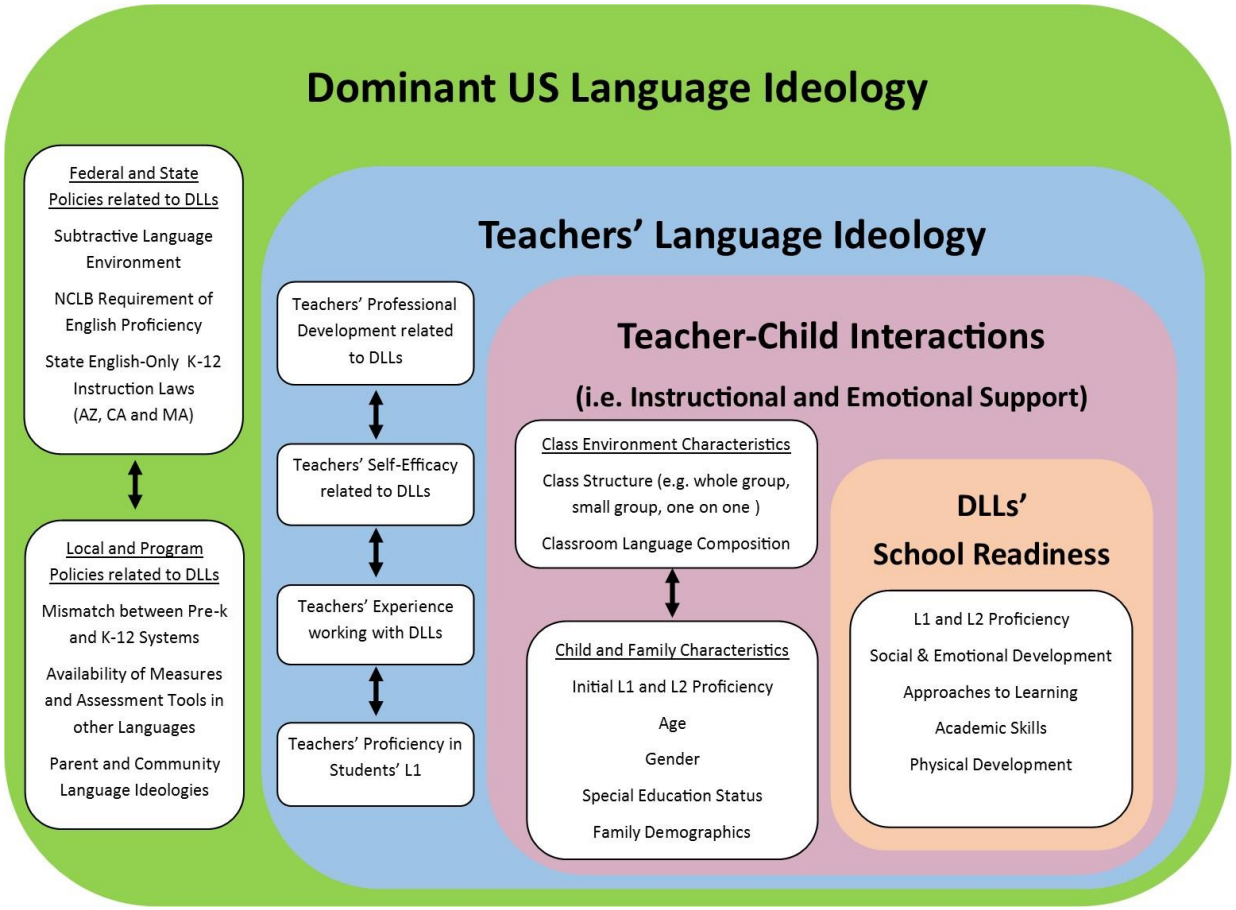

Figure 2

FACES 2009 Multilevel Model of Association between Teacher-Child Interactions, Classroom Context and DLLs' School Readiness

