Bilingual Language Assessment

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Bilingual Language Assessment

Lee Honors College Thesis

Western Michigan University

Carmen Wittkopp

April 18, 2017

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Abstract

**Purpose:** To describe language assessments that benefit bilingual students in the correct diagnosis of a language disorder.

**Method:** A systematic review of the literature was completed to examine the assessment tools used for bilingual children. The most common peer-reviewed journals in the field of speech-language pathology were examined to find articles that researched and discussed bilingual assessment practices. The information collected in the articles focused on the procedures needed for the correct assessment of a bilingual speaker.

**Results:** The literature mainly focused on assessment techniques of Conceptual Scoring, Dynamic Assessment, Nonword Repetition Task, and the Bilingual English Spanish Oral Screener. Additionally, assessment methods used to score morphology and pragmatics in bilingual speakers were examined.

**Conclusions:** Assessment tools that examine the vocabulary of a bilingual child in both of his/her languages, are culturally- and linguistically-relevant, and examine the knowledge of linguistic patterns are more beneficial for assessing the language skills of bilingual speakers.
Acknowledgements

The articles used in the data collection for this thesis was accessed through the Western Michigan University Library Database. This thesis was written as a requirement of the Lee Honors College at Western Michigan University. The members of the thesis committee work in the Speech, Language, and Hearing Sciences department at the university and one member is a practicing bilingual speech-language pathologist. I want to thank my committee for their continued support and assistance in my work and learning during this thesis process.
Introduction

With the growing number of linguistically diverse people in the United States, it is increasingly important for speech-language pathologists (SLP) to be prepared to administer assessments in more languages than solely English. The number of bilingual speakers, especially those who are Spanish bilingual speakers, is growing in the United States. The National Center for Education Statistics (2016) stated that during the 2013-2014 school year, “the percentage of public school students in the United States who were English Language Learners was” 9.3 percent, which was higher than the 8.8 percent that was presented in the 2003-2004 school year. The U.S. Census Bureau (2015) reported that, besides English, Spanish is the most common language spoken at home. The census recorded that there are 60,361,574 people in the United States who speak a language other than English in the home. Of the people who speak another language, 37,458,624 speak Spanish.

The Pew Research Center reported that there has been a shift in the racial demographics and language use of the United States, heavily due to the increase in immigration and population (Lopez & Gonzalez-Barrera, 2013). Due to the changing demographics of the United States, it is important to be able to assess bilingual students in all of their languages. When doing so, an SLP can examine the different language development patterns in a bilingual child that derive from learning more than one language, and compare it to a monolingual child’s development (Hemsley, Holm & Dodd, 2014). While providing treatment, it is necessary to differentiate between the language development of bilingual children from monolingual children (Williams & McLeod, 2012). There is a difference in development of key features of linguistic structures in each language, and SLPs need to recognize the linguistic patterns that exist to correctly assess and then provide treatment for bilingual students. Langdon (2002) explains that an expert SLP is
one “who follows various needed procedures to evaluate clients’ communication skills effectively, and who applies problem solving skills” (p. 18). Understanding the patterns of linguistic development in all of the languages a child speaks will aid the SLP in determining whether challenges in the child’s language are due to a language disorder or a language difference (Bedore & Peña, 2008). SLPs should have competence in another language as well as knowledge of assessment tools for bilingual speakers to provide evaluations and therapy services to bilingual students (Williams & McLeod, 2012). In a study involving 128 SLPs from Australia, Williams and McLeod (2012) found that half of the SLP participants in their survey described their competence in a language other than English as “minimal”.

Literature Review

Bilingual students have been found to be under- and over-diagnosed with language impairments in the schools (Williams & McLeod, 2012). In some cases, children are over-identified due to use of assessments based on normative data that do not align to the language the children speak or the culture to which they belong (Lidz & Peña, 1996). Bedore and Peña (2008) explain that bilingual children may appear to have a language delay, but only when compared to their monolingual peers and when using an assessment tool solely in one language. Bilingual students can get overlooked if they have a language impairment because professionals in the school may wait to address a problem with a child’s language abilities. This delay in providing services could be due to professionals believing that the problems lie with the development of the second language. The SLPs may believe that if they wait to assess the language problems of the student, the student will eventually meet the linguistic level of their peers.

There also can be a misconception of language development for bilingual students because there are differences in the linguistic development patterns for each language. If an SLP
bases the child’s linguistic development on a monolingual English speaker’s development, the SLP would not be accounting for the developmental patterns of the other language. A speech-language professional in the schools may not understand the differences which lead to a delay in assessment or misdiagnosis of the student’s language abilities. It is important to know the linguistic developmental differences in a child’s languages so that the appropriate diagnosis can be found when differentiating language differences from language disorders (Bedore & Peña, 2008). There are differences in a child’s vocabulary development in each language due to the amount of time and experience that a child has in both languages at home and at school (Hemsley et al., 2014). Hemsley et al. (2014) explain that understanding the environments and use of languages by the child are important because they allow the SLP to have a better idea of the level the child is at in the linguistic development of both languages. Examples of differentiating linguistic development are shown in table 1.

Table 1: Examples of Similarities and Differences Among Languages

<table>
<thead>
<tr>
<th>Languages</th>
<th>Similarities</th>
<th>Differences</th>
</tr>
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<tbody>
<tr>
<td>Hebrew and English (p. 4)</td>
<td>Number of words that infants and toddlers develop.</td>
<td>The progress of learning items from different lexical categories.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Hebrew: used more nouns when a smaller lexicon was developed.</td>
</tr>
<tr>
<td>Spanish or Portuguese and English (p. 5-6)</td>
<td>Initial development of single words followed by more complex phrases.</td>
<td>English: verbs are produced with a single morpheme.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Spanish or Portuguese: third person verbs are acquired before first person verbs.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Turkish, English, and Hebrew: children do not produce the perfect form.</td>
</tr>
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(Bedore and Peña, 2008, p. 4 - 8)

While there may be questions about how to determine if there is a language disorder or a difference in language development, research has been conducted that says that children who
have a disorder in one language have a disorder in all of their languages (Bedore & Peña, 2008; Williams & McLeod, 2012; Peña, Bedore & Kester, 2015). To help determine if the child has a language disorder, an SLP should first assess the child’s stronger language to determine if a disorder exists in the language tested. Following that, the SLP should assess the second language as well in case the difficulty seen in a language is due to a low proficiency in that language.

When testing, it is important to consider which language to choose when completing the assessment. Hemsley et al. (2014) concluded that “the amount and type of exposure to each language at home and school appear to produce these different outcomes” (p. 101); length of exposure is one determinant regarding which of the child’s languages is strongest. If after using the stronger language of the child for assessment procedures designed for children who are bilingual, the SLP finds that the child has a language disorder, the SLP can conclude that the child will have a language disorder in both languages rather than a language difference (Bedore & Peña, 2008). While this may be helpful knowledge when there are not resources to test in both languages, the SLP must determine that the lower performance is due to an actual impairment rather than the lack of knowledge of words in both languages.

