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Fictional Narrative Skills of Preschool-Age Bilingual Children with
Typical Language Development

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Honors Project

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Abstract

Oral narrative retells are commonly used in assessment to examine language and literacy development in young children. Due to the increasing number of bilingual children in the United States, it is necessary to understand typical development in order to assess and intervene when needed. English story retells from eight preschool-age Spanish-English bilingual children were analyzed in the present study using the Narrative Assessment Protocol. Analyses were conducted to examine differences in narrative microstructure at two time points. In the present study, a Wilcoxon Signed Rank Sum test which is a nonparametric statistical measure was used to determine whether there was a significant change in NAP scores over time. Mean scores at Time 2 were statistically significantly higher than scores at Time 1. Children's narratives at Time 2 were more complex and contained more microstructure elements.

Introduction

Over the past two decades, the number of children in the United States who come from homes where English is not the primary language has steadily increased. According to census data, in 2016, 22% of children in the U.S. used a language other than English at home (Kids Count Data Center, 2018). This growth has resulted in more bilingual children in schools and created a need for educators and practitioners to better understand the development of children in this group. Specifically, oral language and literacy skill development is of interest since, early skills relate to, and predict positive educational outcomes. Although educators and professionals in many fields have worked to inform the knowledge base in terms of oral language skills, there is still a dearth of information concerning the multifaceted nature of literacy development in bilingual children. Studies show that for bilingual children, fictional narrative development in both languages is an indicator of future literacy levels (Lesaux & Geva, 2006). Although limited in number, work to date offers insight into relationships between oral language proficiency and reading skills, relationships between reading and word- and text-level skills, and narrative microstructure and macrostructure skills and literacy levels in bilingual children. Studies that help better understand the literacy profiles of bilingual children are needed to inform educational planning and intervention efforts. Specifically, understanding narrative development in young bilingual children is important so that educators can identify children at-risk for literacy issues prior to Kindergarten where formal language and literacy instruction begins. The following sections contain a review of studies of narrative development conducted with monolingual and bilingual children in order to provide the background and rationale for the present study.

Literature Review

Oral Language

There is consensus that in order for children to become skilled fluent readers, the child must possess adequate oral language skills. Studies show this to be the case for monolingual children. For children who are bilingual, there is a strong relationship between oral language proficiency and reading skills in the first language. Oral language proficiency in terms of literacy can be defined as the understanding of both expressive and receptive skills (Westby, 1989). Oral language proficiency also includes understanding aspects of language including phonology, morphology, semantics, syntax, and pragmatics (Lesaux & Geva, 2006). Individuals with lower oral vocabulary skills are also shown to have lower reading comprehension in many cases, while higher levels of oral proficiency are strongly related to better writing skills in the same language (Lesaux & Geva, 2006). Oral language proficiency may also be an indicator of writing skills in English when it is a second language. Oral language proficiency is important to observe as it can provide information on children's language development.

Fictional Narratives

Fictional narrative skills of young children have been examined to determine the role in language development and long-term educational outcomes. Studies show that fictional narrative skills can be used to determine literacy delays and are good indicators of future literacy levels (Justice, 2006). In early assessments of children's fictional narrative skills through the examination of story retells and story telling tasks, oral fictional narrative retells are used to evaluate the skills at both the microstructure and macrostructure levels because these skills utilize language specific knowledge in production (Paradis, Genesee, & Crago, 2010). While fictional narrative development has been examined extensively in monolingual children, there is

limited empirical evidence concerning the development of bilingual children. Studies are needed to establish typical milestones and expectations for members of this group.

Fictional Narrative Development

A fictional narrative is an oral or written story. Fictional narratives are comprised of two main components, macrostructure and microstructure.

Microstructure is the creation of a fictional narrative through the use of language factors internally (Justice, Bowles, Kaderavek, Ukrainetz, Eisenberg, & Gillam, 2006). Microstructure is examined at the utterance level by the form and content used (Heilmann, Miller, Nockerts, & Dunaway, 2010). The microstructure of fictional narratives is measured by the use of dependent clauses, noun phrases, and conjunctions (Justice et al., 2006). Additional measures include mean length of utterance, total number of words, total number of different words, total number of T-units, mean length of T-units in words, mean length of T-units in morphemes, total number of T-units with two or more clauses, total number of coordinating conjunctions, total number of subordinating conjunctions, and proportion of complex T-units (Heilmann et al., 2010; Justice et al., 2006).

Macrostructure, often referred to as story grammar, refers to the larger, story elements of fictional narratives. Macrostructure skills include the ability to relate concepts and ideas. Macrostructure includes background information and three components that are present in every story, the problem, attempt to solve the problem, and consequences or solutions (Heilmann et al., 2010). In addition, fictional narratives typically include certain content ideas and relationships such as, physical states, physical events, internal states, internal events, goals, style, reason, initiate, consequence, property, and support (Westby, 1989). For a story to be complete, all of the components must be present. To analyze for macrostructure, some studies have used coding

schemes that score based on the use of each of the story grammar elements while others examine story grammar elements for quality and development rather than whether or not the element is present (Heilmann et al., 2010). Other examples of macrostructure measures include number of story grammar elements and episodes included (Justice et al., 2006).