Level-1 Model

$$\textit{Spring Score}_{ij} = \beta_{0j} + \beta_{1j}*(\textit{Fall Score}_{ij}) + \beta_{2j}*(\textit{Child Age}_{ij}) + \beta_{3j}*(\textit{Child Gender}_{ij}) + \beta_{4j}*(\textit{Child Language Screener Score}_{ij}) + \beta_{5j}*(\textit{Maternal Education}_{ij}) + \beta_{6j}*(\textit{Maternal Employment}_{ij}) + \beta_{7j}*(\textit{Parent Marital Status}_{ij}) + r_{ij}$$

Level-2 Model

$$\beta_{0j} = \gamma_{00} + \gamma_{01}*(\textit{Instructional Support}_j) + \gamma_{02}*(\textit{Emotional Support}_j) + \gamma_{03}*(\textit{Classroom Organization}_j) + \gamma_{04}*(\textit{Teacher Spanish Use}_j) + \gamma_{05}*(\textit{Teacher Spanish Use Whole Group}_j) + \gamma_{06}*(\textit{Teacher Spanish Use Reading}) + \gamma_{07}*(\textit{\% Class Spanish Speaking}_j) + \gamma_{08}*(\textit{Teacher Work Experience}_j) + \gamma_{09}*(\textit{Teacher Ethnicity}_j) + \gamma_{010}*(\textit{Teacher DLL Course}_j) + u_{0j}$$

$$\beta_{1j} = \gamma_{10}$$
$$\beta_{2j} = \gamma_{20}$$
$$\beta_{3j} = \gamma_{30}$$
$$\beta_{4j} = \gamma_{40}$$
$$\beta_{5j} = \gamma_{50}$$
$$\beta_{6j} = \gamma_{60}$$
$$\beta_{7j} = \gamma_{70}$$

Figure 3

Primary Quantitative Data Multilevel Model of Association between Teacher-Child Interactions, Classroom Context and DLLs' School Readiness

Level-1 Model

$$Spring\ Score = \beta_{0j} + \beta_{1j}*(Fall\ Score_{ij}) + \beta_{2j}*(Child\ Gender_{ij}) + \beta_{3j}*(Parent\ Years\ in\ US_{ij}) + \beta_{4j}*(Teacher\ Spanish\ talk_{ij}) + \beta_{5j}*(Child\ Initial\ English\ Language\ Level_{ij}) + \beta_{6j}*(Child\ Initial\ Spanish\ Level_{ij}) + r_{ij}$$

Level-2 Model

$$\beta_{0j} = \gamma_{00} + \gamma_{01}*(\%\ of\ DLLs\ who\ did\ not\ pass\ English\ PreLAS_j) + \gamma_{02}*(Teacher\ Ethnicity_j) + u_{0j}$$
$$\beta_{1j} = \gamma_{10}$$
$$\beta_{2j} = \gamma_{20}$$
$$\beta_{3j} = \gamma_{30}$$
$$\beta_{4j} = \gamma_{40}$$
$$\beta_{5j} = \gamma_{50}$$
$$\beta_{6j} = \gamma_{60}$$

Appendix A

Parent Demographic Form

DEMOGRAPHIC QUESTIONNAIRE: FAMILY INFORMATION

1. **Head Start child's date of birth:** _______________
(Month\Day\Year)

2. **Child's Sex:** ☐ Male ☐ Female

3. **Your relationship to child:** ☐ Parent ☐ Step-Parent ☐ Grandparent ☐ Aunt/Uncle ☐ Foster Parent ☐ Other _____

4. **Your age:** _____

5. **Your sex:** ☐ Male ☐ Female

6. **The languages you speak and level of proficiency (check all that apply):**

☐ English	☐ Spanish	☐ Other _____
☐ Do not understand or speak ☐ Can say words or phrases ☐ Can use simple sentences and can understand ☐ Conversational ☐ Native/Fluent	☐ Do not understand or speak ☐ Can say words or phrases ☐ Can use simple sentences and can understand ☐ Conversational ☐ Native/Fluent	☐ Do not understand or speak ☐ Can say words or phrases ☐ Can use simple sentences and can understand ☐ Conversational ☐ Native/Fluent

