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A Pilot Study: Examining The Microstructural And Macrostructural Narrative Measures In Bilingual Preschool Aged Children

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A PILOT STUDY: EXAMINING THE MICROSTRUCTURAL AND MACROSTRUCTURAL
NARRATIVE MEASURES IN BILINGUAL PRESCHOOL AGED CHILDREN

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Dedication

I would like to dedicate this thesis to my fiancé Manny Lara, and my grandmother Alicia Esparza for all of their relentless support throughout my entire graduate school career.

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NARRATIVE MEASURES IN BILINGUAL PRESCHOOL AGED CHILDREN

by

CAROLINE ESPARZA

THESIS

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Abstract

Purpose: Research has identified narratives as accurate and reliable predictors of language skills, yet little is documented on the microstructural and macrostructural narrative production of preschool aged bilingual children. This pilot study examined the microstructure and macrostructure elements of narratives in these children to provide preliminary data for further research.

Method: This study examined the narrative skills of 11 bilingual children between the ages of 3 and 4. Narrative retells in Spanish were elicited and were analyzed for the microstructural measures of lexical diversity (NDW) and productivity (TNW and MLU) measures and for the their macrostructural Narrative Scoring Scheme (NSS) scores.

Results: The descriptive data for the NSS scores suggests that typically developing 3-4-year-old preschool children produced narratives between minimal/immature (NSS score of 0 or 1) and emerging levels (NSS score of 2 or 3) of narrative structure and content. The macrostructural NSS measures were significantly correlated to lexical diversity (NDW) and productivity (TNW and MLU) microstructural measures. The NDW was significantly correlated to all seven macrostructural content and structural NSS characteristics. The TNW was significantly correlated to all NSS characteristics except for introduction. Lastly, the MLU was significantly correlated with the participants' abilities to use referencing within in their narratives.

Conclusions: The results of this examination indicated that typically developing 3 and 4 year-old bilingual children are unable to provide macrostructurally emergent or proficient narratives as measured through the NSS. However, the macrostructural NSS measures of the narratives were strongly correlated to the children's lexical diversity and productivity measures (NDW, TNW).

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Chapter 1: Background

1.1 Bilingualism

The need to comprehend the influence of bilingualism on the language skills of children is becoming more critical with the growing percentage of Hispanics living in the United States of America. It is estimated that 10 percent of the population under the age of five is of Hispanic descent (U.S. Bureau of Census, 2012). There are various theories on the role that bilingualism plays in childhood language development, but despite their existence, the effects of childhood bilingualism are not fully understood. Some educators have even speculated that the exposure to an additional language at a young age could lead to decreased language skills and that they may fall behind in academic areas such as reading (Feng, Gai, & Chen, 2014). Research has also found that typically developing children who were fluent in two languages did not show equivalent levels of narrative proficiency in their native and second language (Gutiérrez-Clellen, 2002).

Bilingual children often develop their first (L1) and second (L2) languages sequentially (Gutiérrez-Clellen & Quinn, 1993). This might pose a contextual disadvantage affecting comprehension tasks among children who are bilingual (Gutiérrez-Clellen & Quinn, 1993). For example, children who are assessed in their L2 may come across unfamiliar contexts (i.e. distinct prompts, settings, adult child interactions), which could negatively reflect within their macrostructural narrative abilities. There are many differences that exist within the narratives of bilinguals and monolinguals, including the use of verb markers in Spanish, and overt subject use in English (Slobin, 1996; Berman & Slobin, 1994). Sentence processing and word order skills also vary across languages, and could serve as cross-linguistic markers in early language

development (Wagner, Swensen, & Naigles, 2009).