Microstructure. The microstructure skills of children with typical development have been examined in several studies (Castilla-Earls, Petersen, Spencer, & Hammer, 2015; Hipfner-Boucher, Milburn, Weitzman, Greenberg, Pelletier, & Girolametto, 2014; Justice, 2006).

Microstructure skills require a variety of morphosyntactic abilities. In the emergent literacy period, children begin to play with phonology and combine phonemes in oral language (Justice, 2006). During the emergent literacy time, children combine morphemes to change the meaning of words while using syntax to combine words already learned to form short sentences (Justice, 2006). During the early literacy stage, which occurs between 5- and 7-years-old, children learn how to use the alphabet by learning the sounds that go with each letter through print and phonological awareness (Justice, 2006). There are typically a large number of errors in phonology, grammar, and vocabulary as children learn to use the language throughout the early literacy phase. As children near the end of kindergarten, phonetic cues will be used in reading and writing (Justice, 2006).

Literacy skills must develop before fictional narrative abilities can emerge. The emergent literacy period is when children begin to develop skills necessary to read and write. For instance, in preschool, children may not be able to read yet, but are interested in books and printed text and know the names of the letters of the alphabet (Justice, 2006). In preschool, children identify written language, become more sensitive and interested in words in print and oral language, gain an increased awareness of running speech segments like words and syllables of words, and like

to scribble. Many milestones occur before reading and writing which is important in the development of literacy for a child because children are learning principles involved in literacy skills (Justice, 2006). The approximate time period for the emergent literacy stage is from birth to 5-years-old (Justice, 2006). As children develop fictional narrative skills during the emergent literacy stage, language moves from explicit to complex structures. For a child to understand a fictional narrative, first the child must understand the content, ideas, and, relationships often included in early narratives (Westby, 1989).

In a study of narrative abilities of monolingual Spanish-speaking children in three different age groups, Castilla-Earls, Petersen, Spencer, & Hammer (2015) compared differences in macrostructure and microstructure. Participants were 3-, 4-, and 5-year-old children with typical language development ($N = 109$). Participants were examined for differences across age groups in fictional narrative skills at one point in time. The Index of Narrative Complexity was used to measure both microstructure and macrostructure skills with a 3-point coding system. Older children produced more accurate microstructure elements than younger children. Four-year-old children more often correctly produced temporal markers, causal adverbial markers, and dialogue than 3-year-old children. Similarly, 5-year-olds used more knowledge of dialogues in productions than 3- and 4-year-olds while also producing more formulaic markers, temporal markers, and causal adverbial clauses than 3-year-olds. Children from the study resembled English-speaking children with typical development because older children produced fictional narratives with a greater complexity than younger children (Castilla-Earls et al., 2015)

Hipfner-Boucher, Milburn, Weitzman, Greenberg, Pelletier, & Girolametto (2014) examined the relationship between oral language and phonological awareness in monolingual children between the ages of 3- and 5-years-old with typical development. Phonological

awareness was measured using a subtest from the Test of Preschool Early Literacy and vocabulary was measured through the Expressive One Word Picture Vocabulary Test – III. Fictional narrative retells were examined through the Renfrew Bus Story. Phonological awareness outcomes were strongly related to expressive vocabulary and fictional narrative story structure abilities. There was also a strong positive association between discourse level and sub-lexical level skills. Meaning there was a strong relationship between oral language and phonological awareness among the participants in the study.

Macrostructure. Macrostructure, or story grammar, develops with time for children in stages similar to microstructure (Westby, 1989). There are a large number of studies examining macrostructure in monolingual children with typical language development to date. Paul & Smith (1993) examined fictional narrative skills of children with typical development and children with slow expressive language development (SLED). The fictional narrative skills of 4-year-olds with normal language, late bloomers (LB), and children with expressive language delay (ELD) were examined. Participants were part of the Portland Language Development Project (PLDP) and were followed from the age of 2- to 4-years-old for measures of linguistic and nonlinguistic abilities ($N = 45$). Participants were 4-years-old at the time of examination and half were identified with SLED ($n = 23$) while the other half were identified with normal language (NL) ($n = 22$). Children were examined through spontaneous speech samples collected through free-play with mothers which was analyzed using the developmental sentence score (DSS). Children were also given the Renfrew Bus Story Language Test to elicit story retells. Children who were 4-years-old with typical development had a large degree of lexical diversity in expressive language and adequately link prepositions and linguistic markers in oral

productions. Overall, stories told by children with typical development were more cohesive (Paul & Smith, 1993).

Castilla-Earls et al. (2015) also examined macrostructure skills of preschool age children with typical language development. Participants were 3-, 4-, and 5-year old monolingual children with typical development. The Index of Narrative Complexity was used to measure both microstructure and macrostructure on a 3-point coding system. Four-year-old participants used significantly more of the macrostructure elements setting, initiating events, and internal responses than 3-year-old participants did. Five-year-old participants also produced more macrostructure elements than 4-year-old participants did, more often using setting, initiating events, internal responses, complications, and consequences. By 4-years-old, children included characters, internal responses, and actions in narrative productions (Castilla-Earls et al., 2015).