7. **Total number of adults in your household (including you):** _____

8. **Number of children (0-17 years old) in your household (including Head Start child):** _____

9. **Primary language/s spoken at home:** ☐ English ☐ Spanish ☐ Both ☐ Other (Specify) _____

10. **Formal Education (Please check the highest level you have completed):**
☐ No formal schooling ☐ Some elementary school (# of years): _____
☐ Completed elementary school ☐ Some middle and high school(# of years): _____
☐ High school diploma or GED ☐ Some college, or 2-year college degree(years): _____
☐ Bachelor's degree or higher

11. **Family Structure:** ☐ I live alone with the child(ren)
☐ I live with the father of the child(ren)
☐ I live with family members but not with the father of the child(ren)
☐ I don't live with the child(ren)

12. **Do you work?** ☐ Yes ☐ No **If yes, do you work?:** ☐ Full time ☐ Part Time

13. **Ethnicity:** ☐ Latino/Hispanic ☐ Not Latino/Hispanic

14. **Race:** ☐ Black non-Hispanic ☐ White non-Hispanic ☐ Multiracial
☐ Black Hispanic ☐ White Hispanic ☐ Other

15. **Country of origin:** _____ **If other than the U.S, how many years in the U.S.?**_____

Appendix B

Head Staff Demographic Form and Survey

Personal Background

1. What is your age? _____

2. What is your sex? □ Male □ Female

3. Which of the following ethnicity describes you? (you may choose more than one)
□ Latino or Hispanic
□ White
□ Black or African American
□ American Indian or Native
□ Asian
□ Pacific Islander
□ Other

4. What is your country of birth? _____
If other than the U.S., how many years have you lived in the U.S.? _____

2. What is your highest level of schooling?
□ Some highschool
□ High school diploma or GED certificate
□ Some college but no degree
□ Associate's degree or profesional certificate
□ Bachelor's degree
□ Some gradúate courses but no degree
□ Professional degree (masters, law, medical)

3. What country did you complete your highest level of schooling? _____

4. What certifications or endorsements related to working with DLLs/second language acquisition do you currently hold?
_____

Language Background

5. What is your primary language? (you may choose more than one)
□ English
□ Spanish
□ Other languages (please specify _____)

6. When you speak to someone you don't know, do you speak English….?

□ Not at all, meaning you don't speak English or you can only say a few words
□ Not well, meaning you can say simple sentences and ask simple questions
□ Well, meaning you can carry out a conversation even if takes you extra time or you make some errors
□ Very well, meaning you are a native speaker or have abilites to close to a native speaker

7. When you speak to someone you don't know, do you speak Spanish….?
□ Not at all, meaning you don't speak Spanish or you can only say a few words
□ Not well, meaning you can say simple sentences and ask simple questions
□ Well, meaning you can carry out a conversation even if it akes you extra time or you make some errors
□ Very well, meaning you are a native speaker or have abilites to close to a native speaker

Working with DLLs

8. Including this school year, how many years have you taught preschool children who are dual language learners? That is, children who are exposed to and use a home language in addition to English? _____ Years

9. How do you know which languages are spoken by the families of your children? (you may choose more than one)
□ I get information from the children's enrollment forms
□ I ask parents what languages they and their children speak
□ I observe the children's family members talking
□ I observe the children talking in school
□ I observe the children talking in home.

10. The questions in the next section are about activities conducted with your class. These could be done as a whole group or small group activity.

	Daily	A few times a week	A few times a month	A few times a year	Never n/a
a. How often do you or another adult read books to children in a language other than English?					
b. How often do you or another adult read books to children that reflect different cultural or racial backgrounds?					

c. How often do you or another adult do specific activities to develop the home language of DLLs? In addition to singing songs.					
d. How often do parents of DLLs do activities in their home language with your class or with a small group?					
e. How often do you or another adult work with DLLs in small groups to build their English abilities?					

