Narrative Language Production:
Examining How Young Spanish-English Learners
Use the English Language

by

Trinh N. Le

A dissertation accepted and approved in partial fulfillment of the

requirements for the degree of

Doctor of Philosophy

in Special Education

Dissertation Committee:

Dr. Sara Schmitt, Chair

Prof. Lillian Durán, Advisor

Dr. Cengiz Zopluoglu, Core Member

Prof. Ellen McWhirter, Institutional Representative

University of Oregon

Summer 2024

DISSERTATION ABSTRACT

Trinh N. Le

Doctor of Philosophy in Special Education

Title: Narrative Language Production: Examining How Young Spanish-English Learners Use the English Language

The study examined 37 language samples of 37 Spanish-English kindergartners and first graders from a larger sample of the Multitudes Project in California. The focus was on investigating how these young English language learners produced narratives in English, what language elements they included, and whether these elements correlated or related to the learner's English proficiency. The language elements examined were divided into three different levels: macro-structure including the identification of narrative problems and solutions, micro-structure such as the use of nouns, pronouns, and verbs, and language complexity including sentence markers and tier-two vocabulary. The results showed that, at the macro-structural level, students identified more correct problems and solutions than incorrect ones. There was no significant difference between the identification of problems versus solutions and between kindergartners and first graders. At the micro-structural level, a large number of children did not use plural forms of nouns and no students used possessive case *'s*, which were explained respectively by the requirement of such use according to the narrative topic and language transfer structures. The use of pronouns was also Spanish-influenced with gender mixing and redundancy. Results of the use of past-tense verbs showed that most students provided more incorrect forms than correct ones. Only one-fifth of these students provided all correct verbs, suggesting an emerging skill of conjugating verbs in past tenses. Lastly, language complexity was reported to be starting to develop at this age. As these Spanish-speaking students started to

learn English, they did not use complex vocabulary and structures in their narrative production, providing evidence to advocate for the use of emerging English vocabulary and translanguaging in language assessment for young English language learners. Weak and moderate correlations were found between grade and the use of pronouns, and between verbs and language proficiency. However, regression analyses indicated no significant relationship between language proficiency and these elements. Study limitations such as a small language sample size and the report of socio-economic status are discussed.

Keywords: Language assessment, narrative assessment, narrative production, narrative language elements, multilingual learners, dual language learners, bilingual education, and bilingual development

ACKNOWLEDGMENTS

First and foremost, I would like to express my deepest gratitude to my advisor, Prof. Lillian Durán, for her guidance and invaluable feedback throughout this research. Your expertise and encouragement have been instrumental in the completion of this dissertation.

I am also profoundly grateful to the Chair of my dissertation committee, Dr. Sara Schmitt, for her insightful comments and constructive criticisms, and to Dr. Cengiz Zopluoglu and Prof. Ellen McWhirter, for their diverse perspectives and scholarly advice. Your generous support has significantly enriched this work.

Special thanks to the faculty and staff of the Department of Special Education at the University of Oregon and the Dyslexia Center at the University of California, San Francisco, for providing a stimulating and supportive academic environment. I am particularly thankful to Carina Kelson, Karen Zyskind, and Mónica Zegers, whose assistance with administrative support and data collection was crucial to this project

I owe a deep debt of gratitude to my fellow graduate students, particularly Lemya Alhmoudi, Wenjing Bao, and Jinlan Zhu, for their camaraderie, advice, and moral support. Your shared wisdom and friendship have made this journey more enjoyable and less daunting.

Finally, I would like to thank my family and friends for their solid love, patience, and encouragement. To my parents, Thong Le and Lac Phan, your belief in me has been a constant source of strength. To my husband, Nhan Nguyen, thank you for your endless support and understanding during this demanding process. And to my children, Yen Nguyen and Julissa Nguyen, your joy and laughter have been a constant reminder of what truly matters.

This dissertation is a testament to the collective effort and support of many wonderful people. I am deeply thankful to each and every one of you!

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

Figure Page

CHAPTER I

INTRODUCTION

The United States is home to a diverse population, and many families speak languages other than English at home. This has led to a significant number of young children growing up in multilingual (ML) households. Hundreds of home languages are spoken with the top five being Spanish, Arabic, Chinese, Vietnamese, and Russian (U. S. Census Bureau, 2022). Depending on various linguistic, socio-cultural, political, educational, and community factors, ML children have varied levels of exposure to their home languages and English (López & Foster, 2021). This inevitably leads to significant variability in English and home language proficiency (U.S. Department of Education, 2022).

The vast majority of educational testing is conducted in English in the U.S. Although it is clearly now a standard recommendation from leading educational measurement, professional and standard-setting organizations that the English proficiency of MLs is considered when interpreting their performance on English measures. (e.g., American Educational Research Association [AERA]; American Psychological Association [APA]; National Council on Measurement in Education [NCME]). This knowledge will improve the accuracy of measurement and reduce the conflation of performance on a specific skill and emerging English proficiency (Mancilla-Martinez et al., 2021). This is also particularly important when conducting screening because it affects educational decisions related to language and literacy development.

The purpose of this paper is to explore the differences identified in English oral language abilities as measured by narrative language samples produced by Spanish-English bilingual kindergartners and first graders in response to a video prompt. Narratives were elicited through

brief videos structured to follow the arc of a classic narrative elicitation stimuli (e.g., *Frog, where are you?* by Mercer Mayer, 1969; Fiesta & Peña, 2004; Castilla-Earls et al., 2015). A hundred and ten English samples were selected from a study led by Durán and colleagues (2023) and were coded for specific features produced by this sample of bilingual children with varying levels of English proficiency. Coding included elements of both the macro- and micro-scoring structures of narratives. In the macro-structural area, two episodic elements, problem, and solution, were coded. Although there are many story grammar elements, problem and solution were selected because they are commonly included by kindergartners and first-graders. In the micro-structural area, grammatical or morpho-syntactical patterns were scored when students use nouns, pronouns, and verbs. Specifically, the following structures were examined: the formation of plural nouns, possessive case, use of pronouns, the conjugation of the copula "be", past tense, and verbs with auxiliaries. The grammatical features were selected based on the morphological syntactical errors frequently made by Spanish-speaking children, likely given the influence of Spanish grammar on English (Castilla-Earls et al., 2020; Castilla-Earls et al., 2021). Another micro-structural feature that was noted is language complexity as measured by word choice, i.e., using complex and precise nouns or verbs, and the use of temporal markers, such as **first…then, after, when, before, once, while, so,** and **because.**

This research is filling a gap in the field that can inform new narrative production measurement approaches with Spanish-speaking students and align oral language scoring procedures with the actual characteristics of the Spanish-influenced English language.

The Role of Narrative Discourse

Narrative discourse has been used in language assessment and intervention for children because it provides a multifaceted view and support of their language proficiency, communication skills, and cognitive abilities. It offers a wealth of information regarding their

speech and language development including but not limited to working memory (Dodwell & Bavin, 2008; Pauls & Archibald, 2021; van den Broek, 1997; Veraksa et al., 2020), word retrieval abilities or vocabulary knowledge and use (Guo & Schneider, 2016; Marks & Stokes, 2010; Heilman et al., 2010; Spencer & Petersen, 2020), syntactic structures (Colozzo et al., 2011; Duinmeijer et al., 2012; Fiesta & Peña, 2004), and sequencing abilities, conversational cohesion and fluidity as well as speech clarity (Fitchman & Altman, 2019; Heilman et al., 2010; Rezzonico et al., 2015).

Winters and colleagues (2022) stated the fact that a narrative includes the integration of linguistic and cognitive skills makes it a useful measure of language development. The authors carried out a systematic review to investigate different types of narrative assessment used with children from four to 12 years old. They found 37 related articles published between 1987 and 2019 that reported the narrative performance of the targeted age group. Although the authors focused on the identification of a language problem such as a developmental language disorder, the narrative assessments listed in their review helped to examine the children's levels of productivity and complexity of the language used. Narrative assessment was found to be versatile because it included various aspects from the macro-structure such as recalling story events, episodic elements, and internal feelings, to the micro-structure like accuracy and diversity in grammar and vocabulary use (Winters et al., 2022).

Narrative skills are also associated with academic literacy skills in reading and writing (Kirby et al., 2021; McCabe & Rosenthal-Rollins, 1994; Miller et al, 2006; Spencer & Petersen, 2018). Narratives expose students, especially young ones, to a wider range of vocabulary. As they listen to or create stories, they encounter new words and phrases, which enhances their vocabulary, a fundamental aspect of literacy. Moreover, creating and understanding narratives

helps students grasp the structure of language, including morphology and syntax, which are crucial for reading and writing effectively. Developing narrative skills is, therefore, a crucial part of fostering literacy skills in not only young students but students of all ages.

Narrative assessment can be used to identify instructional goals and monitoring progress (Spencer & Petersen, 2020). Narrative assessment goes hand in hand with narrative intervention with tiered support to achieve complex academic language (Petersen & Spencer, 2012). Narrative assessment can be an important approach to measuring the language development of ML children, who are often identified as English language learners with low English proficiency (Guzman-Orth et al., 2017).

The Role of Narrative Assessment in Language Assessment for Multilingual Children

ML children bring a rich tapestry of linguistic diversity to educational settings, but assessing their language abilities can be challenging due to the complexity of navigating multiple languages. Narrative assessment offers a holistic approach to evaluating language skills and understanding their complex linguistic development. Moreover, the “thick” narrative content, or the story content full of details, evokes the children’s use of vocabulary and morpho-syntactical structures in their narrative production. At a grammatical or micro-structural level, the assessment helps to identify language errors, fluency issues, and linguistic abilities when the child is choosing and combining words to produce a narrative (Winters et al., 2022).