Due to these cross-linguistic differences it can be difficult to distinguish a language difference from a language disorder, leading to potential over or under identification of disorders in bilingual children (Goldstein, 2010). It is vital to assess both languages of a bilingual individual in order to identify language disorders, because narratives in the dominant and non-dominant language of children may require distinct processing demands (Gutiérrez-Clellen, 2002). Many bilingual children may demonstrate culturally distinct features within their narratives that may be different from those of children from other cultures (Gorman, Fiestas, Pena, & Clark, 2011). For example, Hispanic children tend to use more indirect dialogue and character naming than Caucasian and African American children (Gorman, Fiestas, Pena, & Clark, 2011). This result leads us to believe that bilingual children with different cultures may have different narrative styles.

1.2 Narratives

Although there are many measures and tools to evaluate language skills, narratives are exceptionally useful in providing a complete analysis of various linguistic skills simultaneously. Narratives provide a comprehensive analysis to determine expressive and receptive language. They also provide an insight into children's language organizational skills, sequential skills, story grammar, and creative and stylistic features (Gorman, Fiestas, Pena, & Clark, 2011). The use of narrative analysis can serve as an academic success predictor for children with language disabilities (Feagans & Appelbaum, 1986). Narratives can provide much information about a child's language skills such as information about productivity (total number of words, TNW), grammatical and syntactic abilities (mean length of utterance, MLU), lexical diversity (number of different words, NDW) and macrostructural story structure skills (language sample analysis).

Through these measures, narratives can provide an in depth insight on children's semantic, phonology, and morphology skills (Miller, Andriacchi, & Nockerts, 2011).

Narrative development at early ages is linked to the development of various aspects of theory of mind such as self-recognition and identifying intentional actions (Nakano & Nagasaki, 2012). Studies with monolinguals have demonstrated that children's narrative development has a positive impact on their acquisition of literacy skills (Speech, Roth, Cooper, & De La Paz 1999). The links between narratives and literacy in monolingual children provide evidence that children's proficiency with school narrative tasks can assist in predicting children's early literacy skills.

Oral narrative productions in bilinguals can also significantly influence the language-based aspects of academics (Speech, Roth, Cooper, & De La Paz 1999; Feng, Gai, & Chen, 2014). Children between the ages of 5 and 6 who demonstrated high narrative oral language skills had an advantage in early literacy as measured through their spelling and phoneme identification abilities (Speech, Roth, Cooper, & De La Paz 1999). The developmental patterns and relations of oral and narrative skills in bilinguals may also be distinct than those found for monolinguals (Uccelli & Paez, 2007). The expressive vocabulary, narrative productivity, and narrative macrostructural quality are all essential skills that can be measured using the Systematic Analysis of Language Transcripts (SALT) software (Miller & Iglesias, 2011). This software has been effective in detecting language disorders for Spanish/English bilingual children because it uses normative data from Bilingual children between the ages of 5 and 9;9 (Miller, Andriacchi, & Nockerts, 2011).

1.2.1 Narrative development

Research demonstrates that children as young as 14 months of age are able to organize

and sequence simple events, and by the age of 3, children can describe events such as morning routines or visiting a grocery store (Hudson & Shapiro, 1991). At 3 years of age children can also continuously describe minimal events (Nakano & Nagasaki, 2012). At age 4, children are able to tell stories about numerous events in temporal sequence (Nakano & Nagasaki, 2012). Between the ages of 5 and 6, abstract language use emerges and language use becomes more complex describing more than just concrete information (Hudson & Shapiro, 1991). Five and six year old children can also describe causal and intentional relationships between events and actions (Nakano & Nagasaki, 2012).

However, for the children between the ages of 3 and 4, there is minimal research describing the microstructural and macrostructural skills of bilingual children. Prior research identifies that preschool aged children can describe events and can tell stories, but the level of proficiency is not described (Nakano & Nagasaki, 2012; Hudson & Shapiro, 1991). The SALT Bilingual Spanish/English Story retell database only has normative data for children above the age of 5 (Miller, Andriacchi, & Nockerts, 2011). This leaves a gap in the literature that must be filled. It is vital that researchers identify the narrative skills for children within this age range in order to assist in the early identification of language disorders.