11. Please indicate how frequently you do each of the following:

	Always	Often	Sometimes	Never n/a
a. I find out about the children's cultures from their families.				
b. I make a special effort to use body language and gestures when I talk to DLLs.				
c. I use pictures and visual props to help DLLs in my class understand what I'm saying.				
d. I encourage parents of DLLs to use English so they can help their children learn English.				
e. I teach vocabulary words in the DLLs' home languages.				
f. I recommend that parents of DLLs speak their home language to their children, even if the parents know English.				

12. Please tell me if you strongly agree, agree, disagree, strongly disagree with each of the following statements even if they don't apply to your class this year:

	Strongly Agree	Agree	Disagree	Strongly Disagree
a. I have a good understanding of best practices for teaching DLLs				
b. I have a good understanding of how children learn two languages				
c. I feel I need more training on how to teach DLLs				
d. I feel confident in my ability to teach DLLs				

e. I am able to communicate effectively with parents who only speak a language I don't know				

13. Please tell me if you strongly agree, agree, disagree or strongly disagree with each of the following statements:

	Strongly Agree	Agree	Disagree	Strongly Disagree
a. Preschool DLLs learn English with minimal support from adults.				
b. DLLs are at greater risk for developing language and/or learning disabilities than children who speak only one language.				
c. DLLs learn English faster when their parents speak to them in English.				
d. Preschool DLLs catch-up to their English-only peers in less than a year.				
e. Teaching DLLs in all English is the best way to get them ready for kindergarten.				
f. DLLs use what they know about their home language to learn English.				
g. Learning two languages confuses children, which delays their cognitive and language development.				
h. Use of DLLs' home languages in the classroom helps them learn English.				
i. At the beginning of the school year, DLLs are uncomfortable in classrooms that use English for instruction.				
j. Parents of DLLs should speak their home language to their children, even if they know English.				

Appendix C

Head Start Staff Language Ideologies
Interview Guide

Thank you for taking the time to speak with me. My name is XX and this project hopes to better understand practices that support the social and emotional development of children learning two languages or DLLs.

Your participation is completely voluntary and your employment will not be affected by your decision to participate or your willingness to answer questions. You are also free not to answer particular questions or stop the interview at any time without problem.

I would like to audio record the interview so we can accurately capture your views and so I can focus on talking with you rather than taking notes. You can ask me to turn it off at any time.

Your responses are completely confidentially and will only be reported in summarized findings. Only I/members of the research team will have access to interview notes. Interview files will be kept on a password protected computer and will be erased 5 years after project completion. In addition, information will have code numbers and not names.

There are no physical or emotional risks beyond the risks of daily life in completing this interview. There are no direct benefits to you but you are helping inform the field related to DLLs.

Do you have any questions at this point?
Can I have permission to audio record the interview?
For the record, do I have consent to proceed with the interview and permission to record it? If you have no questions, we can begin.

	Questions	**Objective**
Opening	1. Tell us your name, position and how long you've been working at Head Start	Introduction
Introductory	2. Tell me about your language background • What is the linguistic heritage of your family? • What experiences and exposure have you had with other languages?	Teachers' language proficiency in students' home language

	• What is your proficiency in the different languages you know in terms of understanding, speaking, reading and writing? 3. What experiences/messages did you get about speaking your home language in school and in other places?	
Key Questions	4. Tell me your experiences working with children who speak two or multiple languages.	Teachers' experience working with DLLs
	5. Describe the language backgrounds of the children you currently teach. • What languages do your students understand and/or speak? • Can you give an estimate of how many children in your class speak, Spanish and English fluently?	Teachers' experience working with DLLs
	6. How do you incorporate/address the multiple languages of children when you teach? 7. What are the common issues you face when handling children with multiple languages? 8. What kinds of support are available to you related to working with DLLs? • Have you attended any professional development related to teaching DLLs and second language acquisition?	Professional development related to teaching DLLs and second language acquisition
	9. Can you give an example of a "breakthrough" (success) you had working with one of you students who are DLLs? • Give an example of when you felt you made a real difference working with your students who are DLLs	Teacher self-efficacy

	10. Can you give an example of a challenge you faced in teaching DLLs? • What would you suggest as ways to address this challenge? • What things do you think could have been done differently?	
Ending	11. Is there anything we have not discussed that you think is important to know related to teaching DLLs? Thank you for taking the time to speak with me today!	