Narrative assessment goes beyond isolated language skills and assesses a child's overall language competence, encompassing vocabulary, grammar, and pragmatic language use. Indeed, this assessment involves the evaluation of a child's ability to produce, comprehend, and use narratives or stories. At the macro-structural level and beyond identifying cross-over linguistic features, the narrative assessment focuses on the child's storytelling skills, including the content,

coherence, and context of story events. For ML children, these language abilities can carry over across languages (Pearson, 2002). Narrative assessment may better reflect the language development of ML children who have linguistic resources in their home language(s) and English (Guzman et al., 2017). Apart from grammar, assessing narrative skills or assessing the recital of story grammar elements also provides insights into an ML child's cognitive development, including memory, sequencing, and problem-solving. It offers a window into the child's social-communicative competence, highlighting their ability to convey ideas, emotions, and experiences (Winters et al., 2022). Narrative assessment can also be adapted to consider cultural and contextual factors, improving the likelihood of a fair evaluation of ML children's language skills (see Castilla-Earls et al., 2015; Gillam et al., 2012; Minami, 2002).

Addressing the Needs of a Growing Population

According to the Migration Policy Institute, from 2015 through 2019, there were over 11 million ML children, equivalent to 33% of the national population of children from birth to eight years of age. MLs are often defined as having a home language (or first language, L1) that is different from English. The number of ML students has grown over the years. It is reported that this number has grown by 24% in the recent 20 years (Migration Policy Institute, n.d.). In the U.S., multilingualism is present in all racial/ethnic composition. According to the National Center for Education Statistics (NCES, 2023), between 2000 and 2017, the percentage of school-age Latine children increased from 16 to 25%. Three-quarters of all students identified as English learners were Latine (77%).

The U.S. Department of Education reported that, in 2020, English learners (ELs) reached five million or over 10% of the public student population. The number was even larger for younger ELs in kindergarten and first grade (13% and 15% respectively; NCES, 2023). In the U.

S., although ML and EL are often used interchangeably, an EL is a federal term applied to a child identified with low English proficiency (Oregon Department of Education [ODE], 2020; NCES, 2023). All EL children come from ML backgrounds; however, not all ML students are ELs (U.S. Department of Education, 2022). In this study, while ML is an umbrella term that refers to speakers of two or more languages with various English proficiency levels, ELs are defined as needing and participating in language assistance programs to help ensure that they attain English proficiency and meet the academic content and achievement standards expected of all students. For example, in the 2020–21 school year, most identified ELs were served by EL programs, such as English as a second language, bilingual education, and dual-language education (NCES, 2023). Spanish is the most commonly reported home language of EL public-school students (NCES, 2023). In 2020, ELs who are from Spanish-speaking backgrounds represented almost 77% of all ELs, 8% of all public-school students, 82% of all ELs in California (NCES, 2023), and 79% of all ELs in Oregon (ODE, 2020). From 2009 to 2018, the number of EL students in public elementary and secondary schools who speak Spanish increased by more than five percent, accounting for over 190,000 students.

Given emerging English proficiency and the influence of children's home languages on their English, when young ELs are producing narratives in English they are likely to produce errors. For Spanish speakers specifically given the differences in grammar they are likely to produce errors in word order, clitic pronouns, plural forms, and verb tenses (Castilla-Earls et al., 2020; Paradis, 2005; Prath, 2016). Spanish speakers may produce various language errors in English not only in morphosyntax but also in phonology and semantics. This study takes an innovative step in investigating the language use patterns produced by this group of ELs. We envision that this approach could be used to inform narrative scoring in assessments

administered in English with Spanish-speaking ELs.

Reading Outcomes of English Language Learners

ELs experience significant discrepancies in their academic outcomes compared to monolingual English-speaking students (ODE, 2020; Sanchez, 2017). One of the academic outcomes to be considered is reading. Reading performance is associated with English proficiency scores in all grades (Parker et al., 2014), and ELs' reading scores are reportedly lower than those of English-speaking peers (NCES, 2023). In 2022, only 10% of the fourth-grade ELs, compared to 33% of all students of the same grade, were at or above proficient in reading on the National Assessment of Educational Progress. The number increased by one percentage point compared to that in 2017 and 4 percentage points to that in 2009. Although this national number increased, some states experienced a decrease in the number of ELs scoring at or above proficient on reading performance (NCES, 2023).

There are many reasons why reading is challenging for EL students. First, reading comprehension is heavily dependent on vocabulary knowledge, grammatical understanding, and overall language skills. With low or emerging English proficiency, ELs may struggle to comprehend texts at the same level as their English-speaking peers (Parker et al., 2014). Moreover, differences in cultural and linguistic backgrounds can affect how ELs approach reading. Because texts usually contain cultural references, idioms, or vocabulary that are unfamiliar to ELs, this can impact their comprehension of the reading content (Yousef et al., 2014). Some ELs from lower socio-economic backgrounds are reported to face additional challenges in developing reading skills such as limited access to reading resources (Farver et al., 2013; Ibáñez-Alfonso et al., 2021; Kigel et al., 2015). Last but not least, with the increased number of ELs, they experience limited access to specialized support services, such as English as

a Second Language programs or bilingual education (ODE, 2020; Sanchez, 2017). Lack of targeted interventions and support can then contribute to reading disparities.

Assessing Multilingual Students

Assessment to support the early identification of students who would benefit from additional reading instruction is needed to improve the reading performance of ELs. However, for many teachers, assessing young MLs is more challenging than monolinguals who speak only English (Farnsworth, 2018). Due to the variability in the language exposure of MLs to both their home language and English and the varying quality of the educational experiences they receive, it is difficult to distinguish between MLs who are struggling academically because of language differences and poor instruction or due to an actual disability (Goldstein, 2022). Because it is hard to distinguish, a more accurate understanding of typical errors or differences in Spanish-influenced English would inform the estimation of their narrative production abilities. Children will draw on their cross-linguistic resources to respond to narrative production prompts and this will naturally be reflected in their responses. This work is being conducted to describe these cross-linguistic influences, how to interpret them, and integrate them into more linguistically representative narrative scoring procedures.

The emerging English abilities of Spanish-dominant students can lead to language use patterns that are different from monolingual English-speaking students. This could make them more vulnerable to misidentification of language disabilities or language impairments (National Center for Learning Disabilities [NCLD], 2020; Office of English Language Acquisition [OELA], 2021). Disability misidentification refers to situations where EL students may be incorrectly identified as having a disability when their academic challenges are primarily related to emerging English proficiency. The likelihood of disability misidentification of ELs is a

concern in the education system and has several contributing factors. The very first and most mentioned factor is the inappropriate use of standardized tests for assessment, which often looks at accurate performance of test items but does not accurately measure the "multiple linguistic resources" that ELs make use of, especially if the assessment does not count for interaction, influence, or transfer among languages (p. 8, Guzman-Orth et al., 2017). Not to mention, most young ELs may go through phases of language transition or interlanguage, where their proficiency in their home language is still developing while they are acquiring English. During this interlanguage transition, they might exhibit characteristics, such as developmental errors (e.g., generalization of a verb form or reduced complexity in language use) or transfer errors (i.e., applying the home language rules when speaking English) that are misinterpreted as signs of language disabilities (Paradis et al., 2021).

As discussed above, the language support and general education provided to these EL students fall short due to a lack of educational support (ODE, 2020; Sanchez, 2017). Educators also have limited training in recognizing and addressing the needs of ELs. They may not be aware of the ways ELs learn and demonstrate knowledge. This can lead to a lack of understanding regarding the typical language development of ELs and can result in misinterpretation of academic performance. New assessment approaches are needed to reflect early the unique linguistic issues associated with ML development and the EL's needs and to identify various patterns of language errors associated with the acquisition of a second language, which helps to inform the typical and atypical language development for ML children.

Multilingual language assessment refers to the evaluation of a child's proficiency in multiple languages. This assessment plays a crucial role in evaluating language skills and ensuring that children are appropriately placed or qualified based on their language abilities, such

as EL programs or special needs services. As Guzman and colleagues (2017) proposed, the assessment outcomes are required to account for the diversity of the ML children, even when they speak the same language. The assessment needs to respond to the children's linguistic experience including language and literacy exposure, current language development, and family backgrounds that inform the language input. After all, the information obtained from the assessment should support language instruction, communication, and integration in multilingual and multicultural societies (Guzman et al., 2017).

Language Difference among Multilingual Children

Young ML children are hypothesized to develop two or more language systems that inter-relate with one another (Paradis et al., 2021). The cross-linguistic influence is therefore evident and inevitable for those young MLs who are learning a second language (L2) while acquiring their L1 (Goldstein, 2022; Paradis et al., 2021). Depending on the properties and exposure of the multiple developing languages, the cross-linguistic influence could yield positive effects. For example, the structural similarity of the two languages should lead to positive L1 transfer, facilitating the acquisition of the L2. A Spanish-speaking child with previous knowledge of definite and indefinite articles "a/an/the" learned from their L1 Spanish would find it more comfortable acquiring this concept in English than a Chinese-speaking child whose L1 has no definite/indefinite article rule (Paradis et al., 2021). Or, a good repertoire of Spanish-English cognates, pairs of words that overlap in form and meaning in two languages, would increase the word reading in English for Spanish-speaking English language learners (Kelly & Kohnert, 2012). This linguistic manifest, besides the cognitive benefits, is known as a multilingual or bilingual advantage (Barac & Bialystok, 2012).

