The Thesis Committee for Amber Jean Stansbury
Certifies that this is the approved version of the following Thesis:

Macrostructure and microstructure in narratives of Spanish/English bilingual children with and without language impairment (LI)

APPROVED BY
SUPERVISING COMMITTEE:

Lisa M. Bedore, Supervisor

Mirza J. Lugo-Neris

Macrostructure and microstructure in narratives of Spanish/English bilingual children with and without language impairment (LI)

by

Amber Jean Stansbury

Thesis

Presented to the Faculty of the Graduate School of

The University of Texas at Austin

in Partial Fulfillment

of the Requirements

for the Degree of

Master of Arts

The University of Texas at Austin

May 2018

Dedication

I dedicate this thesis to my parents, both dedicated educators, who have shown me that hard work and determination are necessary in the path to success. Also, I want to dedicate this thesis to my loving boyfriend, who has given me the support I needed to get through the rough times while always treating me as an independent professional woman.

Acknowledgements

I would like to take this opportunity to thank those wonderful people who have helped me in the completion of this Master's Thesis. Most importantly, I would like to express my gratitude to Dr. Lisa M. Bedore for being a wonderful thesis advisor and encouraging me through moments of crisis and giving me the support I needed to persevere. I would also like to express my sincerest gratitude to Dr. Mirza Lugo-Neris for always coming up with a plan, when I needed it most and calming me down with chocolate. Also, I would like to thank all of the undergraduate HABLA lab volunteers: Linh Tran, Ivette A Villarreal, Sarah Piscitelli, Maria Fernanda Fernandez, and Kristel Vasquez. Without their help, hours of coding and SALT transcriptions would not have been completed. Finally, I would like to give a huge thank you to one of my best friends and co-workers, Alice Regalado, for helping me handle and code the data, while also giving me words of encouragement. She was my rock during this whole process and I will be forever grateful to her.

Abstract

Macrostructure and microstructure in narratives of Spanish/English bilingual children with and without language impairment (LI)

Amber Jean Stansbury, M.A.

The University of Texas at Austin, 2018

Supervisor: Lisa M. Bedore

Abstract: There is limited research on character mention and noun phrase elaboration in the narratives of Spanish-English kindergarten and first graders. The current study was designed to determine whether typically developing (TD) Spanish-English bilingual children differed from children with language impairment (LI) in their use of character mentions, noun phrase elaboration, and noun modifier agreement in their English and Spanish narrative productions at kindergarten and first grade. The current study is a longitudinal study including 16 children with LI and 16 TD peers who were matched on age, sex, nonverbal IQ and language exposure. In kindergarten and first grade, the children retold a narrative using a wordless picture book in both Spanish and English. The findings revealed that the ability groups (LI and TD) significantly differed in their use of English character mention, English and Spanish noun phrase elaboration, use of Spanish type of noun phrase elaboration (level I), and noun-modifier agreement in narrative retells. Children in both groups (TD, LI) retold more complex narratives that

included more characters and noun phrase elaboration at first grade than kindergarten. Despite these significant findings, the two groups did not develop character mention or noun phrase elaboration in their Spanish or English narratives at different rates across the two years. In the children's Spanish retells, the children with LI committed more noun modifier agreement errors than the TD children; however, the two ability groups (LI, TD) did not develop noun modifier agreement at different rates. Similarity between the TD and the LI groups on character mention and noun phrase elaboration development may be due to the fact that both children were only beginning to incorporate noun phrase elaboration (i.e. adjectives, ENP) in their narrative retells.

Table of Contents

List of Tables

INTRODUCTION

For decades, practitioners have utilized oral narratives to obtain information about a child's language abilities and academic readiness (Boudreau, 2008). Narrative tasks are considered to be an ideal assessment that can track language development over time and obtain information about children's language abilities across multiple domains (i.e. syntax, semantics, pragmatics) (Cleave, Girolametto, Chen, & Johnson, 2010; Fiestas & Peña, 2004; Iluz-Cohen & Walters, 2012; Kaderavek & Sulzby, 2000). Narratives place high cognitive and linguistic demands on children, making the task especially difficult for children with language impairment (Bedore & Peña, 2008; Colozzo et al., 2011; Squires et al., 2014). Elaborated noun phrases (ENPs) are of special interest, because they enhance the narrative by modifying its characters, objects and setting. The development of specific linguistic forms that are incorporated into ENPs are linked to later literacy success and are therefore, an important narrative component to consider when analyzing narratives of young children and they tap into children's such of grammar (Curenton & Justice, 2004; Greenhalgh & Strong, 2001). For the current study, we were interested in the modifier aspect of the elaborated noun phrase. In previous research, an ENP includes both modifiers and articles (i.e. the big bear); however, for the purposes of our study and given cross-linguistic differences between English and Spanish, we focused on the modifier aspect of the phrase.

The purpose of the current study is to determine how the oral narratives of Spanish-English bilingual children with language impairment (LI) differ from narratives

produced by their typically developing (TD) peers; specifically, in how they develop characters in their stories and how they use adjectives to more explicitly describe the characters. During this study, we will note the use of micro- and macrostructures in the narratives of Spanish-English bilingual children, with and without LI, and focus on the development of characters and their use of ENPs at two points in time: kindergarten and first grade. The findings from this study will contribute to the current research to better describe the narrative development of bilingual children with and without LI.

Narrative Tasks

Clinicians and researchers often study children's narratives by looking at two components; macrostructure and microstructure. Macrostructure refers to the content, or story grammar, of the story. For example: characters, setting, initiating event, internal response, actions, and consequence are all considered story grammar elements (e.g. Berman, 1995; 1998). Microstructures refer to the specific linguistic features that children use within their narratives to describe the characters, plot, and setting of the narrative. For example, children may include adjectives (i.e. big red dog) to better describe characters within their narratives (Justice et al., 2010).

Based on the story grammar model (Berman, 1995; Berman & Slobin, 1994) children use mental schemas of concepts (i.e. characters, setting, problem) to build the structure of the story and then incorporate linguistic features such as adjectives, conjunctions, and auxiliary verbs to add to, or clarify, their ideas (Pesco & Kay-Raining Bird, 2016). Over time, especially in the early elementary school years, children develop

their story-telling abilities until they incorporate all of the necessary macrostructural elements (Berman, 1998; 2001). These same findings have been observed in Spanish-English (SE) bilingual children (e.g. Squires et al., 2014). Based on this model, SE bilingual children develop the use of character, setting, and problem of their stories and then add the linguistic features to further refine macrostructure (Berman, 1995; Berman & Slobin, 1994; Eisenberg et al., 2008; Greenhalgh & Strong, 2001; Kaderavek & Sulzby, 2000).