1.2.2 Narrative measures.

Three microstructural elements can be used to assess children's language skills. The first measure, the total number of words (TNW), can be used to analyze a child's transcript length and productivity skills. The second, the number of different words (NDW), provides information on word use to assess lexical diversity and semantic skills. The third, the mean length of utterance (MLU), is determined by counting the number of words, or morphemes, within an utterance. The MLU used identify productivity, syntax, and morphology skills. These three measures (NDW,

TNW, and MLU) are important microstructural measures because together they provide an in-depth analysis on children's productivity, lexical diversity, and morphosyntactic skills. The TNW and NDW are susceptible measures for English narrative productivity (Uccelli & Paez, 2007). The MLU can also found to be a key linguistic marker of normative language acquisition and language impairment (Rice, Smolik, Perpich, Thomson, Rything, & Blossom, 2010). These microstructural measures describe the specific words and utterances that go into stories, but fail to provide insight on the organization and story structure of the narratives.

Narrative story structure, or macrostructure, describes the characters, internal responses, events, settings, and consequences within the story (Miller, Andriacchi, & Nockerts, 2011). Heilmann, Miller, Nockerts, and Dunaway (2010) investigated the narrative scoring scheme for stories in monolingual children between the ages of 5 and 7 to determine if the Narrative Scoring scheme (NSS) was a clinically accurate method of scoring through macro-structural analyses. These authors concluded that the NSS was an efficient tool for measuring narrative macrostructure and organization (Heilmann, Miller, Nockerts, & Dunaway, 2010). Additional research has demonstrated that bilingual children between the ages of 4 and 7 produce narratives of equal complexity in both Spanish and English, but with macrostructural differences (Fiestas & Pena, 2004). For example, children used more attempts to initiate events in Spanish than in English, and produced more macrostructural narrative consequences in English (Fiestas & Pena, 2004).

The current study examined narrative skills in young preschool children. Macrostructural analyses of children's language skills and their abilities to unite concepts to the actual utterances, such as those that are found in story grammar settings, were examined. The NSS was an accurate tool for measuring macrostructural skills and language development within narrative retells for 5

and 6 year old children. (Heilmann, Miller, Nockerts, & Dunaway, 2010). Yet, the effectiveness of NSS has never been demonstrated for children under the age of 4, and the relationship between microstructures (NDW, TNW, MLU) and macrostructures (NSS) has not been studied for this population either. Therefore, the purpose of this study was to answer the following set of questions:

1. Do preschool aged children produce macrostructurally emergent narrative structure and content as measured through Narrative Scoring Scheme (NSS) scores above 2?
2. Are the microstructural narrative measures of NDW, TNW, and MLU related to NSS scores in bilingual preschool aged children?

Chapter 2: Method

2.1 Participants.

A total of 11 participants between the ages of 3 and 4 ($M=3.15$, $SD=0.35$) were used in this study. The inclusionary criterion for the participants was that the participants had to be bilingual in English and Spanish, typically developing, and could not have a history of hearing problems. The participants were identified as Spanish and English bilingual children, of Hispanic descent, and were from were all recruited from El Paso, Texas. Parent interviews adapted from the Bilingual English Spanish Oral language assessment (BESA; Peña, Bedore, Gutiérrez-Clellen, Iglesias & Goldstein, 2014) were conducted to examine the amount of hourly input and output of Spanish and English to determine the percent of exposure of languages that the children received. The children had varying levels of exposure to English, but most were dominant in Spanish (see Table 1). One of the participants dropped out of the study because the child was no longer going to be enrolled in the preschool aged bilingual program. The mother was contacted, but was unwilling to allow the examiners to continue testing the child within a different setting. Hence, this participant was unable to provide a narrative sample, leaving the final number (N) of participants at 11 (see Table 1).