Assessment Practices

When considering the appropriate ways to assess the language skills of a child, best practices indicate that the assessment should be completed in both of the child’s languages (Williams & McLeod, 2012). An assessment involving both languages is important for comparing the linguistic development of the child to the typical linguistic development in each language, since the developmental patterns are different. While it is important to have knowledge of the differences in developmental patterns, it is also important to consider that bilingual children do not develop in a way that combines the development of monolingual children from
each language. Once an SLP understands typical and atypical development in each language, the SLP can compare the bilingual student’s patterns to the typical development patterns (Bedore & Peña, 2008). Although the assessment of all languages is important, most SLPs do not typically complete assessments in more than one of their students’ languages (Hemsley et al., 2014).

Caesar and Kohler (2007) used a survey to investigate different assessment tools and practices employed by 238 school-based SLPs who had bilingual students on their caseload in Michigan, United States. Their research found that SLPs working with bilingual students most frequently used formal or standardized measures rather than informal measures. Using formal measures can be misleading because the normative data that are used in the assessment to determine if the child is following typical developmental patterns is often based on the patterns of monolingual children. Additionally, Caesar and Kohler (2014) found that none of the SLPs reported that they used Dynamic Assessment (DA). Current research “strongly advocates dynamic assessment as the most effective assessment procedure for evaluating CLD [culturally and linguistically diverse] children” (p. 196). The study also concluded that English was the most frequently-used language by SLPs when assessing bilingual children. Although American Speech, Language, and Hearing Association (ASHA) recommends a use of combination of informal and formal assessments when evaluating bilingual students, SLPs have been found to place more emphasis on formal assessment tools (Caesar & Kohler, 2007). Caesar and Kohler (2007) concluded from their survey that infrequent use of DA may be due to most SLPs being monolingual, school employees believing that the student is developing at a normal rate in their additional languages when they are behind, or the lower number of bilingual students in the area.

Another study by Williams and McLeod (2012) concluded that while some SLPs conduct assessments by themselves, the use of interpreters, family members, or other people who speak
the same language that their student speaks also occurs. It is beneficial to use interpreters for assessment because the SLP can test the knowledge of the student in the student’s language other than in English. The use of interpreters or translation of materials can also be detrimental because there could be linguistic or cultural information that is lost when the assessment materials are translated from English to another language (Peña, 2007). Although tests can be translated, it is possible that the responses given by the bilingual student are different in the translated language than intended in English. This could be due to the difference in the language prompts given in English and the other language (Peña, 2007). Langdon (2002) explained that the reliability and validity of the assessment decreases when adapted or translated to another language. Langdon (2002) further explained that working with the family of the client is most beneficial for language assessment because it allows an SLP to examine and understand the family’s perspectives, values, and cultural perspectives. The research and information gathered by Caesar and Kohler (2014) shows that the many SLPs are not using the best practices recommended for assessing students who speak more than one language, due to the dominant use of English in assessment procedures.

Assessment practices that have been examined and believed to be beneficial for the identification of language disorders in bilingual students include DA and formal assessments that measure multiple language development. Each of these practices is discussed next. DA is beneficial because it incorporates being exposed to and learning concepts and/or practices followed by examination of concepts and processes similar to the ones learned by the child. Gutiérrez-Clellen and Peña (2001) explain that DA allows an SLP to examine the language abilities and learning styles as well as intervention needs of students. This assessment procedure allows SLPs to determine if the child has a language disorder based on (1) how easily the child
learns new concepts/processes, and (2) his/her ability to convey what he/she learned during the DA mediation activity (Caesar & Kohler, 2007). The most important part of DA is the use of intervention in the assessment process. Lidz and Peña (1996) describe that the intervention side of assessment is important to examine because a child learns best based on direct and mediated experiences. The mediated experiences are those that are learned from other adults and people who are further ahead in the development of language. Hasson, Camilleri, Jones, Smith, and Dodd (2012) explain that DA is helpful because it does not rely on a static measure which would only reveal a portion of the student’s language abilities. They further explain that DA allows an SLP to determine if the student will be able to learn new techniques and modify his/her behaviors through future treatment. Lidz and Peña (1996) explain that DA also focuses on the ways that the child is learning language rather than the content that he/she has acquired. This can be beneficial when determining the ability of the child to understand the linguistic developmental patterns in contrast to assessing their direct knowledge of the language.

Gutiérrez-Clellen and Peña (2001) explain when an SLP uses the test-teach-retest model of DA, it allows the SLP to focus solely on the actions of the student and does not consider previous knowledge about his/her language skills. They further explain that rather than comparing normative data, the test-teach-retest part of DA allows the SLP to evaluate the responses of the student. DA allows for the understanding of the child’s learning process rather than solely the production of the responses probed in formal assessments (Lidz & Peña, 1996). While standardized test scores may demonstrate a more concrete level of change, DA is beneficial as SLPs examine the change in the student’s overall knowledge of the language structure (Gutiérrez-Clellen and Peña, 2001).
In addition to DA’s ability to assess students’ language skills based on their knowledge of the linguistic development patterns of the languages spoken, Lidz and Peña (1996) explain that DA can customize the assessment questions to fit the students’ culture. Normative data that is based on mainstream populations will not coincide with results from children who are not in the same populations. For these children, DA can provide the opportunity to have assessment questions based on the culture of the children.

To correctly evaluate the language of a bilingual child, SLPs need specific resources, such as formal assessments. Typically, SLPs do not have the resources that they need to complete assessments for bilingual students because of a lack of resources typically available in languages other than English (Bedore & Peña, 2008; Hemsley et al., 2014). When using an assessment tool in English, the SLP can examine the development of one language at a time in bilingual children, but it is important to compare the development of both languages with the typical developmental patterns of other bilingual peers (Bedore & Peña, 2008). While bilingual, formal assessments are beneficial for addressing normative data and the typical developmental sequence of bilingual students, they do not aid in the collection of informal evaluation information. Bedore and Peña (2008) explain that a bilingual assessment tool would be ideal for SLPs evaluating the language of bilingual students. Formal, bilingual assessments would enable an SLP to have a baseline to compare bilingual students to their typically-developing bilingual peers. Without a baseline, an SLP does not know if the child’s language skills are developing typically, or if they are falling behind. SLPs need resources that will allow them to assess the diverse group of students that may be on their caseload, in a way that works best for each student’s language experience.
There are language tests that solely examine the language abilities of a student in one language, and there are few tests that examine the language abilities of students in both of their languages (Peña et al., 2015). Peña et al. (2015) explain that there is one formal test, the *Bilingual English Spanish Assessment* (BESA; Peña, Gutierrez-Clellen, Iglesias, Goldstein, & Bedore, 2007), which assesses language ability in both languages for bilingual speakers. This test allows SLPs to examine the development of two languages used by a person at the same time and compare the child’s growth and development to their bilingual peers rather than their monolingual peers.

**Purpose Statement**

This thesis examines the methods used by monolingual and bilingual SLPs when assessing bilingual students in the United States. This thesis also describes assessment procedures that will benefit bilingual students. The information will be identified by examining the literature focused on (1) assessment types and processes and (2) strategies for providing better assessment processes.