Fictional narrative development for monolingual children with typical language in terms of both microstructure and macrostructure has been extensively investigated and there are a number of norm referenced, standardized measures used to diagnose language delays and disorders. Examples of norm referenced, standardized language tests that assess narrative skills to identify language delays include; the Test of Narrative Language, the Renfrew Bus Story, the Edmonton Narrative Norms Instrument, and the Narrative Assessment Protocol. All of these tests have been standardized based on a large amount of research, making the tests reliable in diagnosing language delays and disorders. Many of these measures are not standardized for children learning more than one language making it more difficult to identify the presence of a language delay or disorder in bilingual children.

Fictional Narrative Development of Bilingual Children

For bilingual children, literacy development for bilingual children is also a continuous process that begins before the child enters school and continues throughout life (Lesaux & Geva, 2006). Literacy development occurs in a similar sequence for most children but there are many factors which may influence language development such as; age, amount of exposure to language, socioeconomic status (SES), and context of instruction (Lesaux et al., 2006). Another factor for children is the time at which the second language was introduced (Lesaux et al., 2006). Early literacy skills relating to reading and writing emerge before a child enters a formal education setting (Lesaux & Geva, 2006). Some of the early literacy skills children learn relate to oral language, awareness to and understanding of printed text, and understanding the structure of text (Lesaux & Geva, 2006). A final influential factor in the language skills of bilingual children is the language acquired first, as it can impact the ability to acquire a second language (Lesaux et al., 2006).

Microstructure. Several studies have examined microstructure elements in bilingual children (Lucero, 2018a; Lucero, 2018b; Rezzonico et al., 2015; Rezzonico et al., 2016; Roch, Florit, & Levorato, 2016; Squires, Lugo-Neris, Peña, Bedore, Bohman, & Gillam, 2014; Simon-Cereijido & Mendez, 2018; Altman, Armon-Lotem, Fichman, & Walters, 2016; Hipfner-Boucher, Milburn, Weitzman, Greenberg, Pelletier, & Girolametto, 2015; Rodina, 2017) using various methods and study designs. Comparing bilingual children to monolingual children with typical language development is a common design employed by many researchers. Hipfner-Boucher et al. (2015) examined fictional narrative skills of monolingual and English language learning preschool children. Researchers in the study examined differences in macrostructure and microstructure between groups of children. Participants in the study were four- and five-year-old English language learners (ELLs) and children whose first language was English (EL1) ($N = 75$).

Participants who were ELLs spoke a variety of languages in the study including Arabic, Bengali, Cantonese, Hebrew, and Spanish among others. Measures used to examine the fictional narrative abilities of children were nonverbal reasoning, phonological short-term memory, vocabulary, and fictional narrative abilities. Fictional narrative abilities were examined using the Renfrew Bus Story (Cowley & Glasgow, 1994). Fictional narrative microstructure was measured in sentence length score, number of different words produced, and grammaticality of productions. Both ELLs and children from the EL1 group produced equivalent numbers of utterances in fictional narrative retells examined. In each of the microstructure measures, children from the EL1 group outperformed ELL children. Researchers note that microstructure abilities support past work, suggesting the use of English used at home influences the English microstructure abilities of bilingual children.

In another study comparing bilingual and monolingual children Rodina (2017) examined the fictional narrative skills of Norwegian-Russian bilingual children in preschool. Relationships between macrostructure and microstructure, such as relationships across languages, fictional narrative abilities of bilinguals from different populations, and the relationship between bilingual language exposure and proficiency in fictional narrative abilities. Participants included in the study were preschoolers between the ages of 3- and 6-years-old with typical language development ($N = 48$). Sixteen children included were Norwegian-Russian bilinguals learning both languages at the same time, 16 monolingual Norwegian-speaking children, and 16 monolingual Russian-speaking children. In the study, microstructure skills were examined using number of C-units (CU), total number of word tokens (TNW), number of different word tokens (NDW), mean length of C-units in word tokens (MLU), total number of verbs (TNV), and total number of nouns (TNN). Bilingual children made similar errors in both languages when

compared to monolingual speakers in terms of fictional narrative grammaticality. Although bilingual children were learning both languages simultaneously, children scored higher in Norwegian microstructure production measures than Russian measures. Through analysis of microstructure measures, Rodina noted microstructure abilities may be related to the amount of linguistic exposure an individual has to the language.

Another means to examine the narrative development of bilingual children is through comparing skills across languages. Simon-Cereijido & Mendez (2018) explored the relationship between the microstructure elements of grammatical and lexical skills for Spanish-English Dual Language Learners (DLL). The relationship was examined through the ways vocabulary interacts with grammar in both L1 and L2, the degree of lexical and semantic abilities relation to grammar skills in both languages used, and what abilities features are specific to each language to identify grammatical skills in both languages. Participants were preschool age, typically developing DLLs, half of which were boys and the other half girls ($N = 61$). Children's samples were analyzed for English vocabulary abilities using the Woodcock-Muñoz Language Survey-Revised subtest of the English Picture Vocabulary. Spanish vocabulary was examined using a vocabulary measure designed for the study that specifically targeted certain parts of speech important for the development of grammar. The Expressive One-Word Picture Vocabulary Test –Spanish-Bilingual Edition (EOWPVT-SBE) was used to examine expressive conceptual vocabulary in both Spanish and English and semantic abilities were examined by the BESA Spanish semantics subtest. Results indicated children used skills from one language to build vocabulary skills in the same language rather than across languages. Children showed higher levels of lexical and semantic skills in Spanish (L1) in productions. There was no evidence of a feature of language

that could be used as a significant predictor of abilities across languages (Simon-Cereijido & Mendez, 2018).