Table 1.1

Participant Data for Language Proficiency

Measures	Mean	SD	N
English input/output	0.258	0.287	11
Spanish input/output	0.742	0.287	11
Years of Eng. Exposure	2.152	0.528	11

2.2 Procedures

A total of two frog stories (*Frog goes to Dinner*; *Frog where are you*) were randomly assigned to the participants, one in English and one in Spanish. These frog stories were selected because they are frequently used for Bilingual narrative analysis through SALT software (Miller & Iglesias, 2010). If the participant was read *Frog goes to Dinner* (Mayer, 1973) in English, then they were read *Frog where are you* (Mayer, 1969) in Spanish. If the participant was read *Frog where are you* (Mayer, 1969) in English, then they were read *Frog goes to Dinner* (Mayer, 1973) in Spanish. This procedure was done to counterbalance any possible differences in the stories across languages. After the children were read the story, they were instructed to retell the story in their own words, and were allowed to look at the pictures within the book during the retell. The examiners were instructed to provide very minimal prompting during the retell without providing cues about the events within the story. Some of the prompting included asking the children “What’s happening/Que está pasando?” or “Tell me more/Dime más.” The examiners only addressed the participant in one language either Spanish or English. These results were recorded digitally onto audio files for the 11 participants. After completing this task, it was noted that 10 out of the 11 participants retold the English stories in Spanish. It was decided that the English story retells could not be used within this study, because they were retold in Spanish. Only the stories read and retold in Spanish were used within the study for analysis.

2.2.1 Transcription and coding

The participant’s narratives were coded through Systematic Analysis of Language Transcriptions (SALT) software (Miller & Iglesias, 2010) in the Bilingual Language Lab at the University of Texas at El Paso. Two bilingual trained research assistants transcribed these

transcripts and completed inter-rater reliability for at least 20% of the stories (3 complete narrative retells) with an agreement percentage of at least 90%. The transcripts were coded for morphemes, root words, mazes, abandoned utterances, and pauses.

After the completion of the orthographic transcription, two research assistants reviewed the transcripts of the children and completed the Narrative Scoring Scheme (NSS) (Miller & Iglesias, 2008). To score the NSS, two transcribers assigned a score of 0-5 for each of the 7 categories of the NSS: introduction, character development, mental states, referencing, conflict resolution, cohesion, and conclusion. A score of 5 was defined as a proficient level of performance; a score of 4 was in between emerging and proficient; a score of 3 was at an emerging level of performance; a score of 2 was between minimal/immature and emerging; a score of 1 was at a minimal/immature level of performance; and a score of 0 was given for refusing the task, telling the incorrect story, and unintelligibility throughout the narrative (see Appendix A). A further review of the NSS scoring scheme can be found in Miller, Andriacchi, and Nockerts (2011). The research assistants completed inter-rater reliability for 2 (17%) of the 11 transcripts following the NSS scoring guidelines described above with 90% or higher agreement for these measures.

2.2.2 Analysis

A report of the standard measures transcript summary was generated from SALT that included the following measures: number of different words (NDW), total number of words (TNW), and mean length of utterance (MLU) in words. These data from the SALT software were then examined using descriptive statistics such as means and standard deviations. SPSS software (IBM Corp, 2011) was utilized to provide data on the Pearson's Correlations to

understand if there was an association between the macrostructural (NSS) and microstructural (TNW, NDW, MLU) variables of narratives.

Chapter 3: Results

3.1 NSS Scores

The first research question within this study set out to determine if preschool aged children produced macrostructurally adequate (NSS score of greater than 2) narrative structure and content as measured through the Narrative Scoring Scheme (NSS). The descriptive data revealed that the bilingual preschool aged participants performed the best within the area of character development for their narratives, followed by the area of narrative story introduction with mean NSS scores of 2.27 and 2.00 respectively (see Table 2). However, these participants had the lowest NSS scores for conflict resolution with a mean score of 1.45 (Table 2). It was also noted that 2 of the participants were unable to provide macrostructurally cohesive narratives and received NSS scores of 0 for all NSS characteristics. The first of these participants provided a poor narrative that did not describe the introduction, character development, mental states, referencing, conflict resolution, cohesion, or conclusion of the story. The second child scored a 0 because he was unable to complete the task and was instead describing events that were occurring in the classroom. These results suggest that typically developing 3-4 year old bilingual preschool children produced narratives between minimal/immature and emerging levels of narrative structure and content (see Table 2).

