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Expository Language Sample Assessment of Spanish- English Bilingual Middle-School Children

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EXPOSITORY LANGUAGE SAMPLE ASSESSMENT OF SPANISH-
ENGLISH BILINGUAL MIDDLE-SCHOOL CHILDREN

by

Rachel Eggert

A Thesis Submitted in
Partial Fulfillment of the
Requirements for the Degree of

Master of Science
in Communication Sciences and Disorders

at

The University of Wisconsin – Milwaukee

August 2019

ABSTRACT

EXPOSITORY LANGUAGE SAMPLE ASSESSMENT OF SPANISH- ENGLISH BILINGUAL MIDDLE-SCHOOL CHILDREN

by

Rachel Eggert

The University of Wisconsin-Milwaukee, 2019
Under the Supervision of Professor Dr. John Heilmann, Ph.D.

Because of the possible bias and limitations in using standardized assessments, it is advantageous to assess school-age children who are bilingual using additional descriptive assessments, including language sampling. Choosing expository discourse language sampling to assess this population is beneficial because it is the standard form of discourse in a classroom setting and provides a more complex language sample. Using expository discourse language sampling, this study assesses the oral expository discourse language skills of Spanish- English bilingual middle school students who have learned English as a second language. The study found that expository discourse was a feasible way to assess the language skills of bilingual middle schoolers. Through data analysis it was also discovered that the level of English proficiency affected the complexity and accuracy of utterances formed by the students.

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Introduction

When a child does not acquire language and meet the milestones expected for their chronological age, it is considered a language impairment or disorder (Paul, 2012). According to the American Speech-Language-Hearing Association (ASHA) a language disorder is defined as an impairment in comprehension and/or use of spoken or written language. It may involve impairment in the form, content, and/or function of language communication. According to Tomblin et al. (1997) approximately 7% of children have a language impairment. Usually a language impairment is first identified when a child is four to five years old, around the time they start school (Bishop & Edmundson, 1987). A child with a language impairment will struggle to develop language skills at the same rate as their peers and may fall behind in school (Conti-Ramsden, Durking, Simkin, & Knox, 2009).

Language Impairment as a Lifelong Condition

Once a person is diagnosed as having a language disorder, they may experience difficulties with language throughout their lifetime (Johnson et al., 1999; Lewis et al., 2015; Whitehouse, Line, Watt, & Bishop, 2009). For example, Johnson et al. followed 114 children with speech and language impairments from five years of age through 19 years of age. The Johnson et al. study found that children with language impairment were most likely to have continued language difficulty, while children with speech-sound disorders tended to have better outcomes. The authors concluded that the impaired language skills of children with language impairment were quite stable over time. Conti-Ramsden, Durkin, Simkin, and Knox (2009) found that their sample of children with language impairment fared slightly better than the children in the Johnson et al study. However, Conti-Ramsden et al. found that a large percentage of children identified as having language impairment continued to have language difficulties, and

that the children who started schooling with weaker language and literacy skills were most likely to have continued difficulty into adulthood.

The language difficulties of adolescents and adults with language impairment have a significant impact on their ability to function in daily life (Clegg, Hollis, Mawhood, & Rutter, 2005; Whitehouse et al., 2009). For instance, adolescents with specific language impairments were found to be more likely to have lower quality friendships than their typically developing peers (Durkin & Conti-Ramsden 2007). These difficulties in adolescence continue into adulthood, as evidenced by Whitehouse et al., who found that adults who were diagnosed as having a language impairment in childhood had substantial difficulty reading. The authors further found that adults with language impairment tended to receive vocational training and work in settings that had low language demands. In addition, Clegg et al. found that adults with language impairment had a variety of social difficulties, such as maintaining friendships and maintaining employment.

Language Impairment in Bilingual Children

When it comes to working with children who are bilingual, it can be difficult to identify a child as having a language impairment. It is more challenging because the clinician must differentiate between language differences versus disorders (e.g., Kohnert, 2010). This challenge results in children from bilingual backgrounds often scoring lower on assessments than their monolingual peers, which can lead to overidentification of language disorders in bilingual populations. (e.g Jackson-Maldonado, 1999; Pray, 2003; Thordardottir et al. 2006). For example, Thordardottir et al. (2006) tested 28 children, either monolingual French, monolingual English, or bilingual French-English from Canada, using two different standardized tests with adapted versions for each language. The study demonstrated that children who were bilingual

score much lower on standardized assessments than their monolingual peers. Knowing this information, the comparison of children who are bilingual to monolingual diagnostic standards can lead to inappropriate diagnosis of a language impairment for those who are bilingual.

One reason that bilingual children tend to perform lower than their monolingual peers is because of the nature of bilingual language development (e.g., Goldstein, 2004). Children who are learning multiple languages have to accommodate the differences and similarities of both languages in their linguistic systems. Sometimes knowledge of the first language will interfere with the rules of the second language. For example, due to the nature of past tense forms in each language, a child who speaks Spanish and begins learning English around 4 or 5 years age may be able to use the past tense in Spanish, but not in English. This is because in Spanish if the past tense of the word is left off it appears incomplete, while in English even without the past tense marker *-ed* the word may appear to be a complete form (Goldstein 2004). Therefore, bilingual children's language "errors" may be due to a lack of experience rather than a lack of knowledge.

