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SUPPORTING DUAL LANGUAGE LEARNERS IN HEAD START:

PEER AND TEACHERS' LANGUAGE CONTEXT

A DISSERTATION

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APPROACHES TO LEARNING: CONCEPTUALIZATION AND MEASUREMENT OF A KEY SCHOOL READINESS INDICATOR

A DISSERTATION APPROVED FOR THE
DEPARTMENT OF INSTRUCTIONAL LEADERSHIP AND ACADEMIC CURRICULUM

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DEDICATION

This is dedicated to Jesus Christ, my savior.

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All praise, honor, and glory to Jesus Christ, who called and enabled me to complete this Ph.D. journey. I thank Jesus for granting me the opportunity to examine the classroom oral language environment for young children, particularly children from Myanmar, where I resided and worked for 12 years. It was by the grace of God that I was led to the place where Myanmar refugees found their new home. God also blessed me with wonderful mentors and colleagues who provided invaluable advice, unwavering support, and patience throughout my Ph.D. studies.

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PROLOGUE

This dissertation adheres to a journal-ready format. Three journal articles prepared for submission to refereed journals comprise the first part of the dissertation. Manuscript I, Oral Language Exposures and Interactions with Teachers and Peers with English, Spanish, and Burmese-Speaking Children, is prepared for the *Early Childhood Education Journal*. Manuscript II, The Role of Home Language Background in Peer and Teacher Oral Language Interactions: Factors Influencing Classification of Three Home Language Groups, is prepared for the journal, *Early Education and Development*. Manuscript III, Culturally Responsive Teaching: Evidence-Based Research to Improve DLLs' Oral Language Practice, is prepared for the *Journal of Multilingual and Multicultural Development*.

Dissertation Abstract

Oral language skills have been defined as a set of communication skills and cognitive tools to convey and understand meaning effectively, and one of the key predictors of future academic success. For Dual Language Learners (DLLs), consistent disparities were found in their oral language skills compared to their non-DLL peers. To reduce these gaps this study first explored understanding DLLs' unique oral language skill development and exposure and interaction with teachers and peers in a classroom context among English-, Spanish-, and Burmese-speaking children using a sample of Head Start children. Analysis revealed disparities in the exposure and interaction, and yearlong oral language growth between Spanish- and Burmese-speaking DLLs and their peers and teachers in the classroom environment. Initially, Spanish-speaking and Burmese-speaking children showed lower English vocabulary skills than their English-speaking peers. However, by the subsequent spring, Spanish-speaking children notably narrowed this gap, while for Burmese-speaking children, the disparity in vocabulary skills widened. Notably, significant differences were observed in the oral language interactions and exposures between DLLs and their peers, with peer interaction emerging as a particularly influential factor. In conclusion, evidence-based culturally responsive teaching strategies are proposed to enhance the oral language development of DLLs within the preschool classroom. These strategies aim to address the observed differences in interaction patterns and exposure, thereby fostering more equitable language development opportunities for DLLs across diverse linguistic backgrounds.

Keywords: oral language development, dual language learners, teacher, and peer interaction

MANUSCRIPT I

Oral Language Exposures and Interactions with Teachers and Peers Within English, Spanish, and Burmese-Speaking Children

This manuscript is prepared for submission to the peer-reviewed *Early Childhood Education Journal* and is the first of three manuscripts prepared for a journal-ready doctoral dissertation.

Abstract

This study aims to understand oral language skills, exposure, and interactions with teachers and peers in Head Start (HS) classrooms among three groups: English-, Spanish- and Burmese-speaking children. Two hundred eighty-five children ages 2, 3, and 4 were observed using the individual Child and Teacher Observation in Preschool (COP/TOP) tool. A one-way ANOVA compared the groups' differences with Bonferroni correction and revealed distinct patterns among the three home language groups. Results revealed that English-speaking children had more peer interactions, Spanish-speaking children had more teacher interactions, and Burmese-speaking children exhibited more non-verbal behavior. Initially, Spanish and Burmese-speaking children lagged behind their English-speaking peers in English vocabulary skills. By the following spring, Spanish-speaking children narrowed this gap, while Burmese-speaking children fell further behind, widening the disparity. Teachers communicated more positively with English-speaking children. However, they often observed using a negative tone when interacting with Spanish-speaking children. Additionally, Burmese-speaking children were observed to listen to teachers more frequently. No linear classroom interaction factors were found to predict children's oral language skill growth. These findings underscore the importance of providing support for DLLs' oral language development among various home language groups. Overall, preschool classrooms need to provide more quality language-specified interactions with teachers and peers. Additionally, future research can explore the influence of home language on preschool children's language development. More research is needed to explore children's oral language disparities and the classroom structural and process factors that predict these linguistic outcomes.

Keywords: dual language learners (DLL), refugee children, oral language use, language diversity in preschool

Oral Language Exposures and Interactions with Teachers and Peers Within English, Spanish, and Burmese- Speaking Children

Young children's oral language development is a complex and multi-faceted process that is greatly influenced by the amount and type of language exposure and experience they receive during their formative years (Dickinson & Tabors, 2001). Research has shown that the more exposure a child has to a particular language and the more frequently they are able to use it, the more they will develop their language skills in that language (Hammer et al., 2014; Hoff, 2013). Some children also simultaneously develop proficiency in English and their home language, a group referred to in research literature as Dual Language Learners (DLLs). Nearly one-third of children in the United States between birth to age 8 are DLLs, a significant increase from one-quarter in 2000 (Park et al., 2018). By 2030, almost half of all school-aged children in the U. S. are expected to be classified as DLLs (Gil, 2015). Among DLLs in the U. S., Spanish-speaking children represent the largest population, however, there is a growing significance of children from diverse households in many areas. Among DLLs, refugee population is increasing, there is a substantial underrepresentation of Myanmar refugee DLLs in research, with only a limited number of studies focusing primarily on their home language environments (Cun, 2020).

Children raised in a bilingual or multilingual environment are exposed to and use multiple languages regularly (Schmerse, 2021). This results in their phonological, lexical, and grammatical knowledge being spread across two (or more) language systems, thus increasing their cognitive skills like attention and inhibition (Deanda et al., 2016). Research on DLLs has shown the numerous benefits of early exposure to multiple languages, including developing proficiency in two or more languages and socio-cultural skills (Espinosa, 2015; Hoff, 2013). However, DLLs are disadvantaged if they enter school with low oral language skills (Burchinal

et al., 2010; Buysse et al., 2013). Prior research documents that DLLs are more likely to come from a lower socio-economic background or have parents with low educational attainment (Brownell et al., 2016; Greenwood et al., 2020). These challenges might become even more pronounced due to insufficient support from their homes and communities, often resulting from systemic barriers like English-only instruction and the use of culturally inappropriate assessment tools (Dickinson et al., 2010; Early et al., 2010; Han et al., 2014; Sawyer et al., 2018). The significance of fostering a high-quality oral language environment during the early years cannot be overstated, particularly for DLLs and children from refugee households (Baker & Páez, 2018; Carbell et al., 2015). To facilitate optimal oral language development, more research needs to delve into the classroom language exposure and interaction patterns of these underserved populations to improve their language skills.

Therefore, this study aimed to investigate the influence of home language differences on the oral language exposure and interactions of individual children within a Head Start (HS) program. The study included children whose home languages were English, Spanish, and *Burmese*. Its findings may provide valuable insights for teachers, teacher educators, and policymakers by helping to enhance support and interventions to reduce academic achievement disparities among DLLs and Myanmar refugee children. To address these issues, the study posed four related questions: 1) What variations exist in oral language and pre-literacy skills within the home language groups of English, Spanish, and Burmese? 2) How do English, Spanish, and Burmese-speaking children progress in oral language skills over a year? 3) How do language exposure and interactions with teachers and peers differ within English, Spanish, and Burmese-speaking children? 4) How do language exposure and interactions with teachers and peers

associated with English, Spanish, and Burmese-speaking children's oral language skill outcomes in the fall?

Theoretical Framework

Adopting Vygotsky's (1978) social-cultural perspective of oral language development, this study utilizes his social constructivist theory emphasizing that children acquire language skills through interactions with families, teachers, and peers. These interactions involve the language used in both home and classroom settings in bridging the two language contexts. However, this study specifically focuses on the classroom context. Vygotsky's theory highlights the importance of social interaction, particularly with more knowledgeable individuals such as teachers and peers, that can directly and indirectly impact a child's development (Justice et al., 2014; Vygotsky, 1978). The zone of proximal development (ZPD) plays a central role in Vygotsky's framework, emphasizing the critical function of more knowledgeable teachers and proficient peers in supporting children's learning (Mashburn et al., 2009). A more knowledgeable peer can provide scaffolding by offering prompts, explanations, or demonstrations to help children move beyond their current language capabilities and reach higher levels of oral language skills (Vygotsky, 1978). Empirical evidence has substantiated the importance of the ZPD and scaffolding interactions in early oral language development (Dickinson & Tabors, 2001). Moreover, Vygotsky's theory underscores the importance of considering children's previous experiences, cultural backgrounds, and worldviews in their learning processes (Onchwari et al., 2008).

Review of Literature

DLLs' Initial Oral Language Development

Children entering ECE classrooms come from diverse linguistic backgrounds, each with varying initial language skills (Hammer et al., 2014). Children's language abilities are shaped by a combination of genetic and environmental factors (Dickinson & Tabors, 2001). Notably, the quantity of speech children is exposed to directly influences their language development, highlighting the significant role of social contexts in shaping their linguistic skills (Duncan et al., 2023). For example, almost half of the young DLLs have lower language skills than non-DLLs (Buysse et al., 2013), and low socio-economic status (SES) puts them at risk regarding language development (Burchinal et al., 2010; Sawyer et al., 2018). Furthermore, neurological studies suggest that children who engage in more conversational exchanges with adults tend to exhibit more sophisticated speech patterns, as evidenced by brain functioning associated with language processing (Dykstra et al., 2013; Romeo et al., 2018). For social context, DLL children did not get enough support from home for their language development; some research showed that low-income families could not provide of language-rich environment and stimulus language interaction to their young children than do higher-income families (Dickinson & Tabors, 2001; Zill & Resnick, 2006).

Additionally, children bring unique cultural expectations from the home environment into the classroom, significantly influencing oral language practices among them (Cho & Votava, 2021; Cun, 2020). These practices may vary considerably across different cultures. For example, children in Myanmar are always educated to respect their teachers and parents and are not allowed to ask questions, being quiet and obedient are highly expected (Oo, 2015). In contrast, there is a high value placed on effective speaking and asking questions, and autonomous learning

in U.S. classrooms (Hammond, 2014). Understanding the influence of home language and cultural practices on children's oral language development is crucial for designing effective educational interventions that accommodate linguistic and cultural diversity in the classroom.

DLLs' Oral Language Developmental Challenges

DLLs face challenges such as balancing the demands of two languages, navigating cross-linguistic influence, and adapting to different language environments (Sheng et al., 2011). Concerning DLLs, L1 refers to a child's native or first language, while L2 signifies a child's secondary language (Hammer et al., 2014). L1 development pertains to the progression of their abilities in their first language, typically acquired through family interactions and cultural practices. On the other hand, L2 development refers to the progression of their abilities in a second language, which is typically acquired through immersion in a language-rich environment, formal instruction, or exposure to media and cultural products (Hammer et al., 2009; Mancilla-Martinez & Lesaux, 2011). Research has emphasized the importance of L1 development for DLLs' overall language development, as it provides a foundation for later language acquisition and strengthens cultural identity and heritage connections (Hammer et al., 2014). However, L2 development is also crucial for academic and social success, providing access to a broader range of opportunities and bridging language and cultural divides (Coelho et al., 2019).

Unfortunately, many DLLs experience challenges with oral language development because they come from households where parents have limited formal education and economic resources (Kieffer, 2008; Rojas-Flores & Vaughn, 2019). This makes it even more challenging for them to overcome oral language development obstacles than their white, monolingual peers from more advantaged backgrounds (Duncan et al., 2020; Farrow et al., 2020). The previous research found that Spanish-speaking DLLs encounter difficulties in reading comprehension, a

critical area of academic achievement (Hammer et al., 2020; Mancilla-Martinez et al., 2020). English-only instruction environments that do not support Spanish proficiency can be inadequate for English language learning and limit classroom interactions (Choi et al., 2021; Kim et al., 2018).

Similarly, Myanmar refugees in the U.S. face significant difficulties acquiring oral language due to trauma, lack of resources, and cultural adjustment (Pew Research Center, 2019). Many refugees have limited formal education, which hinders their ability to communicate effectively in English, restricting their access to education and healthcare services (Cun, 2020). Parent's lack of proficiency in English further complicates their ability to support their children's language development (Trieu & Vang, 2015), leading to children from refugee households facing difficulties in accessing quality education and experiencing delays in their academic progress (Cun, 2020). Furthermore, cultural norms that discourage questioning and speaking out among children also inhibit their language development (Huh et al., 2022; Oo, 2015). Given these challenges faced by both DLLs and Myanmar refugees, the evidence strongly indicates the need for further research focused on addressing oral language development in classrooms.

Therefore, it is crucial to recognize and address these challenges by providing adequate support for DLLs' language development (Burchinal et al., 2010; Buysse et al., 2013; Early et al., 2010; Han et al., 2014). One of the most effective means to facilitate the language development and academic success of DLLs is by allocating additional time to cultivate their L1 and L2 languages, whether it be in school through dedicated language instruction integrated more L1 or at home through providing L2 learning with specific guidelines (Garcia, 2018; Hammer et al., 2020; Ramírez et al., 2020). By learning and developing their abilities in their home language L1, DLLs can form a stronger foundation for later L2 acquisition and maintain

their connection to their heritage (Hoff, 2013). DLLs also need to engage with supportive people in the classroom to maximize the benefits of learning L2 in a language-rich environment (Farrow et al., 2020; Garrity & Guerra, 2015; Ramírez et al., 2020). In classroom language contexts, teacher and peer interaction can be essential factors in promoting DLLs' language development (Sawyer et al., 2018).

DLLs' Oral Language Exposure and Interactions with Teachers

More than half of young children, 64% of preschool-aged children (3- and 4–year–olds), and 81% of kindergarten-aged children (5-year-olds) in the U.S. attend some form of early childhood education (de Brey et al., 2021). Given that preschool classrooms comprise a diverse group of DLLs, teachers face challenges in providing opportunities to improve each child's oral language skills (Garrity & Guerra, 2015; Ramírez et al., 2020). The data from 2022, 60.9% of teachers are White or Caucasians, followed by Hispanic or Latino (19 %), Black or African American (8.8 %), and Asian (5.9%) (www.zippia.com, Sept 9, 2022). Furthermore, 87.5% of teachers report that they need more training in teaching linguistically diverse students, and less than 30% have received preparation in instruction of culturally and linguistically diverse groups (Li et al., 2018). HS teachers report discomfort interacting with DLLs and feel the need for more support and training in educating these students (Choi et al., 2021). Moreover, many early childhood education (ECE) practitioners require an understanding of refugee children's unique developmental needs and classroom experiences (McBrien, 2005; McWilliams, 2016). More empirical research is needed to provide unique oral language developmental needs for children using various home languages.

When considering the quantity of teacher language use, studies have consistently found that teacher-child interactions, characterized by frequent and meaningful conversation, can help

foster language development in young children (e.g., Duncan et al., 2023; Justice et al., 2014). Unfortunately, research on monolingual children revealed low levels of teachers' oral language exposure and interaction; it has been consistently observed that children spend less than 20% of their time in preschool classrooms engaged in responsive interactions with their teachers (Dickinson & Tobor, 2001; Kane et al., 2023).

The results of the earlier studies comparing the number of DLLs' oral language interactions with teachers yielded conflicting results. Sawyer et al. (2018) compared the classroom language environments of three language groups: monolingual English-speaking children, Spanish-speaking children, and bilingual Spanish-English DLLs. They assessed classroom language environments using the Language Interaction Snapshot (LISn; Atkins-Burnett et al., 2010). The study reported no significant differences in teacher-child talk among the three types of focal children when spoken in English. Lim et al. (in press) conducted a comparative analysis of oral language usage among three distinct language groups within HS classrooms, employing the individual Child Observation in Preschool (COP) tool. Findings indicated that English-speaking children were more inclined to engage in oral language interactions with their teachers. Conversely, Spanish-speaking children were less frequently observed talking or listening to their teachers, while Burmese-speaking children displayed a heightened propensity for listening to teachers. These divergent findings highlight the necessity for further studies to investigate whether variations exist in oral language environments and whether these variabilities manifest among different home language groups.

DLLs' Oral Language Exposure and Interactions with Peers

In the context of monolingual English-speaking children, the role of peer interactions in language development has been studied, with several studies indicating that increased exposure

to peers proficient in English can lead to improved English vocabulary skills and overall language growth (Justice et al., 2014; Mashburn et al., 2009). Despite the growing evidence of peer influence and increasing time spent in early childhood education (U.S. Census Bureau, 2023), there has been surprisingly little research on how DLLs and monolingual English children interact in the classrooms. DLLs were seen to connect with their peers less often in play environments (Dominguez & Trawick-Smith, 2018; Franco et al., 2019). Additionally, DLLs' interaction with peers was more frequently measured by teachers as being uncooperative and nonsocial (Limlingan et al., 2019). These results could be partially explained by the difficulties DLLs have when they attempt to communicate with their peers. Playing is an activity that involves oral language use to perform role-playing and convey ideas (Piker, 2013; Trawick-Smith et al., 2023). DLLs are often ignored or shunned by their classmates who speak English and have difficulties comprehending words their peers say (Kinzler et al., 2009; Tabors, 2008).

When DLLs are exposed to L2, some go through a silent period during which they speak less and listen more (Tabors, 2008). They might be observed watching others in an English-dominant classroom where they need to exchange concepts with their classmates during play. Cultural differences could also be a factor in making a difference in peer interactions; some DLLs may have lower peer interaction scores if they are from societies where social relationships are more aggressive or reserved (Chen et al., 2020; Trawick-Smith et al., 2023). Preschool classrooms are one of the primary contexts in which they have frequent contact with L2. Therefore, more research is needed to examine how DLLs interact with peers using child-level observational tools.

The Current Study

Children entered the classroom with varying oral language and pre-literacy skills influenced by their home language characteristics. This study sought to explore the differences in children's oral language skills and experiences and children's progression of oral language skills over a year based on home language characteristics. Finally, the study aimed to investigate how language exposure and interactions contribute to the language growth of children. For that the study utilized a systematic classroom observational tool to investigate variations in children's language exposure and interactions with teachers and peers across HS classrooms, focusing on three distinct home language groups: English, Spanish, and Burmese. To delve into children's language utilization, the primary emphasis was on the frequency of their verbal and listening behaviors; the specific language they employed; and their conversational partners, whether with their teacher, peers, or themselves. This study also examined teachers' language usage, involving their observed frequency of speech and listening activities, the language they used, their interaction with teachers and peers, and the tone of their communication.

The present study examined the following four research questions:

1) What variations exist in oral language and pre-literacy skills within the home language groups of English, Spanish, and Burmese?
2) How do English, Spanish, and Burmese-speaking children progress in oral language skills over a year?
3) How do language exposure and interactions with teachers and peers differ within English, Spanish, and Burmese-speaking children?

4) How do language exposure and interactions with teachers and peers associated with English, Spanish, and Burmese-speaking children's oral language skill outcomes in the Spring?

Method

This study used secondary data from a university-based early childhood research institute's evaluation project with HS programs in a large Midwest city in the U.S. This 3-year program evaluation study began in the fall of 2022 and continues through the spring of 2025. The study includes data from the first year of data collection (2022-23) and received university IRB's approval. The research institute employed a multi-stage sampling approach to select representative classrooms and children from all ten HS program centers comprising the agency contracting the evaluation study.

Participants

Participants were recruited for the study via informational sheets and meetings at the child's school. Parents completed a sign-up sheet for the study, and both parental consent and child assent were obtained at the time of assessment. A program roster including all classroom and child information each year was supplied by HS and provided the sampling frame of eligible classrooms and children. A classroom is the sampling unit for the first stage. The study used a probability proportional to size sampling approach, considering the size of centers in selected 55 classrooms. Classrooms were randomly selected, but more classrooms were selected from larger-sized centers. A child was the sampling unit for the second stage. Five or six children were randomly selected from each classroom after selecting classrooms in the first stage.

The teachers' demographic information was collected from the selected classrooms, with 49 teachers out of 55 classrooms providing full responses. Among them, 34 teachers held lead

positions, while 15 were second lead teachers. The average years of experience among teachers in this HS program was 7 years, with the majority having worked between 6 and 10 years. The average age range of teachers was between 38 and 42 years old. 12.2% of teachers held MA/MS degrees, 65.3% of teachers held BA degrees, 16.3% held two-year college degrees, and 6.1 % of teachers had less than one year of college education. Demographically, 46.9% of teachers identified as white Caucasian, 22.4% as African American, 8.2% as Hispanic, 12.2% as Native Alaskan or Native American, and only one teacher identified as Asian (2%).

Sample

The sample was selected from all 55 classrooms for 2 and 3-year-olds from 10 HS centers. The total data set included 320 (n=320) children; after removing data from children whose home language was Arabic (n=5), other languages (n=3), and one missing home language designation (n=1), the final analytical sample for the present study was 311 (n=311). Girls represented 53.5 % of the sample, thus gender distribution was almost even. After removing the samples (n=27) of children who did not participate in the classroom observation component, the number of children in each home language category was English=174, Spanish=96, and Burmese, Zomi, and other ethnic Myanmar =15, with a sample of 285 children.

Measures

Children's Oral Language Skills

Expressive One-Word Picture Vocabulary Test (EOWPVT). Initial oral language skills and the end of the semester oral language skill growth were assessed by the Expressive One-Word Picture Vocabulary Test (Williams, 2019). The Expressive One-Word Picture Vocabulary Test (EOWPVT) is a standardized assessment that measures children's ability to understand, and use spoken language (Brownell, 2000). EOWPVT has previously been considered a good

measure of estimated overall expressive vocabulary skills for children from 2 to 80 years old (Martin & Brownell, 2011). The EOWPVT consists of 190 items, set up in a developmental sequence. For each item, children are asked to name objects, actions, or concepts presented in colored pictures. These pictures represent concepts people have experienced in school, media, or home. Administration typically takes 20 minutes; less than 5 minutes is needed to score and interpret the data. Raw and standard scores, percentile ranks, and optional age equivalents are reported. Reliability of these coefficient alpha values ranged from .93 to .97., validity coefficients reported from .67 to .77, and test-retest reliability of .97 across two weeks to 4 weeks (Brownell, 2000).

The Woodcock-Johnson Tests of Achievement (3rd Edition; WJ-III). Literacy skill was assessed by the *Letter-Word Identification* subtext of the Woodcock-Johnson III achievement test (WJ-III; Woodcock et al., 2001). This test is a standardized assessment tool to measure children's academic achievement skills. The WJ-III assesses general scholastic aptitude, oral language, and academic achievement. It includes several subtests that have been updated and revised over time to ensure their continued validity and reliability. The WJ-III is standardized for use with individuals aged 2–90. Reliability estimates for individual subsets range from .69 to .99. Overall construct validity of WJ-III was found r =.71 (Reddy et al., 2021).

These tests are widely used in educational and clinical settings to evaluate cognitive and academic skills in children and adults. Children's initial literacy skills were assessed with the *Letter-Word Identification* subset: subscales assessed letter naming and word decoding skills by asking the child to identify (point to or name) a series of letters and words (Woodcock et al., 2001). Reliability of *Letter-Word Identification* subset coefficients range from .88 to .94, validity is r= .68. Children were asked to point to six letters called by the tester and to name seven more

letters from a selection of letters. Assessors asked children to choose the two named words from an array of words and read as many remaining words as possible until they had six incorrect responses. Age-based standard scores, in which the mean score is 100, and the standard deviation is 15 and familiar to most people, were used in analyses rather than the W-score, unique to the WJ-III test.

Children's Oral Language Exposure and Interaction

Child/Teacher Observation (COP/TOP). Child Observation in Preschool (COP) and Teacher Observation in Preschool (TOP) is a systematic observation tool designed to assess the behaviors of children, teachers, and assistants in preschool classrooms during a full-day visit (Farran, 2017). COP/TOP was conducted to gain a more in-depth understanding of the teacher-child language interactions in the classroom. Both COP/TOP tools rely on trained observers who do time sampling and sweep (occurrences) the classroom, recording either individual child experiences or teacher experiences. It comprehensively evaluates their interactions and activities, enabling educators and researchers to gain insights into early childhood education quality and identify improvement areas.

Six trained assessors observed these children in their classroom throughout one typical morning. Assessors who collected data completed a 2-day training facilitated by two reliable trainers. To be qualified as reliable assessors, they were paired with a trainer to practice observing and coding until they reached at least 80% agreement with the trainer for inter-rater reliability. Classroom observation data were collected once per school year. The observation lasted approximately 4 hours, and assessors followed all children in the classroom participating in routine activities before naptime (including recess, meals, and bathroom breaks outside the classroom) until a total round of coding ("sweep") with 10 occurrences per child was achieved.