**Methods**

This thesis will focus on assessment techniques used by speech-language pathologists when examining the communication skills of bilingual speakers in school systems. This thesis used a systematic review of the literature to identify assessment tools and procedures, which evaluate the language of bilingual students. A systematic method was used to choose articles to review and analyze. The articles were chosen from peer-reviewed journals and they focused on examining the function of bilingual assessments.
Selecting Research Articles

Choosing the Time-Period

The time-period chosen for the search for articles was based on the date that ASHA published a position statement regarding SLPs providing bilingual therapy services (ASHA, 1985). In 1984, ASHA released a paper called “Clinical Management of Communicatively Handicapped Minority Language Populations” which was the first to address the need for services that better suited people who spoke languages other than English (ASHA, 1985). Although it started to realize the importance of bilingual service delivery in 1985, ASHA did not develop preferred practice guidelines for working with bilingual students until 1997 (ASHA, 2004). Those guidelines are listed in Appendix A. When searching for articles, the time frame for dates was from 1984 to 2017, to capture how the research has developed and expanded during the time since ASHA first took a stance on bilingual assessment and intervention.

Literature Used

A search for literature on the chosen topic was conducted from 1984 to 2017 using five peer-reviewed journals: American Journal of Speech-Language Pathology; Communication Disorders Quarterly; Journal of Speech, Language, and Hearing Research; Language, Speech, and Hearing Services in Schools; and Topics in Language Disorders. These journals were chosen because they are the primary journals for and widely used in the profession of speech-language pathology. An advanced search was used for each journal, using the exact phrase ‘bilingual assessment.’ The phrase ‘speech-language pathology’ was not used since the journals all examine topics within the field of speech-language pathology.
Article Criteria

Articles used in this honors thesis were peer-reviewed and comprised experimental research, including research examining the assessment tools used in the field of speech-language pathology to properly diagnose language development and/or disorders of bilingual students. The main information desired addresses the skills, decisions, and processes required when an SLP assesses bilingual students.

Data Coding and Analysis

Data Collection Form

For the analysis of information being used in this honors thesis, a data collection form was created (see Appendix B). This form includes sections that explain the areas of assessment examined in the research as well as the reference information, so that the collector could easily access the material. The form next lists the participants in the study. This information is important because it describes the participants involved in the article. The section recording effectiveness and the suggestions for monolingual SLPs were used to determine if the information collected could be used in this thesis project. All articles were reviewed using the data collection form, to determine if they were suitable for this thesis.

When considering which articles to use in this thesis project, it was determined that if an article did not fit the standards listed in the criteria section, it would not be included in the thesis. Only those that fit the criteria for the thesis were considered when analyzing the data. To verify the reliability of the data collection, after the articles were selected and analyzed for the project, 10% of those were reviewed by another student who was knowledgeable about the topic of bilingual language assessments and had been trained in the use of the data collection form. The
student author further compared the information in the other student’s form to the information originally collected to obtain percent of agreement between coders.

Results

In this thesis, peer reviewed articles were examined to identify assessment tools reported as being used to assess the language of bilingual students. An article review was completed to examine the use of less-biased and more culturally-representative techniques. It was found that, although there are few norm-referenced assessments based on bilingual speakers, there are ways that SLPs can modify and combine assessment tools to create a comprehensive assessment of a bilingual child’s language skills.

After searching the speech-language pathology journals for articles that addressed bilingual assessment methods, 145 articles were found that met the initial criteria of the literature search. A review of the abstracts was completed, to determine if the article could provide data for this thesis, based on what the article reported about assessment techniques and how those techniques could assist in gaining knowledge about bilingual linguistic developmental patterns. Following the review of the 145 abstracts, 36 articles met the criteria for this thesis. Once the articles were analyzed for their content on bilingual language assessments, 31 of the original 36 articles were used as data for this study (see Appendix C for the completed data form).

Of all the professional speech-language pathology journals reviewed, none of the articles in the Topics of Language Disorders were considered appropriate for the data collected in this thesis. Additionally, articles which were not included in the data are discussed in the following paragraph. Hwa-Froelich and Matsuoh (2008) article, which examined the effects of children moving from one culture to another and the effects it has on their language development. This
article described the linguistic development patterns that the child would encounter when moving from one country to another, but it does not describe assessment types. McLeod and Verdon (2014) conducted research on speech assessment tools that are norm-referenced for monolinguals in 19 languages. While this article provided valuable information on speech assessments that are available in different languages, the article was a systematic review of multiple assessments rather than describing the benefits of a single method, the focus of this thesis. Additionally, the information collected was about speech assessments rather than language assessments. The article by Oller (2010) was designed to determine the pattern of linguistic development for a trilingual toddler. While the article discussed the assessment technique used when collecting data, the article’s focus was on the developmental patterns observed rather than the use of the assessment. The final article not included in this thesis was written by Paradis (2016). Although this article examined typical developmental patterns for children with a native (L1) and second (L2) language, it did not examine specific assessment tools.

Reliability

When analyzing the information that was collected by the other student, the intent was to compare the information that focused on the assessment tool and the area of assessment to determine if the categories analyzed in this thesis were reliably identified. The other student reviewed 3 articles which was 10% of the total 31 articles analyzed. In the study by Gillam, Peña, Bedore, Bohman, and Mendez-Perez (2013), both the author and the additional student found concluded that the study used the Test of Language Development- Primary (3rd Edition) and the Test of Narrative Language. Additionally, both found that the study assessed the comprehension, expression, vocabulary, syntax, and narration abilities of bilingual children. Both people determined that the Gross, Buac, and Kaushanskaya (2014) study used the Peabody
Picture Vocabulary Test-III and the Vocabulario de Imagenes Peabody to assess receptive skills as well as the Picture Vocabulary Subtest of the Woodcock Johnson Test and the Vocabulario sobre dibujo subtest de la Bateria III Woodcock-Munoz pruebas de aprovechamiento to assess expressive skills in both English and Spanish. Both found that the study focused on assessing the receptive and expressive language skills in English and Spanish. In the final study by Petersen, Chanthongthip, Ukrainetz, Spencer, and Steeve (2017) the author and other student determined that the study used narrative assessments through the use of DA and both found that the assessment tested their narrative abilities and understanding of grammatical structures.

Assessment Practices

Conceptual Scoring

Assessments that examine a child’s linguistic skills in both languages rather than solely examining the responses that the child made in both languages, separately, is more beneficial for the diagnosis of a child’s linguistic skills. Conceptual scoring allows the clinician to use the child’s complete lexical knowledge to obtain a more accurate description of the child’s language competence. Gross et al. (2014) described how conceptual scoring considers the exposure to both languages. Holmström, Salameh, Nettelbladt, and Dahlgren-Sandberg (2016) explained that exposure to more than one language means that a child will have vocabulary that is spread between both languages. Due to the development of two languages, there will be situations where one language is more dominant than the other, without regard to differentiating the native language (L1) from the second language (L2). Gross et al. (2014) further explain that consideration of the entire vocabulary knowledge over both languages creates a less-biased assessment, because it accounts for linguistic and cultural differences between monolingual norm-referenced assessments and functional skill assessments in a bilingual child.
When assessing a bilingual child’s receptive vocabulary knowledge, common practice is to use the *Peabody Picture Vocabulary Test-III* (PPVT-3; Champion, Hyter, McCabe & Bland-Stewart, 2003; Gross et al., 2014; Paradis, Schneider & Duncan, 2013). However, this assessment tool had downfalls when researchers examined its validity for use with bilingual students. Champion et al. (2003) explained that the words assessed on the PPVT-3 do not represent a wide variety of linguistic and cultural diversity, which makes the assessment biased when used with bilingual speakers. The lack of diversity came from the vocabulary with the questions asked and the pictures used in the assessment. If assessments are not norm-referenced or created with linguistic and cultural diversity, the test would only be useful for the mainstream population. Because of this, Gross et al. (2014) examined the use of the PPVT-3 in both Spanish and English, and then combined the scores. The outcome of the research behind the use of assessments in both languages follows what conceptual scoring aims to accomplish. Using both the English as well as the Spanish version of the test allows the clinician to account for the lexical knowledge in both languages and better identify a linguistic disorder. This is because the clinician is able to examine the child’s vocabulary knowledge in both language versions of the test and further revisit the words that the child missed in one language to allow them to potentially answer in the other language.