A second reason that assessment of bilingual children requires unique considerations is the variability in levels of bilingualism. According to Brice (2002), there are 5 different types of bilingual language proficiency. These types are identified as Native Dominant, English Dominant, Balanced Bilingual, Mixed Bilingual, and Low Bilingual. A Native Dominant speaker demonstrates a high level of proficiency in Spanish, but little proficiency in English. Conversely, an English Dominant speaker displays the opposite pattern: a high level of proficiency in English with little proficiency in Spanish. A Balanced Bilingual shows a high degree of proficiency in both languages, whereas a Mixed Bilingual demonstrates limited proficiency in both languages. A Low Bilingual displays low proficiency in both languages, which is most likely due to a language disorder that impacts both languages. These varying

degrees of proficiency that exist among bilingual speakers make additional assessments and judgements from the clinician necessary to determine a language difference versus a disorder.

Another factor influencing the accurate assessment of bilingual children is the nature of bilingual code-switching. Code-switching occurs when a person shifts to using the other language for a word or phrase during a conversation or even the same sentence. Code-switching is common for bilingual speakers and reflects linguistic and communicative sophistication. Therefore, when assessing a child who is bilingual, a clinician should be aware of the cultural context and grammatical patterns involved in code-switching. They should also be aware that most instances of code-switching do not indicate a language disorder (Goldstein, 2004). However, if the child violates the rules of code-switching with a monolingual speaker it may be a sign of a language impairment.

A final challenge for accurate assessment of children who are bilingual is the impact that culture can have on test performance (Paul & Norbury, 2012). A child's test performance may be influenced by the familiarity of the materials, content, and structure of the assessment (Greenfield, 1997; Pena & Quinn, 1997; Saxe, 1988). For instance, Pena et al. (1997) formally assessed fifty Puerto Rican and African American children enrolled in Head Start programs. The study found that Puerto Rican children in the US are better at completing tasks requiring descriptions than tasks requiring object labelling. Object labelling was not a skill taught in the home or community and for this reason was an unfamiliar task. Therefore, not only should a clinician be aware of the typical language practices of the culture they are assessing, but also the cultural bias of standardized assessments used to determine language disorders.

Bilingual Language Assessment

As the number of culturally and linguistically diverse populations increase in the U.S (US Census Bureau, 2018), appropriate bilingual language assessments become more important. In their discussion of best practices in bilingual assessment, ASHA (n.d.) recommends that clinicians complete a comprehensive diagnostic evaluation, which includes a case history, questionnaires, an oral- peripheral exam, audiological assessment, standardized assessment tools, and speech and language samples. Furthermore, speech-language pathology governing associations recommend that assessments be performed in both languages when possible (ASHA, n.d; International Association of Logopedics and Phoniatics (IALP), 2006; Royal College of Speech and Language Therapists (RCSLT), 1998).

To provide an evidence-base for best practices in bilingual assessment, researchers have worked towards finding ways to accurately identify language impairment in bilingual children. One approach has been through the development of norm-referenced tests for specific populations, such as the Bilingual English-Spanish Assessment (BESA) (Pena, Gutiérrez-Clellen, Iglesias, Goldstein, Bedore, 2018) and Clinical Evaluation of Language Fundamentals – Fourth Edition, Spanish (Wiig, Semel, Secord, 2006) (CELF-4 Spanish) for English/Spanish bilingual children. The development of bilingual-specific norm-referenced tests has improved SLPs’ ability to assess bilingual children by providing more appropriate diagnostic tasks and more accurate comparison groups when compared to assessments developed for monolingual populations. However, these new norm-referenced assessments still do not always provide a completely accurate assessment and often do not capture a complete picture of a bilingual child’s language abilities. For example, a child who is bilingual may experience attrition of a language as they are learning the other, resulting in poor performance on standardized tests even if they do

not have language difficulties (Paradis, Genesee & Crago, 2011). Furthermore, children from culturally and linguistically diverse populations may not be familiar with standardized language assessment procedures, which are highly decontextualized (e.g., Greenfield, 1997, Saxe, 1988, Pena and Quinn, 1997). Finally, norm-referenced assessments have limited ability to provide a rich description of a bilingual child's language ability, including relative strengths and weaknesses (e.g., McCauley, 2013), and are only one part of the comprehensive diagnostic assessments recommended by the SLP governing bodies. Therefore, due to the limits of standardized formal assessments it has become best practice to use a variety of measures to assess children who are bilingual.

Because of the possible bias and limitations in using standardized assessments, it is advantageous to assess school-age children who are bilingual using additional descriptive assessments, including language sampling (Brice, 2002). Language sampling provides descriptive information on a child's language strengths and weaknesses when completing a functional and meaningful task, such as telling stories or describing processes. It provides an in-depth assessment of the speaker's morphological, syntactic, lexical, and pragmatic systems, therefore providing a more complete picture of a child's language abilities. Additionally, language sampling overcomes some of the previously mentioned challenges of bilingual language assessment. For instance, it provides a familiar context, allows for code-switching, and can be performed in both languages, all of which help to prevent cultural and linguistic bias. In addition, Rojas and Iglesias (2009) illustrated how language sampling tasks align with the child's academic requirements and provide direct targets for intervention.