There are challenges with the acquisition of multiple languages within the context of the

US. First of all, the cross-linguistic influence is referred to as the substitution of an L1 rule or structure, which is not part of the L2 norm, to L2, leading to language errors in the L2 production, and vice versa. In other words, when ML children are acquiring proficiency in multiple languages, they may produce various language errors along the way given cross-linguistic influence. Another factor that affects their L2 proficiency lies in the age of L2 acquisition, meaning the age at which a child is exposed to the new language can affect the occurrence and nature of their language errors. Moreover, socio-economic status, access to quality education, and family support can inform the amount and quality of the language input, and then impact language development and the prevalence of language errors. And lastly, cultural differences may lead to varying language norms and conventions, which may also contribute to errors in language production (Paradis et al., 2021).

To sum up, although language errors are a natural part of language acquisition, the process can be challenging for a large group of students with diverse linguistic and racial/ethnic backgrounds. The commitment of these students to academics becomes even harder when their English proficiency is assessed as low, which is usually the case for English learners.

As Pieretti and Roseberry-McKibbin (2016) put it, “a language difference [is] to be expected when a child learns a new language” and cannot be considered as an indicator of language disabilities (p. 118). Multilinguals can speak two or many different languages or respond in such languages in different contexts such as home, school, or other public places. Language differences manifest in the different use of vocabulary, sound structures, word structures, and sentence structures. Such differences in language performance would be considered errors and affect the interpretation of the ML language skills. After all, such differences are natural and part of the language-learning process.

ELs, especially those with low English proficiency, may make a large number of errors in their English language performance, such errors could be cross-linguistically related and typical. Moreover, various authors believed that it is not expected that ML students perform equally well in all areas of their languages; instead, their language use is purposeful in different topics with different interlocutors (Guzman-Orth et al., 2017, Paradis et al., 2021). Divided exposure to both languages could also require more time for the development of both languages and therefore they will make errors in language production while still learning, which is developmental and natural (Paradis et al., 2021).

To reflect more current findings regarding the early acquisition of English as a second language within the context of the U.S., it is clear that we need more advanced solutions for dual language measurement that are scalable and accurate (NCME, 2020).

Appropriate Language Assessment for ML Learners

It is widely agreed that many language assessment tools were originally developed for monolingual English-speaking students. Very often, they are traditional standardized norm-referenced assessments with static test procedures that are taken at a singular point in time and can provide a rapid result of children's performance as compared to peers of the same age (Condouris et al., 2003). However, such standardized static assessment can be a biased approach because, as said, most of these tools are designed for monolingual children from White middle-class families (Gutiérrez-Clellen & Peña, 2001; McGregor, 2020) and ignore unique differences associated with multilingual development (Laing & Kamhi, 2003; Guzman et al., 2017). When administered only in English with a measure that was not designed to be used with children who speak another language, ML children may not be able to demonstrate their knowledge to the best.

In contrast, it is important to use assessments that are constructive and formative. They must have been designed with cultural and linguistic sensitivity in mind. These assessments should consider the cultural context and specific linguistic traits of the languages involved. For example, the assessment items make use of familiar topics in order not to estrange the ML student. If standardized assessments are necessary, they can examine both the ML's accurate and inaccurate performance in the test, using multi-tiered support to investigate the inaccurate section. This should be done with knowledge of which range of error patterns are typical with regard to the ML language difference, language transfer, and the various levels of proficiency in L2. By addressing these, it can be ensured that ELs receive an appropriate assessment, leading to appropriate support services and education they need to succeed (Guzman et al., 2017).

The Current Study

The purpose of this study was to explore the different language use patterns that emerge in the coding of English narrative production samples of kindergarten and first-grade Spanish-English bilingual students. Macrostructural, microstructural, and language complexity elements will be scored. The "patterns of language use" reflect descriptively how frequently or correctly each of these language elements is used and whether there exists any cross-linguistic influence for Spanish-speaking bilingual children in their English narrative production. The frequency or commonality of these patterns may help provide a deeper understanding of their multilingual development. Moreover, the study will also look at how these cross-linguistic transfer patterns are correlated. For example, if the variance exists among the macro-structure, micro-structure, and/or language complexity and between English and Spanish, what assessment or instructional guidance can be discussed? Lastly, the study aims to investigate the relationship of these language elements towards the children's English language proficiency. This means, if the

prediction is significant, the value of these language use patterns is confirmed. An understanding of such common patterns should therefore be discussed for the assessment process and intervention/instruction information.

As you have read, this Chapter I covered the role of narrative assessment for multilingual children as well as language differences for these children. This chapter also discussed the prevalence of multilingual children, especially those who speak Spanish in the home settings, English language learner status as an indicator of low English proficiency, and appropriate assessment approaches for those children with cultural and linguistic diversity. Definitions of ML, EL, and narrative elements were also provided in this chapter.

Chapter II provides a more detailed description of the language development of young MLs and discusses what was already known about bilingual narrative assessment in a broader manner. A review of Spanish-influenced English language use was conducted to understand the need to explore those common language use patterns in young Spanish-English bilinguals. The patterns were explored at both macrostructural and microstructural levels as well as the children's use of language complexity.

Chapter III focuses on the methods. To understand the patterns of using language elements, descriptive analyses were suggested. The question was about the common patterns that Spanish-speaking bilingual kindergartners and first graders use to express their macro-/micro-structural and language complexity elements. A mean difference between the two grades was calculated. Moreover, a correlation among these patterns, proficiency scores, and grade levels was also conducted to see the variance. Lastly, the interest was in investigating whether there was a relationship between these structures and the student's English proficiency and/or how they can predict the students' initial English language proficiency.

Chapter IV presents the results and findings of the research without interpretation. It includes descriptive statistics, correlation information, and regression results of these language elements. The descriptive statistics provide a summary of the main characteristics of the data (e.g., mode, means, standard errors, and standard deviation). A description of the language samples is included. The correlation and inferential statistics report results of statistical tests used to examine relationships or differences among variables. Besides, there are figures and tables to help illustrate key findings, ensuring they are clearly labeled and referenced.

Chapter V interprets the results in the context of the research questions and the existing literature. It includes a summary of findings and compares them with the current literature, noting agreements or discrepancies. Implications are also discussed and related to the theoretical, practical, and policy implications of the findings. Last but not least, the limitations section acknowledges the limitations of the study and their impact on the findings and suggests areas for further research to address unresolved problems in the study.

CHAPTER II

LITERATURE REVIEW

Assessing language ability is crucial because it is the way to help professionals and service providers understand and support young MLs. Language ability is defined as the capacity of an individual to use a language in the real world (Farnsworth, 2018). Language ability includes an age-appropriate performance in language form, content, and use. This includes the language areas of phonology, semantics, morphosyntax, and pragmatics (Gillam et al., 2010).

In language assessment of ML children, it is important to know about the child's language ability and differentiate between a language difference or a language delay or disability. That means it is crucial to investigate whether the language difficulty is caused by the fact that their L1 is different from the language being used and assessed or whether such difficulty is associated with their language impairment (Laing & Kamhi, 2003; Kohnert, 2010; Paradis et al., 2021). This differentiation requires understanding typical patterns of production identified within a group of children that are exposed to both English and Spanish across their daily routines at home and school.

The goal of this study is to find an answer to the question, "What language patterns are common in the narrative production of Spanish-English bilingual students?" The current literature review will first summarize the language development of multilingual children, hypotheses and characteristics of multilingual development including the common patterns of language use frequently made by Spanish-English bilinguals. This study also focuses on narrative assessment as an authentic method that can support the quality of sampling of the young participant's language performance. Moreover, because narrative performance is related to long-term academic outcomes (O'Neill et al., 2004) including reading ability within and

across languages (Dickinson & McCabe, 2001; Miller et al., 2006) and writing (Kirby et al., 2021), it is a good fit to examine Spanish-influenced English patterns among young Spanish-English learners.

Search Strategy

The search for articles and materials for this literature review is conducted using the search terms and databases as described below.

Search Terms

The search terms included eligible participants (who are "young children" in general and "multilingual learners" in specific), the assessment measure (i.e., narrative assessment), and areas or outcomes of the intervention (e.g., ability or disability classification.). Boolean operators (AND and OR) were used to connect the four categories, and truncation * to search various forms of the shortened search terms. Quotation marks "_" were used to search for terms with two or more components that were required to stay together. The terms were searched in the study abstracts. Specifically, the search terms were generated as follows:

> (Young_child* OR preschool* OR kindergarten*) OR (multilingual_learn* OR dual_language_learn* OR bilingual* OR English language learn* OR ELL OR EL)
> AND (narrative_assess* OR narrative retell* OR story retell* OR narrative_discourse)
> AND (abilit* OR disabilit* OR language behavior OR language skill* OR language develop* OR linguistic OR language error* OR linguistic error* OR error pattern*)

Databases

Four electronic databases were used including APA PsycNet, Academic Search Premier (ASP), ERIC, and Linguistics and Language Behavior Abstracts (LLBA). The APA PsycNet, ASP, and LLBA databases are the main sources for published peer-reviewed literature. The ERIC was considered as excellent sources for unpublished dissertations, theses, and other grey literature.

Footnote chasing or reference harvesting was conducted for relevant information regarding multilingual development and narrative assessment. Professional expertise was also consulted for important materials in the field that must be included in this review.

Language Development of Young Multilingual Children

Multilingual (ML) children are individuals who are exposed to and acquire proficiency in more than one language during their formative years. These children typically grow up in environments where multiple languages are spoken regularly, either within their family, community, or educational setting. Multilingual children can learn to understand, speak, read, and write in two or more languages simultaneously when they develop multiple languages at the same time, or sequentially when they have gained proficiency in one language first and start to acquire another later, usually after the age of three. This multilingual upbringing can provide them with a range of cognitive, cultural, and communicative benefits (Barac & Bialystok, 2012), but it may also present unique challenges in terms of language development and maintenance in a society that prioritizes the development of English over any other of the roughly 300 languages spoken in the U.S. (Laing & Kamhi, 2003; Guzman et al., 2017, Paradis et el., 2021; U.S. Department of Education, 2022).