Researchers and clinicians analyze narratives on two levels: macro- and microstructure. Macrostructure refers to the main ideas of the story. Macrostructural elements include character, setting, initiating event, internal response, plan, actions, consequence. Microstructure refers to the sentences and specific words that children incorporate into their stories.

Noun Phrase Elaborations

One microstructural element that children incorporate into their stories are ENPs (Justice et al., 2010). The NAP is an assessment tool that is used to assess children's use of microstructure elements (i.e. adverbs, transitive verbs, prepositions, ENPs). ENPs contain descriptors that help clarify and describe objects, people and things and include both articles and adjectives. For example, children may say "the little boy" instead of "a boy". When children incorporate ENPs into their narratives; it makes the object or person more explicit for the listener (Eisenberg et al., 2008; Justice et al., 2010; Menyuk & Bernholtz, 1969). For example, Menyuk and Bernholtz (1969) found that by the age of 3,

children used the following types of sentences to describe a wooden house: “I see a house. It is made of wood” and by age five, in the same context, the children were more likely to say: “I see a wooden house”. As children’s language matures, they learn to appropriately apply ENPs to discourse. ENPs are a type of character elaboration. Character elaboration helps to strengthen children’s narratives by clarifying which characters they are describing. Character elaboration involves the incorporation of adjectives that describe a noun, “big frog”, or “big green frog” and does not necessarily include the adjective portion in early phases of development. Sometimes children must utilize modifiers to make distinctions between characters within their narratives; for example, in the frog story, *One Frog too Many*, there are two different sized frogs, a big frog and a little frog. The children must incorporate the appropriate modifier (i.e. big frog, small frog) to clarify which frog they are talking about. As school-aged children develop narratives and learn more grammar, they incorporate descriptors to better refine the characters and settings within their narratives (Eisenberg et al., 2008; Greenhalgh & Strong, 2001).

Previous studies have examined school-aged English monolingual children’s use of ENPs. The ENPs that the authors assessed in the children’s narratives included both articles and adjectives. In a cross-sectional study, Eisenberg and colleagues (2008) analyzed the narratives of 5-, 8-, and 11- year old children to determine the age at which children first incorporate ENPs into their narratives and when they began utilizing more complex ENP (i.e. children saying “big wooden house” instead of “wooden house”). The

authors hypothesized that the frequency of ENPs would increase with age and exposure to academic language. Younger children did not include as many ENPs in their narratives when compared to older children (Eisenberg et al., 2008). Further, when younger children did incorporate ENPs into their narratives, the ENP they used were simpler than those of the older children (i.e. "these aliens" instead of "these weird aliens"). English-speaking children develop the use of ENP over the course of several school years (Eisenberg et al., 2008).

Greenhalgh and Strong (2001) followed children ages 7 to 10 with and without LI for four years to analyze their use of literate language within their oral narratives. The participants told narratives at four age points: 7-, 8-, 9- and 10-years. Children with LI included less ENPs in their oral narratives than TD children. ENPs were found to be one of the grammatical structures that were useful in differentiating between children with and without LI. Similar results have been observed in studies with SE bilingual children with and without LI (Squires et al., 2014). However, little is known about the specific types of adjectives and level of complexity of ENP used by bilingual children with LI in their narratives.

Narratives of Monolingual and Bilingual Children

As noted earlier, narratives are often linked to literacy and academic success; therefore, understanding bilingual children's narrative development is of utmost importance in order to allow practitioners to make informed decisions about the needs of bilingual children. Narratives can help clinicians gain insight into how bilingual children

process their two languages on both a cognitive and linguistic level (Pesco & Bird, 2015; Squires et al., 2014). Narratives of bilingual children differ from the narratives of their monolingual peers (Gutiérrez-Clellen, 2002; Pearson, 2002; Fiestas & Peña, 2004; Rezzonico et al., 2015; Uccelli & Páez, 2007). Pearson (2002) compared bilingual and monolingual children's narratives across three time points: kindergarten, 2nd grade, and 5th grade (Pearson, 2002). In 2nd grade, monolingual children outperformed bilinguals on vocabulary and macrostructure use; however, by fifth grade, those observed differences disappeared. Since bilingual children must acquire language-specific grammatical structures in both of their languages, it may take them longer than their monolingual peers to incorporate these structures into their narratives (Pearson, 2002). These differences highlight the need for more research on bilingual narrative growth patterns across both languages, particularly for features of literate language such as the noun phrase elaborations.

Since bilingual children process two languages with two distinct grammatical systems, they must learn how to navigate both in order to communicate in each language. A unique feature that SE bilinguals must acquire in Spanish are modifiers that are marked for gender and number and that are in agreement with the noun to which they refer. For example, number is marked by an additional /s/ and gender is phonetically marked by a difference in vowel; the noun and adjective will end in an /a/ if it is feminine (i.e. sill<u>a</u> roj<u>a</u>) and /o/ if it is masculine (i.e. perr<u>o</u> blanc<u>o</u>). Spanish requires that the adjective agrees with the noun in both gender and number. For example, the correct way to say

"black cat" would be "el gato negro"; "el gato negra" would be incorrect because it does not agree in gender, and "el gato negros" would also be incorrect because it does not agree in number. Learning these gender and number markings are important milestones in both Spanish-speaking and SE speaking children's language development.

SE bilingual children develop certain grammatical features that are used to form ENPs in Spanish (i.e. clitic pronouns) at a slower rate than their monolingual Spanish-speaking peers (Baron et al., in press; Pérez-Leroux, Castilla & Brunner, 2011). Pérez-Lerouz and colleagues (2011) compared the language development of five-year-old monolingual Spanish-speaking children with that of SE bilingual children and found that while the monolingual Spanish-speaking children had already developed the ability to correctly use clitic pronouns, the five year old bilingual children did not use this grammatical feature correctly. A longitudinal study of SE bilingual children with and without LI (Squires et al., 2014) revealed that TD bilingual children's Spanish narratives contained more ENP than their English narratives. Further, TD bilingual children significantly increased their use of grammatical features in their Spanish narratives from kindergarten to first grade (Squires et al., 2014). These studies illustrate that bilingual children may develop specific grammatical features at a different rate than their monolingual peers.