The observations ended when 75% of the children were prepared for a nap or by 1 p.m., whichever came first. The assessors compared the noted codes with observational transcripts before transferring the data for entry and analysis to confirm the accuracy.

TOP (Teacher Observation in Preschools). TOP (Farran, 2017) protocol allowed for observing teachers' instructional and emotional language support in classrooms throughout a day-long visit in conjunction with the COP. The teacher's behavior was observed for a 3-second sweep before scoring; children (COP) coded immediately afterward. All assessors in the study should achieve inter-rater reliability with an experienced observer at each time point. Previous studies using TOP (Bilbrey et al., 2007) had shown good inter-rater reliability, with Kappa coefficients ranging from .82 to .86.

For this study, TOP focused on teacher's language use and tone/affect. *Teacher's language uses* were divided into two categories: (1) whether the teacher was interacting or listening in English or other languages and (2) to whom the teacher was speaking or listening (such as another teacher, child, small group, whole group, or self). For example, during the 3-second sweep, assessors looked first to see if the teacher was interacting or listening in English or other languages and to whom. Sometimes, both listening, and interaction can occur within the same interval, then coded whichever occurs first, not both. *Tone/Effect* captured the teacher's tone during the three-second observation. The tone was coded as vibrant, pleasant, flat, negative, or highly harmful. For example, an extreme negative would include physically moving children, yelling at children, or using sarcasm, while a flat effect would be neutral or expressionless. A vibrant tone would be coded if the teacher interacted positively with the child and smiled or laughed. For this study, variables were created as the proportion of vibrant or pleasant effects across sweeps.

COP (Child Observation in Preschools). COP (Farran et al., 2017) protocol explored to whom children speak or listen and how they are involved in the classroom. For capturing a snapshot, each child in a classroom was observed for approximately 3 seconds, after which the assessors immediately coded nine areas of the child's behaviors. The COP assessed various aspects, such as children's verbal interactions, learning environments, and level of involvement. Trained assessors used the COP and were found reliable compared with at least two other expert assessors during their initial training and field-based reliability testing. Kappa coefficients for COP interrater reliability ranged from .82 to .87 (Farran et al., 2017). Data were aggregated at the child level, resulting in proportions of the total sweeps of a child engaged in particular behaviors.

The current study focused on a child's language use; this variable was about whether the child was interacting or listening. Children's language use was divided into two categories: (1) whether the child was interacting or listening in English or other languages and (2) to whom the child was speaking or listening (such as teacher, child, small group, whole group, or self).

Child Demographics.

Child characteristics, including gender, race/ethnicity, and home language for those who participated in the present study were obtained from the program administrator who collected it from parents when families enrolled their children in the HS program and included: (a) English-speaking: White or African American children who speak English at home (we put these children in the same group because they are monolingual) (b) Spanish-speaking: Hispanic children who speak Spanish at home and (c) Burmese-speaking: children from who speak the official language, Burmese or Zomi tribal languages at home.

Data Analysis

To address RQ 1, descriptive statistics were run for child demographic variables (i.e., gender, home language) and variables on children's classroom language exposures and interactions with teachers and peers (see Table 1). A one-way Analysis of Variance (ANOVA) was conducted to compare the three home language groups' children's oral language and pre-literacy skills measured by EOWPVT and WJ-LW. To examine RQ 2, paired sample t-tests were used to evaluate the children's oral language skill growth over a year by three home language groups using an alpha level of .05 for all statistical tests. To address RQ 3, a series of one-way Analyses of Variance (ANOVA) was conducted to compare the three home language groups' classroom language exposure and interactions measured by COP/TOP. Post-hoc, Bonferroni correction adjusted p-values to control for the familywise error rate in multiple comparisons to examine significant group differences in children's classroom experiences. In the context of this study, employing Bonferroni correction ensures that the likelihood of making a Type I error (false positive) is minimized when analyzing the various group differences in children's oral language exposure and interactions in the classroom. For addressing research question 4, the bivariate Pearson Correlation and bivariate regression were examined to understand the relationship between the main predictors of peer and teacher language contexts and the outcome of Spring (T2) expressive vocabulary skills. While correlation measures the strength and direction of the linear association between two variables, regression further extends this by not only assessing the relationship but also modeling and predicting the dependent variable based on the independent variable. Considering the investigation into the association between the primary predictors of peer and teacher language contexts as independent variables and the outcome of

Spring (T2) expressive vocabulary skills as the dependent variable, bivariate regression offers a more suitable approach.

Results

While the overview of the classroom language context may not be directly addressed in the research question, it is nonetheless necessary to provide a comprehensive understanding of the linguistic environment within which the study's findings are situated. Table 2 provides an overview of the mean values and standard deviations of the children's experiences in the classroom based on the entire sample of 285 children. The study found that the majority of the children were observed listening in English (43 %), followed by not talking or listening (35%), and talking in English (15%). Regarding the person they were speaking or listening to, the children were found to communicate more with the teachers (32%) than their peers (9%). The result shows that the time spent speaking and listening in languages other than the primary language was less than 1%.

(Add Table 1 here)

Children's Language Skills

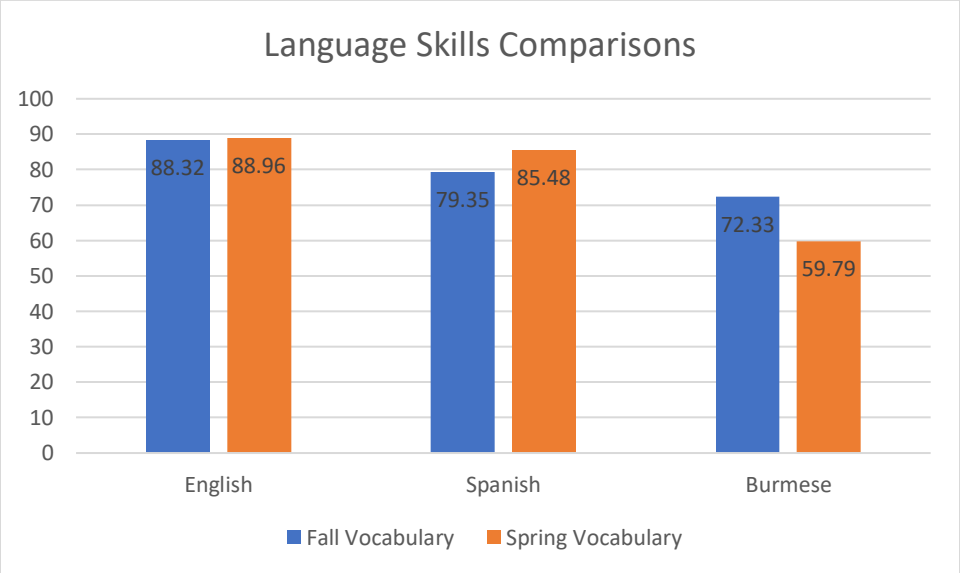
The outcomes of the children's expressive vocabulary and word and letter recognition assessment, conducted through the administration of the Expressive One-Word Picture Vocabulary Test (EOWPVT) and the Woodcock-Johnson Letter-Word Identification subtest (WJ-LW), yielded statistically significant findings concerning the children's home language within the HS classroom. A detailed presentation of these findings can be found in Table 2, where the application of post-hoc Bonferroni tests has unveiled statistically significant disparities between English-speaking (M=87.32, SD=29.10, $p < .05$) and Burmese-speaking (M=72.33, SD=34.36, $p < .05$) children in the WJ-LW assessments, Burmese-speaking children (M=97.4,

SD=35.36, p < .05) presented statistically significantly higher scores than both English-speaking (M=61.67, SD=48.27, p < .05) and Spanish-speaking (M=62.15, SD=43.25, p < .05) children, indicating a significant difference in performance among the groups. This statistical significance underscores the pronounced influence of home language characteristics on children's English vocabulary and English literacy skill development.

Additionally, Figure 1 offers a comprehensive overview of the comparative analysis between the overall vocabulary growth of children in the fall (M= 84.46, SD=32.58, *p* >.05) and spring (M=86.25, SD=29.10, *p* > .05) assessments. The analysis highlights ongoing disparities from fall to spring, with English-speaking children scoring higher (M=88.96, SD=29.78, p < .05) than Burmese-speaking children (M=59.79, SD=45.27, p < .05) in the spring (post-test) assessments. Remarkably, Spanish-speaking children exhibit a positive trajectory in expressive vocabulary skills, with their EOWPVT scores increasing from an initial assessment mean of (M=79.35, SD=29.10, *p* > .05) to (M=85.48, SD=30.20, *p* > .05) in the spring (see also Figure 1).

Figure 1

Comparison of the Growth of Oral Language Skills Among Three Groups



Oral Language Skill Growth Over the Year

The second research question aims to investigate the progression of oral language skills among English, Spanish, and Burmese-speaking children over the year. Utilizing data from a sample size of 285, this study enables a more precise comparison of the growth in oral language skills of children from these three home languages. The oral language skill scores of English-speaking children from fall to spring did not exhibit significant growth (t (165) = -.13, p>.05), although there was a slight increase in the mean score and an increase in the standard deviation among children. Conversely, Spanish-speaking children demonstrated statistically significant growth in their oral language skills over the same period (t (94) = -2.05, p=.02), with the mean score nearly reaching that of English-speaking children, and the gap in standard deviation narrowing. However, for Burmese-speaking children, there was a reduction in their scores from fall to spring (t (13) = .83, p>.05), though the difference between these two scores was not statistically significant. Additionally, there was a decrease in the mean score, accompanied by an increase in the standard deviation. Detailed results are provided in Table 3.

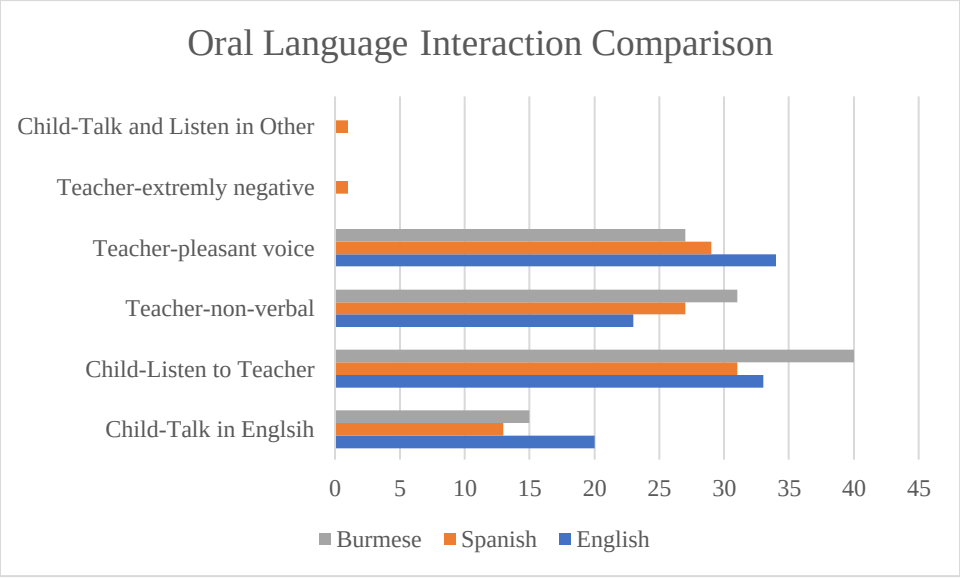
Children's Oral Language Use with Teachers

The results of the children's language use with teachers in the Head Start classrooms are presented in Table 4. Statistically significant differences in children's oral language use with teachers are the following: with child observational (COP) data, post-hoc test reveals that Burmese-speaking children (M=.40, SD=.16, p < .05) listened significantly more in English than their Spanish-speaking peers (M=.31, SD=.15, p < .05). Burmese-speaking children (M=0.00, SD=0.00, p < .05) were observed engaging in speaking or listening activities in their home language less frequently in HS classrooms compared to their Spanish-speaking peers (M=0.01, SD=0.03, p < .05). Further analysis using post hoc Bonferroni tests revealed that English-

speaking children (M=.01, SD=.03, $p < .05$) were observed to fuss or cry more than Spanish-speaking children (M=.00, SD=.00, $p < .05$). Teacher observation (TOP) data shows that teachers used different oral language based on children's home language characteristics. Teachers were more likely to use non-verbal communication to Burmese-speaking children (M=.31, SD=.03, $p < .05$) than toward English-speaking children (M= .23, SD=.04, $p < .05$) and Spanish-speaking children (M=.27, SD=.03, $p < .05$). Teachers were more likely to speak pleasantly toward English-speaking children (M=.34, SD=.03, $p < .05$) than Spanish-speaking children (M=.29, SD=.03, $p < .05$). Moreover, teachers were observed using extremely negative voices to Spanish-speaking children (M=.01, SD=.03, $p < .05$) compared to English Speaking children (M=. 00, SD=.00, $p < .05$).

Figure 2

Significant Oral Language Interaction: Comparisons Among Three Home Language Groups



Children's Oral Language Use with Peers

Among the three distinct home language groups, there were no statistically significant differences observed in the proportion of peer dual language learners (DLL) or Myanmar DLL,

nor in the oral language skills of peers within these groups (Table 5). It was observed that Spanish-speaking children exhibited significantly higher peer oral language use (M= .01, SD=.04, p <.05) compared to their Burmese-(M= .00, SD=.01, p < .05) and English-speaking (M= .00, SD=.01, p <.05). Notably, Burmese-speaking children (M= .07, SD=.03, p <.05) exhibited the lowest frequency of peer interactions compared to their English-speaking (M=.08, SD=.09, p < .05) and Spanish-speaking (M=.09, SD=.11, p <.05) peers.

Association Between Classroom Oral Language Interaction and Skill Outcomes

The last research question explores the relationship between teacher and peer language interaction, children's initial skills, and the oral language skill development of English, Spanish, and Burmese-speaking children across different home language groups. The bivariate Pearson Correlation was conducted to explore the relationships among the main predictors of interest within classroom peer and teacher language contexts and children's spring oral language skill outcomes (see Table 6). There were no significant associations between teacher and peer classroom interactions with later children's oral language skill growth. For the spring oral language outcome (T2), only the fall (T1) oral language outcome score (r=.52) was significantly positively associated. The initial fall pre-literacy score (r=.16) had little positive relation with the spring expressive vocabulary oral language outcome.

The results revealed significant associations between the language contexts of teachers and peers and the proportion of DLLs. Specifically, a high proportion of DLLs was positively correlated with children's non-verbal behavior (r = .70) and the use of their home language (r = .70). Peers with stronger English vocabulary skills exhibited a moderately positive correlation with increased frequency of peer interaction (r= 33) and showed a negative moderate association with children's non-verbal behavior (r = -.40).

Discussion

This study explored how individual linguistic characteristics, specifically a child's home language, influence their initial oral language skills, and progression over a year. Moreover, a study compared oral language exposures and interactions with peers and teachers in a shared classroom environment. This research offers a unique perspective on classroom language interactions among three distinct home language groups employing individual children and teachers' systematic observational tools. First, to capture the oral language skill differences between the three home language groups, children's fall oral language and literacy skills measures found disparities between the groups. Upon entering the HS program, the results revealed significant disparities in children's oral language skills. These results highlight the significance of individual children's initial skill levels in their language development. English-sparking children showed strong oral language skills and Burmese-speaking children showed strong literacy skills at fall. Spanish-speaking children exhibited positive oral language growth trajectories from fall to spring, the change was statistically significant.

Second, relative to the oral language exposure and interaction differences between the three home language groups in the classroom context, teachers tended to talk more with Spanish-speaking children, and English-speaking children interacted significantly more with their peers. In contrast, Burmese-speaking children tended to engage in fewer conversations with teachers and peers while showing a greater inclination to listen to teachers. Interestingly, Spanish and Burmese-speaking DLLs rarely used their home language, even when interacting with peers from similar linguistic backgrounds. However, no peer and teacher's oral language contexts were strongly associated with children's oral language outcomes at the end of the semester. In other words, no specific targeted oral language interaction or exposures were found for predicting oral

language growth. These findings contribute valuable insights to the limited research on DLLs, particularly children who came from Southeast Asian refugees, including children from Myanmar. This observation sheds light on a nuanced aspect of language behavior among DLLs.

Interpreting Differences in Children's Language Skills Across Home Languages

DLLs entered the Head Start program with notably lower vocabulary skills, consistent with prior research (Burchinal et al., 2010; Buysse et al., 2013; Early et al., 2010; Han et al., 2014). It seems unlikely that DLLs' weaker language skills result from unequal opportunities for English language acquisition and culturally biased conceptions of language proficiency, such as using culturally inappropriate language evaluation instruments (Hammer et al., 2020; Sussman et al., 2023). DLLs' weaker language skills also can be interpreted as a reflection of the risk factors present in DLLs' home environment. DLLs mostly come from households where parents have limited formal education and low incomes. This socioeconomic background was consistent among the participants in this study, as evidenced by their qualification for Head Start programs (Kieffer, 2008; Rojas-Flores & Vaughn, 2019). These circumstances make it challenging for them to have opportunities to learn English compared to their white, monolingual peers from more advantaged backgrounds (Duncan et al., 2020; Farrow et al., 2020).

However, significant differences emerged within the DLL groups in this study between Spanish-speaking and Burmese-speaking children. Initially, both groups exhibited lower English vocabulary skills compared to their English-speaking peers. Spanish-speaking children caught up considerably by the following spring, whereas the vocabulary skills gap widened for Burmese-speaking children. Prior research has highlighted the profound impact of language opportunities in the environment on DLLs' vocabulary and oral language development (Hammer et al., 2020; Sheng et al., 2011). Spanish-speaking DLLs benefited from exposure to more words from

teachers and peers, supporting the notion that high-quality language interaction in the classroom can enhance DLLs' oral language growth (Farrow et al., 2020; Garrity & Guerra, 2015; Ramírez et al., 2020).

Per the current literature, the significant hurdles faced by Burmese-speaking children in the development of their oral language skills can be partially explained by their refugee background. This background often results in limited access to essential resources, exposure to traumatic experiences, and the necessity for cultural adjustments (Pew Research Center, 2019). Furthermore, teachers may unintentionally perpetuate the model minority stereotype, assuming that many Asian students excel academically and exhibit passive and well-observed learning attitudes (Mistry & Kiyama, 2021). Consequently, they may overlook the educational needs of Burmese-speaking children who might conform to Asian model minority stereotypes (Yang, 2004). Given these formidable challenges faced by Burmese-speaking children, it becomes evident that the persistently lower levels of English vocabulary skills in this demographic underscore the imperative for targeted support initiatives for refugee children and their families (Garcia, 2018).

Interpreting Differences in Interaction with Teachers Across Home Languages

In HS classrooms, the observations revealed that children exhibited high levels of non-verbal behavior, which means minimal talking or listening, followed by listening and talking in English. The results indicated that teachers talked nearly ten times more than the children. It is crucial to recognize that children's learning processes heavily rely on language, which plays a pivotal role in shaping their thoughts (Vygotsky, 1986). Vygotsky (1986) posited that young children use language not only for social communication but also to plan, guide, and self-regulate their behavior. The significance of oral language use during preschool is for children to

express themselves, refine their cognitive processes, and develop self-regulation skills (Grosvenor, 2022).

This study's findings reveal several disparities in oral language interactions, particularly in the listening behavior of Burmese-speaking children. It is important to note that listening does not necessarily indicate active participation in oral communication. The children from Myanmar in our study share characteristics with East Asian children known for being reserved and attentive in their classrooms (Bhattacharya, 2000; Kim & Wong, 2002). Their parents often encourage them to listen, follow their teachers' instructions, and refrain from challenging their teachers (Trieu & Vang, 2015). In Myanmar, children are consistently taught to respect their teachers and parents, with minimal encouragement to ask questions (Oo, 2015). Rote memorization and corporal punishment are commonly employed teaching methods (Huh et al., 2022). Consequently, Myanmar children tend to exhibit quieter classroom behavior, avoiding fussing, crying, or openly expressing their emotions. This tendency is influenced by the cultural and religious context, with Buddhism playing a role. Any deviation from expected behaviors is associated with guilt and shame (Oo, 2015).

Furthermore, compared to Burmese-speaking children, Spanish-speaking children showed a stronger preference for using their home language. However, it is essential to note that the overall proportion of language interactions in the classroom occurring in languages other than English was exceedingly low, accounting for less than 1% of all observed exchanges. This indicates that, despite the presence of full-time assistant teachers who spoke Spanish, Spanish language interactions were infrequent within the classroom, even though Spanish-speaking children were observed more talked and listened in their home language (Sawyer et al., 2018).

In contrast, Burmese-speaking students had fewer opportunities to converse and listen in their home language due to the limited presence of Myanmar speakers in the classroom and the absence of assisting teachers proficient in that language. The presence of speakers of the same home language is critical because prior research has highlighted the importance of home language development in fostering later literacy skills, academic achievement, and self-esteem (Castro, 2014; Sussman et al., 2023).

Differences in Interaction with Peers Across Home Languages

Classroom interactions among peers were notably less frequent than interactions with teachers, with English-speaking children significantly talking more than their Burmese-speaking counterparts. These findings carry significant implications, as research underscores the pivotal role of peer interactions in facilitating vocabulary development (Atkins-Burnett et al., 2017; Chen et al., 2020). Peer interactions allow children to engage with diverse and enriching language input, receive valuable corrective feedback, and practice their language skills within a supportive environment, which proves particularly advantageous for children with lower oral language proficiency (Chen et al., 2020; Vygotsky,1978).

Results revealed moderate disparities, showing that Spanish-speaking children exhibited higher verbal engagement than Burmese-speaking children. These observations suggest that Burmese-speaking children had limited interactions with their peers in the classroom. Children with lower oral language skills may struggle to comprehend classroom dynamics. They might find it challenging to engage with their peers, potentially creating barriers to their approachability and reinforcing a double-bind situation for DLLs (Tabors, 2008). In practical implementation, educators should prioritize fostering peer engagement within classroom activities (Atkins-Burnett et al., 2017). One effective strategy that schools can adopt to support

bilingual development and preserve the native languages of DLLs is to establish classrooms where children have peers who share a common home language. While it may not be feasible to have teachers proficient in every home language represented in a classroom, creating an environment with language-matched peers can be a valuable step in this direction (Partika et al., 2021).

Limitations and Directions for Future Research

This study contributes to the underdeveloped knowledge base on DLLs' language interactions in the HS classroom using advanced and individualized COP/TOP assessment tools. Even though this study has a significant contribution to understanding oral language skills, exposure, and interactions in the HS classrooms between three home language background children, there are some limitations:

First, it did not assess the home language proficiency of DLLs. Given that their home language skills significantly influence DLLs' language development (Sawyer et al., 2017), it is essential to consider the impact of these skills on their English language proficiency. Although language assessment tools exist for Spanish-speaking children, no such tools are available for measuring the home language proficiency of Myanmar refugee children, highlighting the need to develop culturally appropriate language assessments (Humphry et al., 2017), particularly considering the diverse composition of children in U.S. preschool classrooms.

Second, the sample size of Myanmar children in this study is relatively small. This limitation can be attributed to many Myanmar refugee families not enrolling their children in HS programs. Even if almost all enrolled children were included in the study, the sample size would remain limited. Future research should focus on strategies to increase the involvement of Myanmar refugee families in HS programs to address this limitation.

Last, this study exclusively assessed oral language development in terms of vocabulary skills. Acknowledging that oral language development encompasses various other components, including decoding skills, understanding the relationship between sound and meaning, grasping grammatical structures, and enhancing listening and comprehension abilities is crucial. Considering these multiple facets, future studies would benefit from a more comprehensive approach to measuring oral language development.

For future research, the interactions between teachers and DLLs variability need to be considered based on the characteristics of the DLLs. This underscores the importance of considering the teachers' experience, educational background, and whether they have received training or retraining related to DLLs (Lin et al., 2023). It is also crucial to account for cultural factors influencing the assertiveness or reservation of language use based on specific cultural norms (Rojas. 2021). Future research should examine how DLLs' linguistic interactions differ across daily classroom activities (Chan et al., 2022). Moreover, investigating the specific teacher and peer variables contributing to the divergent vocabulary development in young children would be of considerable interest.

Conclusion

Early childhood education, and specifically HS, provides a crucial opportunity for children from marginalized backgrounds to receive high-quality educational support and bridge the developmental gaps caused by poverty-related risk factors (Dow, 2011; Grandi, 2016). Understanding the oral language use of English-, Spanish-, and Burmese-speaking children is vital in evaluating the HS program's effectiveness in meeting children's unique needs. This study results indicate that Spanish-and Burmese-speaking children had lower English vocabulary skills when they entered HS. Notably, Spanish-speaking children demonstrated a remarkable ability to

catch up with their English-speaking peers regarding vocabulary scores, progressing significantly from the fall to the following spring. But Burmese-speaking children's oral language skills were exacerbated throughout the HS attendance. Children's fall initial oral language skills play a pivotal role in enhancing the Spring vocabulary skills for DLLs and non-DLLs.