Hypotheses of Language Development of Multilingual Children

As stated in Chapter I, language development for ML children is different from that of a monolingual child and the expectation for language growth based on monolingual language trajectories cannot simply be applied to multilingual growth (Goldstein, 2022; Guzman et al., 2017; Paradis et al., 2021).

Theoretical Frameworks

The theoretical framework of multilingual development encompasses various perspectives and hypotheses that seek to understand how children acquire and use multiple languages. To understand how multiple languages interact or influence one another during the acquisition, two hypotheses or frameworks are usually discussed; they are unitary language system and dual language systems.

Unitary Language System. Two main hypotheses have been proposed to explain the process of multilingual acquisition. One hypothesis suggests that ML children develop a one-memory or *unitary language system* (Volterra & Taeschner, 1978). The unitary system hypothesis states that ML children learn two or more languages simultaneously as one unified language until they begin to differentiate words and then grammatical rules in the languages they speak. The differentiation starts around age two or three or when they have obtained sufficient amounts of vocabulary and grammar in the languages. This hypothesis explains the purported absence of translation equivalents in the initial stage of ML development. Young ML children are explained to have one referent for one object; they say either "dog" or "perro" but not both to refer to *a four-legged animal that barks.* Because they developed a unified lexical and grammatical system, they may mix words or phrases in different languages or substitute L1 rules in L2 production. Although multilingual word mixing sounds acceptable, the substitution of grammatical rules is problematic and brings about language errors. For example, instead of saying "the red letter" or "I am *not* going", ML children may say "the letter red" or "I am going not". Hence, according to the hypothesis, until the two or more language systems are separate, erred language use may be unavoidable for ML children.

Dual Language Systems. Another competing hypothesis that is more widely accepted is the *dual language systems* (Genesee, 1989). The hypothesis states that ML children can separate each language in their repertoire from the earliest stages of their ML language development. The evidence lies in the ability to separate the phonology into two languages as early as infancy. According to this dual language system hypothesis, ML children develop translation equivalents; they can mix the languages but the syntax should always be correct no matter what language they are using. In their Miami Project of translation equivalents, Pearson and colleagues reported that no ML children or adults achieved 100% of translation equivalents in both (or more) languages. The highest average was 90% when ML students attended tertiary education (Pearson, 1998). As Guzman et al. (2017) put it, ML children draw out from their various language repertoires to serve their linguistic purposes; if the translation equivalent is needed and learned, it will come and stay. However, for the morphosyntactic systems, ML children differentiate them, which is evident in the weak connection of the number of words, combination of words, and sentence structures across languages (Marchman et al., 2004). For example, they say either “the red letter” or “la letra roja”, showing exactly the order of the noun and the adjective in English is the opposite of what it is in Spanish.

Recent research has gradually agreed that the two or more language systems that ML children develop are interrelated (Goldstein, 2022; Paradis et al., 2021). The use of both hypotheses explains different ways and different stages of ML development. After all, ML development does not equal two or more monolingual development; the two hypotheses combined help to understand the language interaction and rate of language development (Paradis et al., 2021).

Characteristics of Multilingual Development

Cross-linguistic influence is often observed in young ML children. This phenomenon can be explained by language dominance and the interaction in the structure of two or more languages (Goldstein, 2022; Paradis et al., 2021). First, because ML children are learning more than one language, they often show stronger abilities in one language over another. This strong language is considered a dominant language and usually happens because children are more frequently exposed to that language (Paradis et al., 2021). In this cross-linguistic influence, ML children apply the dominant language rules to their weaker language when they are required to speak the latter (Goldstein, 2022). For example, because Vietnamese has no verbal conjugations to express different tenses, a Vietnamese-English bilingual tends to leave out such conjugations but will use words such as *yesterday* or *tomorrow* to indicate time instead. Syntax is also cross-linguistically influenced and word order choices in L2 may also follow patterns that are unique in L1. For example, Spanish-speaking bilinguals may have clitic pronouns and express the possessive case in a reversed order in English. Similarly, due to the different word orders in English, Chinese, and French, a Chinese-English bilingual can place a relative clause in front of the noun that the clause modifies, or a French-English child can provide a word-by-word translation with the main noun placed in front of a modifying noun in English. This form of cross-linguistic influence seems to result in grammatical errors in English, which can either be temporary or persist for a long time as the multiple language systems permanently interact (Bialystok, 2002; Goldstein, 2022; Paradis et al., 2021).

Second, languages differ from one another in their sentence structure (syntax), word structure (morphology), sound structure (phonology), and vocabulary (lexicon). The interaction of two or more languages refers to how much they share their underlying structural properties.

Such an interaction of languages can explain an ML learner's choice of language use (Goldstein, 2022). In his book, Goldstein (2022) borrowed an example of overlapping structures in English and Spanish; while English has one option of using overt subjects, Spanish provides two ways: null and overt subjects. A Spanish-English bilingual child, within this cross-linguistic influence, would be more likely to use overt subjects in Spanish (Goldstein, 2022). The linguistic interaction could also be used to explain the learning of similar structures in the languages.

Another reported characteristic is ML children as young as two years old are able to tell apart the languages spoken to them. That they could produce and use translation equivalents before reaching the milestone of the first 50 words is a manifestation of this cross-linguistic influence (Goldstein, 2022). Moreover, ML children might learn a second language faster as more overlap is available in the structures of the multiple languages they learn and their language convergence is conveniently formed (Goldstein, 2022). Phonologically, research has shown that this "mutual cross-linguistic influence could be accelerating the acquisition of the shared sounds" of the two languages (Goldstein, 2022, p. 77). In terms of morphosyntax, there is evidence that the structure overlap could aid in ML children's comprehension and metalinguistic awareness (Goldstein, 2022). However, the downside to this cross-linguistic influence is when many contrasts exist in the two phonetic or morphosyntactic systems, ML children may experience or manifest certain deceleration in their language development (Bialystok, 2002; Goldstein, 2022).

Second Language Learning Process of Multilingual Children

Multilingualism is increasingly common in today's globalized world, and many children are raised in environments where they acquire proficiency in multiple languages. In multilingual households, children are exposed to different languages; they are provided with opportunities to learn and differentiate these languages. They may therefore naturally pick up on the contextual

cues and begin to associate specific languages with particular situations or people in communication. However, it is not until they reach a certain level of language proficiency that these ML children gain the ability to identify and properly use the language that their interlocutor is using (Paradis et al., 2021). For example, they can speak a language without any errors that could affect the quality of communication with the interlocutor. Although errors occur during the L2 acquisition process, those language errors could probably be developmental because the child is learning a language or transferred based on previous linguistic rules of a language the child knows. In their book, Paradis et al. (2021) preferred the term "patterns" to describe these errors with the belief that they are a natural part of linguistic development, whether it is L1 or L2. Moreover, the authors did not want to set a negative view of this language learning process, especially of those L2 learners attempting to practice the language. After all, it has been known that the linguistic practices of MLs are different from those of monolinguals. Although they make errors in language performance, they could develop various linguistic resources and communicate in two or more languages (p. 8, Guzman-Orth et al., 2017).

In light of this viewpoint, the language patterns discussed in this study do not stand for a deficit-based look at multilingual development. Instead, they identified through an assessment help to comprehend better the L2 acquisition process, also referred to as the interlanguage process. As Guzman et al. (2017) proposed, a good language assessment does not only measure the language skills and ability in general and the English language proficiency in relation to the L1 transfer in specific but also combines such information for a more accurate reflection of the student's language abilities. Patterns of language use identified in this study play a crucial role in better understanding cross-linguistic influence. The effect of varying levels of English proficiency on these patterns will also be analyzed.

During multilingual development, children may exhibit certain patterns of language use as they acquire and navigate multiple languages simultaneously or sequentially. It is worth noting that these young ML children are learning an L2 (e.g., usually English) while still developing their home language (i.e., L1), the language patterns could also be either developmental errors in nature as they could also be made by young monolingual children, or transfer errors when their knowledge of L1 interferes with the L2 acquisition.

Common Patterns of Language Use during English Acquisition

EL children often exhibit specific patterns of language errors due to cross-linguistic influence or the complexity of navigating multiple linguistic systems. Cross-linguistic transfer or interference errors occur when features of one language (i.e., usually L1) are inappropriately transferred to another (such as L2). These types of patterns are often morphosyntactic, involving verb conjugation, and word order (Bedore et al., 2018; Paradis, 2005; Prath, 2016). Different grammatical rules and structures in each language need to be considered when children are producing utterances that are drawing on all of the languages they are exposed to. For example, Bedore and colleagues (2018) identified in their study that Spanish-English bilinguals often made errors in the verb tense marking, such as in using regular and irregular past tense. In specific, they tended to over-regularize the verb or over-generalize a grammatical rule. They would say “they *runned* in the rain” instead of “they *ran* in the rain.”

Paradis (2005) pointed out erroneous language patterns used by ELs that look like errors made by English-only speakers with language disabilities. Besides the verb past tense, the patterns included the subject-verb agreement, such as in “he *wants* milk”, not “he *want* milk”, the special use of BE as a copula (e.g., “she is pretty”, “you are not fast”) and an auxiliary (such as in “he *is* running”), and the use of auxiliary DO to make negative or interrogative clauses, for

example, “do you like running?” and “I don’t like running.”