Bilingual Narrative Development

Fiestas and Peña (2004) studied bilingual children's narrative abilities in both their first and second languages. Their SE bilingual participants, aged 4 to 6, used

knowledge of both languages to produce narratives but the researchers observed differences in the way the children told stories in each language. For example, Spanish narratives were more likely to include initiating events than the English narratives. English narratives were more likely to include consequences than the Spanish narratives. Despite these differences in macrostructure use between the Spanish and English narrative productions, narratives produced in both languages were equal in linguistic complexity. SE bilingual children easily transferred conceptual-dependent knowledge (i.e. macrostructures) from one language to another but often took additional time to learn the grammar and literary features of each language (Squires et al., 2014). These studies highlight the importance of considering each language when assessing bilingual children's narrative abilities. When children are telling a story, they will incorporate linguistic features that are language specific and they will make global changes to their narratives (e.g. more emphasis on character development) based on the culture of the language being used. Language plays an important role in how children tell a story and what elements they include. Due to these findings, in order to assess bilingual children's complete language and narrative abilities, researchers and clinicians must evaluate children's narratives in both of their languages.

Narrative Development of Children with LI

Studies have shown that children with LI struggle to produce and comprehend narratives (Bedore & Peña, 2008). Colozzo and colleagues (2011) studied monolingual second and fourth graders with and without LI. Children with LI struggled to incorporate

the appropriate story grammar elements and the correct grammatical forms when telling oral narratives. Some of the children from the LI group produced narratives that contained the appropriate content (i.e. characters, causal relationships) but were not grammatically correct while other children with LI produced narratives that were correct grammatically but lacked important story grammar components. Children with LI performed below grade level on both the content elaboration and grammaticality. Additionally, researchers have found that narratives of children with LI were less elaborate and contained fewer grammatical features (i.e. ENPs) than the narratives of their TD peers (Greenhalgh & Strong, 2001; Kaderavek & Sulzby, 2000). Colozzo and colleagues (2011) hypothesized these differences because children with LI have limited processing capacity which made the task more difficult. These results aligned with previous research where researchers observed that children with LI struggled to produce narratives that were grammatical and included the necessary story grammar components (Colozzo et al., 2011; Norbury & Bishop, 2003; Fey et al., 2004; Liles, Duffy, Merritt, & Purcell, 1995; Scott & Windsor, 2000).

Although extensive research has been conducted concerning the narrative development of monolingual children with LI compared to their TD peers, more research needs to be conducted to better understand the narrative development of bilingual children with LI. Bilingual children with LI struggle in narrative tasks because they exclude the necessary story elements and/or linguistic features pertinent to a story (Fichman et al., 2017; Rezzonico et al., 2015; Squires et al., 2014). Globally the

literature is conclusive: children with LI produce less complex stories and include fewer microstructural elements in their stories and these skills develop at slower rates than their TD peers (Pesco and Kay-Raining Bird, 2016; Fichman et al., 2017; Squires et al., 2014). However, we need to examine more closely the ways that children use micro- and/or macrostructure elements (e.g. ENP, adjectives, conjunctions) in order to understand patterns of omission in bilingual children with and without language impairment that may inform assessment and treatment.

Rezzonico and colleagues (2015) studied the English narrative development of bilingual and monolingual children with and without LI. The authors were interested in learning how narrative development was affected by two variables: bilingualism and language impairment. The children's narrative abilities were assessed longitudinally at 52 and 58 months of age and the children were categorized into four separate groups: TD monolingual children, monolingual children with LI, TD bilingual children, and bilingual children with LI. The authors assessed the children's narratives in terms of microstructure, macrostructure, verb accuracy, number of different words, and character's first mention. Regardless of bilingual status, the children with LI performed below their TD peers across all measures. Across the two periods of assessment, TD children received higher scores on macrostructure elements than the children with LI. This observation further highlights the need for more longitudinal studies assessing the narrative development of bilingual children with and without LI, particularly taking into account performance in both languages.

Squires and colleagues (2014) observed the narrative development of SE bilingual children in both languages from kindergarten to first grade. All participants with LI were matched by age, gender, IQ and language exposure to TD peers. The TD bilingual children made significant improvements across the two years in both macro- and microstructure. The children with LI made progress from kindergarten to first grade but less than their TD peers; the LI group's narrative scores in first grade were still lower than the TD children's narrative scores from kindergarten. The authors concluded that TD children and children with LI differed in the development of micro- and macro-structures of narratives. These results were consistent with those of Rezzonico and colleagues (2015) which concluded that bilingual children with LI develop macrostructures at a different rate than their TD peers. Apart from differences in macrostructure development, bilingual children differ from their monolingual peers in their development of microstructures (e.g. grammatical structures).

In recent years, researchers have studied bilingual children's language development in order to better understand how and when they develop certain grammatical structures (e.g. Bedore & Peña, 2008). In one study, researchers analyzed monolingual Spanish-speaking children and bilingual SE speaking children with and without LI in kindergarten and first grade. Both groups of children with LI (monolingual and bilingual) struggled in the area of morphosyntax (i.e. clitics, articles, subjective mood, and derivational morphemes) (Morgan, Restrepo, & Auza, 2012). Bedore and Leonard (2001) found similar results analyzing the adjective agreement inflection of

Spanish speaking preschoolers with and without LI. Children with LI committed one-feature errors during tasks that assessed their adjective noun agreement abilities. This means the children used adjectives that did not agree in number or gender. In general, researchers have concluded that bilingual children with LI do not demonstrate the same weaknesses across both languages but have different linguistic profiles in each language (Bedore & Peña, 2008). Therefore, when analyzing bilingual children's narratives, it is important to consider the cross-linguistic differences and analyze development in both of the child's languages.

Purpose of the Current Study

Although there is some research describing how SE bilingual children with LI develop narratives differently than their TD bilingual peers (Squires et al., 2014); researchers are only beginning to understand how children develop and combine specific microstructural elements to tell a story. We seek to better describe bilingual children's language development by analyzing when bilingual children with and without LI begin to incorporate noun phrase elaborations, specifically adjectives, to describe and develop the characters within their narratives.