Table 2

Descriptive Data for the Narrative Scoring Scheme (NSS) Characteristics

NSS Characteristics	Mean	SD	N
Introduction	2.00	1.265	11
Character Development	2.27	1.272	11
Mental States	1.64	1.120	11
Referencing	1.64	1.120	11
Conflict resolution	1.45	1.036	11
Cohesion	1.64	1.120	11
Conclusion	1.82	1.328	11

Note. NSS scores ranged from 0 to 5, with 0-1 being minimal/immature narrative performance, 2-3 being emergent performance, and 4-5 being proficient narrative performance.

3.2 Descriptive statistics for productivity measures

The second research question was to determine if the lexical diversity measures of NDW, TNW, and MLU were related to NSS scores in bilingual preschool aged children. To answer this question the descriptive data for the variable NDW, TNW, and MLU was examined (see Table 3). A correlations analysis was then performed utilizing SPSS Pearson's Product-Moment Correlation analysis (see Table 4).

The descriptive data within this analysis revealed that the mean number of different words (NDW) produced by the children was 34.09, with a standard deviation (SD) of 19.63 (Table 3). The mean TNW was 71.55 with a SD of 48.51, and the mean MLU was 3.61 with a SD of 1.77 (Table 3). These descriptive results demonstrated that the 3 and 4-year-old

participants produced narratives with considerable variability in the microstructural measures across participants as seen by the large standard deviations found within all three individual measures (NDW, TNW, MLU).

Table 3

Descriptive Statistics of Microstructural Variables

Descriptive Statistics	Mean	SD	N
English percent use	.328679	.2873646	11
NDW	34.09	19.634	11
TNW	71.55	48.513	11
MLU	3.6073	1.77052	11

Note. *The semantic microstructural variables measured were the Number of Different Words (NDW), Number of Total Words (TNW), and the productivity microstructural variable measures was the Mean Length of Utterance (MLU)*

3.3 Correlations Analysis

For the semantic microstructural measure of NDW the Product-Moment Correlation analysis revealed that it was significantly correlated with improved performance in all of the seven macrostructural content and structural characteristics measured through the NSS scoring scheme. NDW was significantly correlated with the macrostructural NSS characteristics of: introduction, conclusion, cohesion, conflict resolution, referencing, mental states, and character development ($p < .01$). It was also noted that the participants had the highest correlation between the NDW measure and the ability to state the conflict resolution of the story ($r = .94, p < 0.01$). The lowest correlations with the NDW were with the NSS macrostructural measure of stating the conclusion of this story although this was still a strong correlation ($r = .82, p < 0.01$).

The narrative microstructural productivity of TNW was significantly correlated ($p < .01$) with the NSS macrostructural measures of: conclusion, cohesion, conflict resolution, referencing,

mental states, and character development, but was not significantly correlated with the introduction characteristic of narratives (Table 4). The TNW was correlated with the NSS measure of Character Development at the $p < .01$ level, while the NDW was not ($p < .05$) (Table 4).

In contrast to the other microstructure elements (NDW and TNW), the relationship between the MLU and NSS was not significantly correlated for with the NSS characteristics of: introduction, character development, mental states, conflict resolution, cohesion, and conclusion (Table 4). However, MLU was significantly correlated ($r = .68$ $p < 0.05$) with the participant's ability to use referencing (i.e. providing antecedents to pronouns; using antecedents and referents) through out the narrative (Table 4).