First, this study implies that DLLs exhibited lower vocabulary scores even before entering the HS program, suggesting that their home language environment may have influenced their home language development (Hammer et al., 2014). Since family and institutional factors shape young children's oral language development, it is imperative to collaborate more closely with families and enhance the linguistic environment at home by providing parental education and practical resources (Mak et al., 2023).

Second, it is worth highlighting that Burmese-speaking children displayed higher early literacy and alphabet recognition upon entering HS. This phenomenon aligns with the cultural aspects of Myanmar's education system, which heavily relies on the practice of the written alphabet (Huh et al., 2022). Consequently, it may be worth exploring the potential for leveraging these cultural characteristics to facilitate children's oral language development through appropriate written materials and familiarization with alphabet recognition (Limlingan et al., 2019).

Moreover, the role of teachers in ECE classrooms and their influence on children's oral language development is noteworthy and well-documented (Farrow et al., 2020; Hadley et al., 2022; Hindman et al., 2019; Reilly et al., 2020). Effective organization of activities by teachers can facilitate improved peer interactions among children, and teachers' verbal interactions with individual children can significantly enhance their language development. Despite the relatively

limited overall teacher-child conversational turns, it remains a critical factor in supporting children's oral language development.

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Table 1

Descriptive Statistics

Study variables (n=285)	Mean	Standard Deviation	Range	Skewness	Kurtosis
Child (Male, %)	47	.50	0-1	-	-
Child age	2.94	.71	2-4	-	-
Home language/ethic (n)					
English	174	-	-	-	-
Spanish	96	-	-	-	-
Burmese	15	-	-	-	-
Fall Vocabulary (EOWPVT)	84.46	30.44	1-136	-1.87	3.35
Fall Literacy (WJ-LW)	63.71	46.58	1-160	-.57	-1.37
Spring Vocabulary (EOWPVT)	86.25	31.39	1-141	-2.01	3.63
COP: Talking/Listening (%)					
Non-verbal (N)	.43	.07	0-.32	.17	1.06
Talking in English (T.E.)	.15	.05	0-.75	.96	.95
Talking in other languages (TO)	.01	.01	0-.25	1.96	3.88
Listening in English (L.E.)	.35	.08	0-.83	.03	-.03
Listening in other languages (L.O.)	.01	.01	0-.22	2.17	5.03
Talking/ Sound (T.S.)	.05	.03	0-.44	2.3	9.2
Teacher (T)	.32	.08	0-.90	.24	-.59
Child (C)	.09	.04	0-.75	.23	-.57
TOP: Talking/Listening (%)					
Non-verbal (N)	.25	.13	0-.17	.20	-.57
Talking in English (T.E.)	.64	.15	0-.23	-.18	-.28
Talking in other languages (TO)	.02	.04	0-.33	2.9	8.39
Listening in English (L.E.)	.08	.07	0-.50	1.01	1.18
Listening in other languages (L.O.)	.00	.00	0-5	6.61	43.03
Talking/ Sound (T.S.)	1.93	.42	1-2.6	3.15	9.71
Vibrant	.01	.02	0-.09	1.65	1.50
Pleasant	.32	.18	0-.76	.11	-.62
Flat	.65	.18	.23-1	-.08	-.78
Negative	.02	.03	0-.14	2.33	5.44
Extreme Negative	.01	.02	0-.14	5.98	36

Table 2

ANOVA Result for Initial EOWPVT and WJ-LW among Three Home Language Groups

Study Variables (n=285)	Mean	SD	Mean Square	F	P
EOWPVT	84.12	30.83	2923.41	3.11	.05*
English	87.32	29.10			
Spanish	80.77	32.58			
Burmese	72.86	34.36			
WJ-LW	64.14	46.89	.77	2.59	.001***
English	61.67	48.27			
Spanish	63.17	42.84			
Burmese	92.50	44.81			

Table 3

Results of Paired Sample t Test Examining of Oral Language Skill Growth Over the Year

	Fall		Spring		t	p	Cohen's d
	M	SD	M	SD			
English-speaking (n=174)	88.63	27.49	88.96	29.78	-.13	.50	32.57
Spanish-speaking (n=96)	79.20	33.34	85.48	30.20	-2.05	.02**	29.88
Burmese-speaking (n=15)	69.79	33.36	59.79	45.26	.83	.21	45.07

Table 4

Variance Analysis of Children's Oral Language Practice Comparison with Teachers by Home Language Status

Variables	(COP) Non-Verbal	(COP) Verbal-English	(COP) Verbal-Other	(COP) Verbal-Sound	(COP) Listen -English	(COP) Listen -other	(TOP) Vibrant
	M (S.D.)	M (S.D.)	M (S.D.)	M (S.D.)	M (S.D.)	M (S.D.)	M (S.D.)
English (n=174)	.38 (.03)	**.20 (.14)**	.00 (.01)	.05 (.07)	.33 (.15)	.00 (.01)	.03 (.03)
Spanish (n=96)	.34 (.04**)**	.13 (.13)	**.01 (.04)**	.05 (.07)	.31 (.15)	**.01 (.03)**	.04 (.03)
Myanmar (n=15)	**.41 (.03)**	.15 (.15)	.00 (.01)	**.03 (.05)**	**.40 (.16)**	.00 (.00)	.02 (.03)
F (p)	9.99 **(.00)**	25.27 **(.00)**	37.37 (**.00)**	2.15 (.12)	10.72 **(.00)**	28.22 **(.00)**	1.89 (.17)

Note. The critical value for significance at p <0.05 is given in bold.

Table 5

Variance Analysis of Children's Oral Language Practice Comparison with Peers by Home Language Status

Variables	DLLs Portion	Myanmar Portion	Peers Voca. Skills	(COP) Peer
	M (S.D.)	M (S.D.)	M (S.D.)	M (S.D.)
English (n=174)	.27 (.13)	.08 (.07)	.00 (.01)	.08 (.09)
Spanish (n=96)	.47 (.16**)**	.03 (.05)	**.01 (.04)**	.09 (.11)
Myanmar (n=15)	.28 (.04)	.22 (.05)	.00 (.01)	.07 (.03)
F (p)	9.99 (.00)	25.27 (.00)	37.37 (.00)	.03 (.12)

Note. The critical value for significance at p <0.05 is given in bold.

Table 6

Zero-Order Correlation Among and Observed Variables (n=285)

Variables	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.
1. Spring EOWPVT	-									
2. DLLs portion	-.02	-								
3. Peer EOW	.16	-.10	-							
4. Fall EOWPVT	.52**	-.01	.43**	-						
5. Fall WJ-LW	.16	-.29	.08	.46**	-					
6. COP-Nonverbal	-.04	-.70**	-.40*	-.22	.32	-				
7. COP-Talk SP	-.05	.70**	.11	.03	-.32	-.49**	-			
8. COP-Teacher	-.01	.24	-.12	-.09	-.39*	-.79**	.86**	-		
9. COP-Peer	.04	.11	.28	.18	.14	-.55**	-.01	-.78**	-	
10. TOP-tone-average	-.18	.43**	.13	.01	-.05	.05	.50**	.39*	-.21	-

Table 7

Bivariate Regression Among and Observed Variables with Spring EOWPVT *(n=285)*

Variables	β	SE	p
DLLs portion	-3.91	39.06	.92
Peer EOW	1.6	.20	.86
Fall EOWPVT	.25**	.22	.001**
Fall WJ-LW	.20	.22	.16
COP-Nonverbal	-36.90	155.55	.40
COP-Talk SP	-.00	.78	.78
COP-Teacher	3.71	24.77	-.12
COP-Peer	-11.83	46.10	.79
TOP-tone-average	-74.94	85.29	.13

MANUSCRIPT II

The Role of Home Language Background in Peer and Teacher Oral Language Interactions: Factors Influencing Three Home Language Groups

This manuscript is prepared for submission to the peer-reviewed journal, <*Early Education and Development*>, and is the third of three manuscripts prepared for a journal-ready doctoral dissertation.

Abstract

This research examined the language contexts in Head Start (HS) classrooms as predictors of classifying likelihood of grouping English-, Spanish- and Burmese-speaking children. This study included 3-year-olds (n=36) in 9 classrooms using the individual Child and Teacher Observation in Preschool (COP/TOP) tool and Language ENvironment Analysis (LENA). The research focused on peer language skills, peer language match, teachers' and peers' frequency of interaction, conversational turns with teachers, and teachers' emotional support as language contexts. For analysis, this study conducted Person correlation, and multinominal logistic regression to maximize the differences between groups while minimizing the differences within groups utilizing a machine learning algorithm using *R*. The results highlight the pivotal role of children's initial oral language skills for spring oral language growth before entering the HS program. Several significant classroom oral language contexts were predicted to be more likely in the three different home language groups. Our investigation identified predictors of the frequency of teacher and peer verbal interactions for being likelihood of English- Spanish- and Burmese-speaking children. Moreover, the presence of peers who share the same home language is positively associated with oral language skills. This underscores the value of promoting interactions with peers who speak the same home language, suggesting the potential benefits of grouping children with similar language backgrounds in classrooms. However, it is crucial to do so in a manner that avoids segregation, promotes diversity, and encourages multilingualism. The results of the current study provide foundational information for designing teacher education programs and professional development for administrators and teachers in HS, particularly for understudied home language-speaking groups of children.

Keywords: oral language, Head Start, dual language learners, peer and teacher

The Role of Home Language Background in Peer and Teacher Oral Language Interactions: Factors Influencing Three Home Language Groups

High-quality language interactions are key predictors of early oral language skills and future academic success (Dickinson & Porche, 2011; Dickinson & Tabors, 2001; Hindman et al., 2019; Uccelli et al., 2019). The amount and quality of language exposure plays a critical role in oral language development (Reilly et al., 2020; White et al., 2020). As a result, early childhood experts stress the need to make oral language a fundamental aspect of early childhood education, integrated into curricula and daily activities (Dickinson et al., 2014; Early et al., 2010; Sawyer et al., 2018). For measuring this critical classroom oral language quality, considerable efforts have been made to capture classroom oral language contexts. Recently, systematic observation tools and digital technologies have emerged as valuable means of capturing individual children's oral language interaction and use (Choi et al., 2023; Sawyer et al., 2018).

Classroom languages are getting diverse. A national Head Start (HS) study reported that one-third of the children attending HS are Dual Language Learners (DLLs), navigating the acquisition of both English and their home language simultaneously (National Academies of Sciences, Engineering, and Medicine, 2017). In contrast to the increasing linguistic and cultural diversity of the children enrolled, 60.9 % of HS teachers are white monolingual (www. Zippia.com, 2022). Although over 70% of HS classrooms have at least one DLL child, only 27% of HS teachers have received training in working with DLLs (Choi et al., 2021; Park et al., 2018). Among DLLs in the United States, Spanish-speaking children are the largest population, but there is also an increasing number of Myanmar refugee children in the Midwest U.S. (Klein, 2018).

Previous research has identified the critical role and factors of the classroom oral language experiences for DLLs (National Academies of Sciences, Engineering, & Medicine, 2017; White et al., 2020). White et al. (2020) argued that DLLs require targeted, language-specific classroom oral language support rather than general teacher-child interaction. These DLL-specific language supports incorporate the home language for oral language speech or bridging the new English vocabulary learning (Castro et al., 2017). To have more frequent and higher-quality interaction with more skillful peers, effective strategies have been identified to support DLLs' oral language skills (Atkins-Burnett et al., 2017; Schmerse, 2021). As children spend longer time in ECE classrooms, further studies are needed to examine the developmental impact of DLLs' oral language in conjunction with peer oral language interactions (Schmerse, 2021).

Assessing the quality of the oral language environment can also be significant in children's academic success. Recently, researchers have turned their attention to individual child-level observational tools (Sabol et al., 2018; Spivak & Farran, 2016), such as Language Interaction Snapshot (LISn, Atkins-Burnett et al., 2011), Child Observation in Preschools (COP, Farran, 2017), or Teacher Observation in Preschool (TOP, Farran, 2017), as more accurate sources of data for assessing classroom quality. Global classroom measurement tools such as the Classroom Assessment Scoring System (CLASS, Pianta et al., 2008) or Early Childhood Environment Rating Scales (ECERS, Harms et al., 1998) are less accurate than individual children's assessment tools. Even though children share a common classroom context and activities with their peers, their individual experiences, as demonstrated by their language exposure and interactions with teachers and peers vary based on their linguistic and cultural characteristics, such as their home language (Sawyer et al., 2018; Early et al., 2010). To provide

a more comprehensive understanding of the language skills, exposure, and interaction between teachers and peers, this study utilized multiple data sources, including classroom observations (COP/TOP) and advanced technology to record classroom language interactions Language ENvironment Analysis (LENA) Digital Language Processor (DLP). The LENA DLP is an innovative tool that quantifies real-time classroom language interactions, offering valuable insights to measure young children's quantitative oral language exposure on the amount of speech, for example, numbers of child spoken, teacher-child conversational turns (Dykstra et al., 2013; Merz et al., 2020; Romeo et al., 2018; Zimmerman et al., 2009). Moreover, most of the previous studies have primarily focused on teacher interaction, with few examinations of peer interactions; this study considers teachers and peers, recognizing them as a crucial proximal source of DLLs' oral language contexts.

Despite the increased need for targeted oral language support for DLLs, there are disparities reported in the quality of language interaction in ECE classrooms (Justice et al., 2014). Sawyer et al. (2018) found that in ECE classrooms, there was minimal use of home languages and low-quality oral language practices for DLLs. However, there were no significant teacher-child interaction differences between DLLs and non-DLLs. In the same classrooms, it was observed that teachers showed less language interaction with DLLs compared to their interaction with English monolingual peers (Choi et al., 2023). Furthermore, recent research conducted by Lim and colleagues (in press) has highlighted the variability in language interactions experienced by individual children and expanded the under-studied population of Burmese-speaking refugee children. This study compared skills, interactions, and exposures with teachers and peers between English-, Spanish- and Burmese-speaking children (Lim et al., in press). Interestingly, even within the subset of DLLs, considerable disparities in language skills,

interactions, and exposures were noted between Spanish and Burmese-speaking children in HS classrooms. Therefore, this paper has two questions: 1) Do English-, Spanish-, and Burmese-speaking children have different language experiences during typical classroom days in teacher and peer word accounts and teacher-child back-and-forth conversational turns? 2) What are the distinctions in peer and teacher oral language interactions among English-, Spanish-, and Burmese-speaking children, and what factors contribute to predicting the classification of these interactions into three home language groups?

Theoretical Framework

The theoretical frameworks for the study are based on Culturally Responsive Pedagogy (CRP), Bronfenbrenner's Ecological Systems Theory (1977, 2007), and Vygotsky's (1978) Sociocultural Theory, which provide conceptual lenses for understanding the language contexts of children in Head Start classrooms. Given the increasing diversity in ECE classrooms, the National Association for the Education of Young Children (NAEYC, 2022) emphasizes CRP as crucial for providing high-quality care and developmentally appropriate learning environments. Gay (2018) suggests that CRP is an effective pedagogy that supports children's cultural backgrounds. CRP utilizes cultural knowledge, previous experiences, and unique behaviors of racially diverse children and their families to create learning experiences that are more relevant and effective for them (Gay, 2018). For instance, a CRP approach might involve incorporating traditional stories or props for pretend play from various cultures into the curriculum to engage students of diverse backgrounds and make learning more meaningful for them. Recent studies have provided more evidence regarding CRP for DLLs, including the positive relationship between teachers' higher level of emotional support (Burchinal et al., 2010), frequent classroom

home language use (Castro et al., 2017), and frequent small group instruction targeting specific content areas and DLLs' higher cognitive development (Buysse et al., 2013).

Bronfenbrenner (2007) proposed the ecological theory, which is used to examine the interaction among peers and teachers within the proximal environment of the HS classroom context. Bronfenbrenner's theory posits that daily, high-quality, repeated dynamics of interactions shape development (Bronfenbrenner & Morris, 1998). Existing research shows that interactions with proximal others, such as peers and teachers, are crucial for language growth in HS classrooms as they provide opportunities for children to practice and develop their oral language skills (Limlingan et al., 2019).

Vygotsky's (1978) sociocultural theory provides a theoretical basis for exploring the impact of peer language contexts on English-, Spanish- and Burmese-speaking children's language development. The theory posits that teachers and peers play a role in the development of language skills through the *zone of proximal development* (ZPD), which refers to the gap between what a child can do alone and what they can achieve with assistance from someone more skilled. Peers with advanced skills can assist less-skilled peers' learning through interactions and demonstrations, which can increase language abilities.

Review of Literature

Children from Linguistically and Culturally Diverse Backgrounds

Children entering ECE classrooms come from diverse linguistic backgrounds, each with varying initial language skills (Hammer et al., 2014). Children's language abilities are shaped by a combination of genetic and environmental factors (Finders et al., 2023). Notably, the quantity of speech children is exposed to directly influences their language development, highlighting the significant role of social contexts in shaping their linguistic skills (Duncan et al., 2023). For

example, almost half of the young DLLs have lower language skills than non-DLLs (Buysse et al., 2013), and low socio-economic status (SES) puts them at risk regarding language development (Burchinal et al., 2010; Sawyer et al., 2018). Furthermore, neurological studies suggest that children who engage in more conversational exchanges with adults tend to exhibit more sophisticated speech patterns, as evidenced by brain functioning associated with language processing (Dykstra et al., 2013; Romeo et al., 2018). For social context, DLL children did not get enough support from home for their language development; some research showed that low-income families could not provide of language-rich environment and stimulus language interaction to their young children than do higher-income families (Dickinson & Tabors, 2001; Zill & Resnick, 2006).

Additionally, children bring unique cultural expectations from the home environment into the classroom, significantly influencing oral language practices among them (Cho & Votava, 2021; Cun, 2020). These practices may vary considerably across different cultures. For example, children in Myanmar are always educated to respect their teachers and parents and are not allowed to ask questions, being quiet and obedient are highly expected (Oo, 2015). In contrast, there is a high value placed on effective speaking and asking questions, and autonomous learning in U.S. classrooms (Hammond, 2014). Understanding the influence of home language and cultural practices on children's oral language development is crucial for designing effective educational interventions that accommodate linguistic and cultural diversity in the classroom.

Classroom Language Context

The importance of oral language development in the early years lies in its strong associations with later literacy skills, such as word reading and comprehension, including word reading and comprehension (Baker & Páez, 2018; Cabell et al., 2015). It is noteworthy that most

of the research in this domain has mainly concentrated on English-speaking children rather than specifically on DLLs. Therefore, this literature review primarily centers on the literature concerning DLLs. It is imperative to acknowledge that high-quality oral language interactions play a pivotal role in enhancing language proficiency among DLLs (Ramírez et al., 2020). The quantity and quality of linguistic exposure also play a crucial role in oral language development (Reilly et al., 2020; White et al., 2019). As such, early childhood experts emphasize the importance of making oral language a central aspect of early childhood education, integrated into curricula and daily activities (Dickinson et al., 2014; Early et al., 2010; Sawyer et al., 2018). The current study focuses on the quantity of language input heard by children from their peers and teachers in the classroom (Duncan et al., 2023).

Studies in classroom language contexts focus mainly on teachers' interactions and neglect the impact of peers on DLLs. Sawyer et al. (2018) found preschool children spending more time interacting with their peers than their teachers, peer interactions are often not considered critical in models relating to the relationship between HS attendance and child development (Henry & Rickman, 2007). Research has shown that peer interactions offer occasions for DLLs to learn new vocabulary, exercise language skills, and gain confidence in their ability to communicate with others (Schmerse, 2021). The limited research highlights the need for further understanding of the role of peer language skills, peer language match, and frequency of interaction as predictors of DLLs' language development in HS classrooms. Ultimately, both teacher and peer interactions are key components of the language-rich classroom contexts that promote children's oral language development.

The classroom language context in this study consists of the language a child hears, learns from, and practices with peers and teachers within an HS classroom**.** Classroom language

contexts with peers are (a) frequency of interaction with peers, (b) peers' English vocabulary skills (c) the same home language peer. Moreover, classroom language contexts with teachers are (a) proportion of words with teachers (b) teachers' non-verbal (c) teacher's emotional support: teacher's warm and supportive tone.

Peer Interaction

The preschool setting offers opportunities for children to interact with their peers while participating in play and academic activities. The definition of a peer is someone at the same developmental stage or age as another. Peers are often used as social models for children to facilitate their learning and development through interactions and relationships with others (Vygotsky, 1978). Interactions with highly skilled peers may provide opportunities for English-, Spanish- and Burmese-speaking children to improve their skills and lay the foundation for school success (Horm et al., 2018). Peer interactions may be significant for enhancing DLLs' English language skills, as they may have limited opportunities to practice English outside of preschool (Atkins-Burnett et al., 2017). Previous research on DLLs has mainly focused on their experiences in English-majority classrooms, with limited studies on the impact of varied linguistic composition on language development and the influence of peers on language skills. This suggests a potential connection between classroom linguistic composition and language outcomes for DLLs.

Peers' English Vocabulary Skills. Peers with higher language skills can demonstrate how to communicate effectively and share their thoughts with others (Justice et al., 2011). For instance, a child possessing advanced language abilities may employ a rich vocabulary to address conflicts verbally, serve as a model for their peers, or share an abstract concept to their friend in various ways (Mashburn et al., 2009). This could lead to a connection between peer language

skills and the child's academic, social, and behavioral development, as previous research has shown a relation between peer language skills and language development in preschool environment (Schmerse, 2021). Researchers have begun to study whether DLLs receive the same benefits from interacting with peers with higher skills as non-DLLs (Gamez et al., 2019). Atkins-Burnett et al. (2017) explored the relationship between the expressive vocabulary of preschool classmates and the vocabulary knowledge of individual children in a linguistically diverse sample of 4-year-olds enrolled in preschool. The results showed that children with peers with higher expressive vocabulary also had a higher expressive vocabulary. This relationship was particularly strong for DLLs and showed that having peers with higher vocabulary ability was associated with stronger growth in conceptually scored expressive vocabulary for DLLs in both languages compared to English-fluent children (Schmerse, 2021).

Same Home Language Peers. Research conducted in the United States has consistently demonstrated that an increase in the percentage of DLLs in the preschool classroom has some impact on the development of their home language skills when classroom offered bilingual instruction (Raikes et al., 2019). However, it has been associated with modest or no gains in their English proficiency (Garcia, 2018; Limlingan et al., 2020). In addition, some studies have found that the presence of peers who speak the same home language as the child can be beneficial for feeling being accepted among peers and maintaining their cultural identity and connection to their heritage (Gay, 2018; Nelson et al., 2015). Nelson et al. (2015) found that social withdrawal in ECE is a risk element for maladjustment. DLLs may benefit from having peers who share the same home language.

Frequency of Interactions with Peers. The role of peer interactions in language development indicated that increased exposure to peers proficient in English can lead to

improved English vocabulary skills and overall language growth (Justice et al., 2014; Mashburn et al., 2009). Dickinson and Tabors (2001) found that engaging in pretend play with peers during preschool was linked to better literacy outcomes in children during their kindergarten years. The improvement was directly correlated with the amount of time the children spent talking with each other, highlighting the positive impact verbal interactions with peers have on language development (Dickinson & Tabors, 2001). Despite the growing evidence of peer effects in early childhood education, there has been a surprising lack of research on whether DLLs benefit from the skills of their majority language-speaking peers. This is particularly surprising given that for many children from minority language homes, preschool classrooms are one of the primary contexts in which they have frequent contact with the majority language. Furthermore, research on preschool-aged dual language learners has found that the frequency of interactions with peers positively affects their language development (Choi et al., 2018; Schmerse, 2021). However, to date, only a few studies (Atkins-Burnett et al., 2017) have explicitly addressed this question; more research is needed to examine the relationship between the frequency of talk with peers and language outcomes in DLLs.

Teacher Interaction

In the case of DLLs, the role of teachers in fostering their language development may be especially important. These children face unique challenges in adapting to a new language and cultural environment, and the support and guidance of their teachers can be crucial in helping them navigate these challenges and achieve success in their language development (McBrien, 2005; Trieu & Vang, 2015). Teachers can also support children's language development by providing positive emotional support, scaffolding language use, and modeling effective

communication strategies (Cabell et al., 2015; Dickinson et al., 2014; Limlingan et al., 2020; Sawyer et al., 2018).

Frequency of Interactions with Teachers. Studies have found that teacher-child interactions that involve frequent and meaningful conversation can help foster language development in young children (e.g., Duncan et al., 2023; Justice et al., 2014). Frequent and general high-quality instructional support is also related to DLLs' oral language development (Hindman & Wasik, 2015). In addition, the quality and frequency of interaction with teachers can impact children's language skills by providing them with opportunities to engage in language-rich interactions and to receive feedback and support from their teachers (Mashburn et al., 2009). National Center on Early Childhood Development, Teaching, and Learning (2018) emphasizes the importance of providing frequent intentional language support to utilize DLLs' home language and culture to bridge their background with the ECE program.