Lucero (2018a) used a similar method to examine bilingual children by comparing the abilities of bilingual children across the languages spoken. Researchers examined oral fictional narrative retell skills of bilingual Spanish-English speaking children attending a dual language immersion (DLI) program. Oral fictional narrative retells were examined for elements of microstructure and macrostructure (to be discussed below) to determine relationships between the two languages. Participants were in kindergarten, first, and second grade ($N = 65$). Participants looked through a wordless picture book while listening to the story via headphones individually. When the story was finished, children had the option to look at the pictures one more time before retelling the story. The only time children were prompted to provide additional information was if there was a pause longer than three seconds. Microstructure in both languages was analyzed using Systematic Analysis of Language Transcripts (SALT). Number of C-Units, number of different words (NDW), and mean length of utterance at the word level (MLU_w) were used to compare the grammatical complexity of the fictional narratives across both languages. Results indicated a positive relationships between vocabulary by observing NDW across languages. The positive relationship in data suggests that when children uses a greater number of different vocabulary words in one language, the child will do the same in another language. There was not a significant correlation found in MLU_w across languages for participants. Children's performance in English vocabulary was significantly better than Spanish vocabulary performance (Lucero, 2018a).

In follow-up study, Lucero (2018b) investigated how story retell skills develop in young Spanish-English dual language learners over time a 2-year time period. Participants

microstructure and macrostructure skills were examined from kindergarten to second grade. Participants attended a Spanish-English dual language immersion (DLI) program and all the participants spoke Spanish at home ($N = 12$). Oral fictional narrative retell assessments were given in both Spanish and English with the same language was used throughout the entire session. The assessor would first read the book to children then children were asked to retell the story from memory. These data were analyzed on the microlevel using C-units of Loban's (1976) rules, total number of words (TNW), total number of different words (NDW), and mean length of utterance at the word level (MLUw). In kindergarten, there was a positive relationship in vocabulary measures of TNW and NDW across languages meaning that children if a child had a higher performance in one language, the child was likely to perform high in the other language as well. By second grade, there was still a strong positive relationship in TNW measures but not in NDW measures and TNW measures were higher across languages by second grade. There was no significance in the grammar measure of MLUw, which may mean children performed similarly at testing times (Lucero, 2018b).

In a study comparing the narrative abilities of bilingual children across time and between languages, Uccelli & Páez (2007) found that there were improvements in expressive abilities of microstructure over time. In the study, the association between the microstructure element of vocabulary and macrostructure elements of fictional narrative skills in bilingual children longitudinally was examined. Changes in vocabulary, fictional narrative productivity, and fictional narrative skills were examined over time, as were how these skills were related, and what measures could be used as predictors for future development. Participants were a group of bilingual children with low-SES that were followed from the age of 4-years-old until first grade. Expressive vocabulary was measured using the Woodcock Language Proficiency Battery

subtests of Picture Vocabulary in English and Spanish. Fictional narrative productivity measures of total number of words (TNW) and total number of different words (TDW) were used to determine fictional narrative length and lexical diversity respectively. On expressive vocabulary measures, children performed significantly better over time. A significant correlation was found between Spanish TNW and vocabulary with Spanish when participants were in kindergarten. There were significant changes in expressive vocabulary in English but not in Spanish on average for these children. Measures of TNW showed no significance in results, there was only an improvement in English TDW scores over time showing an increased lexical diversity in English (Uccelli & Páez, 2007).

Rezzonico et al. (2016), used a similar design to compare across languages by comparing fictional narrative skills of bilingual (Cantonese-English) children were examined for differences in macrostructure (to be discussed below) and microstructure across the two languages grouped by age. Participants were 4- and 5-year-olds with half being girls and the other half boys ($N = 47$). Children were grouped as being enrolled in junior kindergarten (JK) and senior kindergarten (SK). Children were assessed for nonverbal intelligence using a subtest of the Kaufman Brief Intelligence Test-Second Edition, expressive English vocabulary using the One-Word Picture Vocabulary Test-III, and receptive Cantonese vocabulary using the Cantonese Peabody Picture Vocabulary Test-III. To assess for fictional narrative generation abilities in both languages, children were asked to look through *One Frog Too Many* (Mayer, 1975) then tell the story that went along with the wordless picture book, using the language throughout the session. English fictional narratives were transcribed using SALT software while Cantonese fictional narratives were transcribed using Computerized Language Analysis (CLAN). Microstructure elements examined were number of different words, MLUw, and morphosyntactic quality. There was no

significant change in the measure of number of different words between junior kindergarteners and senior kindergarteners. Children in SK outperformed children in JK in both MLUw and morphosyntactic quality scores. Through qualitative analysis of measures of microstructure, data suggest children in the 4- and 5-year old age group tended to use simple syntax across languages. Results showed there is a possible connection between English and Cantonese fictional narrative skills as English storytelling grammar could be predicted by Cantonese story grammar abilities and the level of English language a child had (Rezzonico et al., 2016).