Another measure used along with conceptual scoring is Language Sample Analysis (LSA). Jacobson and Walden (2013) conducted research on the use of LSA and the exploration of lexical diversity. They found that, in combination with other assessments to examine different areas of language, LSA was an appropriate tool for assessing bilingual speakers. Like the research that supported the use of the PPVT-3, LSA is beneficial when there is a need to examine a bilingual child’s entire lexical inventory. This is because the clinician observing/evaluating the
child as he/she talks and calculating the words and types of words used by the child. An assessment like this is less biased because it allows the child to use and credits the use of both languages in conversation. When the child switches between languages, it may not be due to a linguistic impairment; rather, the child may not have had exposure to the specific vocabulary word used in an assessment tool. LSA allows the child to showcase the entirety of his/her lexical knowledge as well as participate in an appropriate assessment for bilingual language development.

Dynamic Assessment

A popular assessment procedure discussed in the literature is Dynamic Assessment (DA). In this assessment method, the clinician is able to create a less-biased evaluation of the child’s language because the clinician can use information related to the student’s culture and experiences while growing up. In addition to basing assessment material on more culturally-relevant topics for the student, dynamic assessment allows SLPs the ability to test a wide variety of language areas, such as pragmatics, syntax, and morphology. In the research done by Jacobs and Coufal (2001), use of the Kidtalk Interactive Dynamic Test of Aptitude for Language Knowledge (KIDTALK) computerized language screening tool allowed them to examine receptive vocabulary, expressive vocabulary, expressive morphology, and auditory-verbal sequencing of English and Spanish speaking children. By screening more than one aspect of language, based on the child’s knowledge of rules rather than mastery or prior vocabulary knowledge of that language, assessment is more reliable when determining whether the child has a language disorder or has limited exposure to that language. Additionally, dynamic assessment with the use of narratives is a technique for obtaining the most representative account of a child’s language abilities (Peña et al., 2014; Petersen et al., 2017). DA is the process where the SLP tests
the child’s abilities about a certain area in language, then the SLP uses teaching strategies for the child that are designed to increase their performance, following that, the SLP retests the child’s performance to determine if the child is able to make changes to increase their performance (Peña et al., 2014). Peña et al. (2014) explain that the test-retest-test procedure that is associated with DA is an appropriate way to test a child’s language skills because it assesses use of attention and memory skills, a good indicator of a child’s learning abilities. Use of DA allows the SLP to determine the child’s understanding of language structure and rules rather than depending on the size of and competency with the child’s vocabulary in both languages (Peña, 2000). Petersen et al. (2017) also explained that the use of DA in a narrative context is a suitable predictor for language disabilities because it examines language structure past word or sentence level, to assess at the discourse level.

Nonword Repetition Task

Much like DA, Nonword Repetition Tasks (NRT) can be used to test the child’s knowledge of the structure of language rather than his/her direct knowledge and exposure to both languages. As a part of their Working Memory Tasks assessment tool, Engel de Abreu, Baldassi, Puglisi, and Befi-Lopes (2013) explain that use of NRT is an appropriate assessment tool for bilingual children because it assesses the child’s abilities to process the rules of the language more than measure their experience with one or more languages. This idea complements that of conceptual scoring because NRT does not focus solely on the exposure to language, but also assesses the child’s ability to understand the different aspects of language and modify his/her language to fit the correct linguistic rules of each language. Paradis, Schneider, and Duncan (2013) also used NRTs in addition to parental questionnaires and other norm-referenced
assessments to gain a more comprehensive perspective of the language abilities a child possesses.

Boerma, Chiat, Leseman, Timmermeister, Wijnen, and Blom (2015) examined the use of NRTs, but their study was based on the development of Quasi-Universal NRTs. Using Quasi-Universal NRTs allows the SLP to use the test on any language and test the child’s knowledge of word structure in a less-biased manner since it is not based on a specific language. When languages are assessed using Quasi-Universal NRTs, the child’s understanding of the structure of a non-word string of sounds not present in their language is determined. When using this strategy, the clinician can assess the child’s ability to discern linguistic structures- a conceptual task- rather than assess his/her knowledge of actual words. Additionally, Chiat and Polisenská (2016) examined the use of Crosslinguistic Nonword Repetition, which is much like Quasi-Universal NRT in its ability to test languages based on linguistic patterns rather than real words. Crosslinguistic Nonword Repetition allows for language assessment with culturally and linguistically diverse groups of children.

*Bilingual English Spanish Oral Screener*

Several authors discussed the use of the Bilingual English Spanish Oral Screener (BESOS), which is norm-referenced for Spanish-English speaking individuals (Lugo-Neris, Peña, Bedore & Gillam, 2015; Peña, Gillam, Bedore & Bohman, 2011). This screening tool was deemed useful in determining the potential for identifying a language disorder. This screening measure was adapted from the BESA, which is a more comprehensive assessment tool (Peña et al., 2011). The BESOS is valuable to SLPs because of its ability to test the language skills in both languages of Spanish-English bilingual individuals (Peña et al., 2011). Peña et al. (2011) further explained that bilingual students’ abilities to respond to questions in both languages
increase the likelihood of their ability to perform at the same level as a monolingual student. Using the BESOS was seen to increase the identification of language disorders in children when used in kindergarten (Peña et al., 2011).

**Assessment of Linguistic Areas**

**Morphology**

A variety of assessment tools have been developed to test morphological development in bilingual students. A *Systematic Analysis of Language Transcript* (SALT, Miller & Iglesias, 2012) can be used to examine the morphemes used in a sample of a child’s language (Swasey Washington & Iglesias, 2015). The use of a language sample is appropriate because it provides a comprehensive view of the child’s language skills and when using the SALT, clinicians are able to determine the deficits a child may have in morphological development. Additionally, an SLP can examine the bilingual child’s morphological development from a spontaneous language sample with use of Brown’s 14 grammatical morphemes (Bland-Stewart & Fitzgerald, 2001). In addition, a clinician can use a child’s language sample to assess morphological linguistic development. Although use of Brown’s 14 grammatical morphemes is a guideline only appropriate for English development and not other languages, it is possible to use Brown’s guidelines to find similar developmental patterns in other languages. It would also be beneficial to look at similar guidelines for morphological development in the child’s other language.