Teacher-Child Conversational Turn. The use of technology to quantify children's language environments has the potential to enhance our understanding of their language development. A growing body of evidence supports the effectiveness of the Language ENvironment Analysis (LENA) device as a tool to measure young children's language exposure (Dykstra et al., 2013; Merz et al., 2019; Romeo et al., 2018; Zimmerman et al., 2009). For instance, studies have found that children who engage in more conversational turns with a parent tend to have better language skills (Gilkerson et al., 2018; Zimmerman et al., 2009). This suggests that, in terms of quantity, the language interactions within the classroom may not differ significantly between monolingual English-speaking and DLLs. Although some studies have used the LENA to examine language environments in childcare settings, these studies were limited to specific populations, such as children with autism spectrum disorder, very small

samples, and/or a younger age range than pre-kindergarten (Garwood, 2023; Sulek et al., 2022). The current study focuses on the language development of dual language learners in HS, specifically DLLs. Further research is necessary to examine the impact of conversational turns with teachers on their language development.

Teachers' Emotional Support. Teachers' emotional support has also been found to be an important factor in children's language development. Children who experience warm, supportive, and responsive relationships with their teachers have more positive language outcomes, including increased language skills and excellent overall language development of all children, including DLLs (Henry & Rickman, 2007; White et al., 2019). Research has established a connection between the emotional support provided by teachers and the cognitive and academic achievement of DLL children (Bulotsky-Shearer et al., 2020; Weiland et al., 2014). A well-organized classroom environment, like the pedagogies of learning activities and organizing daily routines, has also been shown to positively impact DLLs' cognitive and socioemotional development (Baker, 2018; Downer et al., 2012). Moreover, research has demonstrated the impact of teacher-provided instructional support on the language learning outcomes of DLLs (Hindman et al., 2019). However, further investigation is required to explore the relationship between the emotional support provided by teachers and the language development of DLLs.

The Current Study

The present study addressed two primary objectives. First, it aimed to investigate the relationship between classroom language contexts and the oral language development of children who speak English-, Spanish- and Burmese. Second, it sought to explore distinguishing factors in peer and teacher oral language interactions that are more associated with English, Spanish, and Burmese-speaking groups. Based on the reviewed literature, this study incorporated key aspects

of oral language contexts affecting the language development of English-, Spanish- and Burmese-speaking children. These included the frequency of peer interaction, the average English vocabulary skills of classroom peers, the proportion of children speaking the same home language, the frequency of teacher-child interaction, the frequency of back-and-forth teacher-child conversation, and the level of teacher-emotional support. The study considered individual differences in children's oral language experiences and outcomes based on factors such as home language characteristics and the child's initial oral language skills (Dickinson & Tabors, 2001; Leech et al., 2018). These individual differences were considered within the larger ecological peer and teacher contexts of the HS classrooms, providing a comprehensive understanding of how different factors may interact to influence oral language development in English-, Spanish- and Burmese-speaking children.

To meet the objectives, the study used two innovative data sources, including systematic classroom observations, and digital audio recorders to capture classroom oral language interactions accurately. These sources offered a more comprehensive understanding of children's language contexts and supports. This study also provided valuable insight into support needed for an increasing population of preschool children, emphasizing the crucial role of the classroom language contexts in promoting oral language development.

The present study investigated the following research questions:

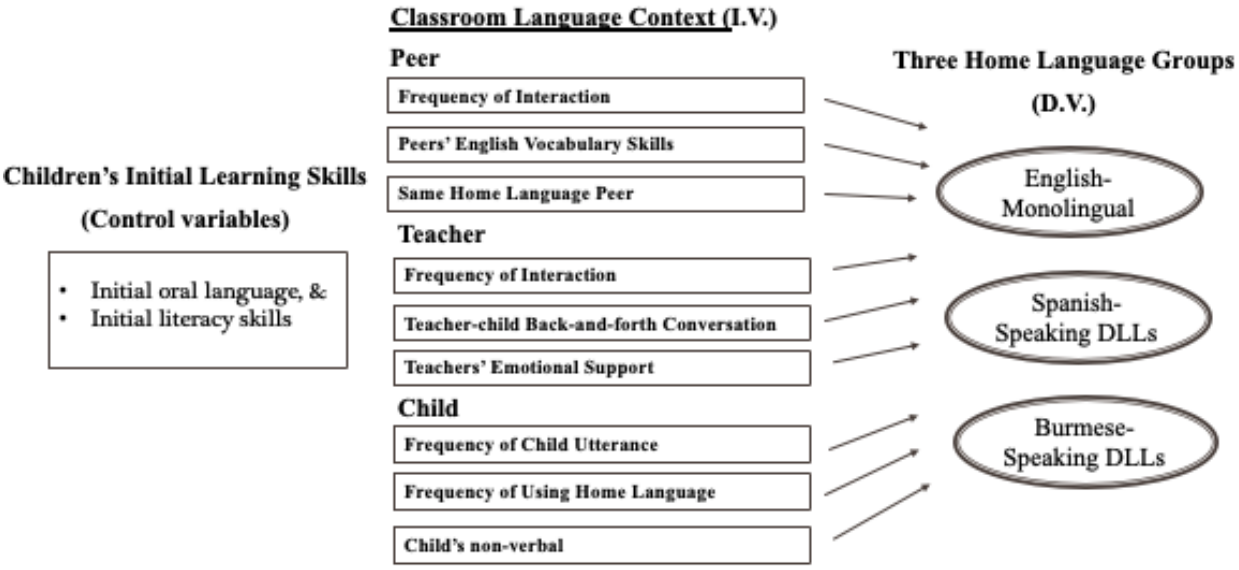
1. Do English-, Spanish-, and Burmese-speaking children have different language experiences during typical classroom days in teacher and peer word accounts and teacher-child back-and-forth conversational turns?

2. What are the distinctions in peer and teacher oral language interactions among English-, Spanish-, and Burmese-speaking children, and what factors contribute to predicting the classification of these interactions into three home language groups?

Below is a description of the key concepts used in the present conceptual framework.

Figure 1

Conceptual Framework of the Study Language Context



Methods

This study used secondary data from a university-based early childhood research institute's evaluation project with HS programs in a large Midwest city in the U.S. This 3-year program evaluation study began in the fall of 2022 and continues through the spring of 2025.

Participants

This study included children who participated in LENA within the broader research project. Thirty-six children from 9 classrooms from HS centers consented to participate in LENA. Children were all 3 years old; girls represented 75 % of the sample, and children's

gender was not evenly distributed. The number of children in each home language category was English= 21, Spanish= 9, and Burmese, Zomi, and other ethnic Myanmar = 6. Participants were recruited for the evaluation project via informational sheets and meetings at the child's school. Parents completed a sign-up sheet for the study and a research assistant followed up with the potential participants to obtain informed parental consent; child assent was also obtained at the time of assessment.

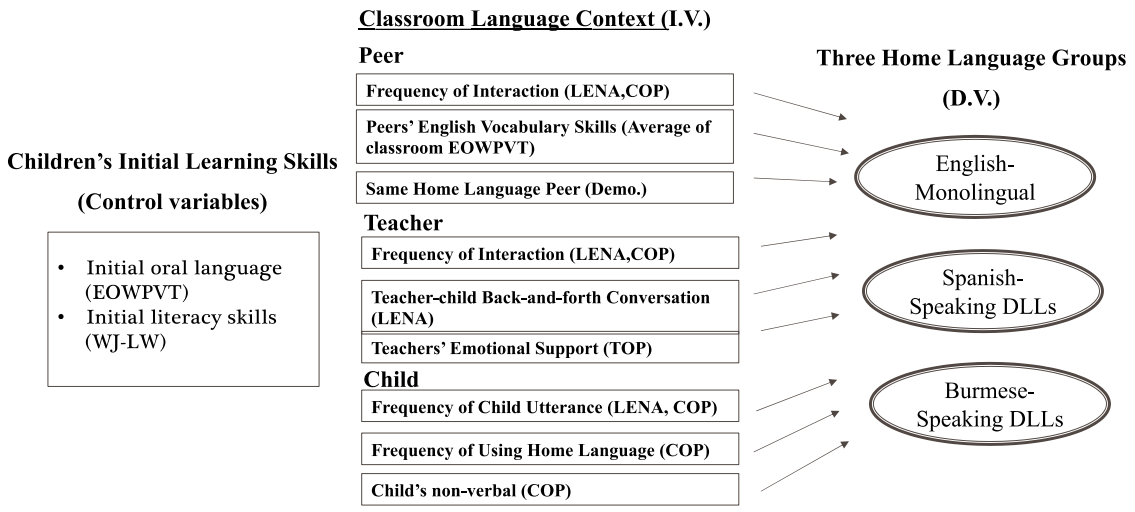
The participants also included teachers from the nine selected classrooms who participated in LENA. Seven of these teachers provided full responses of teacher survey questionaries. All seven held lead teacher positions, with an average of 12 years of teaching experience in the HS program. 71.4 % of teachers held BA/ BS degrees, and 28.6% of teachers held high-school diplomas. Their ages ranged from 38 to 42 years old on average. Demographically, 57.1% identified as White Caucasian, 28.6% as African American, and 14.1% as Hispanic.

Measures

Below is a description of the key measures used in the present study. Figure 2 shows each measuring tool for this study.

Figure 2

Measures of the Study Language Context



Classroom Language Contexts

Teacher and Child Observation in Preschool (COP/TOP). COP/TOP is a systematic observation tool designed to assess the behaviors of children, teachers, and assistants in preschool classrooms during a full-day visit (Farran, 2017). Both COP and TOP rely on trained observers who do time sampling and checking occurrences in the classroom, recording either individual child experiences or teacher experiences. It provides a comprehensive evaluation of their interactions and activities, enabling educators and researchers to gain insights into early childhood education quality and identify improvement areas.

TOP (Teacher Observation in Preschools). TOP (Farran, 2017) protocol allowed for the observation of teachers' instructional and emotional language support in classrooms throughout a day-long visit in conjunction with the COP. The teacher's behavior was observed for a 3-second sweep before scoring; children (COP) coded immediately afterward. All observers in the study achieved inter-rater reliability with an experienced anchor observer at each time point. Previous studies using TOP (Bilbrey et al., 2007) have shown good inter-rater reliability, with Kappa coefficients ranging from .82 to .86. The correlations observed between the nine dimensions of

TOP and three domains of CLASS Pre-K offer support for the concurrent validity of TOP assessments, coefficients ranging from .11 to .20. (Miranda et al., 2024).

For this study, one TOP variable was included: *Tone/Effect* captured the teacher's tone during the three-second observation. The tone was coded as vibrant, pleasant, flat, negative, or highly harmful. For example, an extreme negative would include physically moving children, yelling at children, or using sarcasm, while a flat effect would be neutral or expressionless. A vibrant tone would be coded if the teacher interacted positively with the child and smiled or laughed. For this study, a variable was created as the average of vibrant or pleasant effects across sweeps.

COP (Child Observation in Preschools). COP (Farran, 2017) protocol explored how children speak or listen to whom and how they are involved in the classroom. For capturing a snapshot, each child in a classroom was observed for approximately 3 seconds, after which the observer immediately coded nine areas of the child's behaviors. The COP assesses various aspects, such as children's verbal interactions, learning environments, and level of involvement. Trained assessors use the COP and are found reliable through comparison with at least two other expert observers during their initial training and field-based reliability testing (Bilbrey et al., 2007). Kappa coefficients for COP interrater reliability ranged from .82 to .87 (Farran, 2017). Data were aggregated at the child level, resulting in proportions of the total sweeps of a child engaged in particular behaviors. The study by Miranda et al. (2024) provides evidence supporting the concurrent validity of COP assessments by demonstrating correlations between its nine dimensions and the three domains of CLASS Pre-K. The coefficients, ranging from .11 to .20.

The current study focused on one COP variable: *Language Use* and noted whether the child was interacting or listening. Children's language uses were divided into two categories: (1) whether the child was interacting or listening in English or other languages and (2) to whom the child was speaking or listening (such as teacher, child, small group, whole group, or self). For example, during the 3-second sweep, observers looked first to see if the child was interacting or listening in English or other languages and to whom. Sometimes, both listening, and interaction could occur within the same interval, then coded whichever occurs first, not both.

Language ENviornment Analysis (LENA) Digital Language Processor (DLP). This study utilized the Language ENvironment Analysis (LENA) DLP system (Ford et al., 2009) to gain a more in-depth understanding of the teacher-child language interactions in the classroom. Children and teachers wore vests equipped with LENA audio recorders to capture their language interactions. These recorders have been widely used to study interpersonal exchanges between children and their peers and between children and teachers. The vests are designed to be non-intrusive, allowing participants to continue their regular classroom activities while their interactions are recorded. The open-source Sphinx ASR software was used to extract and analyze the frequency and duration of each participant's speech and conversational turns, offering insight into the language experiences of each child.

The LENA DLP provided a streamlined approach to evaluating children's language environments by eliminating the need for manual transcription or coding and allowing for the automatic collection of large amounts of data (Duncan et al., 2023). Although it could not determine the quality of the interactions, high-quality language environments would likely be reflected through adult speech and frequent conversational turns, as young children often learn through adult interactions such as shared book reading and educational activities with support

(Duncan et al., 2020). LENA DLP provided the data in the following (see also Table 2): *teacher word count*: the number of words spoken near the child (within 6-10 feet), and *peer word count*: the number of words spoken near the key child by another child; and *child vocalization count*: the key child vocalizes (words, babbling, or sentences of any length), except cries, screams, breaths, and burps; and *conversational turns*: the number of back-and-forth interactions between the key child and adult response in 5 seconds. However, the number of words spoken, or the frequency of conversational turns may not accurately reflect the quality of the experiences (Duncan et al., 2023). Previous research using the LENA system had primarily focused on different age groups, home environments, or children with disabilities (Dykstra et al., 2013; Merz et al., 2020; Mitsven et al., 2022; Perry et al., 2018; Romeo et al., 2018; Zimmerman et al., 2009). The LENA DLP had been reported to show a reliability exceeding 85% when compared to human transcription of the same recording (Gilkerson & Richards, 2008). It demonstrates high validity alongside other measures of language environment for example, adult word counts r = 0.79, child vocalization r = 0.78, child-teacher conversational turns count r = 0.36 (Choi et al., 2023; Cristia et al., 2020).

Children's Initial Learning Skills

Expressive One-Word Picture Vocabulary Test (EOWPVT). The Expressive One-Word Picture Vocabulary Test (EOWPVT) is a standardized assessment that measures children's ability to understand, and use spoken language (Bronwell, 2000). EOWPVT had previously been considered a good measure of estimated overall expressive vocabulary skills for children from 2 to 80 years old (Martin & Brownell, 2011). The EOWPVT consists of 190 items set up in a developmental sequence. For each item, children are asked to name objects, actions, or concepts presented in colored pictures. These pictures represent concepts people have experienced in

school, media, or home. Administration typically takes 20 minutes; less than 5 minutes is needed to score and interpret the data. Raw and standard scores, percentile ranks, and optional age equivalents are reported. Reliability of these coefficient alpha values ranged from .93 to .97., validity coefficients reported from .67 to .77, and test-retest reliability of .97 across 2 weeks to 4 weeks.

The Woodcock-Johnson Tests of Achievement (3rd Edition; WJ-III). Initial literacy and problem-solving skills were assessed by utilizing two subscales of the Woodcock-Johnson III achievement tests: Letter-Word Identification and Applied Problems (WJ-III; Woodcock et al., 2001). The Woodcock-Johnson (WJ) is a standardized assessment tool to measure children's cognitive skills. The WJ assesses general scholastic aptitude, oral language, and academic achievement. It includes several co-named tests that have been updated and revised to ensure their continued validity and reliability. The WJ-III is standardized for use with individuals aged 2–90. Reliability estimates for individual subsets range from .69 to .99. Overall construct validity of WJ-III was found r =.71 (Reddy et al., 2021). These tests are widely used in educational and clinical settings to evaluate cognitive and academic skills in children and adults. The Letter-Word Identification subscale was used to assess letter naming and word decoding skills by asking the child to identify (point to or name) a series of letters and words. Reliability of Letter-Word Identification subset coefficients ranges from .88 to .94, and validity is r= .68. Age-based standard scores, in which the mean score is 100, and the standard deviation is 15 and familiar to most people, were used in analyses rather than the W-score, which is unique to the WJ-III test.

Three Home Language Groups

Child Demographics. Child characteristics, including gender, race/ethnicity, and home language for those who participated in the present study were obtained from the program

administrator who collected it from parents when they enrolled their children in the HS program: (a) English-speaking: White or African American children who speak English at home (we put these children in the same group because they are monolingual) (b) Spanish-speaking: Hispanic children who speak Spanish at home and (c) Burmese-speaking: children from who speak the official language of or Zomi tribal languages at home. Burmese-speaking children are coming from refugees who forced to leave their home country due to political, social, religious, or ethnic persecution and are unable to return due to a well-founded fear of continued harm (United Nations High Commissioner for s [UNHCR], 2011). DLLs are children under 5 acquiring two or more languages simultaneously (Office of Head Start, 2008).

Procedures

This study, conducted during the first year of data collection (2022-23), received approval from the university's Institutional Review Board (IRB). Utilizing a multi-stage sampling approach, the research institute selected representative classrooms and children from all ten Head Start program centers affiliated with the agency overseeing the evaluation study. Upon obtaining informed consent from parents, child assessments, including the EOWPVT and Woodcock Johnson, were administered initially and repeated in the spring (EOWPVT only). On the morning of the first day, child outcome assessments were conducted, with testing sessions lasting approximately thirty minutes. These assessments were carried out in a quiet area outside the classroom. Additionally, classroom observations using the COP/TOP method were conducted one-on-one with a trained assessor during the winter. These observations commenced at 8:30 AM and concluded around nap or resting time.

LENA data collection took place only in the nine classrooms in March and April of 2023, covering the period from the children's arrival to naps. In each classroom, data collection took

place for roughly three hours per day for five days (a week). Teachers were given instructions on how to use the LENA digital recorders by a trained researcher, along with a leaflet that included basic troubleshooting suggestions. Furthermore, on every teacher's first day of recording, a researcher assisted by physically attending the class and ensuring that the digital recorders were started and paused appropriately. When a child arrived at school, teachers were supposed to turn on the LENA recorder, put it in the designated vest, and put the vest on the child. Children were asked if they would like to wear the recorder and were not pressured to do so. The teacher removed the child's vest and hit the recorder's pause button when nap or rest time began. After that, the recorders were stored safely so they could be used the next day and so on, recording for a week. After every recording was finished, the recorders were taken out of the classroom and a researcher questioned teachers about their experiences with gathering data. For the subsequent data cleaning, teachers' answers were documented. After that, the audio was downloaded, uploaded, and deleted from the device before being processed on LENA Hub. LENA DLP produced 5 minutes or hourly data sets of variables of Child key, recording starting time and ending time, adults' word counts, child vocalization counts, teacher-child back-and-forth conversational turns counts, distance, TV electric sounds, overlap, noise and silence (see Table 1).

Table 1

LENA DLP Codes

Segment ID (Code)		*Description*
Near	Far/Faint	
MAN	MAF	Male Adult
FAN	FAF	Female Adult

CHN	CHF	Key Child
CXN	CXF	Other Child
NON	NOF	Noise
OLN	OLF	Overlap
TYN	TYF	TV/Electronics
	SIL	Silence/ No Acoustic Features

Following the completion of each recording session, the recorders were retrieved from the classroom and teachers were interviewed about their data collection experiences, with documentation for subsequent data cleaning. Afterwards, the audio files were downloaded, uploaded, and erased from the device before undergoing processing on LENA Hub. LENA DLP produced 5 minutes or hourly data sets of variables of Child key, recording start time and ending time, adults' word counts, child vocalization counts, teacher-child back-and-forth conversational turns counts, distance, TV electric sounds, overlap, noise and silence (see Table 1).

Data Analysis

Descriptive Analysis

The data were cleaned, and the Statistical Package for Social Science (SPSS) version 28 was used for descriptive and correlation analysis. Analyses began by calculating some variables: Peer language skill was calculated by taking the average of all target children's classmates' scores on the fall EOWPVT. The exact process was repeated for peer literacy skills using scores on the fall WJ-LW. The Sphinx ASR software of LENA DLP extracted and coded the frequency and duration of each teacher-child interaction, including the back-and-forth conversational turns. LENA peer verbal account scores were calculated. The proportion of DLLs was determined by

dividing the number of DLLs by the total number of children for each home language child in 9 classrooms. In testing the model, children's DLL proportions, initial fall expressive vocabulary and literacy scores were controlled. Moreover, children's gender, SES, and other family backgrounds did not enter due to all participants being eligible to enroll in the HS program. A descriptive analysis was performed to investigate the overall mean classroom oral language contexts and information about the sample; the peer and teacher language context and control variables were presented in Table 2.

Inferential Analyses

To examine research question 1, a series of one-way Analyses of Variance (ANOVA) was conducted to compare the three home language groups' classroom language exposure and interactions measured by LENA. Post-hoc, Bonferroni correction adjusted p-values to control for the familywise error rate in multiple comparisons to examine significant group differences in children's classroom experiences. In the context of this study, employing Bonferroni correction ensures that the likelihood of making a Type I error (false positive) is minimized when analyzing the various group differences in children's oral language exposure and interactions in the classroom. To address research question 2, multinomial logistic regressions were conducted in R version 4.2.0 (R Core Team, 2022). Multinomial logistic regression analysis was conducted to build a predictive model for the nominal outcome variables of three different home language group distinctions. Models were estimated using the *R* package "tidyverse" ver. 1.3.1 (Wickham et al., 2019). Model fit and assumptions were explored with R package "nnet" ver. 3.0.0 (Venables & Ripley, 2002). Model significances were estimated with Applied Econometrics with R "AER" ver. 1.2-12 (Kleiber & Zeileis, 2008).

Results

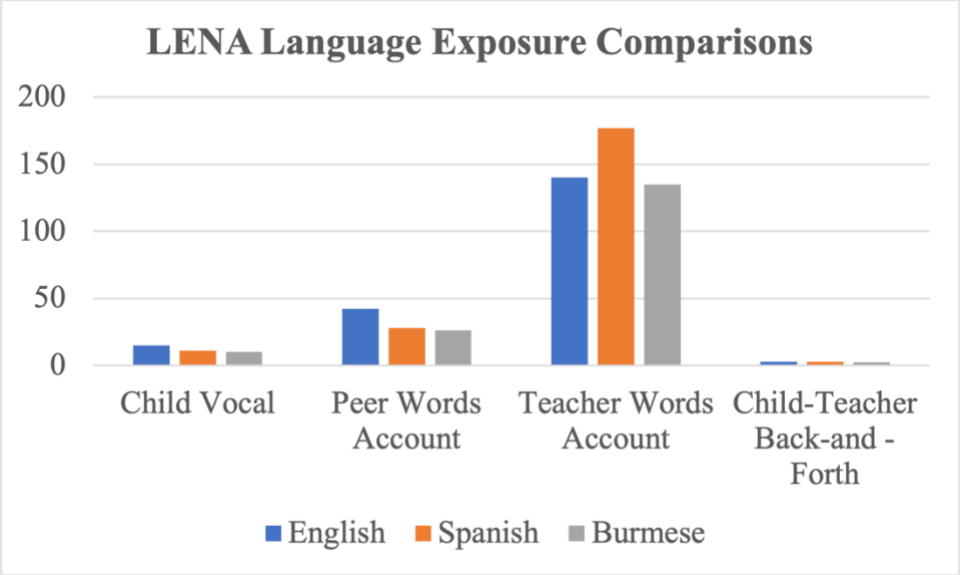
Descriptive information about the children's peers' and teachers' language context variables and children's oral language skill outcomes of interest are presented in Table 2. Additionally, the LENA results from 36 children's samples revealed that children heard more words from their teachers (149 words) compared to their speaking (13.5 words), and child-teacher conversations occurred at a frequency of less than three times on average. The amount of vocalization from peers was approximately 36 words in 5 minutes in the classrooms. Results were presented through the investigation of the two research questions.

LENA Comparisons of Oral Language Exposure and Interactions with Teachers and Peers

The ANOVA results did not reveal statistically significant differences among the three home language groups in terms of oral language exposure, as measured by LENA. Despite the lack of statistical significance, the descriptive statistics in Figure 3 presented different language interactions and exposures among the groups. In LENA, the average scores of 5 minutes of vocal records data over 5 days showed that English-speaking children (M=15.3, SD=5.6) exhibited a higher amount of vocalization compared to Spanish-speaking (M=11.4, SD=6.3) and Burmese-speaking children (M=10.6, SD=7.6). When the study analyzed the LENA Peer data, it showed that English-speaking children (M=42.5, SD=11.6) were exposed to more spoken words with peers than Spanish-speaking (M=28.4, SD=11.8) and Burmese-speaking (M=27.5, SD=13.0) children.