Roch, Florit, & Levorato (2016), explored microstructure and macrostructure of fictional narrative skills in Italian-English dual language learners. Differences in development of fictional narrative skills between preschool and second grade, differences in vocabulary and between L1 and L2, and differences in macrostructure for story retells and storytelling performance were examined. Participants spoke both Italian and English ($N = 62$). Vocabulary was analyzed by researchers using the Peabody Picture Test. Receptive vocabulary skills and number of mental state terms produced were higher for L1 than L2 for both age groups in each task children completed. Across age groups and languages, children performed better in story retelling than story telling abilities. Older children outperformed younger children in all measures of microstructure and children performed better in the first language (Italian) than English (Roch et al., 2016).

Altman et al. (2016) compared the skills of children with typical development to children who had a language impairment and also examined skills across languages. Researchers examined fictional narrative abilities of English-Hebrew bilingual preschoolers. Researchers focused on the differences in microstructure, macrostructure, and mental state terms between languages to determine how children with specific language impairment (SLI) can be

differentiated. Participants were English-Hebrew bilingual children between 5- and 6-years-old ($N = 31$). Nineteen of the children had typical language development (TLD) and 12 were identified with SLI. Language proficiency tests were administered to the children in both English and Hebrew. To examine microstructure skills, researchers measured total number of word tokens (TW), number of different words (NDW), mean length of C-units (MLCU), and average length of the three longest C-units (MLCUMax). Researchers also examined the errors made by participants such as verbs, pronouns, and morphosyntactic errors. Children with typical language development used more different words than children with SLI and all children produced a larger number of different words in first language (L1) than second language (L2). In all lexical measures, children had higher scores in L1 than L2. Through error analysis, researchers noted a higher number of pronouns used in L2 productions in comparison to L1 productions. In both languages, there were the largest number of errors in word order and morphosyntactic errors. Some errors like verb tense errors were found nearly equally across fictional narratives produced by children with TLD and children with SLI.

Squires et al. (2014) also compared the language development of children with typical development and children with language impairments, but the study also examined participants longitudinally. Fictional narrative retells were examined to give information on how fictional narrative skills develop between kindergarten and 1st grade for a group of bilingual children with and without primary language impairment (PLI). Differences in microstructure and macrostructure (to be discussed below) over time. Spanish-English bilingual children in kindergarten and first grade were assessed by the study ($N = 166$) and a portion were identified with PLI ($n = 21$). Participants were tested once in kindergarten then again in first grade. Children were tested by retelling stories from picture books with no words in both Spanish and

English but only one language would be used per session. Children's productions were scored for elements of microstructure, coordinating conjunctions, subordinating conjunctions, mental and linguistic verbs, adverbs, and elaborated noun phrases, on a scale of 0 to 3 per element. Students with more English experience tended to have higher microstructure scores in English and lower microstructure scores in Spanish. English language experience was negatively related to Spanish microstructure scores in both kindergarten and first grade. Children improved in Spanish microstructure from kindergarten to first grade but slightly decreased in English microstructure scores from kindergarten to first grade (Squires et al., 2014).

Rezzonico et al. (2015) also explored the narrative abilities of children with language impairments in comparison to children with typical language development over time. Fictional narrative skills of bilingual children were assessed through comparing the abilities of both monolingual and bilingual children with and without significant language impairment (SLI). The microstructure and macrostructure (to be discussed below) abilities of participants were examined over a 6-month period ($N = 40$). The bilingual children spoke a broad range of languages at home but all the bilingual children used only English at school and mostly English at home. The Renfrew Bus Story was used as a test to evaluate fictional narrative skills through retells of stories for all children in the study. Microstructure was analyzed by calculating a Sentence Length Score, lexical diversity using SALT software, and verb accuracy. Sentence length increased for all groups over the 6-month time period. Lexical diversity measures showed to associations between time or bilingual status. Compared to monolingual peers, bilingual children had lower ratios of verb accuracy in productions (Rezzonico et al., 2015).

Studies on microstructure abilities of bilingual children with typical language development noted an increase in microstructures abilities observed between age groups. These

studies also show the influence of skills in one language to another. Research to date analyzes growth over time, between languages, and in comparison to children with language delays or disorders. A limitation to many of the studies on microstructure development is children were not assessed longitudinally and the second language children were learning was not assessed over time. The small sample size of many studies was also noted as a limitation. More research on microstructure skills of bilingual children over time could be useful in understanding the typical language development of the bilingual population.