The research questions were:

1. Do SE bilingual children with LI and their TD peers differ in frequency of inclusion of character mention (macrostructure) and noun phrase elaboration (microstructure) in their Spanish and English retells at kindergarten and first grade?

2. Do SE bilingual children with LI and their TD peers differ in distribution of adjectives in their Spanish and English narratives at kindergarten and first grade?
3. Do SE bilingual children with LI and their TD peers differ in accuracy of noun modifier agreement in their Spanish retells at kindergarten and first grade?

METHODS

Participants

For the current study, a sample of 30 Spanish-English bilingual children was selected. The sample was drawn from 166 children who had participated in a longitudinal study (Gillam, Peña, Bedore, Bohman, & Méndez-Pérez, 2013). The children attended 12 different schools, all of which had a large Latino population. The schools were located in Northern Utah and Central Texas. All children who spoke Spanish and English, and who were attending school at the time of the study were included. The 166 children completed the tasks once in kindergarten, and once in first grade, and were tested in English and Spanish at both time points. Of those 166 children that were followed for the two years, 21 of them were identified as having LI. In order to control for potential variables that could possibly affect language development, each child with LI was matched to a TD child from the larger sample based on age, gender, month of birth, age in months at the final testing date, IQ score on the Universal Non-verbal Intelligence Test (Bracken & McCallum, 1998), and language exposure. Of those 21 bilingual children with LI and their matched peers, 16 children with LI and their matches completed the narrative retell task in both English and Spanish and were included in the current study.

In order to measure the participants' Spanish and English input and output, researchers conducted interviews with the children's caregivers and teachers (Bohman, Bedore, Peña, Mendez-Perez, & Gillam, 2010; Gutiérrez-Clellen & Kreiter, 2003; Restrepo, 1998; Squires et al., 2014). The caregiver questionnaire included an hour by

hour breakdown of a typical day recording the language the child heard and spoke during each hour. Each child's percentage of input and output in English and Spanish was created by merging the findings from the parent report and the teacher interviews. In order to determine participant's language exposure, the percent of English and Spanish at both points in time (kindergarten and first grade) was calculated (Squires, et al., 2014). In addition, the age at which they were first exposed to English was obtained.

Identification of Language Impairment

As reported in the larger study (Gillam, et al, 2013), since there is not a gold standard diagnostic tool for assessing bilingual children, three bilingual speech language pathologists (SLPs) and bilingual research assistants (RAs) administered a battery of language tests to each participant. A reference standard based on the work of Tomblin, Records, & Zhang (1996) was used. RAs administered the following assessments: Test of Language Development – Primary: 3rd Edition (TOLD-P: 3; Newcomer & Hammill, 1997), the Test of Narrative Language (TNL; Gillam & Pearson, 2004), and the Bilingual English Spanish Assessment (BESA; Peña, Gutiérrez-Clellen, Iglesias, Goldstein, & Bedore, 2014). Once these tests were completed, all of the children participating, were asked to complete four narrative tasks, two in English and two in Spanish.

In order to systematically identify participants who had LI, all three bilingual SLPs, each of whom had more than ten years of experience in the field, were asked to rate the children's language abilities across the following domains: vocabulary, morphosyntax, and narrative; on a scale of 0 to 6 (0 = severe/profound impairment, 1 =

moderate language impairment, 2 = mild impairment, 3 = low normal performance, 4 = normal performance and 5 = above normal performance). The three bilingual SLPs scored each child individually in each domain in both Spanish and English. Children were identified with LI if at least two of the three bilingual SLPs assessed them with a score of 2 or below in each language.

Narrative Task

For the narrative retell task, the participants were asked to retell a story using one of the following wordless picture books: *Frog On His Own* (Mayer, 1973), or *One Frog Too Many* (Mayer, 1975). The participants retold the same story in English and Spanish at both time periods (kindergarten and first grade). Examiners were bilingual; however, during each session, they only spoke in the target language (Spanish or English) to limit code-switching. For each language, the children completed a narrative retell task where the examiner provided a model of the story. Afterwards, the child was instructed to tell the same story using the same wordless picture book. The children were allowed to hold and review the book while retelling the story. The scripts that the examiners used are available on the SALT Software website ("Frog Story Scripts"). Children's narratives were recorded using digital audio recorders (Sony MS-515 or ICDP320) with an external microphone (ECM 115) and played using Sony digital voice editor version 2.4.04. Two bilingual research assistants, who were trained on Systematic Analysis of Language Transcripts (SALT), transcribed the children's narratives (Miller & Iglesias, 2008). All utterances that were complete and intelligible were used in the analyses.

Character Coding

The Monitoring Indicators of Scholarly Language (MISL; Gillam, Gillam, & Reece, 2012) tool includes a list of macrostructural elements (character, setting, initiating event, plan internal response, action, consequence). For the purpose of this study, "character" was chosen as the macrostructure element to further investigate. The first author trained an undergraduate RA to code for characters in the children's Spanish and English narratives. The undergraduate was fluent in Spanish and majored in speech language pathology. Squires and colleagues (2014) created story specific rubrics, using the MISL guidelines, in both English and Spanish of Mercer Mayer's wordless picture books, *Frog on His Own* and *One Frog Too Many*. A list of acceptable character responses was developed by using the characters included in these story-specific MISL rubrics. Slight variations of the characters found on the list were accepted as appropriate responses and coded as characters (i.e. "kid" for "boy"). The undergraduate inserted the code [Mac:C] after each character into the SALT transcripts. A rectangular file was obtained using SALT for Research 2011 version to yield a total frequency count of character mentions in each language at each time point.

Noun Phrase Elaboration Coding

The microstructural elements of interest, noun phrase elaboration and "noun-modifier agreement", were chosen from the Narrative Assessment Protocol (NAP; Justice et al., 2010). These microstructural elements were coded at the word level by the same RA that coded the transcripts for characters.

In the participants' Spanish narratives, adjectives were coded by type of error (gender and number) in order to assess the children's use of noun-modifier agreement. Adjectives were coded in SALT using one of the following codes: [adj], [adjeN], [adjeG], [adjeNG]. The undergraduate inserted the code [adj] if the adjective agreed in both gender and number with the noun it modified (e.g. rana chiquita). The [adjeN] code was inserted after the adjective if the child used an adjective that did not agree in number but agreed in gender with the noun it modified (rana chiquitas). The [adjeG] code was used if the child included an adjective that did not agree in gender (rana chiquito). Lastly, the [adjeNG] code was used if the adjective did not agree in number or gender (rana chiquitos).