Figure 3

LENA Comparisons of Oral Language Exposure and Interactions with Teachers and Peers



Teachers' vocalization accounted for moderately more in Spanish-speaking children (M=177.3, SD=51) than in English (M=140.9, SD=38) and Burmese (M=135.1, SD=34) speaking children. Teacher-child conversational turns were also slightly more frequent in Spanish-speaking children (M=2.8, SD=1.8) than in English (M=2.7, SD=.9) and Burmese (M=2.2, SD=1.7) speaking children. However, Burmese-speaking children were less likely talk to teachers and peers, speak to themselves, and engage in teacher-child back-and-forth conversational turns.

Differences in Peer and Teacher Oral Language Contexts Among English, Spanish, and Burmese-speaking Children

The second research question delves into the nuanced differences observed in peer and teacher oral language interactions among children who speak English, Spanish, and Burmese. It aims to uncover the factors that play a role in predicting how these interactions are classified into the three distinct home language groups. A multinominal logistic regression was conducted to examine the impact of peers' vocabulary skills, frequency of peer oral language interaction, frequency of teacher oral language interaction, teachers' emotional support, and children's initial

oral language and literacy skills on the likelihood of English-, Spanish-, or Burmese-speaking as their home language. The multinomial logistic regression model yielded a statistically significant result, with a chi-square test (X^2 (9, N = 36) = 32.41, p < .001). The model accounted for 80.0% (Nagelkerke R^2) of the variance in children's home language groups and correctly classified 88.9% of cases. The model demonstrated a good fit with a residual deviance of 13.76 and an AIC value of 77.76. Tables 4 and 5 show the multinomial logistic regression coefficient, Standard errors, and Wald test, z-values for each predictor. Employing a .05 criterion of statistical significance, initial oral language and literacy skills, frequency of peer and teacher interaction, teacher-child back-and-forth conversation, the proportion of peers with the same home language, and the teacher's emotional support were statistically associated with the likelihood of English-, Spanish-, or Burmese as their home language. (see Tables 4 & 5).

The summary output of the model displayed a set of coefficients alongside their standard errors. Each block within this output represents a model equation, with each row containing values pertinent to that equation. Specifically, within the coefficients block, the initial row contrasts the home language characteristics of Spanish-or Burmese-speaking children with the baseline home language characteristics of English-speaking children. Table 4 presented how the teacher and peer classroom language context, along with individual children's language use, increase the probability of children being classified in the English-speaking category compared to the Spanish-speaking category. For instance, one interpretation example indicates that for every one-unit rise in children's fall EOWPVT score, there is a corresponding decrease of 0.55 in the log odds of being categorized as a Spanish-speaking child versus an English-speaking child (β = -55, SE = 0.09, p-value < 0.001). The logistic regression analysis showed that several factors were significantly related to the likelihood of children being categorized as Spanish-

speaking. Positive interactions with teachers (β = .99, SE = .09, p-value < 0.001) and frequent back-and-forth conversations with teachers (β = 52.03, SE = 6.31, p-value < 0.001) both were linked to increased log odds of this classification. Similarly, the ability to communicate with peers (β = 137.39, SE = .35, p-value < 0.001) and teachers (β = 119.29, SE = 3.36, p-value < 0.001) were significantly associated with the log odds of being classified as Spanish-speaking.

Table 5 presented coeffect between teacher and peer classroom language context and individual children's language use and more likely to classified in English vs. Burmese-speaking children's category. For instance, one interpretation example indicates that for every one-unit rise in children's fall EOWPVT score, there is a corresponding decrease of 0.72 in the log odds of being categorized as a Burmese-speaking child versus an English-speaking child. Burmese-speaking children had less teacher interaction (β = -1.05, SE = .12, p-value < 0.001), teacher-child back-and-forth conversation (β = -47.42, SE = 5.89, p-value < 0.001), and found to talk with peer (β = -223.09, SE = 1.53, p-value < 0.001) less than English-speaking children. Burmese-speaking children showed significantly higher non-verbal (β = 368.16, SE = 1.38, p-value < 0.001) than English-speaking peers.

Discussion

This study investigated the relationship between classroom language contexts and the language development of English-, Spanish- and Burmese-speaking children employing individual children and teacher observational tools in conjunction with LENA technology. The study examined the children's teacher and peer language experiences and investigated factors of peer and teacher language contexts, including the frequency of peer interaction, peers' English vocabulary skills, the proportion of children speaking the same home language, teacher-child interaction frequency, and teacher emotional support on the language development of English-,

Spanish- and Burmese-speaking children. Teachers and peers' words counts, and child vocalization and teacher-child back-and-forth conversations found no statistical difference between English-, Spanish-, and Burmese-speaking children. However, Spanish-speaking children had more teacher words heard and more teacher-child back-and-forth conversational turns. There were several significant classroom oral language peers and teachers' contextual factors that were identified among English-, Spanish- and Burmese-speaking children. These findings underscore that even though children share the same classroom, the oral language interaction and exposure of English-, Spanish-, and Burmese-speaking children differ.

Differences in Children's Language Experiences of LENA

Three home language children had statistically no different classroom teacher and peer oral language experiences. Choi et al. (2023) also found no noticeable differences within DLLs and English monolingual children utilized LENA DLP in the number of teacher words, teacher-child conversational turns, or child vocalizations. They found that only monolingual children displayed more child-initiated conversations to teacher, which led them to engage in more frequent back-and-forth interactions than DLLs (Choi et al., 2023). In terms of quantity, the language interactions within the classroom found not differed significantly among English-, Spanish-, and Burmese-speaking children. Even though not statistically significant, LENA DLP data showed English-speaking children speak more, and interacted more with peers. Interestingly, Spanish-speaking children had more teacher words heard and teacher-child back-and-forth conversational turns, this study consistently affirms the importance of teacher-child interactions characterized by frequent and meaningful conversations in promoting language development in young children, as supported by previous research (e.g., Duncan et al., 2023; Justice et al., 2014). LENA DLP revealed that English- and Spanish-speaking children exhibited

higher verbal engagement than Burmese-speaking children. These observations suggest that Burmese-speaking children had limited interactions with teachers and peers in the classroom.

Overall, teachers spoke ten times more than children and the average number of responsive conversational turns between teachers and children were less than three times. These findings align with prior research, consistently highlighting the low levels of teachers' oral language interaction quality in preschool classrooms (Dickinson & Tobor, 2001; Kane et al., 2023). For instance, Dickinson et al. (2014) reported that children spent less than 20% of their time in preschool classrooms engaged in responsive interactions with their teachers. In our study, identifying only three responsive teacher-child conversational turns serves as a significant red flag, underscoring the need to enhance the quality of interactional support for children and additional training for teachers.

Peer and Teacher Language Contexts

The study explored whether the peer and teacher language contexts in the HS classroom predict the likelihood of being in the groups of English-, Spanish- and Burmese-speaking children. The results indicated several significant predictors of being in different home-language groups. The frequency of interactions with peers was found to be a significant predictor of classifying English-, Spanish- and Burmese-speaking children specially showed in COP data. These results contrasted with research on preschool-aged DLLs, which has shown a positive relationship between the frequency of interactions with peers and language development (Schmerse, 2021). It might be affected that overall peer language interaction was very low. This study found lower peer interaction accounts compared to teachers' words accounts, it showed the importance of providing more intentional opportunities to interact with peers. Maier et al. (2016) highlighted the significance of exposure to intentional language-supportive interactions and

opportunities for dramatic play with peers in fostering more significant growth in expressive language abilities for children with lower vocabulary skills.

Teachers play a crucial role in supporting children's language development through various strategies, such as providing positive emotional support, scaffolding language use, and modeling effective communication strategies (Mashburn et al., 2008; Pentimonti et al., 2017; Wagner, 2021). This study did not find that the frequency of teachers' words heard is a significant factor in fostering language development in young children (Mashburn et al., 2008). Previous research has shown that teacher-child interactions involving frequent and meaningful conversation can significantly contribute to language development in young children (So et al., 2021; Bruce & Hansson, 2019). However, this study did not find any relation between teachers' oral language interaction and children's oral language development. It is also important to note this study found that teachers' emotional support has been shown as one of the significant factors for language development in children from ethnically diverse and economically disadvantaged backgrounds (Mashburn et al., 2008).

Moreover, findings underscore the importance of teacher-child interactions, particularly in terms of the frequency of teachers' words heard and conversational turns, in supporting the language development of English-, Spanish- and Burmese-speaking children. This is consistent with previous studies that have highlighted the significance of language exposure and conversational interactions in shaping children's language-related brain function and neural connectivity (Ramírez et al., 2020; Joseph et al., 2022). Moreover, the significant associations between child vocalization and the influence of peers further emphasize the complex interplay of factors contributing to language development in this population (Sulek et al., 2022; Dykstra et al., 2013). For future studies, it is necessary to use more comprehensive measurement tools, such

as video observations or actual conversation data (Quinn et al., 2018), to provide a more comprehensive understanding of peer and teachers' influences on language development.

Implications for Research and Practice

The conclusions drawn from this study carry significant implications for both research and practical application. Burmese-speaking children's oral language interaction with teachers and peers is lower than their English and Spanish-speaking peers. These findings underscore the need for researchers to consider children's cultural differences beyond their language background, moving beyond the binary classification of English monolinguals versus DLLs. For instance, Kim and Wong (2002) elucidated their results by emphasizing cultural norms; behaviors perceived as desirable personality traits by Chinese individuals may be viewed as restrictive or shy by European Americans. This suggests that further research is necessary to understand and identify distinct needs and characteristics within different DLL subgroups (Kim et al., 2018).

Verbal communication with peers and teachers becomes an imperative aspect of this process. It is essential to underscore that proficiency in oral language is a foundational step for literacy development and directly and substantially impacts later academic achievement (Dickinson & Tabors, 2001). The findings of this study underscore the necessity for teachers and teacher educators to embrace a broader spectrum of differentiation in classroom language interactions to deliver high-quality and personalized learning experiences.

Additionally, the proportion of DLLs has been identified as a significant factor influencing oral language interaction and exposures with both teachers and peers. Therefore, policymakers and school administrators should consider grouping children who speak the same home language in the same classrooms, as this arrangement can positively impact the oral

language development of DLLs (Lewis et al., 2015; Morland et al., 2016). This approach not only benefits DLLs' oral language development but also supports the maintenance of cultural identity and connection to heritage through interactions with peers who share the same home language (Nelson et al., 2005; Raikes et al., 2019).

Limitations

While this study made valuable contributions by including underrepresented populations and utilizing advanced LENA DLP tools to capture language contexts in HS classrooms, several limitations need to be acknowledged. First, the sample size of children in the study was relatively small, and a larger number of participants would be beneficial for the generalizability and robustness of the findings. The study utilized secondary data, and the implementation of LENA was in its first year, which posed challenges in collecting a larger dataset. Additionally, the gender and home language distribution in the sample were not evenly balanced, which may have implications for the representativeness of the findings.

Furthermore, a limitation of this study is the narrow focus on assessing oral language development solely in terms of vocabulary skills for young children. It is essential to recognize that oral language development encompasses various other components, such as decoding skills, understanding the relationship between sound and meaning, grasping grammatical structures, and enhancing listening and comprehension abilities. Therefore, considering these multiple facets, a more comprehensive approach to measuring oral language development would be beneficial for future studies in this area. These limitations highlight the need for further research that addresses the challenges of sample size, demographic representation, and the comprehensive assessment of oral language development in diverse DLLs.

Conclusion

Despite limitations, this study has illuminated the intricate relationship between classroom language contexts of teachers and peers and the oral language development of English-, Spanish- and Burmese-speaking children. The presence of DLLs has been recognized as a significant factor shaping oral language interaction and exposure levels with both teachers and peers. This study addresses three key points: 1) the importance of understanding the diverse oral language developmental needs of DLLs, 2) the recognition of DLLs' proportion as a significant factor shaping oral language interaction and exposure levels with both teachers and peers, and 3) the significant variations in teachers' and peers' oral language interactions and exposures within the same classroom among three different home language groups. It is crucial to comprehend the cultural and linguistic environments at home and to provide culturally responsive teaching. Furthermore, the study calls for more comprehensive measurement tools, such as video observations or actual conversation data, to better understand peer influences on language development (Dickinson & Tabors, 2001; Uccelli et al., 2019).

The study emphasizes the importance of intentionally grouping children with similar home language backgrounds in classrooms. In terms of practical implications, the study underscores the importance of teacher involvement in facilitating peer interactions among children and promoting individual language development (Schmerse, 2021). Those responsible for making policies and managing schools could consider placing children who speak the same home language in classrooms. As the language diversity in ECE classrooms expands, a better understanding of peer and teacher interactions, along with exposure to English and the home language, is linked to oral language development for both DLLs and non-DLLs. Furthermore, implementing tailored instructional strategies that accommodate linguistic diversity could lead to

more inclusive and effective educational environments, ultimately enhancing academic outcomes and promoting equitable opportunities for all children, regardless of their linguistic backgrounds.

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Table 2

Descriptive Statistics

Study variables (n=36)	Mean	Standard Deviation	Range	Skewness	Kurtosis
Child (Male, %)	25	.44	0-1	-	-
Child age	3	-	-	-	-
Three Home Language Groups					
English	21	-	-	-	-
Spanish	9	-	-	-	-
Burmese	6	-	-	-	-
Children's Language Skills					
T1 (Fall) Vocabulary (EOWPVT)	89.42	24.13	-6-120	-1.87	3.35
T1 (Fall) Literacy (WJ-LW)	88.06	27.92	-7-148	-.57	-1.37
T2 (Spring) Vocabulary (EOWPVT)	84.72	35.89	-7-127	-1.8	2.58
T1 Peers' Vocabulary Skills	87.50	11.60	-7-127	-1.55	1.84
Classroom Language Contexts					
COP: Talking/Listening (%)					
Talking in English (T.E.)	.13	.03	0-.75	.96	.95
Talking in other languages (TO)	.01	.01	0-.25	1.96	3.88
Non-verbal (N)	.39	.04	0-.50	-.49	.85
Talking to Teachers (Teachers)	.36	.08	0-.45	-.56	-.72
Talking to Child (Peer)	.11	.04	0-.16	-.04	-1.44
TOP: Teacher's Emotional Support					
Tone Average (TOP12 Tone)	38.03	11.50	0-.17	.44	-1.6
LENA					
Teacher Words Heard (AWC)	149	43	77-171	.65	-.40
Child-Teacher Conversational Turn (CTC)	2.66	1.27	.47-6.3	.63	.65
Child Vocalization (CV)	13.52	6.31	6.3-1.05	.00	-.42
Peer Vocalization (Peer)	36.48	13.59	12-59	-.18	-1.11

Table 3

Variance Analysis of LENA by Home Language Status

Variables	(LENA) AWC	(LENA) CTC	(LENA) CV	(LENA) Peer
	M (S.D.)	M (S.D.)	M (S.D.)	M (S.D.)
English (n=21)	140.9 (38)	2.7 (.9)	15.3 (5.6)	**42.5 (11.6)**
Spanish (n=9)	177.3 (51)	2.8 (1.8)	11.4 (6.3)	28.4 (11.8)
Myanmar (n=6)	135.1 (34)	2.2 (1.7)	10.6 (7.6)	27.5 (13.0)
F (p)	2.89 (.07)	.40 (.68)	2.12 (.14)	2.89 (.07)

Note. The critical value for significance at p <0.05 is given in bold.

Table 4

Coefficient of Multinominal Logistic Regression between English vs. Spanish-Speaking Children

Variable	Estimate β	Std. Error	z value	ρ
Control Variable				
Initial oral language skills (T1 EOWPVT)	-.55	.09	-5.88	< 2.2e-16***
Initial literacy skills (T1 WJ-LW)	-.23	.08	-2.69	.001 **
Peer Classroom Language Context				
Peers' English vocabulary skills (Classroom average EOWPVT)	.30	.14	2.09	.04 *
Frequency of peer interaction (LENA Peer)	-.31	.17	-1.87	.06
Frequency of Talk to Peer (COP talk to child)	137.39	.35	391.73	< 2.2e-16***
Same home language peer (DLL proportion)	.49	.25	-4.65	< 2.2e-16***
Teacher Classroom Language Context				
Frequency of teacher interaction (LENA AWC)	.99	.09	-11.12	< 2.2e-16***
Frequency of Talk to Teacher (COP talk to teacher)	119.29	3.36	35.47	< 2.2e-16***
Teacher's emotional Support (TOP average tone)	1.08	0.16	6.68	< 2.44e-11***
Teacher-child back-and-forth conversation (LENA CTC)	52.03	6.31	8.25	< 2.2e-16***
Individual Child's Oral Language Use				
Frequency of child utterance (LENA CV)	-11.59	1.57	-7.39	1.425e-13***
Child's non-verbal (COP non-verbal)	-197.29	.88	-223.82	< 2.2e-16***
Frequency of child's home language use (COP talks and listens in another language Spanish)	86.57	.14	608.81	< 2.2e-16***

Significant codes: '***'0.001, '**'0.01, '*'0.05.

Table 5

Coefficient of Multinominal Logistic Regression between English vs. Burmese-Speaking Children

Variable	Estimate β	Std. Error	z value	ρ
Control Variable				
Initial oral language skills (T1 EOWPVT)	-.72	.11	-6.06	1.387e-09***
Initial literacy skills (T1 WJ-LW)	.94	.18	-5.14	2.801e-07 **
Peer Classroom Language Context				
Peers' English vocabulary skills (Classroom average EOWPVT)	-.30	.17	-1.66	.11
Frequency of peer interaction (LENA Peer)	.11	.43	.26	.08
Frequency of Talk to Peer (COP talk to child)	-223.09	1.53	391.73	< 2.2e-16***
Same home language peer (DLL proportion)	-.49	.25	-4.65	< 2.2e-16***
Teacher Classroom Language Context				
Frequency of teacher interaction (LENA AWC)	-1.05	.12	-9.12	< 2.2e-16***
Frequency of Talk to Teacher (COP talk to teacher)	33.77	9.81	3.45	.00***
Teacher's emotional Support (TOP average tone)	-.39	.59	-.66	.51
Teacher-child back-and-forth conversation (LENA CTC)	-47.42	5.89	8.05	8.488e-16***
Individual Child's Oral Language Use				
Frequency of child utterance (LENA CV)	-11.41	2.27	-5.03	4.789e-07***
Child's non-verbal (COP non-verbal)	368.16	1.38	-145.73	< 2.2e-16***
Frequency of child's home language use (COP talks and listen in another language Spanish)	-63.92	.69	-96.38	< 2.2e-16***

Significant codes: '***'0.001, '**'0.01, '*'0.05

MANUSCRIPT III

Culturally Responsive Pedagogy: Evidence-Based Research to Improve Myanmar Refugee Dual Language Learners' Oral Language Development in the Preschool Classroom

This manuscript is prepared for submission to the peer-reviewed journal < *Journal of Multilingual and Multicultural Development* > and is one of three manuscripts prepared for a journal-ready doctoral dissertation.

ABSTRACT

Given the growing demographic shifts and the imperative of early oral language acquisition, educators grapple with the challenge of fostering Culturally Responsive Pedagogy (CRP) to deliver high-quality classroom-based oral language learning experiences for Myanmar refugee dual language learners (DLLs). CRP is an asset-based approach that centers on children's learning, valuing their cultural backgrounds and home language, simultaneously challenging their learning to think critically, and supporting children to achieve expected skills Responsiveness and individualized learning experiences are key in CRP. This paper focuses on conceptualizing CRP for Myanmar refugee DLLs' oral language development, exploring relevant theoretical frameworks, and outlining strategies for educators to facilitate, support, and assess to enhance CRP. Practical implications are discussed on how evidence-based research can inform instructional practices, thereby elevating the quality of oral language experiences for Myanmar refugee DLLs within preschool language contexts with teachers and peers.

***Keywords*:** culturally responsive pedagogy, dual language learners, Myanmar refugee, oral language development, teacher and peer, preschool

Culturally Responsive Pedagogy: Evidence-Based Research to Improve Myanmar Refugee Dual Language Learners' Oral Language Development in the Preschool Classroom

The population of children who are simultaneously learning home language and English at school is increasing in the U.S. (Choi et al., 2021). The recent papers define those children between birth and age 5 who are concurrently acquiring English and their home language as Dual Language Learners (DLLs) (National Academies of Sciences, Engineering, and Medicine, 2017). Moreover, by 2030, almost half of all school-aged children are expected to be classified as DLLs (National Academies of Sciences, Engineering, and Medicine, 2017). These DLLs are a diverse group that constitutes approximately one-third of the U.S. classrooms (Park et al., 2018). Approximately two-thirds of the DLLs come from immigrant households and are a diverse population, most studies are conducted on Hispanic backgrounds of children, and children from more diverse groups including refugees need to be studied (Castro, 2014).

DLLs from Myanmar refugee households are one of the immigrants. They are understudied DLL groups in current academia. Myanmar refugees have been one of the largest groups to resettle in the U.S. From 2010 to 2020 an additional 125,137 refugees from Myanmar arrived (Zaw et al., 2024). Most children from these refugees use their home language before they enter preschools (Scarlis, 2010). Even though Early Childhood Education (ECE) classrooms have more diverse DLLs, research has demonstrated that many ECE teachers feel unprepared to provide quality instruction to them (Choi et al., 2021). Additionally, less than 30% of teachers received training, while 87.5% had little or no training in teaching linguistically and culturally diverse children (Li, 2018).

Unfortunately, despite the critical importance of oral language skills during preschool periods, prior research has indicated that DLLs often demonstrate lower levels of oral language

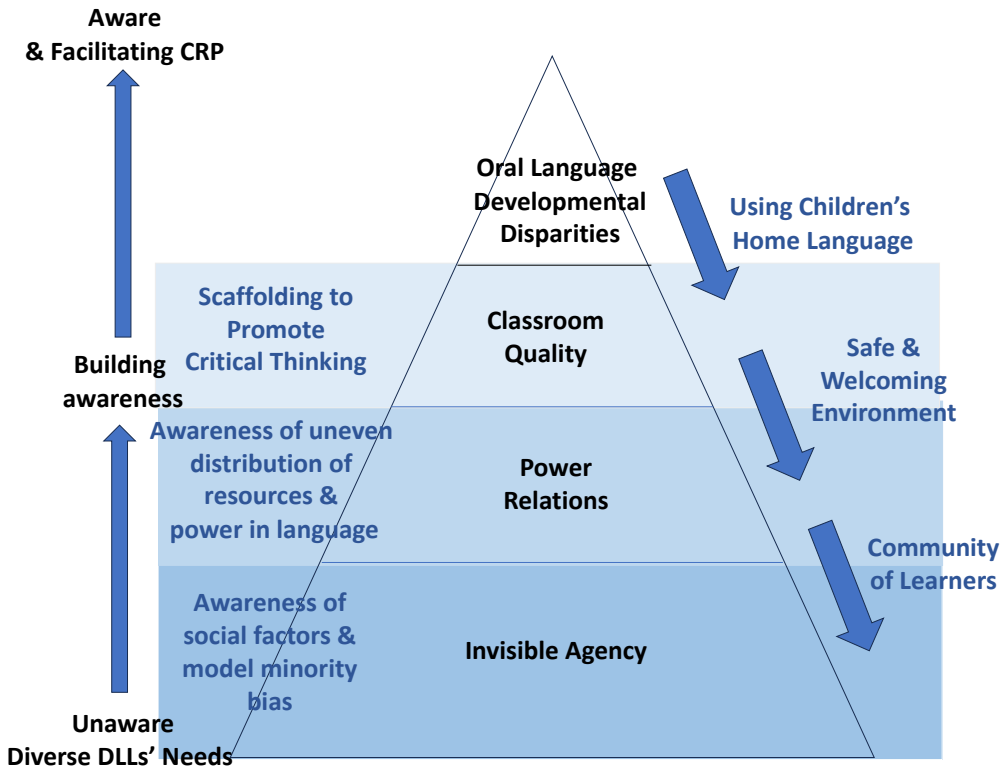
competence in ECE settings when compared to their monolingual English-speaking peers (Baker & Páez, 2018; Hammer et al., 2020). Specifically, DLLs tend to exhibit weaker skills in comprehending and using vocabulary, even though persistent efforts have been made to address these disparities throughout their early elementary school years (Choi et al., 2023; Farrow et al., 2020; Hindman et al., 2019). These disparities continue; Goodrich and Lonigan (2017) found comprehending and engaging with academic texts based on language background persist even into middle school. These disparities in oral language represent merely the surface manifestations of a deeper issue, necessitating a thorough comprehension of the ecological factors underlying them and the development of practical, evidence-based solutions to mitigate the persistent gap.