Regarding word order, Prath (2016) provided a detailed description and examples of how Spanish speakers use cues from Spanish grammatical rules to produce English. A Spanish-speaking EL may place an object before the main verb or a noun before an adjective that modifies it. For example, they may say “Juan me hit” instead of “Juan hit me”, and “she is a girl very nice” in replacement for “She is a very nice girl” (Prath, 2016). As discussed in the Characteristics of Multilingual Development section, word order is a common language pattern for almost all ELs of any language that manifests differently depending on the grammatical rules of the home language (Goldstein, 2022; Paradis et al., 2021).

Other patterns are included in the phonologic and semantic uses. McMillen et al. (2020) stated that ELs made more phonological errors when they first started learning the language and more semantic errors when the language was more advanced. These children also had difficulty with word retrieval due to increased lexical competition among the languages. For example, to make a choice between two words “cherry” and “strawberry” of similar features (e.g., fruit, red, and sweet and sour taste), they would have four representations in their L1 and L2, leading to semantic confusion and errors in the lexical choice. Moreover, a limited amount of exposure to a language, compared to full-day exposure to one language as of their monolingual peers, may affect the breadth and depth of their vocabulary repertoire in each language individually (Hoff et al., 2012; McMillen et al., 2020).

In short, each ML child is unique, and language error patterns can vary widely based on their specific language exposure, age, the contrasts between their two languages, and cognitive development. Like monolingual children develop their linguistic skills, some ML children may experience more challenges in certain languages than others. It is important to note that these

second language acquisition patterns are typically part of the normal process of multilingual language development. As children continue to interact with and receive exposure to different languages, they often progress toward more accurate and context-appropriate language use in each language. Caregivers, educators, and speech-language pathologists can play a crucial role in supporting multilingual children as they navigate second language acquisition and improve mastery of multiple languages (Paradis et al., 2021; Prath, 2016).

Spanish-Speaking Children Acquiring English as a Second Language

When Spanish-speaking children are acquiring English as a second language, they may exhibit similar language errors and challenges to those of ELs with other linguistic backgrounds, as they navigate the interlanguage transition from Spanish to English. In a study of the language growth trajectories of Spanish-speaking ELs, Rojas and Iglesias (2012) provided important information for these young learners of English. The researchers examined the expressive language of Spanish-speaking bilinguals over three years from kindergarten to second grade in two main areas of lexicon and morphosyntax as well as in the fluency aspect. The results indicated that their English language grew over time and was affected by their English ability at the beginning of the kindergarten year, rate of growth, summer vacation, and gender. In general, they performed a constant linear growth every year. Those with a higher score in the fall of kindergarten showed to acquire English more slowly and those with a lower score acquired the language in a faster manner. This happened probably because of the same curriculum taught to them. In terms of the effects of teaching and exposure, unlike the language growth in Spanish, their English vocabulary and utterance length were reduced after the summer vacation, indicating the lack of language teaching and/or exposure during this time. Regarding gender, girls are shown to develop vocabulary and grammar faster than boys. Language growth was different

from individual to individual; it was also different from language to language and from time to time within one individual, suggesting the use of a single language assessment to be sufficiently sensitive to measure linguistic variability (Rojas & Iglesias, 2012).

Regarding morpho-syntactical development, Davison and Hammer (2012) examined the mastery of grammatical morphemes of two groups of simultaneous and sequential bilinguals who were preschool-aged Spanish-English learners. There were 14 morphemes listed in the assessment; the assessment was carried out at the beginning and end of each school year for two years. In the first year, the simultaneous group showed a head-start and achieved mastery of prepositions *in* and *on*, plural forms, regular past tense, articles *a* and *the*, and present progressive form. Meanwhile, the sequential group first performed mastery of prepositions, articles, and regular past tense at the start of year one and then added the present progressive and irregular past tense (which only 43% of the simultaneous group mastered) at the end of that year. After two years, the sequential group caught up and gained similar levels of mastery, as compared with the simultaneous group. At the age of five, other morphemes most children of both groups mastered included possessive, contractible copula, and contractible auxiliary. Third-person singular and irregular third-person singular were emergent skills for these children. The results showed that these young Spanish-English learners had different development in the English morphosyntactic skills, depending on their initial exposure to English. Moreover, the grammatical development was positive and linear as a whole but fluctuated among different morpheme rules (Davison & Hammer, 2012). In summary, the patterns identified in the study are commonly discussed when it comes to English language learning as a second language (Paradis, 2005; Prath, 2016)

Use of Narrative Assessment

According to Guzman-Orth and colleagues (2017), the language assessment for young MLs needs to be dynamic in the sense that it shows not only the interaction of these learners using a language with different interlocutors but also the interaction of the different languages that these young children are acquiring. That is to say, a language assessment that can reflect all the linguistic resources (meaning one or more languages) that an ML learner uses in communication.

What is Narrative Assessment?

Narration or storytelling/story-retelling is a familiar activity to young children, especially preschoolers. This activity refers to how an adult or child puts words together to make meaning. Narration can be of any topic from a personal story (e.g., a new gift, a recent trip) to a fairy tale. Narrative skills are deemed significant because, for assessment purposes, they can reflect oral language capacity, predict academic performance, and measure social-emotional competence (Dickinson & McCabe, 2001; Miller et al., 2006; O'Neill et al., 2004; Petersen & Spencer, 2012).

In narrative assessment, two levels of elements are often considered; they are macro- and micro-structures. At the macro-structural level, narrative assessment is a method used to analyze and evaluate the structure and content of narratives or stories, often in the context of language development, storytelling, or literary analysis. The narrative macro-structure often involves story grammar components and the cohesion of the story details. The number of macro-structural elements varies from tool to tool. For example, the Narrative Assessment Protocol 2 (NAP-2; Bowles et al., 2020) developed for three to six-year-old children seeks responses to story grammar components (i.e., subgoal, problem, solution, and resolution), storytelling conventions

(such as title, conventional opening and ending, and time reference), narrative artfulness (including emotion reference, elongations, similes and metaphors, and gratuitous terms). Meanwhile, the CUBED Narrative Language Measures (NLM, Petersen & Spencer, 2016; Spencer et al., 2023), a tool for assessing pre-kindergarten to eighth-grade students, identifies two components including story grammar (e.g., character, setting, problem, feeling, attempt, consequence and ending), and episodic elements (i.e., problem, attempt, consequence, and ending).

The narrative micro-structure provides the context to measure the children's vocabulary and grammatical rules in their narrative production. The accurate and in-depth use of lexical forms, lexico-grammatical features, and morphosyntactic rules reflects their competence in linguistic skills. The language complexity is also measured at this level. The complex use of language manifests through the use of complex vocabulary or complex sentence structures. For example, the NAP-2 looks for tier 2 or less common nouns, verbs, adjectives, and temporal ordering (i.e., representing conjunctive cohesion of clauses). The NLM makes use of causal and temporal markers (i.e., use of *then, because, when*, and *after*) when children are connecting narrative details. The complexity can also be calculated as a ratio of the clauses that contain complex syntax and the total number of all clauses. Together with the macro-structural elements, the micro-structure provides a comprehensive assessment of narrative skills and related language skills to produce a narration.

Narrative assessment has been conducted for different purposes from screening to diagnosis (Petersen & Spencer, 2012). In terms of screening, the narrative assessment measure is required to be brief but valid for quick and easy administration. As Petersen and Spencer (2012) studied, the administration time ranges from one to seven minutes. Moreover, the use of

brief narration is common and reliable for the measures of macro- and micro-structural elements and the report of inter-rater scoring. The narrative elements can also be reduced with no significantly different results for faster administration (Petersen & Spencer, 2012). For the identification purpose of young children at risk for or with language delays, Winters et al. (2022) conducted a meta-analysis of all narrative assessment measures used from 1987 to 2019. They found a significantly distinct difference between typically developing children and those with developmental language disorder in narrative skills. In specific, the greatest difference was reported in the use of story grammar and performance of grammatical accuracy.

Narrative Assessment for ML Children

Narrative tasks have been utilized for young ML children for various types of language measurement (Spencer et al., 2023; Uccelli & Páez, 2007). The languages of administration are often English and Spanish. Spencer and colleagues (2023) investigated the reliability and validity evidence of using NLM – Listening subtests to assess Spanish-English Head Start preschoolers in the narrative retell tasks. The English and Spanish retell scoring included both macro-structural elements like story grammar, and episode, and a microstructural element of language complexity such as using *then, because, when,* and *after*. For criterion-based concurrent reliability and validity, the scores of the Clinical Evaluations of Language Fundamentals-Preschool and Natural Language Sample were collected in both English and Spanish. The results indicated the strong reliability and validity of the NLM and its moderate correlations with criterion measures of language such as total number of words, number of different words, mean length of utterance, word and sentence structures, expressive and receptive skills, etc. The NLM-Listening was considered promising for progress monitoring in preschool classrooms.

Uccelli and Páez (2007) combined narrative assessment and the Spanish and English Picture Vocabulary from the Woodstock Language Proficiency Battery – Revised to elicit and measure the Spanish-English vocabulary and narrative skills of kindergarten and first-grade MLs. Their narrative assessment was scored micro-structurally in total number of words, number of different words, complex syntax, noun lexicon, and reference clarity. Macro-structurally, the assessment collected the story scores of story elements, sequence, and perspectives. Findings included significant gains for all English oral language measures and Spanish narrative story scores. Regarding vocabulary, many Spanish-English learners showed English improvement over two years but still scored below the monolingual mean in first grade. Spanish vocabulary could predict Spanish narrative quality in first grade. For narrative skills, a total number of different words proved to be a sensitive developmental measure in contrast to a total number of words. Cross-linguistically, Spanish story scores in kindergarten predicted English narrative quality in first grade even when controlling for the effects of English vocabulary and English narrative productivity (Uccelli & Páez, 2007).