**Pragmatics**

A study by Guiberson (2016) examined the effects of gestures and play in language development. Guiberson (2016) concluded that there may be a connection for language development between observing gestures and vocabulary development in Spanish-speaking
children, but there is not a connection when observing vocabulary and play. While the Guiberson study did not determine a relationship between play and the linguistic development of bilingual children, it did find that use of a play-based environment creates a more natural setting for the observation of a child’s communication patterns. In the play-based setting, it is important for clinicians to pay attention to the vocabulary and gestures used by the bilingual child because the use of these means of communication lead to important information for linguistic development (Guiberson, 2016).

Discussion

Throughout the literature, it was observed that assessing the communication and language skills of bilingual children in both of their languages was the most reliable way to determine if a child has a language impairment (Peña et al., 2014). Peña et al. (2014) discovered that exposure to both languages for bilingual speakers are equivalent to those in monolinguals, which means that both bilinguals and monolinguals develop similar sized vocabularies. Due to the differences in a child’s life experiences and exposure to varying events, different lexical categories develop in each language which are specific to a language. This idea contrasts the notion that bilingual speakers are naturally behind in language development because they are learning two languages. Core, Hoff, Rumiche, and Señor (2013) support examining the total vocabulary score of a bilingual child, because whether a child is using one of his/her languages or both, he/she may still be responding correctly in functional communication. When the clinician uses both the L1 (the person’s first language) and L2 (the second language) languages for assessment, this allows the child to exhibit his/her full linguistic development, rather than evaluating skills in one language. If evaluation provides separate scores in each individual language, the score is not representative of his/her overall vocabulary.
Many authors discussed the benefit of using multiple assessments when testing bilingual students for language impairments. Ebert and Pham (2017) found that it was beneficial to use both formal and informal tests. Their research found it is beneficial to use a test that was norm-referenced, as well as a tool that assessed language samples that documented skills more closely related to those needed in the child’s life. Using multiple assessments helps SLPs determine if a child needs language intervention to support their education; an evaluation can be compared to the performance of their peers as well as the demands of the academic setting. Gillam et al. (2013) explained that although it is best to test language skills in both languages, this is not always possible due to the lack of assessment tools that have been norm-referenced in languages other than English. When an SLP does not have access to an assessment tool that can assess skills in both languages, it was recommended that the SLP use supplemental tests to assess additional areas of language. Testing abilities in two or more language domains in both languages will more reliably determine the language strengths and weaknesses for the bilingual child (Lugo-Neris et al. 2015).

Assessments that determine language abilities based on measures of test-teach-retest (i.e., Dynamic Assessment) in samples of a child’s spontaneous language can more easily and accurately determine whether the child has a language impairment (Peña et al., 2014; Jacobson & Walden, 2013; Bland-Stewart & Fitzgerald, 2001). These assessment processes are more easily modified, and have the capability to be less biased.

When reviewing the literature, it was found that the most important skill for SLPs assessing bilingual students was knowledge of the culturally- and linguistically-typical patterns of language development for all students, including those who are bilingual. Brice and Perkins (1997) found that it was imperative that the SLP has knowledge of the bilingual child’s L2 as
BILINGUAL LANGUAGE ASSESSMENT

well as their L1. Knowledge of the developmental patterns in both languages helps clinicians make better-informed judgements about the development of bilingual students (Fiestas & Peña, 2004; Preston & Seki, 2011; Brice, Carson & O’Bien, 2009). The research also shows that having access to parental surveys is beneficial when determining the degree of language impairment a bilingual child may have (Paradis, Schneider & Duncan, 2013; Restrepo & Kruth, 2000). For example, a questionnaire completed by the parents can give clinicians information about the home life and linguistic exposure that the child has outside of school.

Strengths and Limitations of the Study and the Need for Additional Research

One of the strengths of this thesis is that the information was gleaned from articles in the most commonly-used journals in the field of speech-language pathology as well as the fact that many articles were used. While there were articles that fit the criteria of this thesis from the journals, having access to a larger pool of articles would have been better so that more information on assessment tools could be examined. Additionally, more information about how monolingual SLPs can work with other professionals (i.e. interpreters or teachers) or adapt monolingual assessments for their use- while still maintaining validity is needed. Future research on the topic of bilingual language assessment should address the best ways to assess a bilingual child using the various assessment tools referenced in this thesis. Additionally, determining how to make norm-referenced tests more appropriate for diverse populations would be beneficial in helping SLPs determine developmental language disorders in culturally- and linguistically-diverse children.
Clinical Implications

The assessment measures discussed in this thesis can help monolingual and bilingual SLPs deliver a more representative description of bilingual language developmental patterns. While there still may be a need for a language interpreter, monolingual SLPs can use many assessment tools that correctly identify language impairments in bilingual speakers. It is important for an SLP to use a tool or a variety of tools which assess the entirety of the vocabulary and language skills in bilingual children. Standard assessments that are norm-referenced based on monolingual students will not accurately evaluate the linguistic knowledge that a bilingual child possesses. To accurately identify a language disorder in a bilingual child, the SLP must base the assessment on the child’s cultural and linguistic preferences. Assessment strategies discussed in this thesis can assist in diagnosing language impairments in a less biased and more inclusive manner.
References


Appendix A

_ASHA Preferred Practice Guidelines_

“Speech-Language Assessment for Individuals Who Are Bilingual and/or Learning English as an Additional Language

Speech-language assessment for individuals who are bilingual and/or learning English as an additional language (i.e., “English Language Learners, ELL”) comprises services to assess speech-language and communication functioning (strengths and weaknesses) in an individual's first language (L1) or a second language (L2). Bilingual assessment services include identification of language use (i.e., the language the individual speaks or is exposed to most of the time) and language proficiency (i.e., degree of ability in each language). In addition, assessment addresses potential impairments, associated activity and participation limitations, and context barriers and facilitators.”