For the English transcripts, the first author created a list of possible noun phrase elaborations. A preliminary list of nouns was determined by analyzing the frequency of nouns used by the larger sample of children (N=166). For example, since the stories were about a frog and a boy, many of the children included "frog" and "boy" in their stories. Nouns that were used by most of the children from the larger sample were included. Then, this list was used to further analyze the context in which the children used the nouns. We wanted to see if the children used adjectives to describe the nouns they included most. Phrases where children used an adjective to describe a noun (i.e. big frog) were selected to be a part of the noun phrase elaboration list. Thirty-three adjective-noun phrases were selected for the final list used to determine which phrases the children

included at different time points. This list was used to yield a total frequency count of noun phrase elaborations in English at each time point.

For the second question, we were interested in determining the variation of noun phrase elaborations children with and without LI incorporated into their narratives. For this research question, two levels were formed for each microstructural element (Spanish adjective, English ENP); level I indicated a less complex elaboration and level II indicated a more complex elaboration. For English, level I included ENP that included only one modification (i.e. little frog) and level II included ENPs that included more than one modification. For example, if a child said the little frog's leg, that was considered a level II elaboration. For Spanish, Level I elaboration included adjectives that require only number agreement (e.g. grande) while Level II Spanish adjectives included adjectives that required both number and gender agreement. Noun phrase elaborations used by the participants in the data set were compiled to create a master list. Then, each adjective or noun phrase was given a value of 1 or 2. A value of 1 indicated that the noun phrase elaboration was considered less complex and belonged in level I and a value of 2 indicated that the noun phrase elaboration was more complex and belonged in level II. Level I and level II noun phrase elaborations frequency counts were then totaled and used for the analyses.

Reliability

One of the authors trained three undergraduate RAs, one monolingual English speaker and two SE bilingual speakers, to code the narrative retells for character and

adjectives. The Spanish transcripts were coded by Spanish-English bilingual students and the English transcripts were coded by English monolingual or Spanish-English bilingual students. The author randomly selected 30% of the transcriptions to test reliability for agreement between raters of macro- and microstructure coding. These transcriptions (44 of 132 of the transcriptions) were then re-coded. Another SE bilingual lab volunteer who had not participated in coding or recoding reviewed the 44 transcripts and gave a binary value to each code recorded. A '1' was given if the two judges were in agreement on the code and a '0' was given if the two judges were not in agreement. The first author calculated inter-rater agreement by dividing the number of items that received a value of '1' by the total number of items. Inter-rater agreement on final coding was high with a value of 90.5%.

RESULTS

We were first interested in determining whether SE bilingual children with LI and their TD peers differed in the frequency of inclusion of characters (macrostructure) and noun phrase elaboration (microstructure) in their Spanish and English retells at kindergarten and first grade Mixed method repeated measures ANOVAs were used to control for correlations among and between the independent and dependent variables. Four separate repeated measures(RM) ANOVAs were ran to compare children with LI to matched TD peers on each of the dependent variables: English character mentions, Spanish character mentions, English noun-modifier phrase count, Spanish noun-modifier count in their retells at kindergarten and first grade. The between subjects factor was ability group (TD, LI) and the within subjects factor was Time (kindergarten, first grade). Children with LI were less productive in their narratives compared to their TD peers; therefore, analyses were covaried by total number of words. Analyses were run separately for each language. Table 1 shows the mean values of character mention and noun phrase elaboration used by both groups (TD and LI) across kindergarten and first grade.

Character Mention

A one-way RM ANOVA was conducted to compare the effects of ability group on English character mention use in kindergarten and first grade. There was a non-significant effect for time, with the first graders performing similarly to the kindergarteners in their English retells, Wilks' Lambda=.895, F (1, 30) = 3.509, p = .071. There was a significant main effect for group ability [F (1,30) = 1.577, p =.219] with

the TD peers using more characters than the children with LI. The non-significant Time x Group interaction indicates that the two groups did not differ in their development of character mentions in their English retells over time, Wilks' Lambda = .979, F (1,30) = .649, p = .427. X

A one-way RM ANOVA was conducted to compare the effects of ability group on Spanish character mentions in kindergarten and first grade. For time, there was a significant effect, with the first graders using more characters in their Spanish retells than the kindergarteners, Wilks' Lambda = .466, F (1,30) = 34.385, p = .000. There was non-significant main effect for group ability [F (1,30) = 2.754, p =.107] with the TD peers and the LI children performing similarly. The non-significant Time x Group interaction indicated children with and without LI did not develop macrostructures in their Spanish retells at significantly different rates, Wilks' Lambda = .942, F (1,30) = 1.854, p = .183.

Noun Phrase Elaboration

A one-way RM ANOVA was conducted to compare the effects of group on English noun-modifier count in kindergarten and first grade. For noun-modifier phrase count from the participants' English retells, there was a significant effect, with the first graders using more noun phrase elaborations in their English retells than the kindergarteners, Wilks' Lambda = .702, F (1,30) = 12.730, p = .001. There was significant main effect for group ability [F (1,30) = 4.755 , p =.037] with the TD

peers outperforming the LI children. The non-significant Time x Group interaction indicates that the two groups develop noun phrase elaborations in their English retells at significantly similar rates, Wilks' Lambda = .999, F (1,30) = .028, p = .867.

A one-way RM ANOVA was conducted to compare the effects of group on Spanish noun-modifier count in kindergarten and first grade. There was no significant effect, with the first graders and kindergarteners using a similar number of Spanish adjectives, Wilks' Lambda = .983, F (1, 30) = .520, p = .477. There was a significant main effect for group ability [F (1,30) = 1.577, p =.2191] with the TD children using more adjectives than the LI children. The non-significant Time x Group interaction indicated children with and without LI develop microstructures in their Spanish retells at significantly similar rates, Wilks' Lambda = .950 F (1, 30) = 1.575, p = .219.

Comparison of Noun Elaboration Types

In addition to frequency of inclusion of character mentions and noun phrase elaboration, we were interested in the distribution of types of noun elaborations used by SE bilingual children with and without LI. The noun phrase elaboration (adjectives, noun-modifier phrase) that the participants used, were coded into levels based on difficulty with two in each language. Chi-squared analyses were conducted for data in both languages in kindergarten and first grade in order to examine the relation between group and distribution of types of noun elaborations.