Throughout the past two decades, a solid body of evidence has supported the use of language sampling when assessing bilingual children (Fiestas & Peña, 2004; Gutierrez-Clellen,

2002 Rojas & Iglesias, 2013; Uccelli & Paez, 2007). The available data have primarily been acquired using narrative sample analysis, collected from preschool-age and elementary school-age children. A narrative sample refers to the child giving an account of an event or story in a temporal order (Engel, 1995). During a narrative language sample, the child's story can be analyzed for microstructural linguistic features, such as vocabulary and grammar, as well as macrostructural features, such as topic maintenance, event sequencing, explicitness, referencing, conjunctive cohesion, and fluency (Bliss, McCabe, Miranda, 1998).

Several studies have documented that narrative language sample analysis (LSA) is an effective method of documenting the language skills of bilingual children. Finding from Fiestas et al (2004) and Gutierrez-Clellen (2002) have concluded that dual language learning has little influence on a child's narrative skills and that narrative skills were similar in both languages. Bedore, Pena, Gillam, and Ho (2010) further demonstrated the effectiveness of narrative assessment in capturing the language skills of 170 bilingual kindergarteners. Bedore et al. found that measures in both English and Spanish were informative and related to other measures of language ability. The authors concluded that narrative language measures are an effective method of documenting bilingual children's language ability.

Teams of researchers have also demonstrated that measures from narrative language samples are effective at documenting bilingual children's language growth (Rojas & Iglesias, 2013; Uccelli & Paez, 2007). Uccelli and Paez tracked 24 Spanish-English bilingual children from preschool through first grade. The authors found that the narrative measures were sensitive to changes over time and revealed different patterns across the children's first and second language (e.g., vocabulary skills were stronger in English relative to Spanish). Rojas and Iglesias analyzed over 12,000 narrative language samples produced by 1,723 Spanish-English bilingual

children and also found that narrative measures were sensitive to growth and that the children's narrative ability could be predicted by a variety of external variables (e.g., gender and summer vacation status). In sum, multiple investigators have demonstrated that language sampling is a good approach to assessment for bilingual children because it provides functional descriptive data (Fiestas & Pena 2004, Uccelli & Paez 2007, Gutierrez-Clellen 2002). The narrative language sampling studies that have been performed using speakers who are bilingual have focused primarily on children from pre-school to elementary school (Fiestas and Pena 2004, Uccelli and Paez 2007, Gutierrez-Clellen 2002). This could be due to children of this age group being more familiar with narratives because they are frequently told in the child's environment; whether with peers, at home, or in the classroom (Preece 1987, Hughs 1997).

Another form of language sampling is expository discourse. Expository discourse requires speakers to provide an explanation or description of information (Paul & Norbury, 2012). While narrative discourse is more common among the earlier grades, expository discourse is used more in the upper grades. By the time students reach fourth grade expository discourse is the standard form of discourse in the classroom (Nippold & Scott, 2010). When a person uses expository versus narrative discourse, they use more advanced vocabulary and grammar (Berman & Bracha, 2007). Even children with language impairments have been found to have increased syntactic complexity of their language when providing an expository versus a narrative language sample (Scott & Windsor, 2000).

Heilmann and Malone (2014) demonstrated that a standardized protocol could be effective in documenting expository discourse with middle-school students. There are a few benefits to using expository language sampling when working with middle-school students. The first being that as a child enters the middle-school years of their education, expository language

usage becomes more important to their academic success (Nippold, Mansfield, Billow & Tomblin, 2008). Therefore, asking the child to produce an expository sample is reflective of curriculum demands. Secondly, expository discourse is considered an effective assessment for identifying children with SLI (Nippold et al. 2008; Scott & Windsor, 2000). Thirdly, expository discourse is sensitive to changes in language development and provides the ability to measure changes in a child's language complexity (Heilmann & Malone 2014; Westerveld, Gillon, & Miller, 2004). Lastly, expository discourse has been found to result in use of more complex use of language in older children than narrative or conversational language samples (Nippold, Hesketh, Duthie & Mansfield, 2005; Westerveld & Vidler, 2016). Expository discourse therefore has the potential to provide a means to measure bilingual middle-school student's language performance in older children. This is important because older children still have language impairments and need functional forms of assessment in order for clinicians to provide adequate treatment.

Preliminary data have documented that expository language sampling can be an effective method of assessment of young children (Peets & Bialystok, 2013). Peets et al. found that kindergarteners who were bilingual, despite having poorer performances on standardized tests than monolinguals, demonstrated similar control over vocabulary to monolinguals when producing discourse samples. This information is important because it may indicate that bilingual children are not as far behind their monolingual peers in academics as standardized tests may suggest. Additional data are required to document the performance of older students on the expository task.

Bilingual Assessment by Monolingual SLPs

Despite the recommended best-practice for completing a comprehensive assessment of bilingual language speakers in both the first and second language (ASHA, n.d.; IALP, 2006; RCSLT, 1998), many SLPs have admitted to not being able to follow this best practice. A study completed by Ceasar & Kohler (2007) surveyed 409 SLPs across five states. Of those surveys, 130 respondents stated that they were involved in the assessment of children who are bilingual. Those respondents indicated that they primarily used standardized English tests to assess students who were bilingual. Their reasons given for this were that the SLPs were monolingual and had a lack of experience with the child's language, or the SLPs felt that their graduate education had not sufficiently prepared them to evaluate bilingual students. In addition, there are many languages that don't have standardized tests available for testing. Therefore, although best practice states to test children in both languages it may not always be possible.