(ASHA [Preferred Practice Patterns], 2004)
Appendix B

Data Collection Form

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• Mean Length of Response (MLR)  
• Incidence of embedding across MLU | • TD Spanish-English girl from Puerto Rico.  
• Start was 4;7 years and end was 6;5 years. | Yes  | • Communicative Strategies used in Spanish  
|                |                                                                              |                                                                                 | p. 6                                            |            | p. 6                                                                                | Evaluate bilingual children with careful consideration of the possible impact of L1 loss. Assessments should include thorough assessment of both languages. p. 14 |
• Ages 2.6 to 5.0 years old.  
• 9 girls and 6 boys. | Yes, with more research and a larger data/participant pool. p. 179-180 | Morphology; Brown’s 14 grammatical morphemes.  
|                |                                                                              |                                                                                 | p. 173                                           |            | p. 176                                                                               | Standard English normative data should be a reference point, not a determining factor for intervention. The development of the morphemes in bilingual children can help the clinician decide if the child is on track. p. 180 |
• 30- TD Monolingual  
• 30- LI Monolingual  
• 30- TD Bilingual  
• 30- LI Bilingual  
• Dutch and another language | Yes  | p. 1757                                                                               | Vocabulary development tested through nonword repetition tasks.  
• Involves temporary storage and retrieval of novel strings and mimics word learning.  
|                |                                                                              |                                                                                 | p. 1750                                           |            | p. 1748                                                                              | With more universal speech patterns for testing, an SLP can assess more languages which makes the test more available for bilingual children. |
• Spanish: CASA-P  
• English: GFTA-2 | • 16 Spanish-English bilingual children; 10 boys and 6 girls.  
• Ages 4 to 5 years old. | Yes  | Articulation and phonology development between learning English and Spanish.  | Some articulation and phonological patterns transfer between languages, but not all do, so it is imperative that SLPs assess the development of articulation in students. |
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• Students in the general and ESL classroom.  
• Case study of one student from the class. | Yes | • Use of language in code switching and the appropriate development. | Be knowledgeable about L2 language acquisition, how language is used in classrooms, and the language demands placed on a student as they change environments. |
• 24 girls and 25 boys  
• Age range of 3;2 to 5;9  
• 3 different Head Start extended-day programs in the Tampa Bay area. | No | • Child’s vocabulary size and its effect on their reading abilities. | This test does not represent vocabulary used by a wide variety of linguistic and cultural diversity. It should not be used on children who do not fall into the category of mainstream English speakers. |
• 24 children: ages 4-5 from inner-London neighborhood; 12 monolinguals and 12 bilinguals (Spanish-English)  
• 18 children: ages 4-7 from outer-London neighborhood; 9 | Yes | • Vocabulary and linguistic development.  
• CLT is more apt to define potential language impairments.  
• LST focuses more on the student’s proficiency in the language. | This offers an assessment tool that can be used with culturally and linguistically diverse populations. |
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• 56 monolingual English children; 30 boys and 26 girls.  
• Both groups were tested at 22, 25, and 30 months.                                                                 | Yes        | Vocabulary development-Total vocabulary (sum of the words they possess in each language) and Conceptual vocabulary (knowing concepts in both languages).  
  p. 1639 | The total language assessment allows the clinician to see all the vocabulary words that the child has in both languages because the child reacts to the same stimulus that a monolingual child would, but just in both languages. Total vocabulary in one language can also show the child’s development in one language if the clinician is curious about that specific development pattern.  
  p. 1647 |
  • Using standardized tests and language samples.   | • 51 school-aged Spanish-English bilingual children with primary language impairment.  
• 9 girls and 42 boys.  
• Age range was 5;6 to 11;2 years.  
• Divided into 2 groups for analysis; 28 children ages 5;6 to 8;11 and 23 children ages 9;0 to 11;2.  
  p. 42 | Yes, using both the standardized test and language sample is best because they focus on different things. | Standardized tests measured, conceptual knowledge and verbal memory; expressive vocabulary; receptive vocabulary  
  p. 46-47 | Bilingual formal assessments such as the Bilingual English Spanish Assessment (BESA), Spanish version of the Clinical Evaluation of Language Fundamentals- Fourth Edition (CELF-S), and the bilingual version of the Expressive and Receptive One-Word Picture Vocabulary Test allow clinicians to compare students to a normative set.  
  Language samples capture contextualized skills that may compare to the academic language demands put on the student.  
  p. 43 |
| 10             | Engel de Abreu, P. M. J., Baldassi, M., Puglisi, M. | Working Memory Tasks                   | • 60 children; 20 Portuguese                                                 | Yes        | Vocabulary development and cognitive skills.                                        | Assessment tools that examine processing abilities more than |

- **Vocabulary comprehension in Portuguese** was tested with BPVS-II.
- **Vocabulary production in Portuguese, Luxembourgish, and German** was tested with EOWPVT.
- **Executive-loaded working memory measure** tested in Portuguese and Luxembourgish Automated Working Memory Assessment.
- **Verbal short-term memory** was tested in Portuguese and Luxembourgish adapted from the AWMA.
- **Nonword repetition** was tested by Luxembourg Nonword Repetition Task and Brazilian Children’s Test

**Participants**

- **12 Latino American bilingual children**: 6 boys and 6 girls.
- **Ages 4;0 to 6;11**.

**Effective?**

- Wordless picture book was better for detecting language skills.
- Language formulation and discourse at a higher level when compared to single utterances.

**Areas of assessment**

- Narrative discourse in bilingual children: Language and task effects. *Language, Speech, and Hearing*
- Wordless picture book was better for detecting language skills.
- Language formulation and discourse at a higher level when compared to single utterances.

**Suggestions for Monolingual Therapists**

- Narrative assessments are seen to be less biased because it allows children to use narrative categories that are more culturally relevant and prominent. But the SLP must know what the culturally typical experience measures (total vocabulary) may be more linguistically and culturally appropriate due to the ability to test their knowledge of the language rather than solely their experience and exposure.