Appendix D

Teacher Language Ideologies Qualitative Codebook

Research Question: Using Qualitative methods, what are teachers' language ideologies and how are these reflected in their classroom practice?

I. Initial Themes prior to Conducting Teacher Interviews

1. Teachers' language proficiency
2. Teachers' experience working with DLLs
3. Teachers' professional development
4. Teachers' self-efficacy

II. Themes from Preliminary Coding of Teacher Interviews

5. Teachers' language ideologies related to DLLs and second language acquisition
    a. Teachers' understanding of how DLLs are learning English and their home language
    b. Teachers' observations of the social aspect of language learning
6. Different strategies teachers use in the classroom working with DLLs
    a. Gauging DLLs' language abilities
    b. Helping DLLs feel comfortable in the classroom
7. Teachers' language ideologies related to parents and the community
    a. Messages about language/language development teachers convey to parents of DLLs
    b. Teachers assumptions/beliefs about how parents influence their DLL children's development
    c. Personal experiences related to parents and the community

<u>I. Initial Themes</u>

A. Teachers' language proficiency

Working Definition: How comfortable teachers are understanding, speaking, reading and writing in Spanish

- Might include how they learned the language from their personal life
- Also include their personal reasons for why they decided to learn a language or not
- Also the same as language background
- Includes elementary, high school and college courses taken
- Also includes the when they use their different languages (e.g. at home, certain settings etc.)
- Also includes challenges they have with children because they are unable to speak the language
- trying to understand what children were saying in Spanish

B. Teachers' experience working with DLLs

Working Definition: Teachers' professional experiences that include students who speak multiple languages

- Includes both previous and current work experiences
- Includes information about the different populations teachers have worked with

C. Professional development

Working Definition: Any formal learning experiences(e.g. workshop, conference, training) teachers have had related to working with DLLs

- Can include any ESL classes taken
- Include things that they wish they had related to professional development, such as having other teachers speak Spanish, including Spanish in daily curriculum
- Also include responses related to professional development if they don't know, or are not sure
- Support from family advocate
- Additional resources for IEPs
- Mentorship

D. Teacher self-efficacy

Working Definition: Belief in their ability to accomplish instructional tasks that lead to desirable positive changes in students' behavior and achievement. For example, self-efficacy influences the way teachers view students who are exhibiting difficulty developing skills in certain areas of instruction. Rather than seeing this difficult as the fault of their students, teachers with high levels of self-efficacy attribute this difficulty to their teaching methods and adjust their methods accordingly

- Includes teacher adjusting their teaching methods for DLLs and statements that show believe in their abilities as teachers
- Includes statements that refer to themselves or other teachers can influence their students' development
- If they give examples of the time they help a child they need to specifically talk about their role and how they personally helped.

II. Preliminary Themes

A. Teachers' Language Ideologies Related to DLLs' language development and second language acquisition (more abstract)

1. Teachers' understanding of how DLLs are learning multiple languages

   Working Definition: Teachers knowledge and beliefs about how DLLs learn their two languages and how children learn language in general (What do teachers know about how DLLs learn?)

   Examples:

   - Young children learn a new language easily ("children are like sponges")
   - Exposure to English is an important factor for learning English

- Latino DLLs who have a good foundation in Spanish will speak English better
- Parents' proficiency in their home language relates to how quickly children learn English

2. Teachers' observations of the social aspect of language

Working definition: Things teachers observe about language learning based from their personal or professional experience (What do teachers notice about how children act socially in the classroom related to language learning?)