Table 4

Pearsons Correlations among Microstructural and Macrostructural Variables

Variable	1	2	3	4	5	6	7	8	9	10	11
1.NDW	1										
2.TNW	.95*	1									
3.MLU	.41	.46	1								
4.Introduction	.95*	.86	.51	1							
5.Character	.87*	.87**	.47	.81**	1						
6.Mental States	.93**	.92**	.46	.92**	.78**	1					
7.Referencing	.93**	.92**	.68*	.92**	.85**	.92**	1				
8.Conflict Res.	.94**	.90**	.47	.84**	.88**	.85**	.93**	1			
9.Cohesion	.82**	.82**	.47	.85**	.71*	.92**	.84**	.76**	1		
10.Conclusion	.82**	.77**	.37	.83**	.68*	.89**	.83**	.79**	.96**	1	
NSS TOTAL	.96**	.93**	.52	.95**	.88**	.96**	.96**	.93**	.93**	.92**	1

Note. ** $p < 0.01$ level (2-tailed); * $p < 0.05$ level (2-tailed). NDW= Number of Different Words; TNW= Total Number of Words; MLU= Mean Length of Utterance; Character= Character Development; Conflict Res.= Conflict Resolution; NSS= Narrative Scoring Scheme

Chapter 4: Discussion

Narratives can be used to assess a wide variety of language skills including the microstructural measures of lexical diversity and productivity (Miller, Andriacchi, & Nockerts, 2011). Narratives can also be used to provide rich linguistic information on the content and structure of narratives (Heilmann, Miller, Nockerts, & Dunaway, 2010; Hudson & Shapiro, 1991; Nakano & Nagasaki, 2012). However, the SALT narrative story retell database does not contain normative data for Bilingual children between the ages of 3 and 4 years of age (Miller & Iglesias, 2011). The database only contains normative data for children between the ages of 4;4 and 12;8 (Miller, Andriacchi, & Nockerts, 2011). Hence, this pilot study served to provide some initial preliminary data on the NSS scores for bilingual children under the age of 4, and to identify if children this age could produce adequate narrative content and structure as measured through NSS.

The results indicated that the highest mean NSS score of 2.27 out of 5 was in character development and the lowest score of 1.45 was in conflict resolution. These results support previous work in which Hispanic children used more character naming within their narratives because of their strength observed in the macrostructural area of character development (Gorman, Fiestas, Pena, & Clark, 2011). The overall mean scores for the seven NSS characteristics of introduction, conclusion, cohesion, conflict resolution, referencing, mental states, and character development were all between 1.45 and 2.27. According to the SALT NSS Appendix (Miller, Andriacchi, & Nockerts, 2011), a score of 1 is given for minimal/immature performance within narratives, a score of 3 is given for an emerging performance within narratives, and a score of 2 is given for anything in between these two levels of performance. A total of two out of the eleven participants tested received a score of 0 for their narratives because

they provided poor story structure within each of the characteristics measured. These scores could have been assigned if the child failed to provide a narrative based on the story that they read, or if they failed to comprehend what was expected of them. Thus, the clinical implications of these results indicate that perhaps typically developing 3 and 4-year-old Bilingual children may not possess the level of narrative components necessary to provide structurally proficient narratives.

The present study also examined the relationships between the microstructural (NDW, TNW, MLU) measures and macrostructural (NSS) narrative measures for bilingual three and four year old children. Overall, the microstructural variable that led to the strongest correlations with macrostructural NSS measures was the lexical diversity measure of NDW, followed by the TNW. MLU was only correlated with the NSS measures for referencing. The NDW was significantly correlated to all 7 of the NSS characteristics. This result could indicate that story organizational skills are developing along with lexical diversity skills for bilingual preschool aged children. These results also provide evidence that preschool aged children heavily rely on vocabulary to produce temporally sequenced narratives but perhaps they lack the syntactic skills to produce complex episodic story structure (Berman, 1988). Therefore, the number of different words may play a large role in the production of narratives and academic language for children this age.