In this consistent oral language developmental disparities among DLLs and non-DLL children, culturally and linguistically responsive teaching is found particularly beneficial for DLLs who underachieve, but it also reduces the disparities and provides a quality experience (Hollie, 2023). First, framed within Lier's (2004) *Ecology of Language Learning Theory (ELLT)*, this paper considers the multi-layered and complex interplay of ecological factors, cultural influences, and linguistic systems in Myanmar refugee DLLs' oral language development. Aware DLLs' unique oral language development is critical to effectively supporting DLLs' backgrounds, identities, and linguistic diversity in educational settings to promote equitable learning opportunities in classroom quality, power relationships, and invisible agency (Lier, 2010). Second, adapting Hammond's (2014) *Culturally Responsive Pedagogy (CRP)*, this paper explores the evidence-based teacher and peer practice of language development in DLLs and discusses practices in the classroom to reduce the oral language developmental disparities between DLLs and non-DLLs. It is imperative to integrate various theories of language, critical

perspectives, sociology, and empirical research related to DLLs' oral language development for comprehensive understanding and effective practice. Such approaches are using children's home language, facilitating safe and welcoming environment, and building community of learners which are essential to understanding the factors that complicate variability in the language development of Myanmar refugee DLLs. This paper has two main objectives: first, to comprehend Myanmar refugee DLLs' oral language developmental disparities through the ELLT, and second, to discuss evidence-based CRP to provide high-quality learning experiences within classrooms for reducing oral language developmental disparities (see Figure 1).

Figure 1

Conceptual Model Evidence-Based CRP Model for Myanmar Refugee DLLs (Heasung Im, 2023)



Understanding Myanmar Refugee DLLs' Oral Language Developmental Disparities with the Ecology of Language Learning Theory

Lier's (2004) ELLT offers a comprehensive framework for understanding DLLs' oral language development. Oral language skills have been defined as a set of communicative skills and cognitive tools to convey and understand meaning effectively (Vygotsky & Cole, 1978). Tharp and Gallimore (1991) has noted the crucial role of oral language skills in cognitive development. Young children develop cognitive skills through formal and informal conversations, processing information, and utilizing oral language to enhance their learning within a sociocultural context (Tharp & Gallimore, 1991). The preschool years are pivotal in developing oral language skills, marked by expanding vocabulary and acquiring more intricate syntactical structures (NAEYC, 2022). Moreover, early oral language skills have consistently demonstrated their significance as powerful predictors of children's subsequent academic success (Dickinson & Porche, 2011).

Lier's (2004) ELLT focuses on an intricate web of interconnections within the learning environment; children learn languages through dynamics of interactions, and linguistic utilization through engagement with caregivers and people around them. This framework extends beyond innate language acquisition or language social dynamics and encompasses the physical and symbolic dimensions of the environment, recognizing that all elements within the educational setting are interdependent and interconnected (Buell et al., 2020; Lier, 2010). This paper encompasses three key ecological characteristics of DLLs' oral language development within Lier's language learning framework: agency, relationships, and quality.

Agency refers to the ability of individuals to make choices, set objectives, pursue goals, and act in a self-directed manner (Lier, 2010). It involves the capacity to actively engage in

learning processes, make decisions, and exert influence over one's own learning experiences and it is a central concept in learning. Relationship is defined as the interconnectedness and interactions among various elements within an educational environment. It manifested across physical, social, and symbolic levels, influencing the dynamics of teaching and learning processes (Lier, 2010). Quality refers to the standard of excellence or the degree of goodness in educational practices, experiences, and outcomes. Quality in education encompasses various aspects such as the effectiveness of teaching methods, the relevance of learning materials, the engagement of learners, the support provided to students, and the overall impact on learning and development. It is essential to consider and strive for high quality in all educational endeavors to ensure meaningful and beneficial experiences for learners (Lier, 2010). In early childhood education, it is important to recognize that while these factors are interconnected, the convergence of standards and the quality of teaching and learning should not be identical, individual children's unique differences should be considered when planning and assessing oral language development (NAEYC, 2022).

The following section explores the synthesis of ELLT and other theories to understand the underlying complex ecological contexts for DLLs' oral language development. This paper extends the concepts from agency, relationship, and quality of ELLT to invisible agency, power relationships, and low process quality. Based on Lier's (2004, 2010) ELLT, Table 1 presents the disparities in the conceptualization of oral language learning among DLLs. These disparities are characterized by power relationships, low process quality, and often invisible agency. These elements of ELLT are described below. Finally, this conceptual paper contributes to the current literacies by adding the unique vulnerabilities faced by Myanmar refugee DLLs in their oral language development.

Table 1

Conceptualizing DLL's Oral Language Learning Disparities (Lier, 2004, 2010)

Lier's Ecology of Language Learning		Myanmar Refugee	Learning Disparities
Agency	- Individual variation in dynamic ecological contexts	Invisible - Agency	Social position Model minority
Relationship	- Physical, social, and symbolic complex relations	Power - Relationship	Uneven cultural capitals English only instructions
Quality	- Variation in preferences, experiences, aspirations, and constraints	Classroom - Low Quality	Lack of scaffolding & ZPD Dependent learning styles

Invisible Agency

To understand the language development of DLLs (the primary agency), it becomes evident that conventional child development theories fall short of capturing their unique developmental trajectory. Bronfenbrenner's (1977, 2007) bioecological systems theory provides valuable insights into children's development within various environmental systems. Nevertheless, they often overlook critical factors such as social class, culture, ethnicity, and race (Coll et al., 1996). Traditional child development theories often focus on the normative development of predominantly white populations, which falls short of addressing the complex developmental nuances experienced by DLL children and their families of migrants or refugees. Coll et al. (1996) recognized the impact of social segregation and stratification on minority children, particularly African Americans and mainland Puerto Ricans, during the development of their theoretical model. This *theory of an integrative model* for the study of developmental competencies in minority children was designed to apply to both mainstream and culturally diverse backgrounds, considering factors such as race, social class, ethnicity, and gender differences in examining unequal childhood experiences due to social position assumptions (Coll et al., 1996). Their theoretical framework comprised eight components: social position, racism,

segregation, environmental influences, adaptive culture, child characteristics, family, and developmental competencies (Coll et al., 1996).

Also, the concept of the *model minority* stereotype which shared cultural narratives about Asian Americans can offer insight into the factors contributing to disparities in their oral language development among Myanmar refugee children (Kiang et al., 2017; Lim et al., in process). This stereotype is characterized by Asian Americans as exemplary citizens and minorities because they are perceived as quiet, uncomplaining, and hardworking individuals who achieve success without relying on government assistance, originated from the experiences of the first wave of Chinese immigrants in the U.S. (Mistry & Kiyama, 2021). As noted by Peterson (1966), the success of Asian Americans has been used to support the idea that anyone can achieve the American dream through hard work. Furthermore, Osajima (2005) highlighted that Asian Americans excel academically, often portraying them as courageous, reserved, and enduring individuals.

This stereotype, while seemingly positive, can hinder the oral language development of Myanmar DLLs by perpetuating certain expectations and biases. DLLs, who come from diverse backgrounds within the Asian American community, can face pressure to conform to these stereotypical traits, such as being quiet and uncomplaining. This expectation may discourage them from actively participating in oral language development activities or seeking assistance when needed (Hammond, 2014). Additionally, the stereotype may overlook the individual challenges and variations in language acquisition among DLLs, making it difficult to provide tailored support and resources. For instance, Myanmar refugee DLLs are often invisible in the classrooms (Lim et al., 2023 in process). Sometimes, teachers assume Asians excel academically and do not require culturally responsive pedagogy (Zhang & Debs, 2018). However, many

students from Hmong, Vietnamese, Myanmar, and Cambodian backgrounds are facing challenges and need school support. Therefore, the *model minority* stereotype can inadvertently hinder Myanmar refugee DLLs' oral language development by reinforcing limiting perceptions and expectations.

Power Relationship

The language choices of DLLs are intricately intertwined with power dynamics (Ng & Deng, 2017) and Bourdieu's (1977) theory of social and cultural capital offers insights into language power dynamics. This theory extends beyond financial assets to encompass broader societal spheres, including social, human, and cultural capital (McLaughlin, 2010). Bourdieu posits that social capital encompasses resources embedded in social networks and relationships, facilitating access to support and resources through these connections (Miller et al., 2014). Moreover, cultural capital, as defined by Bourdieu (1977), comprises non-material resources such as knowledge and tastes, often reflecting one's socio-economic status.

Bourdieu (1977) highlights the unequal distribution of cultural competencies, where the dominant upper classes monopolize certain forms of cultural capital (McLaughlin, 2010). Language plays a critical role in initiating, perpetuating, and expanding these relationships. For instance, children from certain backgrounds benefit more from proficiency in the dominant language in society, enabling them to thrive and build stronger connections within their peer group and the broader community (Lareau, 2018). Factors such as unequal distribution of resources, and low educational expectations have collectively contributed to this ongoing challenge (Jackson, 2011). As individuals progress through the educational system, they accrue more cultural capital which can be translated into financial gains. Moreover, the oral language development of DLLs is influenced by teachers’ decisions regarding language policies, time

allocated for children's literacy activities, preservation of unique traditions, exposure to cultural experiences, and fostering social connections (Cummins, 2021).

DLLs face challenges as they work to develop and maintain their home language skills, such as balancing the demands of two languages, navigating cross-linguistic influence, and adapting to different language environments (Sheng et al., 2011). L1 and L2 refer to a person's first and second language, respectively (Hammer et al., 2014). In the case of DLLs, L1 development pertains to the progression of their abilities in their first language, typically acquired through family and cultural practices. On the other hand, L2 development refers to the progression of their abilities in a second language, which can be acquired through immersion in a language-rich environment, formal instruction, or exposure to media and cultural products (Hammer et al., 2014; Mancilla-Martinez & Lesaux, 2014). Overall, research has emphasized the importance of L1 development for the language development of DLLs, as it provides a foundation for later language acquisition and strengthens cultural identity and heritage connections (Hammer et al., 2020). However, L2 development is also crucial for academic and social success, providing access to a broader range of opportunities and bridging language and cultural divides.

Classroom Quality

Assessing the quality of early education classrooms is fundamental for understanding the impact of ECE on children's learning. Quality assessment encompasses both structural (such as curriculum, ratios, and materials) and process (such as teacher-child interactions, using academic languages, and feedback) elements (White et al., 2020). Research indicates that both structural and process features are correlated with children's outcomes. Specifically, children in classrooms with better structural features and higher-quality teacher-child interactions tend to demonstrate

enhanced performance across social-emotional, language, cognitive, and academic domains (Burchinal et al., 2010; Mashburn et al., 2008).

Vygotsky's (1978) social constructivist theory provides further insights into children's language acquisition through classroom oral language interactions. Vygotsky's theory underscores the significance of social interaction, particularly with more knowledgeable individuals like teachers, in enhancing children's language skills (Vygotsky, 1978). The concept of the zone of proximal development (ZPD) within Vygotsky's theory emphasizes the vital role of proficient peers and knowledgeable adults in scaffolding children's learning (Mashburn et al., 2009). Empirical evidence has supported the pivotal role of scaffolding interactions in early oral language development (Dickinson & Tabors, 2001).

In the context of DLLs' language development, concerns about classroom quality resonate deeply. Hammond (2014) said that DLLs' struggles were not a result of their race, language, or economic background. They face challenges because teachers do not provide enough opportunities in the classroom for them to develop the necessary cognitive skills and thinking habits required for more advanced academic tasks (Boykin & Noguera, 2011; Jackson, 2011). Hammond (2014) said the reasons DLLs are not exposed to more rigorous opportunities are deeply rooted in the historical legacy of an unequal education system.

Educational practices that prioritize high scores on standardized assessments contribute to what Haberman (2010) called a *pedagogy of poverty*. This approach leaves children to recall facts and concepts, but they struggle to apply this knowledge in practical and innovative ways. To empower them to navigate their paths and define success, they must develop critical and creative thinking skills. Teachers must acknowledge that they perpetuate the achievement gap when they fail to teach advanced cognitive skills to children who are labeled as *disadvantaged*

due to factors like their language, gender, race, or socioeconomic status. Many children enter school with small learning gaps, but as they progress through the education system, the gap between African American, Latino, and White students widens because they are not to become independent learners (Hammond, 2014). Table 2 presents the factors that impact potential academic disadvantages and the evidence-based instructional responses to reduce the disparities.

Table 2

Potential Academic Challenges and Evidence-Based CRP (Cummins & Early, 2015)

Children's Background	Low-SES	DLLs	Refugee DLLs
Source of potential academic challenges	- Needed supportive parental care - Nutrition improvement - Hosing integration - Lack of cultural and material recourse - Limited range of language interaction - Increase access to print at home	- Failure to understand instruction due to home/school language difference - Hinder to make relationships with peers	- Societal Discrimination - Low teacher expectation - Stereotype threat - Identity devaluation
Evidence-based CRP, Instructional response	- Maximize literacy engagement - Reinforce academic language across the curriculum	- Scaffold comprehension and production of language across the curriculum - Reinforce academic language and home language across the curriculum - create a community of learning with peers	- Connect instruction to children's lives and cultural background - Create safe and welcoming classrooms - Affirm children's identities in association with language engagement

Oral language development is a significant challenge for Myanmar refugees in the U.S., particularly due to parents' limited access to resources, trauma, and cultural adjustment (Pew Research Center, 2019; Scarlis, 2010). Many Myanmar refugee parents have limited formal

education and may need help communicating effectively in English, which can affect their ability to access education and healthcare services (Crouch & Collopy, 2011). Refugee children encounter distinct challenges compared to other DLLs, primarily stemming from their parents' involuntary resettlement in a new country (Trieu & Vang, 2015). Many parents face difficulties in assisting their children with English language acquisition due to their limited familiarity with the host country's educational system (Lim et al., 2023; Quadros & Sarroub, 2016) and the contrasting cultural expectations shaped by their prior educational experiences (Crouch & Collopy, 2011; Lim et al., 2023). Supporting refugees in their oral language development is crucial for their later academic success, and addressing the challenges they face in language development is essential to support their overall well-being.

Culturally Responsive Pedagogy for DLLs

Gay (2018) defines *Culturally Responsive Pedagogy* (CRP) as utilizing cultural knowledge, past experiences, reference points, and communication styles of DLLs to enhance the relevance and effectiveness of learning experiences. This approach instructs with a focus on and through the strengths of DLLs. CRP validates and supports children's home languages and cultures by employing responsive instructional techniques that serve as pathways or means to foster acceptance, academic achievement, and empowerment within educational contexts and the broader mainstream culture (Hollie, 2017). Hammond (2014) suggested four main strategies for CRP: awareness, learning partnerships, information processing, and the establishment of a community of learners and a learning environment.

Building awareness encompasses comprehending the three levels of culture: surface, shallow, and deep culture. When teachers understand DLLs' deep culture, they can build stronger trust relationships, it affects the social and emotional well-being, and children's brain

function as well (Hammond, 2014). Teachers should rethink the dynamic between children and teachers, viewing it as a partnership, and they should be skilled at balancing nurturing care with providing the necessary structure for children to learn independently. Encouraging children to take more ownership of their learning is crucial in CRP. When it comes to information processing, it is essential to offer appropriate challenges to stimulate brain development and enhance intellectual capacity through high-quality verbal interactions. The core of instructional conversation lies in its capacity to foster an environment conducive to meaningful learning (Hammond, 2014). In the following sections, this paper explores evidence-based practices for teachers and peers in the context of DLL's oral language development. These practices involve using DLLs' home language, creating safe and welcoming classrooms, building a community of learners, and reinforcing academic language**.** Each of these practices is described below.

Using Children's Home Language as Cognitive Tools

English-only language instruction in ECE institutions in the U.S. negatively affects DLLs' oral language development (Hammer et al., 2020). Mono-lingual belief or color-blindness does not support DLLs' home language, is inadequate for English language learning, and limits classroom interactions (Choi et al., 2021; Kim et al., 2018). Research on DLLs has shown the numerous benefits of early exposure to multiple languages, including developing proficiency in two or more languages and enhancing cognitive and social skills (Espinosa, 2015; Hoff, 2013). Additionally, code-switching, the process of alternating between languages in different contexts, has been found to support language and literacy development and increase awareness of the rules of other languages (Surrain et al., 2022). Furthermore, DLLs are learning two languages and often need to switch between them flexibly. They have a cognitive advantage in executive function skills, especially inhibitory control, which is critical for academic success (Choi et al.,

2018; Rumper et al., 2023). However, due to their limited language ability, DLLs may frequently experience exclusion in the classroom. English-speaking peers often overlook them, treating them as if they are unnoticed, not initiating communication, and often disregarding their attempts to engage, placing DLLs in a challenging double bind (Tabors, 2008).

Teachers' language policy decisions are important as they directly affect children's language usage, learning opportunities, and overall educational outcomes (Godley et al., 2015). When teachers appreciate and understand linguistic diversity, they support multilingual students more efficiently, enabling them to express themselves proficiently across multiple languages (Deroo & Ponzio, 2019). Conversely, when teachers lack understanding or fail to recognize the value of children's home languages, differences can be misunderstood as shortcomings (Martinez et al., 2017). Teachers should actively engage in frequent conversations with DLLs and encourage peer interactions among children who experience delayed language development or possess limited vocabulary (NAEYC, 2022).

Teachers' home language use in the classrooms was found to be beneficial for supporting DLLs' English development and academic achievement (Buysee et al., 2013). Mendez et al. (2015) examined the difference in teaching vocabulary to DLLs through two distinct instructional approaches to the English and Spanish vocabulary development of DLLs. Specifically, they compared the effectiveness of using a single evidence-based vocabulary approach with English as the primary language of instruction against a bilingual method incorporating both Spanish and English. The findings indicated that DLLs taught using the bilingual method achieved significantly higher post-test scores in their vocabulary assessments compared to those who received instruction solely in English (Mendez et al., 2015). Collins (2014) conducted a study that revealed substantial progress in bilingualism among children in

educational settings where both Spanish and English were actively utilized by teachers, students, and staff. Additionally, he discovered that dual language learners in these classrooms were able to attain age-appropriate levels of academic proficiency in both languages.

When teachers are unable to conduct instruction in the home language of DLLs, having a basic knowledge of a few words in the DLLs' language can assist in promoting their oral language development (Garcia, 2018). Several other researchers concurred that integrating the home language of DLLs into instructional methods yielded advantages (Ackerman & Tazi, 2015). These findings underscore the importance of recognizing and incorporating the home language as a valuable resource in the education of DLLs.

Safe and Welcoming Classroom

DLLs often feel anxiety when they first enter ECE classrooms (Tabors, 2008). Their knowledge of the school language is limited, so they cannot express themselves in the way they previously could in only their home language, L1. They cannot show teachers and peers their background experiences and interests in a free and easy way. de la Cal et al. (2021) showed that DLLs could divert their focus away from the language input they are exposed to, leading to withdrawal from social interactions. This withdrawal, in turn, restricts the amount of language input they receive. DLLs require a strong sense of connection to their home language and culture. Vygotsky's theory emphasizes the importance of considering children's prior experiences, cultural backgrounds, and worldviews in their learning processes (Onchwari et al., 2008). Given that DLLs often bring diverse cultural perspectives to their educational journey, it becomes imperative to recognize and accommodate their unique cultural backgrounds.

The emotional and warm support offered by teachers plays a crucial role in the language development of children. Children who experience nurturing, empathetic, and responsive

relationships with their teachers exhibit more favorable language outcomes, which include improved language skills and overall language development. This warm, supportive, responsive relationship holds applicable for all children, including DLLs (Henry & Rickman, 2007; White et al., 2019). Research has also established a link between teachers' emotional support and the cognitive and academic achievement of DLL children (Burchinal et al., 2012). Additionally, a well-structured classroom environment, encompassing teaching methods and daily routines, has been shown to have a positive impact on the cognitive and socioemotional development of DLLs (Burchinal et al., 2010; Downer et al., 2012). In culturally responsive classrooms teachers take deliberate steps to recognize the unique backgrounds and linguistic diversity of their children, prioritizing their comfort, acceptance, safety, and intellectual engagement (Espinosa et al., 2017).

Community of Learners

CRP fosters a learning environment that is both intellectually and socially safe, while teachers promote classroom culture as communal to promote peer interactions (Hammond, 2014). The role of peer interactions in language development has been widely studied, with a number of them indicating that increased exposure to peers proficient in English can lead to improved English vocabulary skills and overall language growth (Justice et al., 2014; Mashburn et al., 2009). Dickinson and Tabors (2001) found that engaging in pretend play with peers during preschool was linked to better literacy outcomes in children during their kindergarten years. The improvement was directly correlated with the amount of time the children spent talking with each other, highlighting the positive impact verbal interactions with peers have on language development.

Peers possessing stronger language skills could verbally teach and share their skills with others (Garcia, 2021). For example, a child proficient in language might effectively resolve

conflicts verbally, serve as a role model for peers, or explain academic concepts using various approaches (Mashburn et al., 2008). Previous research has demonstrated a significant impact on children with lower language abilities due to their interaction with peers who have higher language proficiency in preschool settings (Atkins-Burnett et al., 2017).

Notably, agency is intricately linked to identity, accentuating its social and dialogical aspects. It is contingent not only on the individual but also on the surrounding environment (Huh et al., 2022). In a classroom setting, an educational curriculum that fosters agency offers learners choices and opportunities for collaboration within a learning community and engagement in stimulating and challenging projects (Allwright & Hanks, 2009).

Incorporate Academic Language

Teachers can also support children's language development by scaffolding language use and modeling effective communication strategies (Carbell et al., 2015; Dickinson et al., 2014; Limlingan et al., 2020; Sawyer et al., 2018). Empirical evidence supports the significance of these scaffolding interactions within early classroom language environments (Castro, 2014; Dickinson & Tabors, 2001). Beyond mere word count, the quality of teacher-child language interactions, characterized by using academic languages, repetition, expansion, and extension through clarification questioning, is closely associated with high-quality language engagement (Dickinson & Tabors, 2001; Leffel & Suskind, 2013; Uccelli et al., 2019). Teacher language strategies, such as asking open-ended questions, using a wide range of vocabulary, including unfamiliar vocabulary definitions, and using responsive techniques, are associated with children's oral language development (Girolametto & Weitzman, 2002).

DLLs can acquire fluency in everyday conversational language that is easier to learn than academic language (Cummins, 2021). Children learn academic languages when teachers use

more sophisticated vocabulary intentionally throughout daily activities and stimulate children's curiosity about language (Staehr Fenner & Snyder, 2017). When teachers rely on overly simplified speech while DLLs have low English proficiency, exclusively using simple and immediate, here-and-now talk, it can impede the progress of DLLs in developing their oral language skills (Dickinson & Tabors, 2001; Girolametto & Weitzman, 2002).

Conclusion

Rooted in Lier's (2004) Ecology of Language Learning Theory, this paper has delved into the intricate realm of language development in DLLs by examining the multifaceted interplay of ecological factors, cultural influences, and linguistic systems within their language learning journey. It is essential to emphasize that language development extends well beyond cognitive or biological functioning, encompassing profound cultural and ecological dimensions (Cole, 1998). Moreover, this exploration has underscored the necessity of integrating diverse theories of language, critical perspectives, sociology, and empirical research pertinent to DLLs' language development in home and school contexts. Such a comprehensive approach is indispensable for gaining insights into the myriad of factors contributing to the intricacies of language development variability among DLLs, including Myanmar refugee DLLs.

Initiating language learning at an early age is undoubtedly important, but this paper highlights the importance of the quality of language interactions. Regarding language acquisition, a hypothesis suggests younger individuals are more adept at simultaneously acquiring their home and second languages (Scovel, 2000). However, it is essential to note that some overlook the language learning challenges faced by DLLs. There are often assumptions that biological and neurological maturation alone will naturally lead to the acquisition of a certain level of language development (Bialystok, 2015; Scovel, 2000). In the case of DLLs' oral

language development, the role of teachers is especially important. These children face unique challenges in adapting to a new language and cultural environment, and the support and guidance of their teachers can be crucial in helping them navigate these challenges and achieve success in their language development (McBrien, 2005; Trieu & Vang, 2015).

In conclusion, the disparities observed in the oral language development of DLLs can be mitigated through CRP, close collaboration between home and school environments, and emphasizing the modeling and scaffolding of high-quality oral language skills. Notably, not all forms of language input are equally beneficial; rather, academic and abstract language, coupled with the incorporation of open-ended questions have been shown to be predictive of later language growth. To address these needs effectively, educators and policymakers must gain a deeper understanding of CRP for DLLs, including those who are underrepresented, and proactively offer tailored and efficient support.

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APPENDIX A: PROSPECTUS

UNIVERSITY OF OKLAHOMA

GRADUATE COLLEGE

SUPPORTING MYANMAR-REFUGEE DUAL LANGUAGE LEARNERS IN HEAD START: PEER AND TEACHER'S LANGUAGE CONTEXTS

A PROSPECTUS

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By

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2023

SUPPORTING MYANMAR-REFUGEE DUAL LANGUAGE LEARNERS IN HEAD START: PEER AND TEACHER'S LANGUAGE CONTEXTS

A DISSERTATION APPROVED FOR THE
DEPARTMENT OF INSTRUCTIONAL LEADERSHIP AND ACADEMIC CURRICULUM

BY

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Abstract

This research paper examines the language contexts of Myanmar refugee dual language learners in Head Start classrooms as predictors of their language and literacy development. The research focuses on peer language skills, peer language match, teachers' and peers' frequency of interaction, conversational turns with teachers, and teachers' emotional support as language contexts. The research will use Bronfenbrenner's ecological systems theory and Vygotsky's sociocultural theory as the theoretical frameworks. This study will include 2-3- and 4-year-old children from Myanmar refugee households (n=24) in 17 classrooms and 3 Head Start centers in a Midwestern city. The study sample consists of 24 Myanmar refugee DLLs. It will be the first to capture the complex relationships between peer-child and teacher-child interactions in Head Start classrooms and shed light on the language and literacy development of Myanmar-speaking refugee DLLs. The results of the current study will provide foundational information for designing teacher education programs and professional development for teachers in Head Start, particularly for understudied Myanmar refugee DLLs. The present study will investigate the following research questions:

1. How do the frequency of interaction with peers, the average levels and variability of peers' English vocabulary skills, and the proportion of children speaking the same home language impact Myanmar refugee DLL children's language and literacy development?
2. How do the frequency of interaction with teachers, teacher-child back-and-forth conversational turns, and teachers' emotional support predict language and literacy development in Myanmar refugee DLL children?