Macrostructure. A number of studies have also examined the macrostructure abilities of bilingual children (Gibson, Peña, & Bedore, 2018; Lucero, 2018a; Rezzonico et al., 2015; Rezzonico et al., 2016; Roch et al., 2016; Squires et al., 2014; Uccelli & Páez, 2007). Lucero (2018a), examined macrostructure elements across languages. Macro-level elements were scored through the fictional Narrative Scoring Scheme (NSS). Seven elements for scoring in the NSS included, introduction, character development, mental states, referencing, conflict resolution, cohesion, and conclusion. Participants had higher scores for macrostructure abilities in Spanish than English. Across languages, there was a strong positive relationship in macrostructure skills with children who had higher scores in one language also having higher scores in the other language and vice versa (Lucero, 2018a).

Lucero (2018b), took a different approach to evaluating macrostructure elements, researchers used the NSS to assess abilities over time. Children in kindergarten had higher performances in Spanish macrostructure elements than English but by the time the children were in second grade, the children performed better in English macrostructure elements than Spanish (Lucero, 2018b). Rezzonico et al. (2015) also examined narrative abilities over time. Children's samples were analyzed using the Renfrew Bus Story Information score which measured

macrostructure by computing a score based on major content elements being present. There was no significance in changes in fictional narrative skills based on monolingual or bilingual, language ability and bilingual status, or time and language ability. All groups showed some improvement in fictional narrative ability over the 6-month period in macrostructure regardless of bilingual status (Rezzonico et al., 2015). Uccelli & Páez (2007), also examined narrative abilities longitudinally. Fictional narrative quality was examined using Pearson's (2002) Fictional Narrative Quality Score. Over time, there was a significant improvement in both total fictional narrative quality components in English but for Spanish, there was only a significant growth in story score but not language score. Overall, children's English fictional narrative quality scores were higher than Spanish scores in both kindergarten and first grade (Uccelli & Páez, 2007).

Narrative abilities were assessed between age groups in Roch et al. (2016). The narrative abilities of younger and older children were compared. Macrostructure narrative skills were analyzed using the MAIN. Older children used more macrostructure elements and mental state terms than younger children. Older children produced fictional narratives with all relevant elements of macrostructure more often than younger children.

Squires et al. (2014) took a different approach in evaluating macrostructure, the study compared children with different levels of language experience. Children's fictional narrative productions were scored for the macrostructure elements of character, setting, initiating event, plan, action, consequence, and internal response, using a scale of 0 to 3 per element. Children who had more English experience performed better in English macrostructure than Spanish macrostructure (Squires et al., 2014).

Narrative skills may also be examined by comparing skills of children with and without language impairments. In Rezzonico et al. (2016), macrostructure was analyzed using instructions from the Edmonton Fictional Narrative Norms Instrument which were applied to *One Too Many Frogs*. Participants performed better in English than Cantonese in story grammar skills involved in fictional narrative generation and children who were in senior kindergarten outperformed children in junior kindergarten in macrostructure scores (Rezzonico et al., 2016).

Gibson, Peña, & Bedore (2018) examined macrostructure by comparing English receptive and expressive fictional narrative skills of bilingual children with and without primary language impairment (PLI) in kindergarten and first grade. Participants were bilingual (Spanish-English) children identified as having PLI ($n = 20$) matched to bilingual peers with typical development (TD) based on age, sex, nonverbal IQ score, and language exposure ($N = 40$). The Test of Fictional narrative Language (TNL) was used to measure macrostructure fictional narrative skills in English. Data were also analyzed for differences in expressive performance when given varying degrees of contextual support. Children with more language experience produced more complex fictional narratives. There was no evidence of a gap in receptive-expressive abilities for children with typical development. When children were given more contextual support, expressive performances were better (Gibson et al., 2018).

Through examining current research, it is clear that macrostructure skills also improve over time. Many of the studies discussed also show likely differences in skills across languages and a child may perform much better in one language than another based on experience and age. Limitations include small sample sizes, observing children at only one point in time, and only observing narrative skills in one language rather than both languages.

Present Study

As there is an increase in bilingual children in schools in the United States, information is needed concerning what changes in fictional narrative development might be expected so as to inform intervention. Research to date indicates that bilingual preschool-aged children may perform better in one language, show improvements over time, and may have skills influenced by amount of language exposure in a particular language. While there has been a great deal of research conducted on fictional narrative development in monolingual children with typical development to date, more work is needed to determine what is typical for bilingual children. Even fewer studies have been conducted with younger bilingual children who are just beginning formal education. The current study will be an important contribution to the current literature as it observes children longitudinally, observing children's English microstructure skills using a tool available for early educators to use with minimal training time necessary. The research question guiding the present study was as follows: Does the mean English NAP microstructure score at Time 1 differ from the mean English NAP microstructure score at Time 2?