The microstructural productivity measure of TNW was also highly correlated with the NSS macrostructural measures of: conclusion, cohesion, conflict resolution, referencing, mental states, and character development, but was not significantly correlated with the introduction characteristic of narratives. These findings indicate that the ability to produce adequate story

structure is somewhat influenced by the overall length (TNW) of the narratives produced by children within this age range.

MLU had the weakest relationship to NSS outcome and was only correlated to the macrostructural referencing abilities of the participants, and not any of the other macrostructural NSS characteristics. This correlation is indicative that a higher MLU could lead to higher NSS scores in the area of referencing. These results suggest that the ability to produce longer utterances (measured through MLU) is related to the efficient use of referents and antecedents.

4.1 Limitations & Future Directions

Some of the limitations within this study included the small amount of participants (n=11), the attrition of participants (n=1), and the data collection procedures. Because, the narrative samples were collected from two different locations and during different times, this could have greatly affected the children's overall narrative performance. Some of the children were asked to tell the narratives early in the morning, while others were asked during playtime in the late morning. The timing of the task could have affected the children's motivation to produce the narratives. Other intrinsic factors such as being hungry or tired during the assessment could have also played a role in their performance. Future studies would benefit from a larger population of participants, and a scheduled time for assessment that did not conflict with the children's lunch or physical education time slots. Using older participants could also provide more comprehensive data within the NSS measures since these 3 and 4-year-old participants had poor, immature, or emerging narrative performance.

4.2 Clinical Implications

The Narrative Scoring Scheme is a useful narrative tool to assess macrostructural skills of story structure and content (Heilmann, Miller, Nockerts, & Dunaway, 2010). However, the use

of narrative assessment to examine macrostructure elements may not be appropriate for 3 and 4 year old bilingual children, since the majority of participants scored poorly on their narrative performance, with two out of the eleven participants scoring 0. This study also led to an increase in the comprehension of the relationship between narrative macrostructural and microstructural skills. Lexical diversity and productivity skills were strongly correlated to narrative structure and content, so a clear understanding of these relationships could lead to enhanced treatment outcomes. Hence, a treatment procedure focused on increasing linguistic diversity and linguistic productivity skills could benefit story structure and content even in younger preschool aged children.

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Appendix

The Narrative Scoring Scheme Rubric Adapted from, "Narrative Scoring Guide," (Miller, Andriacchi, DeVall-Rayan, & Lien, 2003)

Characteristic	Proficient	Emerging	Minimal/Immature
Introduction	1) Setting: - States general place and provides some detail about the setting (e.g., reference to the time of the setting, daytime, bedtime, season). - Setting elements are stated at appropriate place in story. 2) Characters: - Main characters are introduced with some description or detail provided.	1) Setting: - States general setting but provides no detail. - Description or elements of setting are given intermittently through story. - May provide description of specific element of setting (e.g., the frog is in the jar). 2) Characters: - Characters of story are mentioned with no detail or description.	- Launches into story with no attempt to provide the setting.
Character Development	- Main character(s) and all supporting character(s) are mentioned. - Throughout story it is clear child can discriminate between main and supporting characters (e.g., more description of, emphasis upon main character(s)). - Child narrates in first person using character voice (e.g., "You get out of my tree", said the owl.).	- Both main and active supporting characters are mentioned. - Main characters are not clearly distinguished from supporting characters.	- Inconsistent mention of involved or active characters. - Character(s) necessary for advancing the plot are not present.
Mental States	- Mental states of main and supporting characters are expressed when necessary for plot development and advancement.	- Some use of evident mental state words to develop character(s).	- No use of mental state words to develop character(s).