Examples:

- Children are more comfortable expressing feelings, particularly extreme emotions such as excitement, sadness in their home language
- Difference between understanding a language and being able to express oneself in a language. In order for DLLs to express themselves in their second language, they need to feel comfortable.
- Older siblings help DLLs learn English faster because DLLs practice speaking with them.
- Home language as a way of connecting with family and religion
- Teachers' feeling their children know of their ability to speak Spanish and English
- Children are frustrated when they can't communicate with peers and teachers
- How children are nervous to speak in English

B. Different strategies teachers use in the classroom working with DLLs (more concrete)

1. Informal Assessment of DLLs' language abilities

Working Definition: Things teachers do to be able to learn more about their students' language skill in English and their home language

Examples:

- Observing DLLs' pronunciation skills in Spanish (even if teacher has limited Spanish proficiency)
- Teaching appropriate Spanish vocabulary in school
- Describing abilities of children in Head Start program their first year compared to their second year

2. Implementing activities that support DLLs in the classroom (formerly helping DLLs feel comfortable in the classroom)

Working Definition: Things teachers do or say to help DLLs adjust to the classroom. May overlap with gauging DLLs' language abilities but this code is separate because sometimes teachers may do an activity or strategy without really knowing more about the

child's skill level. (how are teachers connecting with DLLs to make them feel at ease in the classroom?)

Examples:

- Translating directions, stories and songs in Spanish and English
- Using gestures, visual aids and role modeling · Allowing children to express their ideas in their home language
- Using older classmates to translate and guide younger children
- Having one teacher speak mostly English while the other speaks mostly Spanish
- Explaining to children that just like they are learning English, teacher is learning Spanish and it is okay to make mistakes
- Familiarizing DLLs with classroom routines (e.g. singing common English songs during morning circle time)

C. Teachers Language Ideologies Related to Parents and the Community

1. Messages about language/language development teachers convey to parents of DLLs

Working Definition: Things teachers say to their students' parents related to language learning and how DLLs learn. Examples based on real experiences teachers have had, talking about specific example with particular parents; can also include strategies they have used with parents

Examples:

- Use Spanish at home and English at school
- Keep on talking with you children in any language
- Try to talk to your children so you can emphasize sounds and pronunciation of words
- Things teachers say or do to help parents feel comfortable with them
- Direct experiences/interactions teachers have with parents, often during home visits
- Parents volunteering in the classroom

Example from Interview:

So the parents do you think they speak better than others? Do you think they can understand English or …] some can understand more than others [okay] and you can tell in a home visit. Then when the mother nods and when the father nods [okay I see] because they don't understand. Xx you go you understand. And when I do the home visit, and they can talk I can write things down when they are speaking Spanish to my co-teacher because I understand more than I can say [okay] and then they laugh, she understands me, yeah watch out [I laughs] you know just to joke around and lighten up the mood.

2. Teachers assumptions/beliefs about how parents influence their DLL children's development

Working Definition: Things teachers observe about the parents of their DLL students but not necessarily tell the parent. more general statements about parents in their class or in the program.

- Making statements related to how parents do not have the opportunity because they don't feel encouraged – money issues, legal status

3. Personal experiences related to parents and the community

Working Definition: experiences teachers have with their own parents, families and community related to learning another language

- Talking how her mom pushed her to learn here
- Comments related to if you live in the US, you have to communicate
- Experiences living in another country
- Experiences raising their own children
- Talking about her sister and brother being in the US before her
- Ability of her granddaughter to speak English vs. Spanish
- Experiences in home country
- Expectations in speaking English when living in the US

Appendix E

Parent Consent Form

CONSENT TO PARTICIPATE IN RESEARCH STUDY
Head Start Parent

PRINCIPAL INVESTIGATOR: Maria Cristina Limlingan, M.S. Ed
CONTACT DETAILS:
Eliot Pearson Department of Child Development
105 College Ave,
Medford, MA 02155
Tel: (434) 466-2135 Email: maria.limlingan@tufts.edu

STUDY TITLE: More than Words: The Relations between Teacher-Child Interactions, Classroom Context and Latino Dual Language Learners' (DLLs) School Readiness

PURPOSE AND DURATION: You have been invited to take part in a study to better understand practices that can support the socio-emotional developement of dual language learners (DLLs). This project is expected to begin in the fall 2014 and end spring 2016.