3. Which of the two predictors (peer or teacher language contexts) significantly predicts Myanmar refugee DLL children's language and literacy development?
4. Is there a mediating or moderating role of either children's initial language skills or the years of HS attendance on Myanmar refugee DLL children's language and literacy development?

Keywords: Head Start, Myanmar refugee children, dual language learners, language contexts

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This prospectus will guide to dissertation to a journal-ready format. The following three journal articles will be prepared for submission:

Manuscript I will be titled 'Conceptualizing the Role of Peer and Teachers' Interaction in the Oral Language and literacy development of Myanmar Refugee Dual Language Learners,' which will be prepared for submission to the *Journal of Multilingual and Multicultural Development*.

Manuscript II will be titled 'Predictors of Language and literacy development in Myanmar Refugee Dual Language Learners: A Comparisons of Peer and Teacher Language Contexts' and will be prepared for submission to the *Early Childhood Research Quarterly.*

Manuscript III will be titled 'Mediating and Moderating Factors in the Oral Language and literacy development of Myanmar Refugee Dual Language Learners: The Influence of Initial Language Skills and Years of Head Start Attendance,' which will be prepared for submission to the journal *Early Education and Development.*

Chapter 1: Introduction

Background

The United Nations Global Trends report shows 27.1 million refugees and 4.6 million asylum seekers worldwide (United Nations High Commissioner for Refugees, 2021). Children who come from refugee households often face challenges in adapting to new educational systems, which can be due to cultural and linguistic differences (Grandi, 2016; Li, 2007). The gap between children's home language and the instructional language in preschool can prevent them from understanding the lesson and engaging with teachers and peers (MacLeod et al., 2020). A pediatrics journal reported that language delays were among the major developmental issues found in elementary school-aged refugee children (Mace et al., 2014).

To support children's language and literacy skills, it is crucial to start early, as early oral language skills and academic language exposures are key predictors of future success (Dickinson & Porche, 2011; Dickinson & Tabors, 2001; Hindman et al., 2019; Uccelli et al., 2019). Children who enter school with low language skills are at a disadvantage and are more likely to come from a lower socio-economic background, belong to a minority group, or have parents with low educational attainment (Brownell et al., 2016; Greenwood et al., 2020; Holliday et al., 2014). This disadvantage can negatively impact their education, health, and well-being (Black et al., 2017; Price et al., 2022). However, supportive caregiving from early childhood education can help to mitigate the negative effects of growing up in a disadvantaged home.

Head Start (HS) programs aim to counteract these negative impacts by providing high-quality learning environments for children ages 3 to 5 from diverse backgrounds and living in poverty (Bowman, 2019). A national HS study found that one-third of participating children are dual language learners (DLLs) who are developing both English and their home language

simultaneously (National Academies of Sciences, Engineering, and Medicine, 2017). Among these DLLs, Spanish-speaking children are the largest population, with children from Myanmar refugee households becoming an increasingly significant group in the Midwest U.S. However, due to their parents' economic hardships and low educational levels, DLLs, including Myanmar refugee children, receive less support at home compared to monolingual peers, which contributes to academic achievement gaps (Burchinal et al., 2010; Buysse et al., 2013; Dickinson et al., 2010; Early et al., 2010; Han et al., 2014; Sawyer et al., 2018).

Research Problem

More than half of young children, 64% of preschool-aged children (3-4 years old), and 81% of kindergarten-aged children (5 years old) in the U.S. attend some form of early childhood education (de Brey et al., 2021), but research on language environments has primarily focused on the home environment, infants, toddlers, or children with neurodevelopmental disorders (Dykstra et al., 2013; Gilkerson et al., 2018; Hart & Risley, 1995; Irvin et al., 2013; Mitsven et al., 2022). While some studies have considered preschool language environments through the context of overall classroom quality or brief observation periods (Dickinson & Neuman, 2006; Limlingan et al., 2020), these measures do not provide comprehensive information on children's experiences throughout the day or the variation at the child and classroom levels. To fill this gap in the literature, the current study will examine language contexts throughout the typical preschool day using *Child Observation in Preschool/ Teacher Observation in Preschool* (COP/TOP) observation tools, and *Language Environmental Analysis* (LENA) advanced electric device that automatically processes and quantifies audio data.

In addition to the challenges posed by the increasing linguistic and cultural diversity in HS classrooms, teachers are facing further challenges. According to data from 2019, 64.1% of

teachers are white monolingual, followed by Hispanic or Latino (18.0%), Black or African American (9.1%), and Asian (5.7%) (www.zippia.com, 2019). Furthermore, 87.5% of teachers need more training in teaching linguistically diverse students, and only 30% have received training in teaching racially diverse groups (Frankenberg & Siegel Hawley, 2008; Li et al., 2018). HS teachers report discomfort interacting with DLLs and feel the need for more support and training in educating these students (Choi et al., 2021). Moreover, many teachers need an understanding of refugee children's experiences and socio-emotional issues (McBrien, 2005; McWilliams, 2015).

The improvement of language skills in DLLs is greatly impacted by high-quality oral language interactions (Ramírez et al., 2020). Currently, studies in the classroom language context focus mainly on teachers' interactions and neglect the impact of peers on DLLs. Despite preschool students spending more time interacting with their peers than their teachers (Sawyer et al., 2018), peer interactions are often not considered a critical factor in models relating to the relationship between HS attendance and child development (Henry & Rickman, 2007). The limited research highlights the need for further understanding of the role of peer language skills, peer language match, and frequency of interaction as predictors of Myanmar refugee DLLs' language and literacy development in HS classrooms.

Limited studies on peer and teacher effects and children’s development studies were conducted in specific populations; much research has been undertaken with mainly middle-class, monolingual children from Western cultures. Even though the refugee children’s population is increasing, the language experiences of refugee DLLs still need to be studied, and more specifically, Myanmar refugee households in HS. The limited literature on Myanmar refugee children has primarily focused on physical and mental health issues (Schweizer et al., 2011; Yun

et al., 2016) or home language and literacy environments (Boit et al., 2020; Cun 2020, 2022; Quadros & Sarroub, 2016). Hence, there is a need for further research to investigate the association between peer-child and teacher-child talk and Myanmar refugee DLLs' language and literacy development in the classroom context.

Research Purpose

This study aims to investigate the relationship between classroom language contexts and the language and literacy development of Myanmar refugee DLLs. The study will examine the influence of peer and teacher language factors, including the frequency of peer interaction, peers' English vocabulary skills, the proportion of children speaking the same home language, teacher-child interaction frequency, back-and-forth teacher-child conversation, and teacher emotional support on the language and literacy development of Myanmar refugee children. Additionally, the study aims to determine the extent to which children's initial language skills or the years of HS attendance moderate or mediate their language and literacy development.

Research Questions

The present study will investigate the following research questions:

1. How do the frequency of interaction with peers, the average levels and variability of peers' English vocabulary skills, and the proportion of children speaking the same home language impact Myanmar refugee DLL children's language and literacy development?
2. How do the frequency of interaction with teachers, teacher-child back-and-forth conversational turns, and teachers' emotional support predict language and literacy development in Myanmar refugee DLL children?

3. Which of the two predictors (peer or teacher language contexts) significantly predicts Myanmar refugee DLL children's language and literacy development?
4. Is there a mediating or moderating role of either children's initial language skills or the years of HS attendance on Myanmar refugee DLL children's language and literacy development?

Hypothesis

This study hypothesizes that language and literacy development in Myanmar refugee DLLs is significantly impacted by factors such as the frequency of interaction with peers, the average and variability in peers' English vocabulary skills, and the proportion of children speaking the same home language. It also posits that the frequency of interaction with teachers, teacher-child back-and-forth conversations, and teachers' emotional support play a significant role. The study suggests that examining teacher and peer contexts as predictors of language and literacy development would provide a more comprehensive understanding of Myanmar refugee DLLs' classroom oral language learning contexts. Finally, the study hypothesizes that children's initial language skills or the years of HS attendance may mediate or moderate effect on language and literacy development.

Theoretical Framework

The theoretical frameworks for the study will be based on Bronfenbrenner's Ecological Systems Theory (1977, 2007) and Vygotsky's (1978) Sociocultural Theory, which will provide a conceptual lens for understanding the language contexts of Myanmar refugee children in Head Start classrooms. Bronfenbrenner (2007) proposed the Process-Person-Context-Time (PPCT) model, which will be used to examine the proximal peers and teachers in the HS classroom context. Interactions with proximal others, such as peers and teachers, are crucial for language

growth in Head Start classrooms as they provide opportunities for children to practice their oral language skills (Limlingan et al., 2020).

Vygotsky's (1978) Sociocultural Theory will provide a theoretical basis for exploring the impact of peer language contexts on Myanmar refugee children's language and literacy development. The theory posits that peers play a role in the development of language skills through the *zone of proximal development*, which refers to the gap between what a child can do alone and what they can achieve with assistance from someone more skilled. Peers with advanced skills can support the learning of less-skilled peers through interactions and demonstrations, which can increase language abilities. However, if the gap between the most and least skilled children is too wide, with no peers of intermediate skills to bridge the gap, the less-skilled children may not reap the same benefits.

In addition, the study will also consider individual differences in children's oral language experiences and outcomes based on factors such as home language characteristics, age, year of HS enrollment, child's initial English skills, parental socio-economic status, and educational background, as well as teacher characteristics such as years of experience and educational beliefs (Dickinson & Tabors, 2001; Leech et al., 2018). These individual differences will be considered within the larger ecological peer and teacher contexts of the Head Start classrooms, providing a comprehensive understanding of how different factors may interact to influence language and literacy development in Myanmar refugee children.

Significance of Study

The significance of this study lies in its contribution to the language and literacy development field among the underrepresented populations of Myanmar refugee DLLs. The results will expand the understanding of the relationships between various ecological

backgrounds of children, peers, and teachers and the language and literacy development of Myanmar refugee DLLs in Head Start classrooms. This study will also provide valuable insight into support needed for refugee preschool children who are increasing population globally, emphasizing the crucial role of the classroom language environment in promoting oral language and literacy development. Using multiple data sources, including classroom observations and advanced technology such as the LENA Digital Language Processor (DLP), the innovative tool to capture real-time classroom language interactions offers a more comprehensive understanding of the language contexts and supports for these children. The findings of this study could also have some implications for teacher preparation and professional development programs. The results of the study will inform and equip teachers to support the language and literacy development of DLLs from different cultures, taking into account the cultural differences that impact language and literacy development in ECE settings (Gay, 2018). In conclusion, this study highlights the importance of providing teachers with the necessary tools and knowledge to support the oral language and literacy development of DLLs from diverse backgrounds.

Definition of Terms

The following operational definition of terms will be used in this study:

1. Dual language learners (DLLs): Children under the age of 5 who are actively acquiring two or more languages simultaneously (Office of Head Start, 2008).
2. Refugees: Individuals who have been forced to leave their home country due to political, social, religious, or ethnic persecution and are unable to return due to a well-founded fear of continued harm. (United Nations High Commissioner for Refugees [UNHCR], 2011).

3. Peer: A peer is a person at the same developmental stage or age as another. Peers are often used as social models for children to facilitate their learning and development through interactions and relationships with others (Vygotsky, 1978).

Chapter 2:

Review of Literature

SUPPORTING MYANMAR-REFUGEE DUAL LANGUAGE LEARNERS IN HEAD START: PEER AND TEACHER'S LANGUAGE CONTEXTS

Myanmar Refugee Children

The United States has resettled over 100,000 refugees from Myanmar since the 1980s, with an additional 600,900 refugees from 2010 to 2020 and an average of 10,000 new arrivals each year (Statista, 2021). The majority of these refugees are from ethnic minority groups such as the Karen, Chin, and Karenni, who have faced persecution and conflict in Myanmar (Scarlis, 2010). Despite support from government programs, refugees face several challenges, including limited English proficiency, cultural differences, and difficulty finding employment (Crouch & Collopy, 2011; Pew Research Center, 2019).

Language acquisition is a significant challenge for Myanmar refugees in the U.S., particularly due to limited access to resources, trauma, and cultural adjustment (Pew Research Center, 2019; Scarlis, 2010). Many Myanmar refugee families have limited formal education and may need help communicating effectively in English, which can impact their ability to access education and healthcare services (Crouch & Collopy, 2011). A significant proportion of Myanmar refugees in the U.S. live in poverty, and most refugee families speak their home language at home (Pew Research Center, 2019).

Refugee children face additional challenges, especially with English language acquisition. A majority of parents have difficulty supporting their children's English language and literacy development due to their own lack of proficiency (Trieu & Vang, 2015), and children from refugee households may have difficulties accessing quality education and

experience delays in their academic development (Crouch & Collopy, 2011). Previous research found that Myanmar refugee children have different experiences in English language acquisition compared to their monolingual peers in the Head Start program (Author et al., in progress), and further examination is needed to determine the best strategies to support their language acquisition. In conclusion, supporting refugees in their transition and integration is crucial for their success, and addressing the challenges they face in language acquisition is essential to support their education and overall well-being.

Head Start Refugee Policy

The integration of refugees into the HS program, a federal program in the United States that provides comprehensive education, health, nutrition, and parent involvement services to low-income preschool children and their families, began in 2007 with the Office of Refugee Resettlement (ORR) Services (Head Start Connection, n.d.). The ORR's goals align closely with those of HS, which is to enhance children's social and cognitive development through various programs, including education, nutrition, physical and mental health, and healthcare, with a strong emphasis on family participation.

To ensure that all eligible refugee children and families receive high-quality HS services, the National Head Start Institute on Hispanic and Other Emerging Populations has been established (Head Start Connection, n.d.). The institute focuses on increasing knowledge of various cultures and languages to improve recruitment strategies and culturally sensitive community partnerships (Bennouna et al., 2021). It also aims to promote research-based, culturally responsive practices for supporting refugee children's home language and literacy, including second language acquisition and helping English learners adjust to school (Head Start Connection, n.d.).

Research has been conducted on the impact of Head Start programs on low-income families and children and the effectiveness of culturally responsive practices in promoting language and literacy skills among refugee children (Bennouna et al., 2021). However, more research is still needed to specifically examine how to integrate refugees into the HS program and its impact on their development and adjustment to their new communities.

Dual Language Learners Language and Literacy Development

The number of DLLs has been on the rise in the United States and other countries. Currently, nearly one-third of children between the ages of 0 and 8 are DLLs, a significant increase from one-quarter in 2000 (Park et al., 2018). By 2030, almost half of all school-aged children are expected to be classified as DLLs (Gil, 2015). Research on DLLs has shown the numerous benefits of early exposure to multiple languages, including developing proficiency in two or more languages and enhancing cognitive and social skills (Espinosa, 2015; Hoff, 2013). Additionally, code-switching, the process of alternating between languages in different contexts, has been found to support language and literacy development and increase awareness of the rules of other languages (Surrain et al., 2022). Furthermore, DLLs have been shown to have an advantage in executive function skills, which is critical for academic success (Choi et al., 2018).

However, DLLs face challenges as they work to develop and maintain their language skills, such as balancing the demands of two languages, navigating cross-linguistic influence, and adapting to different language environments (Páez et al., 2007; Sheng et al., 2011). L1 and L2 refer to a person's first and second language, respectively (Hammer et al., 2014). In the case of DLLs, L1 development pertains to the progression of their abilities in their first language, which is typically acquired through family and cultural practices. On the other hand, L2 development refers to the progression of their abilities in a second language, which can be

acquired through immersion in a language-rich environment, formal instruction, or exposure to media and cultural products (Hammer et al., 2009; Mancilla-Martinez & Lesaux, 2011). Research has emphasized the importance of L1 development for the overall language and literacy development of DLLs, as it provides a foundation for later language acquisition and strengthens cultural identity and heritage connections (Hammer et al., 2014). However, L2 development is also crucial for academic and social success, providing access to a broader range of opportunities and bridging language and cultural divides.

Unfortunately, many DLLs come from low-income households with parents who have limited formal education (Kieffer, 2008; Rojas-Flores & Vaughn, 2019), making it even more challenging for them to overcome language and literacy development obstacles compared to their white, monolingual peers (Duncan et al., 2020; Farrow et al., 2020). Spanish-speaking DLLs, in particular, face difficulties in reading comprehension, a critical area of academic achievement (Hammer et al., 2020; Mancilla-Martinez et al., 2020). Additionally, English-only instruction environments that do not support Spanish proficiency can be inadequate for English language learning and limit classroom interactions (Choi et al., 2021; Kim et al., 2015).

Therefore, it is crucial to recognize and address these challenges by providing adequate support for DLLs in their language and literacy development (Burchinal et al., 2010; Buysse et al., 2013; Early et al., 2010; Han et al., 2014). Instruction in two languages has been found to be the best intervention for supporting DLLs' language and literacy development and academic achievement (Hammer et al., 2011). By providing exposure to both languages, DLLs can develop proficiency in both, which can have numerous cognitive and social benefits (Garcia, 2018). Providing instruction in a DLL's native language can also help build their linguistic and cultural foundation (Garrity & Guerra, 2015; Ramírez et al., 2020). By learning and developing their

abilities in their first language, DLLs can form a stronger foundation for later language acquisition and maintain their connection to their heritage (Hoff, 2013). On the other hand, developing their second language can provide access to a broader range of opportunities and help bridge language and cultural divides (Coelho et al., 2019; Dickinson & Porche, 2011; Dickinson & Tabors, 2001; Hindman et al., 2019; Uccelli et al., 2019; Williford et al., 2013).

Providing a language-rich classroom environment, with opportunities for exposure to materials and activities in multiple languages, can also help support DLLs' language and literacy development in a supportive and engaging with people and tasks in classrooms (Farrow et al., 2020; Garrity & Guerra, 2015; Ramírez et al., 2020). In classroom language contexts, teacher and peer interaction can be important factors in promoting DLLs' language and literacy development (Sawyer et al., 2018).

Classroom Language Context

Young children's language and literacy development is a complex and multi-faceted process that is greatly influenced by the amount and type of language exposure they receive during their formative years (Dickinson & Tabor, 2001). Research has shown that the more exposure a child has to a particular language and the more frequently they are able to use it, the more they will develop their language skills in that language (Hammer et al., 2014; Hoff, 2013). Children raised in a bilingual or multilingual environment are exposed to and use multiple languages regularly (Schmerse, 2021). This results in their phonological, lexical, and grammatical knowledge being spread across two language systems, which can increase activating for cognitive skills like attention and inhibition (DeAnda et al., 2016)

Oral language and literacy development in the early years is of utmost importance due to its strong relationship with later literacy skills such as word reading and comprehension (Baker

& Páez, 2018; Carbell et al., 2015). The quantity and quality of linguistic exposure also play a crucial role in oral language and literacy development (Reilly et al., 2020; White et al., 2019). As such, early childhood experts emphasize the importance of making oral language a central aspect of early childhood education, integrated into curricula and daily activities (Dickinson et al., 2014; Early et al., 2010; Sawyer et al., 2018). The current study focuses on the quantity of language input heard by Myanmar refugee children from their peers and teachers in the classroom (Duncan et al., 2022).

In addition to teachers' language input, peer interaction is also crucial for children's language and literacy development. Research has shown that peer interactions provide opportunities for DLLs to learn new words, practice language skills, and gain confidence in their ability to communicate with others (Atkins-Burnett et al., 2017; Schmerse, 2021). Ultimately, both teacher and peer interactions are key components of the language-rich classroom contexts that promote children's oral language and literacy development.

Peer Interaction

The preschool setting offers opportunities for children to interact with their peers while participating in play and academic activities (Palmero et al., 2014). The concept of peer effects explains the connection between peers and a child's skill development (Vygotsky,1978). This theory suggests that exposure to peers with higher skill levels can, directly and indirectly, impact a child's development (Justice et al., 2014; Mashburn et al., 2009). Research has shown that positive peer interactions can positively impact various aspects of a child's development, including positive self-perceptions, language skills, and problem-solving abilities (Coolahan et al., 2000; Henry & Rickman, 2007; Johnson et al., 2000; Nelson et al., 2005).

Researchers have begun to study whether DLLs receive the same benefits from interacting with peers with higher skills as non-DLLs (e.g., Atkins-Burnett et al., 2017; Gamez et al., 2019). Atkins-Burnett et al. (2017) explored the relationship between the expressive vocabulary of preschool classmates and the vocabulary knowledge of individual children in a linguistically diverse sample of 4-year-olds enrolled in preschool. The results showed that children with peers with higher expressive vocabulary also had a higher expressive vocabulary. This relationship was particularly strong for DLLs, as having peers with higher vocabulary ability was associated with stronger growth in conceptually scored expressive vocabulary for DLLs in both languages compared to English-fluent children (Atkins-Burnett et al., 2017).

Interactions with highly skilled peers may provide opportunities for DLLs to improve their skills and lay the foundation for school success (Palmero & Mikulski, 2014). Peer interactions may be particularly important for enhancing DLLs' English language skills, as they may have limited opportunities to practice English outside preschool (Atkins-Burnett et al., 2017). Previous research on DLLs has mostly focused on their experiences in English-majority classrooms, with limited studies on the impact of varied linguistic composition on language and literacy development and the influence of peers on language skills. This suggests a potential connection between classroom linguistic composition and language outcomes for Myanmar DLLs.

Frequency of Interactions with Peers

The role of peer interactions in language and literacy development has been widely studied, with a number of studies indicating that increased exposure to peers proficient in English can lead to improved English vocabulary skills and overall language growth (Palmero et al., 2014; Justice et al., 2014; Mashburn et al., 2009). Dickinson and Tabors (2001) found that

engaging in pretend-play with peers during preschool was linked to better literacy outcomes in children during their kindergarten years. The improvement was directly correlated with the amount of time the children spent talking with each other, highlighting the positive impact that verbal interactions with peers have on language and literacy development (Dickinson & Tabors, 2001). Furthermore, research on preschool-aged dual language learners has found that the frequency of interactions with peers positively affects their language and literacy development (Schmerse, 2021). However, more research is needed to examine the relationship between the frequency of talk with peers and language outcomes in refugee children.

Peers' English Vocabulary Skills

Peers with higher language skills can verbally teach and share their skills with others (Palmero et al., 2014). For example, a child with better language skills might have the vocabulary to resolve conflicts verbally, serve as a model for their peers, or explain an academic concept to their friend in multiple ways (Mashburn et al., 2009). This could lead to a relationship between peer language skills and the child's academic, social, and behavioral development, as previous research has shown a link between higher peer language skills and language and literacy development in preschool settings (Atkins-Burnett et al., 2017; Justice et al., 2011; Schmerse, 2021). Researchers usually take a sample of around 4 to 8 children per classroom to study peer influence and calculate an average skill level for the group (e.g., Atkins-Burnett et al., 2017; Henry & Rickman, 2007; Justice et al., 2011). It is important to exclude the child's own skill level from the calculation to avoid considering a peer to themselves (Foster, 2021). The role of peers' English vocabulary skills in the development of Myanmar refugee DLLs has not been explored in previous studies.

Same Home Language Peers

Research conducted in the United States has consistently demonstrated that an increase in the percentage of DLLs in the preschool classroom has no impact on the development of their home language skills. However, it has been associated with modest gains in their English proficiency (Garcia, 2018; Limlingan et al., 2020). In contrast, some studies have found that the presence of peers who speak the same home language as the child can be beneficial for the child's development in their first language, as well as for maintaining their cultural identity and connection to their heritage (Nelson et al., 2005; Raikes et al., 2019).

Teacher Interaction

In the case of Myanmar refugee DLLs, the role of teachers in fostering their language and literacy development may be especially important. These children face unique challenges in adapting to a new language and cultural environment, and the support and guidance of their teachers can be crucial in helping them navigate these challenges and achieve success in their language and literacy development (McBrien, 2005; Trieu & Vang, 2015). Teachers can also support children's language and literacy development by providing positive emotional support, scaffolding language use, and modeling effective communication strategies (Carbell et al., 2015; Dickinson et al., 2014; Limlingan et al., 2020; Sawyer et al., 2018).