Method

Participants

Data from eight Spanish-English bilingual children (7 female, 1 male) were analyzed in the present study. Participants were drawn from a larger study investigating bilingual Spanish-English language development in preschool-aged children with typical language. Inclusion criteria for the larger study were 1) typical Spanish language development as reported by parents and confirmed by testing, and 2) no history of special education services of any kind. Children were included in the present study if the child had produced fictional narratives in English at two time points (complete data). Participants were enrolled in a Head Start classroom in the Midwest. Participants' ages at Time 1 ranged from 51 to 60 months (M age in months = 54.88, SD = 3.14),

and 57 to 66 months (M age in months = 61.25, SD = 3.15) at Time 2. All participants were Latino of Mexican descent and of low socioeconomic status as confirmed by eligibility for Head Start. Per parent report, gross family income was $> \$10,399$ for 6 participants, between $< \$10,400$ to $\$24,799$, and one parent did not report. With regard to maternal education, per parent report, five mothers had 8th grade education or less, one completed high school, one mother elected not to report, and one mother did not report. The language spoken in the homes of the participants was: exclusively Spanish ($n = 3$), more Spanish than English ($n = 2$), and balanced Spanish and English ($n = 3$). Per parent report with regard to the language spoken during storytelling, two used Spanish, five used both Spanish and English, and one parent did not report.

General Procedures

As part of the larger study, standardized tests in Spanish and English were administered at the beginning and end of the school year. The measures were administered for the purpose of assessing children's skills in each language upon school entry, prior to daily exposure to English in the classroom setting and subsequently to examine language skills after a year of school. Language samples were obtained via a story retell task at three time points over the course of the school year, approximately three months apart.

A bilingual certified speech-language pathologist administered Spanish measures and elicited language samples in Spanish, and trained research assistants administered English measures and elicited language samples in English. Examiners used Spanish or English exclusively in an effort to avoid influencing language use with each examiner. All measures were administered to participants individually in a quiet area within the preschool setting in compliance with Head Start policies. Sessions occurred in one language per day (either Spanish or English) to minimize cross-linguistic influence or contamination. Children could discontinue

testing at any time if requested, however were encouraged to continue if time and attention allowed. Sessions generally lasted 30 to 40 minutes. Testing was completed within a week at each time point.

A story retell task was used to elicit fictional narrative samples. Wordless picture books by Mercer Mayer *Frog, Where Are You?* (Mayer, 1969), *Frog on His Own* (Mayer, 1973), and *Frog Goes to Dinner* (Mayer, 1974) were used as the stimuli for the task. A different book was used at each time point with the exception of Time 3, at which time children completed a second retell task using *Frog, Where Are You?*. This was conducted to inform test-retest comparisons. All children were presented with the same book(s) at each time point. Spanish story retell sessions occurred first, followed by English retell sessions, which occurred within the same week. In the present study, only the English narrative samples elicited using *Frog, Where Are You?* were included in the analyses.

Elicitation. Fictional narrative samples were elicited using a widely-used protocol (Miller & Iglesias, 2010). Examiners gave directions, told the story using a script, remained engaged, and prompted the child when needed using verbal/nonverbal prompts. Once the story was told, the examiner handed the book to the child and asked children to retell the story using the target language. The English prompt for the retell was 'Now you tell me the story/Tell me what happened in the story' The Spanish prompt for the retell was 'Dime tú el cuento/Dime tú lo que paso en el cuento.' Once the prompt was given, a microphone was turned on to record the retell. Throughout the retell, examiners could reference a list of acceptable verbal and nonverbal prompts in the target language (e.g., Tell me more/What else? or Dime más/Que más? and smiles/head nods of affirmation). Samples were audio recorded using a Sennheiser microphone

transmitter/receiver (Model SKM 300) attached to the collar or shirt neck of the child, and a Marantz recorder (Model PMD661MKII).

Transcription and analyses. The audio/video files from retell sessions were transcribed orthographically by trained bilingual research assistants with advanced coursework in the field of speech and hearing science (N = 16). Transcription was completed using a multistep process. A basic transcript was transcribed using a word document format (.docx), then converted to a text file (.txt). Each file was modified to include all of the standard Spanish conventions of Systematic Analysis of Language Transcripts Bilingual SE Research Version (SALT: Miller & Iglesias, 2012).

Analyses of the children's fictional narratives focused exclusively on the microstructure elements of the narrative. Narratives were coded by two undergraduate students using the Narrative Assessment Protocol (NAP; Justice, Pence, Bowles & Gosse, 2010). Both undergraduate students were trained in NAP coding. The NAP is protocol used to measure narrative abilities of children aged 3- to 6-years-old. The NAP is used to assess oral narrative abilities of young children online as the narrative is produced (Justice et al., 2010). The NAP does not require any special training in transcription software and protocols, and as such can be used by speech-language pathologists and early childhood educators. The NAP has necessary training to conduct the test that has been approved by narrative experts and early childhood educators alike. The NAP is norm referenced for general language abilities and may be helpful in describing language growth (Justice et al., 2010). The NAP can be used to measure microstructure abilities of children. The NAP microstructure portion has 54 total possible points. Microstructure elements are scored on a 3-point scale based on number of occurrences for each item. In the NAP used in the present study, there were 51 total points possible. All

microstructure elements were scored with the exception of elongations because it was challenging to classify elongations based on the description given in the test.