Patterns of Language Use in Narrative Language Production

A narrative retelling task involves the integration of linguistic and cognitive skills. That means children in a narrative assessment need to show an understanding of the narrative told to them, a strong memory of all the episodic details including the problem and resolution of the story, and a narrative production that is morpho-syntactically accurate with strong lexical use. Because a narrative bears complicated connected events, the production may require the use of complex structures that express causal or temporal relations. The use of a narrative in language assessment could therefore be responsive to the identification of both typical and atypical error

patterns when a child uses a language in a narrative production. In narrative assessment, the errors are often referred to as belonging to the macrostructural and microstructural levels.

At the macro-structural level, narrative assessment often examines a child's ability to structure a story with a clear beginning, middle, and end, and express such episodic events in a smooth and connected manner. Language errors related to story organization may include difficulty in maintaining a coherent plot, misusing causal or temporal markers, or failing to provide a resolution. Children may also be involved in difficulty in constructing complex sentences, resulting in choppy or overly simple narratives. In terms of language complexity in storytelling skills, a lack of cohesion is another type of language error that makes it challenging for listeners to follow a child's story.

The microstructural level of narrative assessment is related to the use of morphosyntax. That means language errors in narratives can manifest as grammatical and syntactic issues. This includes errors in verb tenses, subject-verb agreement, pronoun use, and sentence structure. Similarly to the cohesion in the narrative skills, language complexity can also be assessed at this level through the use of conjunctions, ordinal adverbs, and adverbs of time. The lack of such conjunctions and adverbs as **and, but, because, before, after, for, if, when, while**, as well as **first-then**, **immediately, instantly, again, already, always, lately, now, once, presently, rarely, today, and weekly** can be considered as signs of simplistic sentence structures. Moreover, vocabulary and word choice can be revealed in narrative assessment. The use of tier-two nouns and verbs, which are more complex or more precise forms of common nouns and an action verb, can be used to detect errors that might involve using overly simplistic language or struggling to find appropriate words to convey ideas.

The Use of Narrative Assessment in Early Screening

As mentioned before, narrative procedures can be developed for screening purposes (Cavazos & Ortiz, 2020; Justice et al., 2010; Petersen & Spencer, 2012). In this study, the focus of the Multitudes Narrative Production Screening tool is on early identification of reading problems. This is not to be confused with diagnostic assessments that result in the diagnosis of communication disorders or language delays. The tool is meant to identify children who would benefit from language scaffolding and intentional approaches to increase language development. To use narrative assessment for screening purposes, scoring procedures need to be with fewer elements, but still be valid with quick and easy administration. For example, Petersen and Spencer (2012) suggested the administration time range from one to seven minutes depending on different sections and the number of narrative elements be reduced without significant difference in the outcomes. The macro-structural elements to be scored included character, setting, problem, emotion, plan, attempt, consequence, ending, and end feeling. The language complexity was measured by the use of *then, when, after,* and *because.* With such changes in time and story grammar, the authors advocated that there was no significant variance in the micro-structural measures such as total number of utterances, words per minute, number of different words, and mean length of utterance. The narrative assessment outcomes could then be used to inform intervention such as selecting differentiated or individual instruction goals and objectives (Petersen & Spencer, 2012).

In the Multi-tiered System of Support model, Cavazos and Ortiz (2020) investigated how narrative assessment supported the language and literacy learning of ELs. They conducted the study with 28 Spanish-speaking third-grade students and examined their personal narratives or stories of the students' past experiences or events in both English and Spanish. However, instead

of using the narrative elements, the scoring scale included comprehension (i.e., understanding of the topics), fluency (e.g., answering the prompts fluently without pauses), vocabulary (meaning the use of simple to complex vocabulary to express ideas), pronunciation (to see if the narrative production is intelligible phonologically), and grammar (i.e., grammatical errors and cohesion). The results showed narrative scores were correlated with the state English proficiency assessment and indicated students achieved higher scores on comprehension, fluency, and pronunciation but lower scores on vocabulary and grammar. This suggested that EL language problems lay in the micro-structural and language complexity areas and instruction be focused on those elements for reading improvement (Cavazos & Ortiz, 2020).

Justice and colleagues (2010) attempted to compare the long form of narrative assessment with the reduced form of fewer narrative elements for use with a large population. The assessment focus was on micro-structural elements only including sentence structures, phrasal structures, modifiers, nouns, and verbs. The short form of narrative assessment was created based on the factorial analysis of the long-form elements. It showed a strong correlation with the long form, indicating strong construct validity. The researchers also examined the online and offline scoring through videos and transcripts, taking into account the administration time. The findings showed that there was no variance in the scoring methods, suggesting the video scoring was valid and recommended because it was free from the time-consuming transcript constraints. Moreover, both forms were strongly correlated with other standardized language tests, showing the tool's capacity to identify children's language abilities. What was better was the narrative assessment was administered in a more naturalistic manner (Justice et al., 2010).

In summary, narrative assessment elicits naturalistic language samples through storytelling. Using narrative assessment for screening purposes for a large population can be

made possible through the adaptation of the scoring procedures and reduction of narrative elements. These scoring procedures also need to embed the differences that will be found across the population that are not present because of language difficulties, but rather language differences. In educational settings, language gathered from narrative production assessments can help gather information about a student's abilities and potential need for more intensive instruction to support language development which provides the foundation for reading.

CHAPTER III

METHOD

The goal of this study is to explore the patterns of language use that Spanish-speaking English language learners make in their English narrative production. The research took a quantitative approach and made use of an extant data set of narrative language samples of Spanish-speaking kindergarten and first-grade students. The different types of language use patterns were identified and their - and sub-types were counted. Descriptive analysis, correlation, and multiple regression were utilized to understand the types of language patterns, the frequency of each sub-type, how these patterns were associated with one another, and how they predicted students' English proficiency.

Research Questions

This research investigated the patterns of language use made by Spanish-speaking kindergartners and first graders who were acquiring L2 English. The research questions (RQs) are:

RQ1: What macro-structural elements did Spanish-speaking bilingual children tend to include most frequently in narrative story production in English?

RQ2: What micro-structural features were most frequently used when Spanish-English bilingual children produce narratives in English?

RQ3: What was the language complexity of the English narratives produced by Spanish-English bilingual children?

RQ4: What was the relationship between the macro-structural, micro-structural, and language complexity elements used by Spanish-English bilingual children in kindergarten and first grade?

RQ5: What was the relationship between the initial English proficiency and the narrative elements produced by Spanish-English bilingual children during a narrative story production task?

Extant Data Analysis

The data set used in this dissertation was provided to me by the Multitudes Project of the University of California, San Francisco.

Description of the Data Set

Original Study Setting

The Multitudes Project is developing a narrative production screening tool for kindergartners and first graders who speak Spanish at home. The project is focused on developing reading screening measures for the State of California to support the early identification of students who would benefit from additional instructional support in reading. The original data was collected from many school districts in the state, including Buttonwillow Union, Center Joints Unified, Compton Unified, Mt Diablo, Hollister, Pajaro Valley Unified, Pleasanton Unified, and Yuba City Unified.

Selection of Participants

The samples used in this study initially included 44 recordings of Spanish-speaking ELs from a larger set of 1,347 kindergartners and first-graders who were administered the narrative production measure. Because the study focused on identifying patterns of language errors that Spanish-speaking ELs made in English, students who were not Spanish-speaking were excluded from the study. Another point of consideration was that the sample must be representative of the participants, with one narrative sample per participant being included in the study. Any duplicate sample from the same student was excluded. Lastly, language samples where students trans-

languaged or combined both English and Spanish were included, but the English language part was required to be sufficient to reflect the use of at least one of the language elements identified in the study, such as a problem, a verb, or a temporal marker.

In the end, after excluding samples of students who spoke English only, of the same students (i.e., for those who provided two samples, only one sample was used), and of insufficient language in the sample to judge performance, there remained 37 language samples. Please see Chapter IV Results for more description of the language samples.

Measures

Multitudes Narrative Production Screening

The Multitudes Narrative Production Screening tool is meant to identify children who may struggle with reading development. Children completed two narrative tasks in English and Spanish. First, the children watched a short video and completed a story production task. Children were told, “You are going to watch a short video. Watch the video carefully! When the video is over, I want you to tell me everything that happened.” After watching, children might receive additional directions like “Tell me a story of the video you just saw”. Or they could be prompted; for example, “Can you tell me more?” if more details were needed and “Can you respond in English?” if they responded in Spanish. Examiners used English throughout. All narratives were audio recorded and then transcribed using Systematic Analysis of Language Transcripts (SALT; Miller & Iglesias, 2019). SALT is a tool often used to transcribe language samples of a communicative interaction into a common format. SALT has commonly been used by clinicians and researchers to compute a series of general analyses of lexical, syntactic, semantic, rate, fluency, and error categories (Bedore et al., 2006; Fabiano-Smith & Goldstein, 2010; Kapantzoglou et al., 2017; Kohnert et al., 2010).

Initial English Language Proficiency Assessments for California

The English Language Proficiency Assessments for California (ELPAC, California Department of Education, n d.) is a required state test for English language proficiency that every student who speaks other languages than English must take in California. It is federally required that local educational agencies administer a state test of English proficiency to eligible students whose families indicate that a language other than English is spoken at home in kindergarten through grade twelve. In California, the ELPAC assessment has been used since 2018. The ELPAC is aligned with the 2012 California English Language Development Standards. It consists of two separate assessments: one for the initial identification of students as ELs, and a second for the annual summative assessment to measure a student's progress in learning English. The Initial ELPAC is administered to students only once at the school entrance. The score ranges for kindergartners and first-graders are from 150 to 600 divided into three levels: novice EL (150–369), intermediate EL (370–449), and initial fluent English proficient (450–600). In this study, we used the Initial ELPAC to explore relations between kindergarten and first-grade students' English proficiency and English language narrative production patterns.