	- A variety of mental state words are used		
Referencing	-Provides necessary antecedents to pronouns. - References are clear throughout story.	-Inconsistent use of referents/antecedents.	- Excessive use of pronouns. - No verbal clarifiers used. - Child is unaware listener is confused.
Conflict Resolution	- Clearly states all conflicts and resolutions critical to advancing the plot of the story.	- Under developed description of conflicts and resolutions critical to advancing the plot of the story. OR - Not all conflicts and resolutions critical to advancing the plot are present	- Random resolution(s) stated with no mention of cause or conflict. OR - Conflict mentioned without resolution. OR - Many conflicts and resolutions critical to advancing the plot are not present.
Cohesion	- Events follow a logical order. - Critical events are included while less emphasis is placed on minor events. - Smooth transitions are provided between events.	- Events follow a logical order. - Excessive detail or emphasis provided on minor events leading the listener astray. OR - Transitions to next event unclear. OR - Minimal detail given for critical events. OR - Equal emphasis on all events.	- No use of smooth transitions.
Conclusion	-Story is clearly wrapped up using general concluding statements such as “and they were together again happy as could be.”	-Specific event is concluded, but no general statement is made as to the conclusion of the whole story.	-Child stops narrating, and listener may need to ask if that is the end.

Scoring. *Each characteristic receives a scaled score 0-5. Proficient characteristics=5, Emerging=3, Minimal/ Immature=1. Scores in between (e.g., 2, 4) are undefined and you are required to use your own judgment. Scores of 0, N/A are defined below. Adding the total number of the characteristic scores gives a composite score. Highest score=35. A score of 0 is given for Child Errors (i.e., telling the wrong story, conversing with examiner, not completing/refusing task, using wrong language creating inability of scorer to comprehend story in target language, abandoned utterances, unintelligibility, poor performance, components of rubric are in imitation-only). A score of N/A (non-applicable) is given for Mechanical/Examiner/Operator Errors (i.e., interference from background noise, issues with recording (cut-offs, interruptions), examiner quitting before the child does, examiner not following protocol, examiner asking overly specific or leading questions rather than open-ended questions or prompts)*

Appendix A. The Narrative Scoring Scheme Rubric. Adapted from "Narrative Scoring Guide," by J. F. Miller, K. Andriacchi, J. DeVall-Rayan and P. Lien, 2003, Retrieved from: http://cdswebserver.med.buffalo.edu/drupal/files/06_Narrative%20Scoring%20Scheme.pdf. Copyright [2003] by SALT Software, LLC. Narrative Scoring Scheme.

Curriculum Vita

Caroline Esparza was born and raised in El Paso, Texas. She was the youngest daughter of two, and graduated at the age of 17 from John L. Chapin High school in the Spring 2007. In the fall semester of 2007 she enrolled in the University of Texas at El Paso and became Speech Language Pathology major with the intent of earning a Master of Science degree. While pursuing this degree, she became immersed in her education and became an active student body member of the National Student Speech Language and Hearing Association. She began working alongside Dr. Connie Summers in the ReBill (Research in Bilingual Language Learning Lab) in hopes of enhancing the available research on bilingualism in the communication disorders field. Throughout this experience, Caroline has completed various research projects including a thesis on “Examining the microstructural and macrostructural narrative measures in bilingual preschool aged children, which she presented in the 2013 Texas Speech Language and Hearing Association Conference. Caroline has also volunteered with various organizations acting as a positive community role model for The Miracle League of El Paso, the El Paso Autism Society, UTEP Concussion Lab, and The El Paso Youth Ballet. She is a member of the American Speech Language and Hearing Association, Texas Speech Language and Hearing Association, and the National Student Speech Language and Hearing Association (NSSLHA). In 2011 Caroline was elected as the UTEP NSSLHA Communications Officer and Historian and is now currently the NSSLHA 2013- 2014 president. In 2013 she was recognized for her leadership and academic achievement by being selected to be a UTEP 21st century scholar, and by receiving the Paul C. Davidson academic scholarship. During the 2014 Health Sciences commencement ceremony, Caroline Esparza received a graduation honor for Outstanding Student Leadership.

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