The relation between group and level I English microstructure at kindergarten was non-significant, $\chi(7) = 8.137$, p = .321. TD children and children with LI incorporate a

similar number of level I noun elaborations in their English retells. The relation between group and level 2 English microstructure at kindergarten was non-significant, $\chi(2) = 4.571$, $p = .102$. TD children and children with LI incorporate a similar number of level II noun elaborations in their English retells. The relation between group and level I English noun elaboration in first grade was non-significant, $\chi(8) = 11.476$, $p = .176$. TD children and children with LI incorporate a similar number of level I noun elaborations in their English retells in first grade. The relation between group and level II English noun elaboration in first grade was non-significant, $\chi(4) = 3.037$, $p = .552$. TD children and children with LI incorporate a similar number of level II noun elaborations in their English retells in first grade.

The relation between group and level I Spanish noun elaboration in kindergarten was significant, $\chi(4) = 9.754$, $p = .045$. TD children incorporated more level I noun elaborations in their Spanish retells in kindergarten than children with LI. The relation between group and level II Spanish noun elaboration in kindergarten was non-significant, $\chi(5) = 7.486$, $p = .187$. TD children did not incorporate more level I noun elaborations in their Spanish retells in kindergarten than children with LI. Additionally, for first grade data, the relationship between group and Spanish noun elaboration were non-significant for level I, $\chi(4) = 6.010$, $p = .198$, and level II, $\chi(8) = 13.467$, $p = .097$.

Noun-Modifier Agreement

Lastly, we explored the effects of time and group on accuracy of noun modifier agreement for Spanish adjectives using a mixed model RM ANOVA. The within-groups

factor was time (kindergarten and first grade) and the between factor was ability group (LI and TD). There was significant main effect for group ability [F (1,30) = 7.033, *p* =.013] with the TD peers committing less adjective errors than the children with LI. There was not a statistically significant effect of time on accuracy of adjectives across the two time points, Wilks' Lambda = 1.00, $F(1, 30) = .013$, $p = .909$. Finally, there was a non-significant Group x time interaction, Wilks' Lambda= .925, $F(1, 30) = 2.427$, $p = .130$.

DISCUSSSION

The primary purpose of the current study was to determine whether SE bilingual children with LI differed from their TD bilingual peers in their use of character mentions and character elaboration in their Spanish and English retells at kindergarten and first grade. The secondary purpose of the study was to determine whether SE bilingual children with LI used a similar distribution of microstructure (i.e. adjectives in the context of ENPs) as their TD peers. Our third purpose was to determine whether SE bilingual children with LI committed more errors in adjective agreement than their TD peers. Narrative retells for 16 matched pairs of children with and without LI were compared at kindergarten and first grade. Results support the following: first graders perform better on character mention and noun phrase elaboration use than the kindergarteners across both languages, TD children do not use more character mention and noun phrase elaboration than children with LI from kindergarten to first grade, group ability did not determine character mention or noun phrase elaboration use (except English noun phrase elaboration), overall TD children do not use a larger distribution of character elaboration than the children with LI, and children with LI do not commit more noun-modifier agreement errors than TD children.

Character Mention

Our first question focused on character mentions; we were particularly interested in how SE bilingual children with and without LI incorporate characters in their Spanish and English retells. Table 1 provides the mean frequencies of character mention and noun

phrase elaboration and is organized by language, year, group, and structure. Previous studies examined children's performance across multiple story grammar elements (i.e. MISL), but the current study analyzed children's use of one macrostructure element: character. We found that TD children did significantly outperform children with LI on character mentions; however, the two groups did not develop character mentions from kindergarten to first grade at significantly different rates. This finding is consistent with research studying bilingual children's broader macrostructure performance. First, Rezzonico and colleagues (2015), studied the macrostructure performance of bilingual and monolingual children with and without LI and found that the TD bilingual group outperformed the bilingual LI group on macrostructure in English narratives. Also, Squires et al (2015) found that TD children significantly outperformed children with LI on macrostructure score. One important difference to note between our study and the previous studies is that Squires et al (2015) and Rezzonico et al (2015) scored children's performance across all macrostructure elements (setting, character, initiating event, plan, internal response).

The non-significant Time x Group relationship indicated that the Spanish and English character mention scores for the TD and LI groups did not improve at significantly different rates. Although our findings were not significant for group across kindergarten and first grade, they were significant for time. For example, overall all of the first graders (TD and LI) outperformed the kindergarteners (TD and LI) in macrostructure use. This finding is consistent with common patterns of narrative growth

from kindergarten to first grade (Berman, 1995; Berman & Slobin, 1994). This further supports that children tend to first include the macrostructural element (i.e. characters, settings, problem) of the narrative before they learn to include specific grammatical features to add elaboration.

Noun Phrase Elaboration

For the dependent variable, noun phrase elaboration, we found that first graders included more microstructure elements (ENPs) than kindergarteners in their English retells. This is consistent with previous research that studied the use of elaborated noun phrases in school-aged children. Eisenberg et al. (2008) longitudinally studied 5, 8, and 11 year olds, to find that the older children were more likely to include more and more explicit elaboration in their narratives than the younger school aged children. Visual examination of the means suggest that children increased their use of noun phrase elaboration in their Spanish and English retells from kindergarten to first grade; however, results were non-significant (Table 1). The non-significant Time x Group relationship indicated that the Spanish and English microstructure scores for the TD and LI groups did not improve at significantly different rates. This finding is inconsistent with previous research that found that TD bilingual children outperform bilingual children with LI on ENP. Greenhalgh and Strong (2001) studied 7-, 8-, 9- and 10-year olds with and without LI to find that the children with LI included significantly less ENP in their narratives compared to their TD peers. Further, Squires et al. (2014) found similar results examining the performance of SE bilingual children with and without impairment. However, the

authors of this study defined elaborated noun phrases as phrases that included both an article and adjective. For the current study, we focused on solely the adjective of the ENP and not the article and adjective. Previous research has shown that the narratives of children with LI were less elaborate and contained fewer grammatical features (i.e. ENPs) than the narratives of their TD peers (Greenhalgh & Strong, 2001; Kaderavek & Sulzby, 2000). These findings support research with English monolingual school-aged children and is based on the assumption that as they experience more school they include more elaboration into their narratives (Eisenberg et al, 2008; Greenhalgh & Strong, 2001).