Process for Coding the Data

All transcripts in English contained intelligible utterances that could be used to code language use patterns. The first coder went over utterance by utterance and underlined or checked parts that contained Spanish-influenced English patterns. Both macro-structural and micro-structural elements were coded (Spencer et al., 2023). Although language complexity is often included at the micro-structure level, it was counted as a separate level for a more detailed examination in this study. Specifically, the macro-structural patterns included episodic elements of problem and solution. The patterns were identified when the child did not include one of these

elements, included an incorrect detail of either element, or included a correct answer about an element. The micro-structural patterns were about the morpho-syntactical use of nouns, pronouns, and verbs. Please refer to Table 1 for types and definitions of the micro-structural patterns. The language complexity patterns reflected the frequent use of lexicon or word choice and the complex sentence structure. For example, whether the use of nouns or verbs was complex and precise to depict the story detail, or if a student made use of adverbs that were causal or temporal markers to connect details in a story. Such markers included but were not limited to **first…then, after, when, before, once, while, so,** and **because**, which could bring about the use of compound or complex sentences**.** Tables 1 and 2 explain the patterns and elements in a detailed manner.

After the first coder identified the types of Spanish-influenced English patterns for the underlined/checked parts, they counted and recorded the frequency of these language patterns for each transcript/student. The second coder did the same for 20% of the transcripts. After 20% of the transcripts were coded, the two coders compared their work, discussed any discrepancies, and made adjustments to coding through a consensus process as needed.

Inter-Coder Agreement (ICA)

To ensure that data were reliably and validly coded, the two coders worked together on Tables 1 and 2 to learn to detect Spanish-influenced English patterns and types of patterns. The first coder was the primary investigator of this study, a doctoral candidate of the Special Education Program at the University of Oregon. She has a Master of Science in Early Intervention and Early Childhood Special Education and focuses her research on supporting multilingual children with special needs. The second coder was a Spanish-English Bilingual

Speech Language Pathologist and also doctoral candidate of the same doctoral program at the University of Oregon.

In the plan, before coding, they worked together to understand the operational definition of different types of language use patterns using Table 1. They practiced coding and discussed any discrepancies. First, they coded together on five language samples, using Table 2 for coding scores. After practicing coding together, they coded five more samples separately and calculated the agreement, using the following formula:

$$R = \frac{\text{total codes} - \text{\# of disagreements}}{total\ codes} \text{x } 100$$

The resulting R or percentage agreement was used to judge the reliability between two coders. They resolved disagreements by consensus. The consensus was made by looking back at the language sample, discussing why the decisions had been made, and deciding on one final answer. Finally, the two coders coded independently using what they agreed on during the consensus. The first coder coded all of the remaining samples. The second coder coded two more samples to reach the 20% goal; the samples were selected in a random manner. The official R were calculated and reported for this 20% of the coding. The expected percentage of agreement was 85% and above. Finally, the ICA achieved was 85.2%, fulfilling the expectation. Please refer to Chapter IV for more details on the ICA results.

Table 1

Levels of Elements and Codes of Patterns of Language Use – Narrative Language Sample

Type of Language Use Patterns				Code	Dummy Code	Definition
Macro-structural	Episodic Elements	Problem	Included correctly	PROB	2	Child provides a correct detail of the problem
			Included but incorrect		1	Child provides a related but incorrect detail of the problem
			Not included		0	Child does not include the problem in the narrative or give any information of the problem
		Solution	Included correctly	SOLU	2	Child provides a correct detail of the solution
			Included but incorrect		1	Child provides a related but incorrect detail of the solution
			Not included		0	Child does not include the solution in the narrative or give any information of the solution
Micro-structural	Nouns	Plural forms	Correct use	PLU	PLU_2	Child makes correct use of plural forms for nouns
			Incorrect use or not included		PLU_0	Child mixes up between singular and plural nouns (e.g., **one cats**), does not generate the plural forms (**s/z/iz** such as **three dog**) when needed, or overgeneralizes plural forms (i.e., **the sheeps**)
			Correct use	POSS	POSS_2	Child makes correct use of the possessive case (‘s)

	Possessive forms	Incorrect use or omission		POSS_0	Child does not use the possessive form (‘s) in the retell (such as **Paul house instead of Paul’s house**) or provides a incorrect order of words when expressing possession (e.g., **house’s Paul instead of Paul’s house**)
Pronouns		Correct reference	PRON	PRON_2	Child uses a correct pronoun to refer to a preceding noun
		Incorrect reference		PRON_1	Child provides an incorrect pronoun to refer to a preceding noun (e.g., pronoun is used after a noun togather as a subject or it is used to refer to “dad”, like “The dad **it** just catches it”)
		Omission or no use		PRON_0	Child misses using pronouns when needed (e.g., “Likes ice cream” without indicating a pronoun for the verb **likes**)
Verbs (VERB)	Copula “be”	Correct use	BE	BE_2	Child correctly uses BE to reflect the subject and tense as needed in an utterance
		Incorrect use		BE_1	Child provides an incorrect form of “BE” (e.g., **he were happy**)
		Not included		BE_0	Child misses using BE such as **the frog not here, she pretty**
	Auxiliary + Main Verb	Correct use	AUX	AUX_2	Child correctly uses auxiliaries such as am/is/are/was/were/do/does/did/have/has/had + (not) + main verb to express tenses, moods, or voices as needed
		Incorrect use		AUX_1	Child provides an incorrect structure of an auxiliary and main verb, such as **the boy was yelled at the dog**
		Omission or no use		AUX_0	Child omits or does not use an auxiliary when it is needed, such as “The girl going to the beach” with a missing “**was”**
	Past tense	Correct use	IRV/REV	IRV_2/REV_2	Child provides a correct form of the verb in the past tense whether it is regular or irregular.

		Incorrect use of irregular verbs	IRV	IRV_1	Child provides an incorrect form of an irregular verb in the past (e.g., adding ed to it as a regular verb, **The mouse runned away**)
		Incorrect use of regular verb rule	REV	REV_1	Child does not pronounce (d/t/id) when needing to add ed to the regular verb (e.g., **he climb up the ladder**)
		No use	IRV/REV	IRV_0/REV_0	Child does not use any verb
Language Complexity	Use of Temporal & Causal Vocabulary	Included correctly	TEMP	2	Child correctly uses the temporal or causal vocabulary such as **first, after, when, immediately, instantly, again, already, always, before, lately, now, once, presently, rarely, today, weekly,** and **while**
		Included but incorrect meaning		1	Child makes use of the temporal or causal vocabulary but their use does not make sense
		Not included		0	There is no use of such temporal or causal vocabulary
	Tier-two nouns	Included	T2N	2	Child uses a more complex or more precise noun to describe an object/a person such as labeling, categorizing, specifying with exact vocabulary (see Appendix)
		Not included		0	There is no use of a more complex or more precise form of a common noun or/and there is a use of the non-specific or filler words such as **thing, stuff, it, that,** etc.
	Tier-two verbs	Included	T2V	2	Child uses a more complex or more precise verb to describe an action (see Appendix)
		Not included		0	There is no use of more complex or more precise form of an action verb or/and a frequent use of **do, did, goes, went**

Table 2

Data Dictionary

Variable	Definition	Scoring
StudentID	The same as the Student ID provided in the extant dataset which includes 6 digits of letters and numbers	Examples: A00_ACG, A00_AMF
IELPAC	Initial ELPAC, used as English proficiency scores for kindergarten students, provided in the extant dataset	Provided in the extant dataset
grade	Student's grade at the time of assessment, including kindergarten and first-grade	Grade was coded/scored as 0 for kindergarten and 1 for first grade
gender	Student's gender at the time of assessment, including female and male students	Gender was coded as 0 for male and 1 for female
PROB	The problem element that happens in the narrative and belongs to the macro-structure. Student may include the problem detail correctly or incorrectly. They may also not include it.	If the problem was included correctly, score 2. If the problem was included but incorrect, score 1. If the problem was not included, score 0.
SOLU	The solution element that happens after the problem in the narrative and belongs to the macro-structure. Student may include the solution detail correctly or incorrectly. They may also not include it.	If the solution was included correctly, score 2. If the solution was included but incorrect, score 1. If the solution was not included, score 0.
PLU	Stands for plural form of nouns a student uses, such as adding s/es to the singular noun. The pronunciation includes s/iz/z. Student may use the plural noun form correctly or incorrectly.	If there were all PLU_2, score 3. If there were both PLU_2 and PLU_0, score 2. If there were only PLU_0, score 1. If there was no PLU_0 or PLU_2, score 0.
PLU_0	The frequency of the incorrect use or non-use of the plural forms when needed (e.g., two dog, one cats, three sheeps, bigs tree, etc.). Coders counted the errors and reported the number of errors.	Score the number of incorrect uses or missed uses of plural form
PLU_2	The frequency of the correct use of the plural forms when needed. Coders counted and reported the number of correct uses.	Score the number of correct uses of plural form