Frequency of Interactions with Teachers

Studies have found that teacher-child interactions that involve frequent and meaningful conversation can help foster language and literacy development in young children (e.g., Palmero et al., 2014; Justice et al., 2014). In addition, the quality and frequency of interaction with teachers can impact children's language skills by providing them with opportunities to engage in language-rich interactions and to receive feedback and support from their teachers (Mashburn et al., 2009).

Teacher-Child Conversational Turn

The use of technology to quantify children's language environments has the potential to enhance our understanding of their language and literacy development. A growing body of evidence supports the effectiveness of the Language Environment Analysis (LENA) device as a tool to measure young children's language exposure (Dykstra et al., 2013; Merz et al., 2019; Romeo et al., 2018; Zimmerman et al., 2009). For instance, studies have found that children who engage in more conversational turns with a parent tend to have better language skills (Gilkerson et al., 2018; Zimmerman et al., 2009). Although some studies have used the LENA to examine language environments in childcare settings, these studies were limited to specific populations, such as children with autism spectrum disorder, very small samples, and/or a younger age range than pre-kindergarten (Dykstra et al., 2013; Irvin et al., 2013). The current study focuses on the language and literacy development of dual language learners in HS, specifically Myanmar refugee children. Further research is necessary to examine the impact of conversational turns with teachers on their language and literacy development.

Teachers' Emotional Support

Teachers' emotional support has also been found to be an important factor in children's language and literacy development. Children who experience warm, supportive and responsive relationships with their teachers have more positive language outcomes, including increased language skills and excellent overall language and literacy development of all children, including DLLs (Henry & Rickman, 2007; White et al., 2019). Research has established a connection between the emotional support provided by teachers and the cognitive and academic achievement of DLL children (Burchinal et al., 2012; Weiland et al., 2013). A well-organized classroom environment, like the pedagogies of learning activities and organizing daily routines,

has also been shown to positively impact DLLs' cognitive and socioemotional development (Burchinal et al., 2014; Downer et al., 2012). Moreover, research has demonstrated the impact of teacher-provided instructional support on the language learning outcomes of DLLs (Hindman & Wasik, 2015). However, further investigation is required to explore the relationship between the emotional support provided by teachers and the language and literacy development of Myanmar refugee DLLs.

Conclusion

This review aims to examine the challenges faced by Myanmar refugee families in the United States regarding their children's language and literacy development. Additionally, the review seeks to understand how HS programs plan to support refugee children. Finally, the review aims to investigate how the classroom language context of both peers and teachers affects the language and literacy development of general DLLs and Myanmar refugee DLLs.

Myanmar refugees' children in the United States face several challenges, particularly in acquiring the English language, due to limited home language resources and cultural differences between their home and school (Collopy & Crouch, 2011; Trieu & Vang, 2015). HS programs, the Office of Refugee Resettlement (ORR) Services (Head Start Connection, n.d.) plans to provide comprehensive education, health, nutrition, and parent involvement services to low-income preschool children and families with a strong emphasis on family participation. Although there are HS services to support refugee children's language and literacy development, further study is needed to understand the unique needs of this population.

DLLs often demonstrate lower oral language skills and require assistance to achieve academic success, similar to their monolingual peers (Burchinal et al., 2010; Buysse et al., 2013; Early et al., 2010; Han et al., 2014). Fostering language-rich classroom contexts through various

opportunities for exposure, interaction, and activities in English, as well as through interactions with teachers and peers, can greatly enhance the oral language and literacy development of both general DLLs and Myanmar refugee DLLs (Dickinson et al., 2014; Early et al., 2010; Sawyer et al., 2018). Therefore, the current study focuses on the quantity of language input these children received from their peers and teachers in the HS classroom, emphasizing the importance of oral language and literacy development in early childhood education and the role of both teacher and peer interactions in promoting it.

Chapter 3:

Methodology

Overview

Oral language skills are critical for later success, and early childhood education programs like Head Start (HS) can promote language learning for refugees (Garrity & Guerra, 2015; Ramírez et al., 2020). However, HS classrooms are increasingly diverse, with many DLLs, and teachers are often unprepared to handle this diversity. Most HS teachers are white monolingual and lack training in teaching linguistically diverse students or culturally responsive teaching (Choi et al., 2021; Frankenberg & Siegel Hawley, 2008; Li et al., 2018). Moreover, many teachers lack awareness of refugees' experiences and socio-emotional issues, and there is limited research on Myanmar refugee DLLs' language contexts in the classroom (McBrien, 2005; McWilliams, 2015). In addition, peer interaction plays a pivotal role in supplementing the language input provided by teachers (Justice et al., 2011). Studies have demonstrated that communication with peers allows DLLs to expand their vocabulary, improve their language abilities, and increase their confidence in speaking with others (Atkins-Burnett et al., 2017; Schmerse, 2021). More study is needed on how language context of Myanmar-refugee DLLs in the HS program to support better; this study defines language contexts as peer language skills, peer language match, teachers and peers' frequency to interaction, conversational turns with teachers and peers, and teacher's emotional support as predictors to the oral language and literacy development of Myanmar-refugee DLLs in the HS program.

The present study will investigate the following research questions:

1. How do the frequency of interaction with peers, the average levels and variability of peers' English vocabulary skills, and the proportion of children speaking the same

home language impact Myanmar refugee DLL children's language and literacy development?

2. How do the frequency of interaction with teachers, teacher-child back-and-forth conversational turns, and teachers' emotional support predict language and literacy development in Myanmar refugee DLL children?
3. Which of the two predictors (peer or teacher language contexts) significantly predicts Myanmar refugee DLL children's language and literacy development?
4. Is there a mediating or moderating role of either children's initial language skills or the years of HS attendance on Myanmar refugee DLL children's language and literacy development?

Methods

This study used data from an evaluation project of a Head Start (HS) program in a large Midwest city in the U.S. This 3-year program evaluation CARP study began in the fall of 2022 and continues until the spring of 2025. This study includes the first year of data collection. Early Childhood Education Institute (ECEI) employed a multi-stage sampling approach to select representative classrooms and children from all ten CAP (Community Action Project) program centers. A classroom is the sampling unit for the first stage. The ECEI used a probability proportional to size sampling approach, considering the size of centers in selected classrooms. Classrooms were randomly selected, but more classrooms were set from larger-sized centers. A child was the sampling unit for the second stage. Thus, five or six children were randomly selected from each classroom in the first stage after selecting classrooms. A program roster including all classroom and child information each year was supplied by CAP Tulsa and

provided the sampling frame of eligible classrooms and children. ECEI received a preliminary program roster and early attendance data by the third week of August.

Participants

Participants (children) of parents will be recruited for the study via informational sheets and meetings at the child's school. Parents will complete a sign-up sheet for the study, and a research assistant will follow up with the participants to have them complete a parental consent form and a child assent form. Given the program's interest in evaluating young infant/toddler experiences and their development in the CAP Tulsa ECE program, age two and three classrooms and children in the sample classrooms were selected in year 1 (see Table 1). For data collection in Year 1 (Y1), all 25 classrooms for 3-year-olds were included, and 30 classrooms for 2-year-olds were randomly selected from 10 centers. This study sample consists of 24 Myanmar-speaking children with Zo, Zomi, or Burmese home language from the CAP Tulsa centers recruited through the ICAST project. The total data set was 320 (n=320); after removing data from children whose home language was Arabic (n=5), other languages (n-=3), and one missing data point (n=1), the final sample was 311 (n=311). Girls represented 53.5 % of the sample, and gender distribution was almost even. The number of children in each home language category was English=186, Spanish=103, and Myanmar (Burmese, Zomi, and other ethnic Myanmar) = 22. Thus, the present study has data from 55 classrooms across 10 HS centers with a sample of 311 children. The focused analytic sample is 24 Myanmar children in 17 classrooms.

Table 1

Sample

	Year 1 (2022-2023)
	ECEI CARP **ICAST Myanmar**

Age 2	83(30)		5 (5)
Age 3	127 (25)		16 (10)
Age 4	77 (17)		3 (2)
Total	287		24
Total Sample		311	

Numbers in ( ) are the numbers of classrooms.

Procedures

Data Collection Timeline. The following table outlines the overall project timeline relative to data collection. After informed consent is obtained from parents, child assessments (EOWPVT and Woodcock Johnson) and teachers' ratings of children will be collected in the fall and repeated in the spring. Classroom observations COP (Child Observation in Preschool)/TOP (Teacher Observation in Preschool), LENA (Language ENviornment Analysis), and teacher questionnaire times (TOCA, demographic questionnaire) will be conducted in the winter. Children will be assessed one-on-one with a trained assessor over two days. On the morning of the first day, the child will be given a literacy assessment (Woodcock Johnson-Word and Letter Recognition); testing sessions will last approximately thirty minutes and be conducted in a quiet area outside the classroom. Classroom observations will be executed once during the year, beginning at 8:30 and ending at 2:30. Exact dates will be established collaboratively with CAP Tulsa to avoid holidays, special events, and other scheduled activities to lessen disruptions to the program to facilitate optimal child performance.

Table 2

Timeline for Data Collection

	Fall 2022	**Winter 2022**	**Spring 2023**
Recruitment	X		
Child assessments	X		X
Teacher ratings	X		X

Classroom observations	X

Measures

Child Demographics. Child characteristics, including gender, race/ethnicity, and home language for those who participated in the present study were obtained from the program administrator who collected it from parents when they enrolled their children in the HS program: (a) English-speaking: White or African American children who speak English at home (we put these children in the same group because they are monolingual) (b) Spanish-speaking: Hispanic children who speak Spanish at home and (c) Myanmar-speaking: children from Myanmar who speak the official language of Myanmar or Zomi tribal languages at home.

Head Start Classroom Language Contexts. ***COP/TOP*** classroom observation tools and ***LENA DLP*** measure HS classroom language contexts. These two complementary tools examine the peer-child and teacher-child interaction quantity: (a) *teacher and peer utterance counts*, indicating counts of teachers and peers, and (b) *adult-child conversational turn*, the number of conversations teachers and children converse back-and-forth will be examined.

***COP (Child Observation in Preschools*).** COP (Farran, 2017) protocol will explore how individual children spend their time in the classroom. For capturing a snapshot, each child in a classroom is observed for approximately 3 seconds, after which the observer immediately codes nine areas of the child's behaviors. Kappa coefficients for COP interrater reliability ranged from .82 to .87 (Farran, 2017). Data will be aggregated at the child level, resulting in proportions of the total sweeps of a child engaged in particular behaviors.

The current study focused on two variables: language use and level of involvement. *Language Use* notes whether the child is interacting or listening, and children's language uses

were divided into two categories (see Table 4): (1) whether the child was interacting or listening in English or other languages and (2) to whom the child was speaking or listening (such as teacher, child, small group, whole group, or self). For example, during the 3-second sweep, observers look first to see if the child is interacting or listening in English or other languages and to whom. Sometimes both listening and interaction can occur within the same interval, then coded whichever occurs first, not both.

TOP (Teacher Observation in Preschools). TOP (Bilerey et al., 2007) protocol will allow for the observation of teachers' instructional and emotional language support in classrooms throughout a day-long visit in conjunction with the COP. The teacher's behavior will be observed for a 3-second sweep before scoring; children (COP) will be coded immediately afterward. All observers in the study must achieve inter-rater reliability with an experienced anchor observer at each time point. Previous studies using TOP (Bilbrey et al., 2007) have shown good inter-rater reliability, with Kappa coefficients ranging from .82 to .86.

For this study, three variables will be included: task, level of instruction, and tone/affect. *Task* refers to the task/activity with which the teacher is engaged and will be coded independently of what the children are doing. Task includes instruction, administrative (paperwork, attendance), managerial (lining up children, passing out materials), monitoring (passively observing), behavioral approving, behavioral disapproving, personal care of children (tying shoes, fixing closets, serving food), social or none. The task variable will be coded as the proportion of sweeps where the code was instructed out of the total number of sweeps.

Level of instruction is a four-point rating scale describing the instruction occurring during that sweep. For example, a teacher would be rated as having a low level of instruction when the teacher is interacting with materials, but the objective or intent to teach a specific skill needs to

be recognized. A rating of four indicates high inferential learning, which will be scored when the teacher and children explore a topic using open-ended questioning and teacher-child interactions. This variable will be created by averaging the teacher's level of instruction across sweeps.

Tone/Effect will capture the teacher's tone during the three-second observation. The tone will be coded as vibrant, pleasant, flat, negative, or highly harmful. For example, an extreme negative would include physically moving children, yelling at children, or using sarcasm, while a flat affect would be neutral or expressionless. A vibrant tone would be coded if the teacher interacted positively with the child and smiled or laughed. For this study, a variable will be created as the number of vibrant or pleasant effects across sweeps.

Language ENviornment Analysis (LENA) Digital Language Processor (DLP). This study proposes to utilize the Language ENvironment Analysis (LENA) DLP system (Ford et al., 2009) to gain a more in-depth understanding of the teacher-child language interactions in the classroom. On the designated COP/TOP observation day, children and teachers will wear vests equipped with LENA audio recorders to capture their language interactions. These recorders have been widely used to study interpersonal exchanges between children and their peers and between children and teachers. The vests are designed to be non-intrusive, allowing participants to continue their normal classroom activities while their interactions are recorded. The open-source Sphinx ASR software will be used to extract and analyze the frequency and duration of each participant's speech and conversational turns, offering insight into the language experiences of each child. Predictive analyses will be conducted on the descriptive data, including the children's expressive language (spoken and received).

The LENA DLP provides a streamlined approach to evaluating children's language environments by eliminating the need for manual transcription or coding and allowing for the

automatic collection of large amounts of data (Duncan et al., 2022). Although it cannot determine the quality of the interactions, it is likely that high-quality language environments will be reflected through adult speech and frequent conversational turns, as young children often learn through adult interactions such as shared book reading and educational activities with support (Duncan et al., 2020). However, the sheer number of words spoken or the frequency of conversational turns may not accurately reflect the quality of the experiences (Duncan et al., 2022). Previous research using the LENA system has primarily focused on different age groups, home environments, or children with disabilities (Dykstra et al., 2013; Merz et al., 2020; Mitsven et al., 2022; Perry et al., 2018; Romeo et al., 2018; Zimmerman et al., 2009)

Expressive One-Word Picture Vocabulary Test (EOWPVT). EOWPVT had previously been considered a good measure of estimated overall expressive vocabulary skills for children from 2 to 80 years old (Martin & Brownell, 2011). Children can name objects, actions, or concepts presented in colored pictures; It consists of 190 items set up in a developmental sequence. These pictures represent concepts people have currently experienced through school, media, or home. Overall, administration typically takes 20 minutes; less than 5 minutes is needed to score and interpret the data. Raw scores are reported as standard scores, percentile ranks, and optional age equivalents. Reliability of this text coefficient alpha values ranged from .93 to .97. and test-retest reliability of .97 across a period of 2 weeks to 4 weeks.

The Woodcock-Johnson Tests of Achievement (3rd Edition; WJ-III). The letter-word identification subscale was used to assess letter naming and word decoding skills by asking the child to identify (point to or name) a series of letters and words (Woodcock et al., 2001). Children are questioned to point to six letters called by the tester and to name seven more letters from a selection of letters. Assessors ask children to choose the two named words from an array

of words and read as many remaining words as they can until they have six incorrect responses. The WJ-III is standardized for use with individuals aged 2–90. Age-based standard scores, in which the mean score is 100, and the standard deviation is 15 and familiar to most people, were used in analyses rather than the W-score, which is unique to the Woodcock-Johnson test.

Data Analysis Plan

Research Question 1(RQ 1): *Does frequency of interaction with peers, average levels and variability in peers' English vocabulary skills and proportion of the same home language speaking children predict Myanmar refugee DLL children's language and literacy development?*

For the first research question (RQ1), descriptive statistics will be utilized to describe the relationship between the frequency of interaction with peers, average levels and variability in peers' English vocabulary skills, and the proportion of children who speak the same home language. To account for the fact that the average levels of English skills among peers are at the classroom level, and children are aggregated in the same classrooms, Hierarchical Linear Modeling (HLM) will be performed. The analysis will also control for other relevant variables, such as socio-economic status, parental education, and prior language exposure, to determine how these factors predict language and literacy development among Myanmar refugee DLLs.

Research Question 2 (RQ2): *Does frequency of interaction with teachers, teacher-child back-and-forth conversational turns and teachers' emotional support predict Myanmar refugee DLL children's language and literacy development?*

For RQ 2, the LENA System will be used to collect audio recordings of teacher-child interactions in the classroom. The Sphinx ASR software will extract and code the frequency and duration of each teacher-child interaction, including the back-and-forth conversational turns.

Descriptive statistics will be calculated to describe the frequency of interaction with teachers, the average number of teacher-child back-and-forth conversational turns, and the level of emotional support provided by the teacher. Then, a correlation analysis will be performed to examine the relationship between the frequency of interaction with teachers, the average number of teacher-child back-and-forth conversational turns, the level of emotional support provided by the teacher, and the language and literacy development of the DLLs.

A regression analysis will be conducted to determine the extent to which frequency of interaction with teachers, the average number of teacher-child back-and-forth conversational turns, and teachers' emotional support predict language and literacy development among Myanmar refugee DLLs. The analysis will control for other relevant variables such as socio-economic status, parental education, and prior language exposure. If necessary, multiple regression models will be compared to determine the best-fit model that predicts language and literacy development among Myanmar refugee DLLs based on the frequency of interaction with teachers, the average number of teacher-child back-and-forth conversational turns, and teachers' emotional support.

Research Question 3 (RQ3)*: Which ways can better predict Myanmar refugee DLL children's language and literacy development, peer and teacher separate or combined multilevel model?*

For RQ3, calculate descriptive statistics to summarize the variables and their distributions, including means, standard deviations, and frequencies. Two separate multilevel models will be created, one for peer variables and one for teacher variables (RQ1 & RQ2). Then, a combined multilevel model will be created by including both peer and teacher variables in a single model. After that, I will assess the models for goodness-of-fit using various statistical

criteria, such as residual plots, R-squared, and AIC. I will compare the separate and combined models by comparing the goodness-of-fit criteria, the coefficients of the variables, and the explained variance. Finally, I will test the hypothesis of which model (separate or combined) predicts language and literacy development better. This will be done by comparing the coefficients of the variables in each model, testing the significance of the coefficients, and calculating the explained variance of each model.

Research Question 4: *Is there a mediating or moderating role of either children's initial language skills or the years of HS attendance on Myanmar refugee DLL children's language and literacy development?*

For Research Question 4 (RQ4), I will conduct a mediation model to test whether the relationship between either children's initial language skills or the years of HS attendance and language and literacy development indirectly mediates the relationship through another variable. I will conduct a moderation model to test whether the relationship between children's initial language skills or the years of HS attendance and language and literacy development is moderated, meaning that the relationship depends on the presence or absence of a moderator variable. Finally, I will compare the results of the mediation and moderation models to determine which model better fits the data and better predicts the Myanmar refugee DLLs' language and literacy development. Due to the small sample size of children of Myanmar refugee households, it may be necessary to perform various analytical tests.

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Dissertation Schedule

December 2022:

- ✓ Comprehensive Examination (passed on Dec. 5)

January- March 2023:

- ✓ Choose a topic and finalize the research question.
- ✓ Conduct a comprehensive literature review.
- ✓ Finalize the methodology and data collection plan.
- Obtain IRB from the ECEI
- Preparing for ACF (Administration for Children and Families) HS dissertation grant

March 1, 2023 – Defend prospectus.

April-June 2023:

- Apply for ACF HS dissertation grant (mid. April)
- Obtain completed data from the ECEI.
- Revise the introduction and literature review chapter.
- Begin writing the first manuscript - Conceptual Paper (due June. 30)

July-September 2023:

- Clean and organize collected data.
- Analyze and interpret the results.
- Start writing the second manuscript - Empirical Paper (due Sep. 30)
- Write the discussion chapter for the second manuscript.
- Complete the conclusion chapter for the second manuscript.

October-December 2023:

- Write the abstract and summary.
- Begin writing the third manuscript – Empirical Paper (due Dec. 10)

January- February 2024:

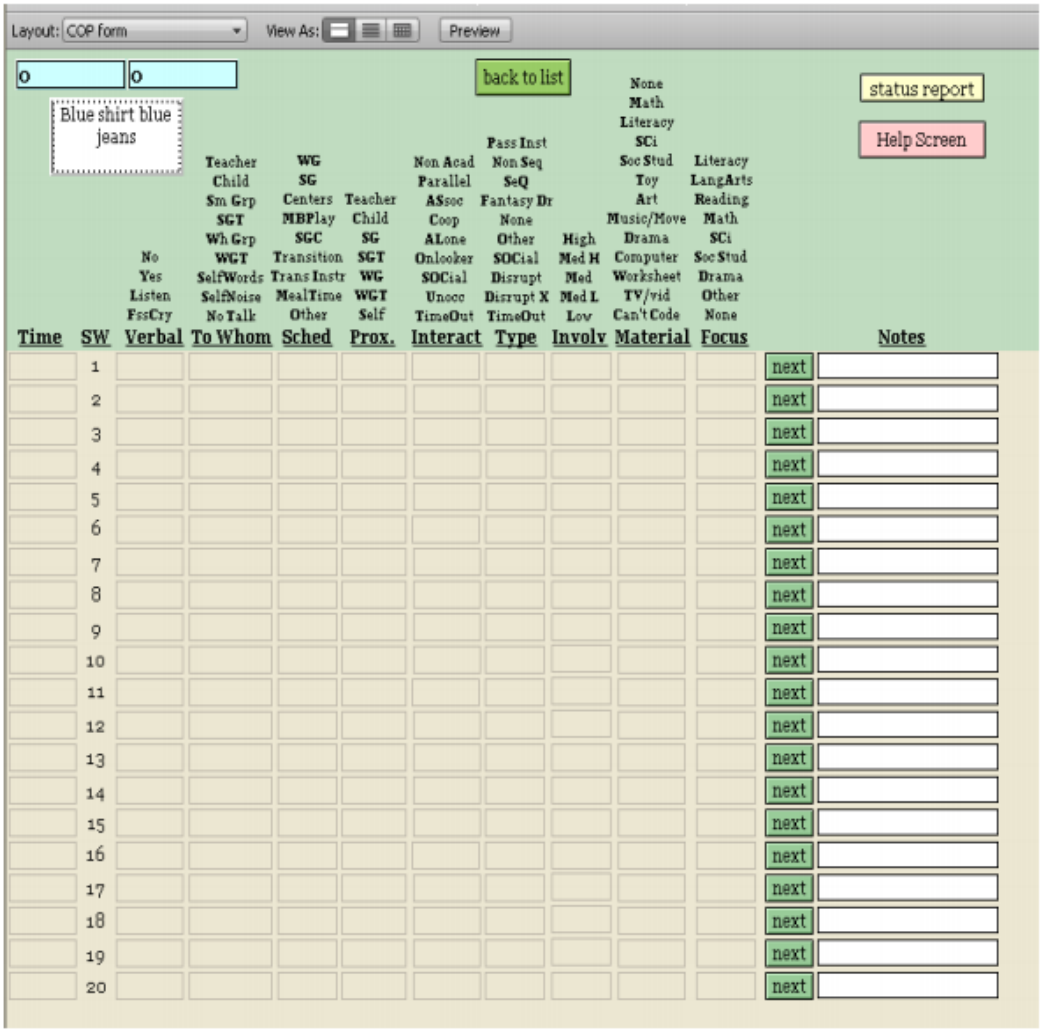
- Review, edit, and proofread the entire document.

March-April 2024:

- Finalize the dissertation.
- Defend dissertation.

Child Observation in Preschool (COP) Sample Tablet View

COP Manual
Adapted for evaluation of the *Tools of the Mind* curriculum
Farran, D.
Peabody Research Institute



Teacher Observation in Preschool (TOP) Sample Tablet Vie

TOP tablet version
Adapted for evaluation of the *Tools of the Mind* curriculum
Bilbrey, C., Vorhaus, E., & Farran, D.
Peabody Research Institute



The UNIVERSITY of OKLAHOMA

Institutional Review Board for the Protection of Human Subjects

Approval of Study Modification – Board Review – AP03

Date: September 28, 2023

Principal Investigator: Diane M Horm, PHD

IRB#: 15827
Study Title: Child Assessment Research Partnership at CAP-Tulsa - extended
IRB Meeting Date: 11/16/2023
Approval Date: 09/28/2023
Reference No: 752347

Modification Description: Updated recruitment email to recruit teachers, updated CARP Teacher Consent Form with name, provided Spanish translation, updated KSP with new staff on project.

The review and approval of this submission is based on the determination that the study, as amended, will continue to be conducted in a manner consistent with the requirements of 45 CFR 46.

To view the approved documents for this submission, open this study from the My Studies option, go to Submission History, go to Completed Submissions tab and then click the Details icon.

If the consent form(s) were revised as a part of this modification, discontinue use of all previous versions of the consent form.

If you have questions about this notification or using iRIS, contact the HRPP office at (405) 325-8110 or irb@ou.edu. The HRPP Administrator assigned for this submission: Kat L Braswell.

Cordially,

Aimee Franklin, Ph.D.
Chair, Institutional Review Board