While the limitations of assessing in a single language are more obvious when bilingual children are actively learning multiple languages, is it as much of a concern when children gain full proficiency in the second language? For example, a study by Gathercole and Thomas (2009) was conducted in Wales with bilingual Welsh- English children. The study found that children who are bilingual's vocabulary at age 4 was most influenced by their home language, but by age 9 vocabulary knowledge was most influenced by the child's school language. This suggests that by the time a child who is bilingual reaches middle school they are most likely competent in English use in an academic context due to primary use of that language in that setting. Therefore, there is a question as to whether or not middle school children who predominantly use English in an academic setting can be accurately assessed in English only.

Summary and Rationale

Therefore, the purpose of this study was to assess the language skills of middle school children who had learned English as a second language. In particular, I was interested in studying the language ability of children who were Spanish-English bilingual at one time and were raised in a predominantly Hispanic community (with Spanish language spoken), but predominantly used English (i.e., functionally monolingual). To achieve these goals, I addressed the following research questions:

1. Do measures generated from English expository language samples vary as a function of English and Spanish proficiency in bilingual middle school students raised in predominantly Hispanic communities?
2. Do measures from English expository language samples significantly differ when produced by Hispanic middle school students and non-Hispanic monolingual English middle school students?

These data will provide clinicians a better picture of what to expect when assessing older bilingual children as well as demonstrate if children who are bilingual in middle school are influenced by their knowledge of two languages.

Methods

Project Approvals. I, along with my thesis advisor, submitted a research request with the University of Wisconsin-Milwaukee (UWM) School of Education Office of Charter Schools. This line of research was approved by the Office of Charter Schools and we then met with leadership from the Bruce Guadalupe school. The principal of the middle school and principal of the entire school were supportive of the research and approved the project. After completing the prospectus, I obtained approval from UWM's Institutional Review Board (IRB). After IRB approval, I provided the school principals with a copy of the approved IRB materials and set up a meeting that finalized plans for the project.

Participants

This study included 13 typically developing children who attended a school that consisted of students that were predominantly Hispanic and who lived in communities with a high level of English-Spanish bilingualism. We recruited students in grades five, six, seven, and eight who were attending the Bruce Guadalupe School in Milwaukee, WI to participate in the study. The average age was 13.02 years ($SD = 0.71$ years; range = 11.75 -14.42). All children had fluent English skills but had variations in their level of Spanish proficiency. Bruce Guadalupe School in Milwaukee, WI was chosen because 97% of students were Hispanic and 20% of students were English learners, or student's whose first language was not English. Additionally, it was a charter school that had been involved in research studies conducted by UW- Milwaukee in the past.

Participant Recruitment. I attempted to recruit 60 participants with the help of the middle school. In order to participate in the study, students had to be Spanish-English bilingual middle school students and not be enrolled in special education services. I worked with the school leadership to determine the best method of disseminating the consent information.

Members of the school personnel distributed the materials to the families so that the names of students were not disclosed without permission. The students' parents/guardians received a cover letter that described the study and offered an incentive of a 10- dollar gift card, written in both English and Spanish. The families also received two copies of the informed consent, written in both English and Spanish. After the families read through the documents and consented to the study, the families returned the forms to the school's office. Once the forms were received by the office they were scanned and emailed to the researchers. In total, the school emailed 16 consent forms to researchers. However, only 13 parents were reached by phone to complete the LEAP-Q.

One risk of having completed the consent through writing was that families with low literacy levels may have had difficulty comprehending the consent. Therefore, if a parent was unable to understand the questionnaire or consent forms, they had the option to call the researchers over the phone or meet in person to ensure that the information was understood. Another safeguard was that the Bruce Guadalupe school was a UWM charter school, so parents were highly familiar with completing research studies.

Documenting Bilingual Proficiency. After I received the completed the consent forms, I called parents to complete a short survey to estimate their child's bilingual proficiency. The survey was available in both Spanish and English. The child's parents and I filled out a Language Experience and Proficiency Questionnaire (LEAP-Q) form (see appendix A) to determine their child's language input/output in various settings. The LEAP- Q was a self - reported questionnaire that had been found to be a valid and reliable assessment of participants linguistic abilities. The questionnaire assessed a variety of factors that were important markers of a person's bilingual profile. These factors included age of acquisition, modes of language

acquisition, language proficiency, dominance, and preference as well as previous language exposure and current language use (Marian, Blumenfeld, Kaushanskaya, 2007). An adapted version of the LEAP-Q was provided to parents for this study. Only questions that were most relevant to this study were on the adapted version of the LEAP- Q. From the questionnaires, I gathered information on the student’s language environments and found that 11 participants had spent nearly their entire life in a country where English was spoken, 1 had spent 4 years in a country where Spanish was spoken, and another had spent 1 year in a country where Spanish was spoken. Also, the overall average length of time was 12.23 years in an English- speaking country for the all the participants. Additionally, all students had attended school in English, the average length of time for this measure was 8.62 years in an English school. In this study, I focused on the parent’s estimates of English and Spanish proficiency, as well as an overall estimate of the family’s English proficiency. For these areas families were asked to select a number zero (none) to ten (perfect) that represented their child’s language proficiency. This information is summarized in table1.