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<td>11</td>
<td>Fiestas, C. E., &amp; Peña, E. D. (2004). Narrative discourse in bilingual children: Language and task effects. <em>Language, Speech, and Hearing</em></td>
<td>Narrative Production Assessments p. 155 Narrative stimuli were a wordless picture book and a Mexican American wordless picture task.</td>
<td>• 12 Latino American bilingual children; 6 boys and 6 girls. • Ages 4;0 to 6;11.</td>
<td>Wordless picture book was better for detecting language skills.</td>
<td>Language formulation and discourse at a higher level when compared to single utterances.</td>
<td>Narrative assessments are seen to be less biased because it allows children to use narrative categories that are more culturally relevant and prominent. But the SLP must know what the culturally typical experience measures (total vocabulary) may be more linguistically and culturally appropriate due to the ability to test their knowledge of the language rather than solely their experience and exposure.</td>
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• Mean age was 63.2 months old. | Yes, this is an English based test that can be used on children who have been in the schools for over 1 year and use English at least 30% of the time. | Studies comprehension and production of words as well as the language domains of vocabulary, syntax, and narration. | We need to tell the families what is going on, without them worrying too much. |
|                |              | The Test of Language Development-Primary 3rd Edition and the Test of Narrative Language | | p. 1815 | p. 1816 | p. 1821 |
|                |              | TOLD-P:3 assesses expressive, comprehension, vocabulary and grammatical composite scores and TNL assesses narrative composite scores. | | p. 1819 | |
• 40 monolingual English children; 39 simultaneous Spanish-English children; 19 sequential Spanish-English children. | Yes, allowing children to respond in both languages rather than only using one will allow for better assessment. | Receptive and expressive vocabulary in English and Spanish. | Conceptual scoring allows an SLP to count the total number of concepts that a child has in all languages, rather than a certain score in one language. This helps assess the total language skills that the child has because it examines the knowledge in all languages. It is less biased than a monolingual assessment because those don’t take into account language exposure. |
<p>|                |              | This “considers the number of concepts for which a child has a word in any language instead of counting language-specific lexical items” | | p. 575 | p. 574 | p. 575 |
|                |              | Peabody Picture Vocabulary Test-III for English and Test de Vocabulario en Imagenes Peabody for Spanish. | | p. 577 | | Best to obtain a language history, observe the child in a classroom or other setting, and conduct direct assessments of child. |
|                |              | Picture Vocabulary subtest of the Woodcock-Johnson | | | | |</p>
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• Ages 2;0 to 2;11 years old. p. 92 | Yes | Gesture, play, and its effect on language development. Pragmatics of language. p. 89 | Measures of play does not fully give SLPs an idea if Spanish-speaking children have LIs, but it does lend itself to have a more naturalistic environment for assessing. Relying on play-based assessments alone will not provide enough evidence, but play situations will allow for collection of information on communication behaviors. p. 97 |
• Ages of 12;9 to 15;1 years old. p. 34 | Yes | Producing synonyms and antonyms. p. 34 | “Findings of this study provide further evidence that a dynamic procedure in language assessment may be useful for revealing children’s language learning potential. All children demonstrated limited language performance prior to the MLE” assessment. p. 38 |
Kent-Rosanoff List was used to test the | • 24 children; 15 bilingual Arabic-Swedish speakers; 9 monolingual | Yes | Lexical organization. p. 24 | Conceptual scoring is less biased because it considers the total number of concepts that the child knows in both languages |
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<td>17</td>
<td>Jacobs, E. L., &amp; Coufal, K. L. (2001). A computerized screening instrument of language learnability. <em>Communication Disorders Quarterly</em>, 22(2), 67-75.</td>
<td>KIDTALK (Kidtalk Interactive Dynamic Test of Aptitude for Language Knowledge) a Computerized Language Screening Tool</td>
<td>60 students; 31 boys (17 English-speaking and 14 Spanish-speaking); 29 girls (12 English-speaking and 17 Spanish-speaking)</td>
<td>Yes, if the test was broader.</td>
<td>Receptive vocabulary, expressive vocabulary, expressive morphology, and auditory-verbal sequencing.</td>
<td>Language screenings don’t work best by just basing the decision on one area of language.</td>
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<td>18</td>
<td>Jacobson, P. F., &amp; Schwartz, R. G. (2005). English past tense use in bilingual children with language impairment. <em>American Journal of Speech-Language Pathology</em>, 14(4), 313- 323.</td>
<td>Elicited production task for the child to complete a sentence using the correct past tense verb.</td>
<td>27 Spanish-English speaking children; 15 bilingual TD children (8 girls and 7 boys); 12 bilingual LI children (6 girls and 6 boys).</td>
<td>Yes, in combination with other assessments.</td>
<td>Morphological development, specifically the past tense forms of verbs.</td>
<td>There are morphological deficits in both TD and LI students, so it can be hard to determine what is a problem.</td>
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- Effective? column indicates whether the assessment tool is effective for the participants described.
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Spanish-English speaking  
Mean age for the TD children was 98.96 months; the mean age for BLI children was 105.95 months. | Yes | Lexical diversity and omission errors. | “Although many school-based clinicians continue to rely on standardized tests to diagnose language impairment, these instruments frequently do not meet adequate levels of diagnostic sensitivity and specificity… LSA may provide more relevant indicators of language ability and proficiency compared to standardized norm-referenced assessments.”  
“The present data support the utility of including LSA in addition to other measures for the assessment of bilingual children.” |
Bilingual nor-referenced screener. | 42 children; 21 children with LI; 21 children with TD language.  
18 girls and 24 boys.  
Ages 4;6 to 6;2 years old. | Yes | Semantics and morphosyntax. | The combination of best scores in the subtests of the BESOS was predictive of LI in children.  
“Testing in 2 domains across both languages reveals strengths and weaknesses in specific areas that testing in only one language would not reveal.”  
“Selecting their higher score on each subtest ensured that we represented their highest ability in each domain…” |
By testing more than one area of language in more than one of their languages, you are accounting for the difference of skills in languages, also called mixed dominance. p. 428

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<td>21</td>
<td>Neumann, S., Salm, S., Rietz, C., &amp; Stenneken, P. (2017). The German focus on the outcomes of communication under six (FOCUS-G): Reliability and validity of a novel assessment of communication participation. Journal of Speech, Language, and Hearing Research, 60(3), 675-681.</td>
<td>Focus on the Outcomes of Communication Under Six- German (FOCUS-G) p. 676&lt;br&gt;• 226 children; 123 boys; 103 girls.&lt;br&gt;• Ages 3;0 to 5;11 years old.&lt;br&gt;• German was the first language of all children. p. 677</td>
<td>Yes p. 680</td>
<td>Communicative participation. p. 680&lt;br&gt;The test involves speech, expressive language, pragmatics, receptive language/attention, intelligibility, expressive language, social/play, independence, and coping strategies/emotions. p. 679</td>
<td>This assessment will help SLPs assess German speaking children for linguistic development as well as having an assessment tool that is culturally relative. p. 680</td>
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<td>Not Used in Data</td>
<td>Oller, D. K. (2010). All-day recordings to investigate vocabulary development: A case study of a trilingual toddler. Communication Disorders Quarterly, 31(4), 213-222.</td>
<td>Examines the ability to assess a child’s language with use of an all-day language sample, but it then analyzes development patterns based on the exposure that a child has with a language. This article does not examine the strength of the assessment, rather the pattern of development that is seen from the assessment.</td>
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• Nonword Repetition/Comprehensive Test of Phonological Processing  
• Screener/Test of Early Grammatical Impairment  
• Story Grammar/Edmonton Narrative Norms Instrument  
• Peabody Picture Vocabulary Test-III p. 975 | • 178 children; 152 TD ELL children; 26 LI ELL children.  
• The children spoke a variety of first languages, but were all learning English as their L2.  
• The TD children had a mean age of 5;10 and a mean exposure to English of 20 months; the LI children had a mean age of 5;9 and a mean exposure to English of 24 months. | Yes, if there were norm referenced tests that were based off of bilinguals, it would be better. The addition of parental questionnaires data will also create a better test. p. 979 | • Parent questionnaire on early language milestones.  
• Phonological awareness.  
• Grammatical structure awareness.  
• Narrative abilities.  
• Receptive vocabulary abilities. p. 975 | The use of English tests on children with diverse linguistic backgrounds is possible, but there is a need to have bilingual norm-references for those tests so that SLPs can better diagnose students based on the development of 2 languages rather than 1 in a specific language. p. 979 |
<p>| 23             | Peña, E. D. (2000). Measurement of modifiability in children from culturally and linguistically diverse backgrounds. <em>Communicati</em> | Dynamic Assessment: Test-mediation-retest p. 89 | • 50 children; 11 were African American; 39 were Latin American | Yes p. 95 | Learning strategy of language. p. 94 | Dynamic assessment allows for SLPs to examine if the child will be able to change and look at their knowledge of language structure rather than solely looking at their current... |</p>
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<th>Article Number</th>
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<th>Areas of assessment</th>
<th>Suggestions for Monolingual Therapists</th>
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</table>
• 3 monolingual Spanish-speakers;  
22 monolingual English-speakers;  
25 Spanish-English bilingual speakers  
• Ages of 3;8 to 4;10 years old.  
• 55 children; 37 boys; 18 girls  
• 31 monolingual English speakers;  
18 bilingual English-Spanish speakers; 6 monolingual Spanish speakers.  
• Ages 3;9 to 4;9 | Yes | Yes, it “provides a structured way for clinicians to analyze learning processes and learning outcomes.” | Dynamic assessment of the child’s learning abilities is a good way to test their language skills because children with LIs have low attention and memory skills. “Children with LIs have processing difficulties that can be observed with they are engaged in language intervention sessions.” |
| 25            | Peña, E. D., Gillam, R. B., Bedore, L. M., & Bohman, Parent reviews and BESOS (Bilingual) | | • 54 children; 18 have LIs; 36 have TD.  
• 2 comparison control groups for the children who had LI so that there was a norm reference.  
• P. 2210 | Yes | Narrative skills. | While some researchers believe that bilinguals are at more of a knowledge of vocabulary from exposure.  
p. 94 |
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• All students spoke Spanish, English, or both languages. p. 304

risk for language impairments because they learn everything twice, this article suggests that experiences seen in both languages are equal to those of monolinguals. When allowed to answer in both languages, bilinguals will have a better chance at being on the same level as monolingual students. p. 310