PROCEDURES:

If you agree to be in the study, we will ask you and your child to do the following:

1. During the school year, your child will participate in assessments focused on their literacy skills with a trained member of our research team. During this time, a member of the research team will work individually with your child for approximately 30-45 minutes. Research team members will work with the teacher to ensure that the child assessments will not be conducted during primary instructional time and cause minimal disruption to classroom routine.

2. During the school year, your child will be in classrooms where trained members of the research team will conduct classroom observations focused on teacher-child interactions and how language is used in everyday classroom activities. These observations will last the whole morning. Your child's teacher will be informed ahead of time so the observations will not interfere with any planned lessons. At the beginning of class, with the assistance of the teacher, the assessors will introduce themselves to your child to explain why they are visiting the classroom.

   In addition, some observations may be videotaped to accurately capture teacher-child interactions and assist in analyzing observations. These videos may also be shown in conferences and presentations. Before any videotaping happens, teachers will be informed ahead of time to make sure it causes minimal disruption to the classroom.

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3. We would like to ask for your participation by completing a brief demographic questionnaire about you, your child, and your family. Families are children's most important "teachers" and you have unique information about your child that is important to include,

RISKS AND DISCOMFORT: It is possible that a parent or child will report risk of imminent harm to self or others. Exceptions to confidentiality may occur in the case of reporting imminent harm to themselves or the child or others or in case of report child or elder abuse or neglect. In cases of such abuse, research staff will be required to report this to the Principal Investigator who will then be in touch with her faculty advisor and program director immediately.

BENEFITS: Although you will receive no direct benefits, the study may help us understand more about supporting the learning of Head Start children who are dual language learners.

CONFIDENTIALITY: The information you give us will be kept private. The team will not report any individual information, so none of the information you personally give the team will be shared with anyone at Head Start or with others outside the program. All the information will have code numbers and not names, and any reports or presentations will only talk about the children and families as a group. Video recordings and photographs will be kept in password protected computers.

COMPENSATION: Your child will receive a sticker for participating in the assessments.

REQUEST FOR MORE INFORMATION: You may ask more questions about the study at any time. Please e-mail the principal investigator maria.limlingan@tufts.edu or telephone (434) 466-2135 with any questions or concerns about the study. In addition, you may contact Lara Sloboda at the Office of the Institutional Review Board at (617) 627-3417.

WITHDRAWAL OF PARTICIPATION: Please know that taking part in the study is *voluntary*; you do not have to take part in this study. If you do decide to take part, you may choose to stop at any time. If you choose not to take part or to stop taking part, this choice will not affect your relationship with your Head Start Staff or on any services you or your child receive at the Head Start Center. You have the right to skip or not answer any questions you prefer not to answer.

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PARENT CONSENT FORM

Statement of Consent:
Your signature below indicates that you have read and understood the information provided above, have had an opportunity to ask questions, and agree to participate in this research study. Please check the box for the research activities **you agree** to participate in. You will be given a copy of this form to keep for your records.

☐ YES, I consent to my child being assessed.

☐ YES, I consent to my child's teacher completing a questionnaire about my child.

☐ YES, I consent to my child being videotaped to support analysis of interactions between teacher and student.

☐ YES, I consent to my child being videotaped and using these videos during conferences and presentations.