Table 1. Summary data from the LEAP-Q

	Mean	Standard Deviation	Range
Student English Proficiency	9.85	0.39	9 – 10
Student Spanish Proficiency	8.23	1.48	5 – 10
Family English Proficiency	4.62	6.12	0 - 10

Additionally, using this version shortened the amount of time that parents needed to complete the questionnaire, most were completed in 5 -10 minutes. Also, I was able to answer or clarify questions as we went through the questionnaire.

Expository Task

Elicitation. Once the children had been identified, I elicited an expository language sample in English from each participant. I followed the established script and asked each child to explain how to play a game or sport (see Appendix B for examiner script). Then the student was given a few minutes to complete a planning sheet that contained eight sections; it included object, preparations, start, course of play, rules, scoring, duration, and strategies sections (see Appendix B for planning sheet). From this format, a language sample of 5 - 10 minutes in length containing approximately 50 – 60 intelligible utterances was collected from the child. During each sample, I was an attentive listener and recorded what the child said about their chosen topic. If the student was struggling to talk for the given amount of time, I appropriately prompted the student for information by asking a question, such as “Is there anything else you can tell me?” However, it was inappropriate for me to ask questions that may have inhibited the ability to collect a sample that reflected the child’s language abilities. For example, a question like, “What can you tell me about the rules?” may have prompted the child to elaborate on this part of the game and influenced their score on certain measures. The students’ samples were audio recorded.

Transcription After each language sample was collected, it was transcribed, coded, and assessed using a variety of language sample measures. The samples were transcribed using the Systematic Analysis of Language Transcripts (SALT). Utterances were segmented using C-units

(Loban, 1976), which consisted of an independent clause and all associated dependent clauses. I transcribed all of the language samples and my advisor checked them for accuracy.

Measures. SALT was used to generate several measures of language productivity from the samples, including:

- **Number of total words:** a semantic measure that gave information on the length of the sample. It was calculated by adding up the main words used in an utterance (excluding mazes). (SALT).
- **Mean Length of Utterance in morphemes (MLUm):** a syntactic and morphological measure that was found by adding up the total number of morphemes in the sample and then dividing that number by the total number of utterances in the sample (usually at least 50) (Paul and Norbury, 2012).
- **Moving Average Type Token Ratio:** a semantic measure that estimated the ratio of different words compared to total words provided in the sample. It was calculated by dividing the number of different words by the total number of words [also known as type token ratio (TTR)] at various points in the sample. After the TTRs were calculated an average was calculated to give what was the moving average type token ratio (SALT).
- **Percentage of utterances containing errors & omissions:** a measure of the number of errors produced in the sample. This measure was calculated by adding up the number of errors at the word level, syntactic errors, omission of bound morphemes, and omissions of words that occurred in obligatory contexts (SALT). This was an important measure because it has been found that children with specific language impairment are more likely to have grammatical errors than their peers (Scott and Windsor, 2000).

- **Percentage of words in mazes:** a measure of verbal facility that was calculated by summing the number of maze words in a sample and dividing it by the total number of words. As an example, a maze may have been a part or whole word repetitions or the false start of an utterance.

In addition to the above automated measures, the samples were coded using two additional coding schemes: the Expository Scoring Scheme (ESS) and the Subordination Index (SI). The ESS was used to assess the content and structure of the expository language sample. The ESS was developed by John Heilmann and Thomas Malone as a protocol to reliably elicit expository discourse samples from middle school students. Heilmann and Malone (2014) found that the protocol was effective at eliciting functional expository data from students. Using the ESS scoring guidelines, each language sample was scored on a 0-5 point scale in 10 different categories. These categories were object, preparations, start, course of play, rules, scoring, duration, strategy, terminology, and cohesion. The 0-5 scoring scale ranged from five equaling proficient, three equaling emerging, and one equaling minimal/immature. The values in between these scores were undefined and were used according to the scorer's best judgement. I scored each of the samples using the ESS scoring scale and my advisor reviewed the scoring. For this reason, in order to avoid judgement bias each sample was scored or reviewed twice; once by me and then by my advisor. Afterward any discrepancies were discussed. The final coding decision was made by me, the original coder.

Additionally, each sample was scored using SI measures. SI scoring was used to assess syntactic complexity of the language sample. In order to calculate the SI of a language sample the scorer totaled the number of clauses in the sample and then divided by the total number of utterances or C-units in the sample. A clause was defined as an utterance that contained both a

subject and a predicate. Main clauses may have had additional subordinate clauses embedded within in them which added to their syntactic complexity (SALT).

SALT Database. In a previous study, samples were collected from typically developing English-only speakers (Heilmann & Malone, 2014). By using the same formats used by SALT, it allowed comparisons to be made between language sample data collected in this study and the data available on monolingual middle school children in the SALT database. All of the measures described in the transcription section above were used when comparing English language samples gathered to those in the SALT database.