SLPs could see a decline in L2 English speakers’ Spanish skills because of the language loss when learning a new language. p. 311

Screening bilingual children at the prekindergarten and kindergarten age will help increase the accuracy of diagnosing a language disorder. p. 311

***This study focuses on finding if bilingualism is a risk factor for LI. Found: it is not. p. 311-312

Narrative language has been shown to be a stronger predictor for language disabilities than word or sentence level discourse assessments. p. 2
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<tbody>
<tr>
<td>27</td>
<td>Preston, J. L., &amp; Seki, A. (2011). Identifying residual speech sound disorders in bilingual children: A Japanese-English case study. <em>American Journal of Speech-Language Pathology</em>, 20(2), 73-85.</td>
<td>Intelligibility</td>
<td>• Case study on a boy who is an English-Japanese bilingual speaker. &lt;br&gt;• He was 11;4 at the time of assessment.</td>
<td>Yes</td>
<td>Phonological productions. p. 75</td>
<td>To correctly diagnose a student with a phonological disorder, the SLP needs to understand the speech patterns of the language. p. 81</td>
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<td>Language sample</td>
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<td></td>
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<td>(percent intelligible words spoken in conversational speech in a 5-minute period)</td>
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<td>Goldman Fristoe Test of Articulation-Second Edition (English)</td>
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<td>Japanese Articulation Test-Revised (Japanese)</td>
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<td>Speech Motor Assessment</td>
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<td>Repeating multisyllable words</td>
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<td>p. 77</td>
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<td>Phonological Awareness</td>
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<td>Elision and Blending Words subtests of the Comprehensive Test of Phonological Processing (English)</td>
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<td>Japanese reading difficulty test</td>
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<td>p. 78</td>
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<td>Storytelling task from the Mercer Mayer frog series.</td>
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<td>p. 69</td>
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• 14 girls and 14 boys  
• Ages 8 and 9 years old. | Yes, the modified version increased the test scores. p. 191 | Subtests: Concepts and Directions, Formulated Sentences, Word Classes, and Recalling Sentences p. 188 | CELF-3 was modified to test a less biased way of assessment. “Modifications consisted of rewording directions, providing multiple trials, allowing longer response times, and testing beyond the ceiling.” p. 188  
Alternate ways of creating a less biased test:  
• Renorming to have the standards be focused on a specific population. p. 185  
• Dynamic assessment with the test-teach-test method. p. 186  
• Nonstandardized measures such as parent interviews, questionnaires, and/or checklists. p. 186  
• “Test modifications are designed to provide further instruction in and information about the task to enable the student to perform more effectively.” p. 188 |
Language samples  
“Frog where are you?” picture book p. 155  
Formal assessments | • 616 children;  
• Grades ranging from kindergarten to third grade.  
• 290 boys and 326 girls p. 155 | Yes, with a combination of measures | Tense shifting in bilingual speakers; grammatical patterns. | It is inappropriate to test a bilingual child in only one of their languages. It would be better to test in both of their languages to gain knowledge about their total vocabulary skills. p. 159-160 |
Kid Categories which includes 39  
African American | • Low SES group comprised of 39 African American | Yes | Semantic knowledge found when assessing semantic | “The category fluency test can be made flexible such that it includes various modes of
| Comparison of the category productions of LSES and MSES elementary school children. *Communication Disorders Quarterly, 34*(2), 71-80. | Slot-filter condition prompts and 37 taxonomic condition prompts. p. 74 Oral receptive vocabulary task  
- Peabody Picture Vocabulary Test-Fourth Edition | Children; 26 girls and 13 boys.  
- Middle SES group comprised of 21 children from diverse backgrounds; 14 girls and 7 boys. | Category production of vocabulary words. | Communication such as pointing, gestures, signs, and selection of symbols.” p. 79 |
## Appendix D

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Test of Narrative Language  
167 children from 12 elementary schools within 3 school districts (2 in Texas and 1 in Utah). Schools were in low to medium SES housing areas. | Yes, English-only testing is reasonably accurate at diagnosing bilingual children with SLI  
SLI in bilingual children determined by analysis of the following performance measures (taken in English only): 1) expressive language; 2) receptive language; 3) vocabulary; 4) grammar; 5) narration | SLI in bilingual children determined by analysis of the following performance measures (taken in English only): 1) expressive language; 2) receptive language; 3) vocabulary; 4) grammar; 5) narration | The article cautions SLPs about over and under diagnosing bilingual children with SLI. The provide a model that predicts the likelihood of SLI in bilingual children based on their TOLD-3 and TNL scores (both English tests). |
Test de Vocabulario en Imágenes Peabody  
Picture Vocabulary subtest of the Woodcock-Johnson Test of Achievement Form A  
Vocabulario sobre dibujos subtest de la Batería III Woodcock-Muñoz pruebas de aprobacion | 98 children, ages 5-7, from Madison, WI and Chicago, IL | Somewhat, conceptual scoring decreased the performance differential between monolinguals and bilinguals on receptive language tests, but not on expressive language tests | Receptive and expressive language skills in both English and Spanish | - Conduct a comprehensive language assessment that includes a language history, observation of child in various settings, and direct assessment in both languages  
- Use conceptual scoring when appropriate (i.e., when the child is not successful on a task in one language retest in the opposite language) in order to decrease over identification |
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<tr>
<td>26</td>
<td>Petersen, D. B., Chanthongthip, H., Ukrainetz, T. A., Spencer, T. D., &amp; Steeve, R. W. (2017). Dynamic assessment of narratives: Efficient accurate identification of language impairment in bilingual students. <em>Journal of Speech, Language, and Hearing Research</em>, 1-16.</td>
<td>Narrative Frog Retells from Mayer</td>
<td>42 Spanish-English bilingual kindergarten to third grade children in the mountain west</td>
<td>Yes, dynamic assessment of narratives, which includes a teaching phase, is beneficial for bilingual children with LI</td>
<td>Pre-treatment narrative retell abilities, post-treatment narrative abilities, and response to dynamic assessment were measured. Narrative abilities were defined by the following measures: 1) story grammar elements (character, setting, problem, emotion, plan, attempt, consequence, ending, and ending notion); 2) occurrences of <em>then, because, when, after</em>; 3) complexity of episodic structure (e.g., initiating event, attempt, consequence) Response to dynamic assessment was measured via behavioral observation during treatment, which looked at the following behaviors: 1) responsiveness to prompts; 2) displaying transfer of skills as cycles continued; 3) attending to teaching; 4) ease of teaching; 5) not displaying frustration; 6) not disrupting the testing session</td>
<td>Children with LI and typically developing children exhibited similar differential gains when pre-and post-treatment abilities were examined. Thus, both groups were able to learn about narrative structure. However, children with LI demonstrated greater levels of frustration, disruptions, and inattentiveness.</td>
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