For Spanish noun phrase elaboration, we found that TD children did not significantly outperform children with LI from kindergarten to first grade. This finding is inconsistent with previous research with SE bilingual children. Squires et al. (2014) studied the microstructure performance of SE bilingual children with and without LI from kindergarten to first grade. They found that the TD children outperformed children with LI on microstructures and that overall first graders outperformed kindergarteners on a variety of microstructural elements.

Comparison of Noun Elaboration Types

For our second question, we were interested in the types of character elaboration (ENPs, adjective) children with and without LI use in their narratives. The current study sought to determine whether TD children included a larger variety of words to elaborate

on their stories' characters than children with LI did. We hypothesized that children with TD would use more types of character elaboration than children with LI, as TD children tend to have a larger vocabulary (Rice & Bode, 1993). Little is known about SE bilingual children's distribution of adjectives in their narratives, and how that is developed from kindergarten to first grade. Each word that the children used to elaborate a noun or character were assigned a level. Level I words were considered easy, while Level II words were considered more complex and later developing. Across groups and time, all levels were non-significant except for Level I Spanish adjectives in kindergarten. We hypothesize that these findings were due to the fact that our measure was not sensitive enough to capture the different types of noun phrase elaborations the children were using. Meaning that children with LI used significantly less level I Spanish adjectives in kindergarten than their TD peers. This finding is consistent with previous research focusing on microstructure use in SE bilingual children with and without LI. Squires et al (2014) found that TD children included more character elaboration than the children with LI. Additionally, Squires and colleagues (2014) noted that TD children were using ENPs and adjectives that were more advanced than the types of noun elaboration the LI group used.

Noun-Modifier Agreement

Our last question focused on noun-modifier agreement. We were particularly interested in the accuracy of noun-modifier agreement in the narratives of SE bilingual children with and without LI. We found that SE bilingual children with LI produced more

errors than their TD peers; however, children with LI did not produce more errors than TD SE bilingual children from kindergarten to first grade. There was no significant interaction between time and group, meaning the two groups did not improve at significantly different rates. These results were surprising due to the fact that noun-modifier agreement has been determined to be a linguistic marker of LI in children who speak Spanish (Bedore & Leonard, 2001). However, the current study includes kindergarteners and first graders. Bilingual children in kindergarten and first grade are only beginning to use noun phrase elaborations (adjectives) in their language; therefore, our results may not yet reflect discrepancies between TD children and children with LI.

Conclusions and Limitations

Although this research gives deeper insight on how SE bilingual children with and without LI develop character and include elaboration in noun phrases in their narratives, our study is not without limitations. One of the main limitations of the current study is the number of participants. Although our sample size was matched based on a variety of factors, it was a small matched set (N=32). There were 16 children with LI and 16 TD peers. This sample size might not adequately represent the broader SE bilingual population. The two groups did not perform significantly differently across a majority of the coded measures from kindergarten to first grade. Given the variability of the sample, it appeared that there were inconsistencies in the children's use of character and noun phrase elaboration, making it difficult to compare the narrative development of SE bilingual children with and without LI across the two time points.

Further research is needed that examines SE bilingual children's narratives with a larger sample size. One possibility could be to use an older cohort. Our findings suggest that SE bilingual kindergarteners and first graders may be too young to accurately capture their development of noun phrase elaboration into their narratives. Future research could analyze how TD children with and without LI use elaborated noun phrases (both modifiers and articles) in their Spanish and English retells. Since the current study only focused on the modifier/adjective aspect of the elaborated noun phrase, more information on how bilingual children with and without LI utilize their knowledge of both syntax and semantics could be acquired analyzing the complete ENP in both Spanish and English. In order to obtain a more robust narrative sample, future research could analyze the participants narrative tells in addition to their narrative retells.

Table 1: Mean Values of LI and TD Participants at Kindergarten and First Grade.

	English		**Spanish**	
	LI	**TD**	**LI**	**TD**
Grade Level	M (SD)	M (SD)	M (SD)	M (SD)
Kindergarten				
Character Mention	17.19 (9.61)	24.94 (12.24)	12.19 (10.08)	17.56 (7.19)
Noun Phrase Elaboration	1.56 (2.28)	7.19 (9.38)	4.00 (6.44)	4.38 (5.15)
First Grade				
Character Mention	24.5 (16.75)	28.88 (16.05)	21.94 (13.47)	30.19 (14.20)
Noun Phrase Elaboration	5.13 (5.68)	11.63 (9.60)	3.38 (6.13)	6.69 (7.76)

References

Bedore, L. M., & Leonard, L. B. (2001). Grammatical morphology deficits in Spanish-speaking children with specific language impairment. *Journal of Speech, Language, and Hearing Research*, *44*(4), 905-924.

Bedore, L. M., & Peña, E. D. (2008). Assessment of bilingual children for identification of language impairment: Current findings and implications for practice. *International Journal of Bilingual Education and Bilingualism*, *11*(1), 1-29.

Berman, L. (1998). *Speaking through the silence: Narratives, social conventions, and power in Java* (Vol. 18). Oxford University Press on Demand.

Berman, R. A. (2001). I Setting the Narrative Scene: E. *Children's Language: Volume 10: Developing Narrative and Discourse Competence*, 1.

Berman, R. A. (1995). Narrative competence and storytelling performance: How children tell stories in different contexts. *Journal of narrative and life history*, *5*(4), 285-313.

Berman, R. A., & Slobin, D. I. (1994). Narrative structure. *Relating events in narrative: A crosslinguistic developmental study*, *39*, 84.

Bohman, T. M., Bedore, L. M., Peña, E. D., Mendez-Perez, A., & Gillam, R. B. (2010). What you hear and what you say: Language performance in Spanish–English bilinguals. *International Journal of Bilingual Education and Bilingualism*, *13*(3), 325-344.

Boudreau, D. (2008). Narrative abilities: Advances in research and implications for clinical practice. *Topics in Language Disorders*, *28*(2), 99-114.

Bracken, B. A., & McCallum, R. S. (1998). *Universal nonverbal intelligence test*. Riverside Publishing Company.

Colozzo, P., Gillam, R. B., Wood, M., Schnell, R. D., & Johnston, J. R. (2011). Content and form in the narratives of children with specific language impairment. *Journal of Speech, Language, and Hearing Research*, *54*(6), 1609-1627.