Results

Do measures generated from English expository language samples vary as a function of English and Spanish proficiency in bilingual middle school students raised in predominantly Hispanic communities?

To answer this question, I first generated each of the SALT measures for each of the students in the study. I then calculated the mean, standard deviation, and range for each measure. These descriptive statistics for the 13 students in this study are summarized in table 2.

Table 2. Descriptive Statistics for 13 Students who Completed the Expository Task –

	Mean	Standard Deviation	Range
NTW	703.9	333.1	271 – 1,405
MLU	10.8	0.9	9.7 – 12.2
SI	1.5	0.2	1.2 – 1.8
MATTR	0.56	.02	0.5 -0.6
% Mazed words	0.1	0.06	0.02 – 0.3
% Errors	9.6	6.8	0 - 25
ESS	24.3	4.7	15 - 30

I next ran a series of correlations between the language measures and each of the three measures from the LEAP-Q. Given the small sample size and ordinal data used in the surveys, nonparametric Spearman's rho correlations were completed. The correlations are summarized in table 3. As observed in table 3, there was a significant correlation between parents' ratings of their children's English proficiency and three expository measures: MLUm, percentage of mazed words, and percentage of utterances containing errors. All other correlations between the LEAP-Q and expository measures were not significant.

Table 3. Correlations between LEAP-Q and Expository Measures

	NTW	MLU	SI	MATTR	% Mazed words	% Errors	ESS
English Proficiency	.34	.63*	-.03	.38	-.63*	-.57*	-.34
Spanish Proficiency	.13	.14	.06	-.34	-.15	.13	-.03
Family English Proficiency	.21	.19	.03	.15	-.32	-.33	-.48

* $p < .05$

This correlational analysis demonstrated a significant positive relationship between MLU and the parents' estimation of English language proficiency. In other words, the higher the rating of English proficiency the higher the MLU was provided by the participant. While on the other hand, the percentage of mazes and errors related to the participants English proficiency displays a negative correlation between the two variables. In these cases, while the level of English proficiency increased the amount of mazes and errors decreased. For the remaining four expository measures, there was no significant correlation between the measures and English proficiency. In addition, there were no significant correlations observed between any of the expository measures and estimates of Spanish proficiency and the family's English proficiency.

Participant Sample Compared to SALT database

Do measures from English expository language samples significantly differ when produced by Hispanic middle school students and non-Hispanic monolingual English middle school students?

I next extracted expository measures from the SALT expository database, which are available as part of the SALT software system. There were 336 samples in the database. I first excluded the 18 samples produced by Hispanic children. I next excluded children who were not within the same age range as the students in the present study (11.75 – 14.42 years). There were 64 samples from the database included. On average, the children from the database were 12.97 years of age, which was not significantly different than the students in the current sample ($F(1, 75) = .09, p = .77$).

Table 4 summarizes the mean values for the SALT measures for both the current sample and the 64 age-matched children from the SALT database (first two rows). A series of one-way Analysis of Variance (ANOVA) equations were completed, using each SALT measure as the dependent variable and group (current sample versus SALT database) as the between groups measure. In addition, the strength of the differences between the two groups was shown by calculating effect sizes using eta squared. There were significant differences between the current sample and the database measures for three measures: MLU ($F(1, 76) = 4.9, p = .03, \eta^2 = .06$), SI ($F(1, 76) = 5.4, p = .02, \eta^2 = .07$), and ESS ($F(1, 76) = 34.6, p < .001, \eta^2 = .32$). For each of these measures, the children in the current sample had lower values than the children from the database. There were no significant differences between the current sample and the database for the remaining measures: NTW ($F(1, 76) = 0.3, p = .61, \eta^2 < .01$), MATTR ($F(1, 76) = 1.1, p = .29, \eta^2 = .02$), % Mazed words ($F(1, 76) = 1.6, p = .21, \eta^2 = .01$), and % Errors ($F(1, 76) = 1.6, p = .21, \eta^2 = .02$). Table 4 summarizes the eta squared values for ease of comparing the group differences with the effect sizes.

Table 4. Participant Sample Compared to SALT Database

	NTW	MLUm	SI	MATTR	% Mazed words	% Errors	ESS
Participant Sample	703.9 (333.1)	10.8 (0.9)	1.5 (0.2)	0.56 (0.02)	0.1 (0.06)	9.6 (6.8)	24.3 (4.7)
Database	649.8 (345.2)	11.9 (1.7)	1.7 (0.21)	0.6 (0.03)	0.09 (0.42)	12.6 (8.2)	34.1 (5.6)
eta squared	<.01	.06	0.07	0.2	.01	.02	0.30

Discussion

This study was prompted by the previous information provided by Heilmann and Malone (2014) with the focus of gathering data on expository language skills from bilingual students to provide a benchmark for typically developing middle school students with varying levels of bilingual proficiency. From the study, I found that Expository language sampling was a feasible way to collect data from middle school students with a history of Spanish speaking. All 13 of the participants were able to complete the task in English. They were able to give an expository language sample as elicited by the researcher's instructions. Additionally, most students needed minimal prompting to complete the task. The number of prompts given ranged from 0 – 4 prompts, with a mean of 1.07 prompts. Also, the children seemed to like participating in the study. They were able to choose from a wide variety of topics and select one that interested them the most. The topic range was open to a favorite sport like basketball, game like Monopoly, or card game like poker. It was important that the student select an activity that would be appropriate for the planning sheet. Therefore, a selection like a video game would not have been appropriate. While some students, did originally select an activity like playing violin, they were able to come up with a new more appropriate activity next when requested by the researcher. Additionally, the results were consistent with the Heilmann and Malone (2014) findings that expository language sampling was an effective way to elicit high level language use in middle school students.