_____ _____
Parent/Guardian's Signature Date

_____
Printed Name of Parent/Guardian

_____ _____
Researcher's Signature Date

_____
Printed Name of Researcher

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Appendix E

Teacher Consent Form

CONSENT TO PARTICIPATE IN RESEARCH STUDY
Head Start Staff

PRINCIPAL INVESTIGATOR: Maria Cristina Limlingan, M.S. Ed
CONTACT DETAILS:
Eliot Pearson Department of Child Study and Human Development
105 College Ave,
Medford, MA 02155
Tel: (434) 466-2135 Email: maria.limlingan@tufts.edu

STUDY TITLE: More than Words: The Relations between Teacher-Child Interactions, Classroom Context, and Latino Dual Language Learners' (DLLs) School Readiness

PURPOSE AND DURATION: You have been invited to take part in a study to better understand the practices that can support the socio-emotional development of dual language learners (DLLs). This project is expected to begin in the fall 2014 and end spring 2016.

PROCEDURES:

If you agree to be in the study, we will ask you to do the following:

1. During the school year, we ask you to fill out a questionnaires about the children enrolled in your classroom. We know you are busy, and we want to be as respectful as possible of your time. We anticipate the questionnaire will take 20-40 minutes per student to complete. So if you have 3 students who will participate in the study, it will take you an hour or an hour and a half to complete the questionnaires for them.

2. During the school year, you and your students will be observed in your classrooms by members of the research team trained to observe teacher-child interactions and how language is used in everyday classroom activities. These observations will last the whole morning. We will work with you ahead of time to ensure that the observations will not interfere with any planned lessons and decide on the best way to introduce and explain to the children why members of our research team are visiting their classroom.

   In addition, some observations may be videotaped to accurately capture teacher-child interactions and assist in analyzing observations. These videos may also be shown in conferences and presentations. Before any videotaping happens, we will inform you ahead of time so it causes minimal disruption to the classroom.

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3. We would like to ask for your participation during interviews we will be conducting related to teachers' language ideologies. This interview should last between 30 – 45 minutes. Interviews will be held at any time that is convenient for you. This interview will be audio taped with your permission.

RISKS AND DISCOMFORT: It is possible that a parent or child will report risk of imminent harm to self or others. Exceptions to confidentiality may occur in the case of reporting imminent harm to themselves or the child or others or in case of report child or elder abuse or neglect. In cases of such abuse, research staff will be required to report this to the Principal Investigator who will then be in touch with her faculty advisor and program director immediately.

BENEFITS: Although you will receive no direct benefits, the study may help us understand more about supporting the learning of Head Start children who are dual language learners.

CONFIDENTIALITY: The information you give us will be kept private. The team will not report any individual information, so none of the information you personally give the team will be shared with anyone at Head Start or with others outside the program. All the information will have code numbers and not names, and any reports or presentations will only talk about the children and families as a group. Audio and video recordings will be kept in password protected computers.

COMPENSATION: As a token of our appreciation for your participation, you will receive $50.00 for your time completing the questionnaires, taking part in the interviews and other research-related activities.

REQUEST FOR MORE INFORMATION: You may ask more questions about the study at any time. Please e-mail the principal investigator at maria.limlingan@tufts.edu or telephone (434) 4662135 with any questions or concerns about the study. In addition, you may contact Lara Sloboda at the Office of the Institutional Review Board at (617) 627-3417.

WITHDRAWAL OF PARTICIPATION: Please know that taking part in the study is *voluntary*; you do not have to take part in this study. If you do decide to take part, you may choose to stop at any time. If you choose not to take part or to stop taking part, this choice will not affect your relationship with your Head Start Staff or on any services you or your child receive at the Head Start Center. You have the right to skip or not answer any questions you prefer not to answer.

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TEACHER CONSENT FORM

Statement of Consent:
Your signature below indicates that you have read and understood the information provided above, have had an opportunity to ask questions, and agree to participate in this research study. Please check the box for the research activities **you agree** to participate in. You will be given a copy of this form to keep for your records.

□ YES, I consent to my completing a questionnaire about children enrolled in my class.

□ YES, I consent to participating in interviews.

□ YES, I consent to allowing researchers to conduct classroom observations.

□ YES, I consent to being videotaped in the classroom and using these videos during conferences and presentations.

Head Start Staff's Signature _____ Date _____

Printed Name of Head Start Staff _____

Researcher's Signature _____ Date _____

Printed Name of Researcher _____

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