The microstructure elements coded include sentence structure (compound sentence, complex sentence, negative sentence, interrogative sentence); phrase structure (elaborated noun phrase, prepositional phrase); modifiers (adverb, advanced modifier); nouns (pluralized noun, possessive noun, tier-two noun); and verbs (auxiliary verb + main verb, copula 'be' verb +, irregular past tense verb, regular past tense verb, tier-two verb, compound verb). Sentence structure and phrase structure components received a point each time the element was used, and modifiers, nouns, and verbs were only scored for each unique occurrence. Only utterances produced as part of the fictional narrative were included in scoring, utterances produced in off topic or in part of a conversation with assessor were not included in the NAP analysis.

Reliability. Initial coding reliability estimates were based on a comparison of 20% of the coded transcripts. Intra-coder reliability was >72%. Coding discrepancies were discussed and resolved and a subsequent comparison of 10% of coded transcripts, yielding 91% agreement. Results described below are based on the final coded transcripts.

Results

To answer the research question, a Wilcoxon signed rank sum test, a nonparametric measure, was used to determine whether NAP microstructure scores at Time 1 were significantly different from NAP microstructure scores at Time 2. The test does not assume a normal distribution of scores. The null hypothesis of the test is that the median difference between pairs of observations is 0. Analyses were conducted to describe children's fictional narrative microstructure development over time. Measures of frequency for a variety of microstructure skills were included in the raw score for each participant at Time 1 and Time 2. The test results

indicated a significant difference, $z = -2.38$, $p < .05$. The mean of the NAP microstructure scores at Time 1 was 9.50, while the mean of the NAP microstructure scores at Time 2 was 17.00. The minimum at Time 1 was 3 and the maximum was 16. The minimum was 6 and the maximum was 25 at Time 2.

Discussion

The purpose of the present study was to examine changes in microstructure skills in English for sequential bilingual preschool children. Results indicated that there was growth in English microstructure narrative abilities over the school year during which children were observed. The mean microstructure total score at the beginning of the school year was 9.5, and by the end of the school year, the mean score was 17, which is a significant change in the number of elements used in the narratives. The significant growth in microstructure elements included in narratives may be explained by the increased exposure children had to English in the school setting and growth in oral narrative skills with age. At the end of the year children were using many more microstructure elements and much more often. For instance, at Time 1, only two of the children used regular past tense in their narrative, but by Time 2, five children used regular past tense. Another example of the growth in number of elements produced is at Time 1, only one child used a possessive noun and at Time 2, five children included at least one possessive noun in the retell. For many of the other elements, approximately the same number of children produced the element at both times but more frequently at Time 2.

For the sequential bilingual children in the present study, gains in narrative microstructure skills were made over the course of a school year. Research on narrative skills of bilingual children is important because there is a lack of information regarding typical language development for bilingual children at the preschool age. It is important to have information on

typical development for these children to better identify children who need intervention earlier. Results supported the hypotheses that fictional narrative abilities would improve over time. The results from the present study support the findings of many other studies that have been conducted with similar participants. Improvement in English microstructure abilities over time for bilingual children have also been noted in a many other studies (Rezzonico et al., 2015; Rezzonico et al., 2016; Roch et al., 2016; Uccelli & Páez, 2007; Rodina, 2017). The results from the present work do contrast the findings of Lucero (2018b) in which data suggested there was similar performance for children within the same year and Squires et al. (2014) which showed a slight decrease in English microstructure abilities between younger and older children. Possible explanations for the differences in the present study from other studies may be due to small sample sizes in studies, the measures utilized to evaluate language, or the amount of exposure children in each study had to both languages spoken.

The present study is valuable information to the current knowledge on sequential bilingual preschool aged children with typical language development for a few reasons. First, the current study was conducted longitudinally, comparing the same participant over the course of a school year. Growth in narrative abilities were also observed in the same language over time, specifically observing the changes to narrative skills in English before and after the introduction of English in a formal educational setting. Also, the present study observed children with typical language development. Finally, narrative abilities were assessed using a measure available for early childhood educators to use without the need for extensive training.

A primary limitation to the present study is the small sample size. Because the sample size is so small, it may not be representative of all children in the preschool-aged bilingual population. Some other limitations encountered in the present study concerned methodology.

Specifically, it was difficult to find complete data to be assessed on children at two time points. The measure used to analyze oral narrative retells was somewhat complicated in that there were specific criteria for each element to count as correct that could be interpreted differently by each coder, especially if the child had Spanish productions in English retells. It was also difficult to code data due to inexperience in such measures. Because coders were undergraduate students participating in research for the first time, there was much to learn throughout the research process.

In the future, research such as the present study could be used to develop norms for sequential Spanish-English bilingual children. Narrative skills are important in the language development of children. The present study could be recreated on a larger scale with more participants in the preschool-aged bilingual population. Future research on the narrative skills of bilingual children could focus on narrative growth over a longer time period of time.

The findings of the present study are important in helping to determine what is typical for children in the young sequential bilingual population. Findings from the present study note a growth in microstructure abilities over the course of a school year, adding to the knowledge on the preschool-aged bilingual population. More research is necessary for this population due to the significant increase in sequential bilingual children in schools. It is important to be aware of typical development for this population to help education upon entrance to school. By determining more accurate developmental milestones, clinicians may more accurately assess and treat children in this population.

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