Information from analyzing the correlation between the LEAP-Q and expository measures provided evidence of some relationships within the data. Some relationships existed between the ratings of English proficiency and expository measures. For instance, there was a positive correlation between the rating of English proficiency and the size of the child's MLU.

Additionally, there was a negative correlation between the level of English proficiency and the percentage of mazes and errors in the children's utterances. These relationships may exist because some of the children still may be learning English. It would make sense that a higher level of proficiency in English means that the child would have more complex language and less errors and mazes when speaking. While no children in the study were receiving speech or language services, it is possible that there were some children with undiagnosed language impairments. If children with undiagnosed language disorders were involved in the study, it may explain why these relationships exist as well. The more skilled someone is with language, the less errors and mazes they may produce while speaking, as well as demonstrate greater complexity in their morphemes.

Furthermore, there was no significant relationship between Spanish proficiency and family's English proficiency, and expository measures. This leads me to believe that assessing English is likely a valid way of measuring English language skills. It appears that the children's level of Spanish proficiency at this age doesn't impact their English oral language skills. Additionally, the proficiency of the family to communicate in English with the child doesn't seem to affect middle schoolers English performance. Perhaps this is because all the participants had spent most of their lives in a country where English was spoken and had received almost all of their education in English. These findings are consistent with Gathercole and Thomas' (2009) findings that older children's language is most influenced by their school language. Therefore, English language sampling may be an effective way to measure bilingual middle schoolers performance because if asked to perform an expository task it would most likely be in an academic environment in English.

When comparing the performance of the 13 participants to the SALT database, the differences seen in the samples were the syntax and overall discourse organization skills. These differences may exist for a variety of reasons. First, these results could be influenced by the performance of children with lower English language proficiency skills. From the correlational analysis, we saw that English proficiency ratings also affected MLU. Therefore, other areas of language complexity and organization may also be impacted by the child's level of language proficiency. Secondly, all the students who participated in this study were from the same school. From the findings of previous studies by Greenfield (1997), Pena & Quinn (1997), and Saxe (1988) it is understood that a child's assessment performance is influenced by the familiarity of the materials and structure of the task. Perhaps, this is a school-specific issue in that the school has less focus on expository discourse skills. While these students definitely have had exposure to expository texts and discourse in the curriculum, they may have had less direct instruction than the students in the SALT database. Lastly, these results may be due to differences in socioeconomic status (SES). At this particular middle school, 64% of students qualified for free lunch and 11% were eligible for Reduced lunch. In Wisconsin, on average 34% of students are eligible for Free lunch and 5% qualify for reduced lunch (Public School Review, 2019). Therefore, the percentage of low-income families at this school was significantly higher than the state average of Wisconsin. It has been found that children of lower SES homes have lower levels of English skills required by schools (Hoff, 2013). For these reasons, the results should be interpreted with caution. The two groups were not matched well on overall characteristics, such as SES or location. In order to have a more insight into characteristics that influence language, it would have been beneficial to gather information on the student's academic performance and SES. Also, when comparing Spanish-English bilinguals language skills to those

of Monolingual English speakers it is important to be aware that Spanish-influenced English may have different language patterns than those of a monolingual English speaker. For instance, in Spanish it is often unnecessary to state the subject because it is included in the verb unlike English - *I sleep* would be *duermo*. It is uncertain how these differences may impact a person's overall expository measures, but these differences are important to note.

Conclusion

Overall, this study has provided some insight into the expository language skills of bilingual middle school students. It has demonstrated that there is a relationship between level of English proficiency and a child's MLU_m, percentage of errors, and percentage of mazed words while speaking. It has also shown that a bilingual middle schoolers Spanish proficiency and family members English proficiency have no significant impact on the child's English language performance. Based on this information, analyzing bilingual middle school students' language in English appears to be an appropriate and valid way to obtain information on their discourse skills. This is good news for monolingual SLPs assessing bilingual students. It appears that even without proficient bilingual language skills, SLPs are able to effectively assess their bilingual clients. However, due to the small sample size and all students being from the same school in this study, no generalizations can be made at this time. Future studies should include more background information on participants regarding SES and academic performance. Additionally, given that there are various levels of proficiency for bilinguals, expository measures should be gathered in Spanish and compared with the English samples provided by students. Further research is important to understanding the language skills of bilingual students

and building a large database that may be used for comparison by researchers or clinicians in the future.

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APPENDICES

Appendix A: Adapted English LEAP- Q Questionnaire

Northwestern Bilingualism & Psycholinguistics Research Laboratory

Marian, Blumenfeld, & Kaushanskaya (2007). The Language Experience and Proficiency Questionnaire (LEAP – Q): Assessing language profiles in bilinguals and multilinguals. *Journal of Speech Language and Hearing Research*, 50 (4), 940 -967.