Cleave, P. L., Girolametto, L. E., Chen, X., & Johnson, C. J. (2010). Narrative abilities in monolingual and dual language learning children with specific language impairment. *Journal of Communication Disorders*, *43*(6), 511-522.

Curenton, S. M., & Justice, L. M. (2004). African American and Caucasian preschoolers' use of decontextualized language: Literate language features in oral narratives. *Language, Speech, and Hearing Services in Schools*, *35*(3), 240-253.

Dickinson, D. K., & Tabors, P. O. (2001). *Beginning literacy with language: Young children learning at home and school*. Paul H Brookes Publishing.

Eisenberg, S. L., Ukrainetz, T. A., Hsu, J. R., Kaderavek, J. N., Justice, L. M., & Gillam, R. B. (2008). Noun phrase elaboration in children's spoken stories. *Language, Speech, and Hearing Services in Schools*, *39*(2), 145-157.

Fiestas, C. E., & Peña, E. D. (2004). Narrative discourse in bilingual children: Language and task effects. Language, Speech, and Hearing Services in Schools, 35(2), 155-168.

Fey, M. E., Catts, H. W., Proctor-Williams, K., Tomblin, J. B., & Zhang, X. (2004). Oral and written story composition skills of children with language impairment. *Journal of Speech, Language, and Hearing Research*, *47*(6), 1301-1318.

Gillam, R. B., Peña, E. D., Bedore, L. M., Bohman, T. M., & Mendez-Perez, A. (2013). Identification of specific language impairment in bilingual children: I. Assessment in English. *Journal of Speech, Language, and Hearing Research*, *56*(6), 1813-1823.

Gutiérrez-Clellen, V. F. (2002). Narratives in two languages: Assessing performance of bilingual children. *Linguistics and Education*, *13*(2), 175-197.

Gutiérrez-Clellen, V. F., & Kreiter, J. (2003). Understanding child bilingual acquisition using parent and teacher reports. *Applied Psycholinguistics*, *24*(2), 267-288.

Greenhalgh, K. S., & Strong, C. J. (2001). Literate language features in spoken narratives of children with typical language and children with language impairments. *Language, Speech, and Hearing Services in Schools*, *32*(2), 114-125.

Justice, L. M., Bowles, R., Pence, K., & Gosse, C. (2010). A scalable tool for assessing children's language abilities within a narrative context: The NAP (Narrative Assessment Protocol). *Early Childhood Research Quarterly*, *25*(2), 218-234.

Kaderavek, J. N., & Sulzby, E. (2000). Narrative Production by Children With and Without Specific Language Impairment Oral Narratives and Emergent Readings. *Journal of Speech, Language, and Hearing Research*, *43*(1), 34-49.

Norbury, C. F., & Bishop, D. V. (2003). Narrative skills of children with communication impairments. *International Journal of Language & Communication Disorders*, *38*(3), 287-313.

Mayer, M., & Mayer, M. (1975). *One frog too many*.

Mayer, M. (1973). *Frog on his own*. New York: Dial Press.

Menyuk, P., & Bernholtz, N. (1969). Prosodic features and children's language production. *MIT quarterly progress report*, *93*, 216-219.

Merritt, D. D., & Liles, B. Z. (1989). Narrative analysis: Clinical applications of story generation and story retelling. *Journal of Speech and Hearing Disorders*, *54*(3), 438-447.

Miller, J. F., & Iglesias, A. (2008). Systematic Analysis of Language Transcripts (SALT), English & Spanish (Version 9)[Computer software]. Madison: University of Wisconsin—Madison, Waisman Center. *Language Analysis Laboratory*.

Morgan, G. P., Restrepo, M. A., & Auza, A. (2013). Comparison of Spanish morphology in monolingual and Spanish–English bilingual children with and without language impairment. *Bilingualism: Language and Cognition*, *16*(3), 578-596.

Pesco, D., & Bird, E. K. R. (2016). Perspectives on bilingual children's narratives elicited with the Multilingual Assessment Instrument for Narratives. *Applied Psycholinguistics*, *37*(1), 1-9.

Pearson, B. Z. (2002). *Narrative competence among monolingual and bilingual school children in Miami*. Na.

Pérez-Leroux, A. T., Castilla-Earls, A. P., & Brunner, J. (2012). General and specific effects of lexicon in grammar: Determiner and object pronoun omissions in child Spanish. *Journal of Speech, Language, and Hearing Research*, *55*(2), 313-327.

Liles, B. Z., Duffy, R. J., Merritt, D. D., & Purcell, S. L. (1995). Measurement of narrative discourse ability in children with language disorders. *Journal of Speech, Language, and Hearing Research*, *38*(2), 415-425.

Iluz-Cohen, P., & Walters, J. (2012). Telling stories in two languages: Narratives of bilingual preschool children with typical and impaired language. *Bilingualism: Language and Cognition*, *15*(1), 58-74.

Rezzonico, S., Chen, X., Cleave, P. L., Greenberg, J., Hipfner-Boucher, K., Johnson, C. J., ... & Girolametto, L. (2015). Oral narratives in monolingual and bilingual preschoolers with SLI. International journal of language & communication disorders, 50(6), 830-841.

Scott, C. M., & Windsor, J. (2000). General language performance measures in spoken and written narrative and expository discourse of school-age children with language learning disabilities. *Journal of Speech, Language, and Hearing Research*, *43*(2), 324-339.

Stein, N. L., Glenn, C. G., & Freedle, R. O. (1979). New directions in discourse processing. *New directions in discourse processing*.

Squires, K. E., Lugo-Neris, M. J., Peña, E. D., Bedore, L. M., Bohman, T. M., & Gillam, R. B. (2014). Story retelling by bilingual children with language impairments and typically developing controls. *International Journal of Language & Communication Disorders*, *49*(1), 60-74.

Tomblin, J. B., Records, N. L., & Zhang, X. (1996). A system for the diagnosis of specific language impairment in kindergarten children. *Journal of Speech, Language, and Hearing Research*, *39*(6), 1284-1294.

Uccelli, P., & Páez, M. M. (2007). Narrative and vocabulary development of bilingual children from kindergarten to first grade: Developmental changes and associations among English and Spanish skills. *Language, Speech, and Hearing Services in Schools*, *38*(3), 225-236.