Adapted Language Experience and Proficiency Questionnaire (LEAP-Q)

Child's Last Name		First Name		Today's Date	
Age		Date of Birth		Male <input type="checkbox"/>	Female <input type="checkbox"/>

1) Please list all the languages your child knows in order of dominance:

1)	2)	3)	4)	5)
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2) When choosing a language to speak with a person who is equally fluent in all your child's languages, what percentage would your child choose to speak each language? Please report percent of total time.

(Your percentage should add up to 100%)

List language here:			
List percentage here:			

3) Please name the cultures with which your child identifies. On scale from zero (no identification) to ten (complete identification), please rate the extent to which your child identifies with each culture. (Examples of possible cultures include US – American, Chinese, Jewish – Orthodox, etc.):

List cultures here			

4) Please list the number of years and months your child spent in each language environment:

	Years	Months
A country where English is spoken		

A family where English is spoken		
A school and/or working environment where English is spoken		

	Years	Months
A country where Spanish is spoken		
A family where Spanish is spoken		
A school and/or working environment where Spanish is spoken		

5) On a scale from zero (none) to ten (perfect), please select your child's level of proficiency in speaking, understanding, and reading in each language:

Speaking		Understanding spoken language		Reading	
----------	--	-------------------------------	--	---------	--

Speaking		Understanding spoken language		Reading	
----------	--	-------------------------------	--	---------	--

6) Please rate to what extent your child is currently exposed to each language from 0 (never) to 10 (always) in the following contexts:

Interacting with friends		Language tapes/self - instruction	
Interacting with family		Watching TV	
Watching TV		Listening to the radio	

Interacting with friends		Language tapes/self - instruction	
Interacting with family		Watching TV	
Watching TV		Listening to the radio	

Appendix B: Expository Task Protocol, Scoring Script, and Planning Sheet

Expository Elicitation Protocol

Database Samples

Database	Context	Age Range	Grade in School	# Samples	Location	Special Coding
Expository	Expo	10;7 – 18;9	5, 6, 7, 9-12	354	WI	SI, ESS

Elicitation Protocol

This elicitation protocol provides an opportunity for the student to produce a “good” expository sample. Following the script below, you will ask the student to explain how to play a game or sport of their choosing. Discourage the student from talking about video games as they may be unfamiliar to the examiner and often result in limited content. Give the student a few minutes to complete the planning sheet. Listed next to each topic is a brief description of what’s covered within that topic and space for making notes. Following the planning phase, continue to follow the script. The student is asked to explain the game or sport using his/her notes. Using this protocol, expository samples tend to be between 5 – 6 minutes in length.

Expository Elicitation Script

I’m interested in finding out how well you do at giving explanations. I’m going to make a recording so I can remember what you say. If you want, you can listen to the recording when we’re finished.

I want you to imagine that I am a student about your age. I’m visiting the United States from another country and I want to learn as much as I can about life in the U.S. You can help me by explaining how to play your favorite sport or game. You have lots of choices. For example, you could pick a sport, such as basketball or tennis. You could pick a board game, such as Monopoly or chess. Or you could pick a card game, such as poker or rummy. What sport or game do you want to pick?

The student offers an appropriate choice. If a choice is not offered or is inappropriate (such as a video game), reread the examples given above and/or add more examples to aid the student in making an appropriate choice. If the student is still having difficulty making a selection, suggest picking a game or sport recently played in the student’s physical education class.

Assume that in my country we don’t play [name of sport or game]. I’d like you to explain everything I would need to know so I could learn to play. I’ll expect you to talk for at least five minutes. To help you organize your thoughts, here’s a list of topics I’d like you to talk about [hand the student a copy of the planning sheet found on the next page]. Please take the next few minutes to plan your explanation by taking notes in the blank spaces [indicate empty column on the right]. But don’t waste time writing sentences. Just write some key words to remind you of what you want to say. You can talk about the topics in the order they are listed, or else you can number the topics any way you wish. If you don’t want to take notes, you can use the backside of the list to draw a diagram or make a graphic organizer. Do you have any questions?

If the student expresses difficulty with reading any portion of the checklist, read the unclear portions aloud. If the student has difficulty understanding the vocabulary, give an example from a sport or game different from the one the student has chosen.

West Milwaukee. All samples were collected by clinicians in these school districts and by graduate students at UW-Milwaukee. Samples were transcribed and coded by the staff at SALT Software, LLC. Funding was provided by SALT Software, LLC.

Name _____ Date _____

**What to Talk About
When Explaining a Game or Sport**

Topic	What's Covered	Notes
Object	What you have to do to win	

Preparations	Playing Area and Setup Equipment and Materials What players do to get ready	
Start	How the contest begins, including who goes first	
Course of Play	What happens during a team or player's turn, including any special plays, positions, or roles, both offensive and defensive	
Rules	Major rules, including penalties for violations	
Scoring	Different ways to score, including point values	
Duration	How long the contest lasts, including how it ends and tie breaking procedures	
Strategies	What smart players do to win, both offensively and defensively	

Please use the reverse of this page for an optional diagram or graphic organizer, or for additional notes.