POSS	Stands for a possessive case a student uses, i.e. adding ***'s*** to the noun to show the possession, such as **Paul's house**. Student may use the possessive form correctly or incorrectly.	If there were all POSS_2, score 3. If there were both POSS_2 and POSS_0, score 2. If there were only POSS_0, score 1. If there was no POSS_0 or POSS_2, score 0.
POSS_0	The frequency of the incorrect use or non-use of the possessive forms when needed (e.g., Paul house or house's Paul). Coders counted the errors and reported the number of errors.	Score the number of incorrect uses or missed uses of possessive form
POSS_2	The frequency of the correct use of the possessive forms when needed. Coders counted and reported the number of correct uses.	Score the number of correct uses of possessive form
PRON	Stands for a pronoun that students use to refer to the preceding noun. Student may use the possessive form correctly or incorrectly; they may also miss using a pronoun when needed.	If there were all PRON_2, score 4. If there were more PRON_2 than PRON_1 and PRON_0 combined, score 3. If PRON_1 and PRON_0 was more than/equaled to PRON_2, score 2. If there were only PRON_1 and _0, score 1. If there was no use of a pronoun at all, score 0.
PRON_0	The non-use of a pronoun when it is needed (e.g., "Likes ice cream" without indicating a pronoun in an utterance). Coders counted the errors and reported the number of errors.	Score the number of missed uses of pronouns
PRON_1	The frequency of the incorrect use of a pronoun when needed. Coders counted and reported the number of correct uses.	Score the number of incorrect uses of pronouns
PRON_2	The frequency of the correct use of a pronoun when needed. Coders counted and reported the number of correct uses.	Score the number of correct uses of pronouns
BE	Stands for the verb BE that students use as a predicate to a subject. Student may use BE that is correct or incorrect in tense and conjugation with the subject; they may also miss using BE.	If there were all BE_2, score 4. If there were more BE_2 than BE_1 and BE_0 combined, score 3. If BE_1 and BE_0 was more than/equaled to BE_2, score 2. If there were only BE_1 and _0, score 1. If there was no use of copula BE at all, score 0.

BE_0	The non-use of BE when BE is needed. Coders counted the errors and reported the number of errors.	Score the number of missed uses of BE
BE_1	The frequency of the incorrect use of BE when needed, e.g., he **were** happy. Coders counted and reported the number of correct uses.	Score the number of incorrect uses of BE
BE_2	The frequency of the correct use of BE when needed, e.g., **the frog not here,** or **she pretty**. Coders counted and reported the number of correct uses.	Score the number of correct uses of BE
AUX	Stands for an auxiliary that students use to modify the main verb in terms of tenses, moods, and voices. Such auxiliary verbs are BE/DO/HAVE. Student may use an auxiliary verb correctly or incorrectly.	If there were all AUX_2, score 4. If there were more AUX_2 than AUX_1 combined, score 3. If AUX_1 was more than/equaled to AUX_2, score 2. If there were only AUX_1, score 1. If there was no use of an auxiliary verb at all, score 0.
AUX_1	The frequency of the incorrect use of an auxiliary verb although needed, e.g., the boy **was yelled** at the dog. Coders counted and reported the number of correct uses.	Score the number of incorrect uses of an auxiliary verb
AUX_2	The frequency of the correct use of an auxiliary verb when needed, meaning the auxiliary conjugates correctly with the subject and expresses the tense/mood/voice. Coders counted and reported the number of correct uses.	Score the number of correct uses of an auxiliary verb
IRV	Stands for the past tense use of an irregular verb. Students may use the past tense correctly or incorrectly.	If there were all IRV_2, score 3. If there were both IRV_2 and IRV_0, score 2. If there were only IRV_0, score 1. If there was no IRV_0 or IRV_2, score 0.
IRV_0	No use of irregular verb although needed. Coders counted the errors and reported the number of errors.	Score the number of missed uses of irregular verbs
IRV_1	The frequency of the incorrect use of an irregular verb in the past tense. Coders counted and reported the number of incorrect uses.	Score the number of incorrect uses past (e.g., adding ed to it as a regular verb, **The mouse**

		runned/run away) of irregular verbs in the past tense
IRV_2	The frequency of the correct use of the past tense of an irregular verb. Coders counted the correct uses and reported the number of correct uses.	Score the number of correct uses of past tense of irregular verbs
REV	Stands for the past tense use of a regular verb. Students may use the past tense correctly or incorrectly, or misused it.	If there were all REV_2, score 3. If there were both REV_2 and REV_0, score 2. If there were only REV_0, score 1. If there was no REV_0 or REV_2, score 0
REV_0	No use of regular verb although needed. Coders counted the errors and reported the number of errors.	Score the number of missed uses of regular verbs
REV_1	The frequency of the incorrect use of a regular verb in the past tense. Coders counted and reported the number of incorrect uses.	Score the number of incorrect uses past tense (e.g., not adding *ed* to it as a regular verb, **He climb up the ladder**) of regular verbs in the past tense
REV_2	The frequency of the correct use of the past tense of a regular verb. Coders counted the correct uses and reported the number of correct uses.	Score the number of correct uses of past tense of regular verbs
VERB	Stands for all four types of verbal uses in this study, such as BE, auxiliary verbs, irregular, and regular verbs. Students may use them correctly, incorrectly, or misused them.	If there were all VERB_2, score 4. If there were more VERB_2 than VERB_1 and VERB_0 combined, score 3. If VERB_1 and VERB_0 was more than/equaled to VERB_2, score 2. If there were only VERB_1 and _0, score 1. If there was no use of a verb at all, score 0.
VERB_0	No use of BE, auxilary, irregular and regular verbs although needed. Coders counted the errors and reported the number of errors.	Score the number of missed uses of all four types of verbs
VERB_1	The frequency of the incorrect use of four types of verbs. Coders counted and reported the number of incorrect uses.	Score the number of incorrect uses of four types of verbs in the past tense

VERB_2	The frequency of the correct use of all four types of verbs. Coders counted the correct uses and reported the number of correct uses.	Score the number of correct uses of four types of verbs
TEMP	Stands for temporal or causal vocabulary that students use to connect narrative ideas. The vocabulary includes but is not limited to **first…then, after, when, before, once, while, so** and **because.** Students may use the marker and the related sentence structure correctly or incorrectly; they may also not use it at all in the narration.	If there were all TEMP_2, score 4. If there were more TEMP_2 than TEMP_1 and TEMP_0 combined, score 3. If TEMP_1 and TEMP_0 was more than/equaled to TEMP_2, score 2. If there were only TEMP_1 and _0, score 1. If there was no use of a marker at all, score 0.
TEMP_0	No use of the temporal/causal markers at all	Score 0
TEMP_1	The frequency of the incorrect use of the temporal/causal markers and related structures. Coders counted and reported the number of incorrect uses.	Score the number of incorrect uses of the temporal/causal markers
TEMP_2	The frequency of the correct use of the temporal/causal markers and complex/compound sentence structures. Coders counted and reported the number of correct uses.	Score the number of correct uses of the temporal/causal markers
T2N	Stands for the use of tier-two nouns. A tier-two noun is a more precise/complex noun that students use to describe an object/a person. Student may use either use precise/complex nouns (i.e., indicating categories, types, etc.) or overuse common nouns/pronouns such as **thing, stuff, it,** or **that**.	If there were all T2N_2, score 4. If there were more T2N_2 than T2N_1 and T2N_0 combined, score 3. If T2N_1 and T2N_0 was more than/equaled to T2N_2, score 2. If there were only T2N_1 and _0, score 1. If there was no use of a tier-two noun at all, score 0.
T2N_0	The frequency of the overuse of **thing/stuff/that/it** in narration. Coders counted and reported the number of the incorrect uses.	Score the number of use of **thing/stuff/that/it**
T2N_1	The frequency of the use of Spanish nouns, such as **sombrilla** for **umbrella**, or nouns that sound similar but do not have the correct meaning for the context, for example, **castle** and **sandcastle, wind** and **winter**	Score the number of the incorrect use

T2N_2	The frequency of the use of complex/precise nouns in narration. Coders counted and reported the number of the uses.	Score the number of correct uses of precise/complex nouns (see Appendix for tier-two nouns)
T2V	Stands for a more precise/complex verb that students use to describe an action. Student may use either use precise/complex verbs or overuse common verbs such as **do/go** instead of a specific verb	If there were all T2V_2, score 4. If there were more T2V_2 than T2V_1 and T2V_0 combined, score 3. If T2V_1 and T2V_0 was more than/equaled to T2V_2, score 2. If there were only T2V_1 and _0, score 1. If there was no use of a tier-two verb at all, score 0.
T2V_0	The frequency of the overuse of **do/go/etc.** in narration. Coders counted and reported the number of the incorrect uses.	Score the number of use of common verbs **do/go/have**
T2V_1	The frequency of the use of Spanish verbs, such as **armar** for **build**, or verbs that sound similar but do not have the correct meaning for the context, for example, **he can put → take all the toys for the beach**	Score the number of the incorrect use
T2V_2	The frequency of the use of complex/precise verbs in narration. Coders counted and reported the number of the uses.	Score the number of correct uses of precise/complex verbs (see Appendix for tier-two verbs)

Data Analysis

Analytic Variables

Grade. Students included in this study were in kindergarten or first-grade.

Gender. Gender was recorded for students as female or male.

English Language Proficiency (IELPAC). To account for the role of English proficiency when examining the language use patterns, we used the Initial ELPAC scores as estimates of English proficiency. The Initial ELPAC was administered at the time of enrollment to new students whose parents indicated that a language other than English was spoken at home.

Types of Language Use Patterns

A language use pattern refers to the way individuals consistently use language elements in communication. It encompasses various elements such as vocabulary and syntax. Although the language use patterns in English are still fluid for each individual Spanish-speaking child who is learning English as a second language, they are hypothesized to be used in a consistent manner by many of these Spanish-English learners (Paradis et al., 2021). Their English can be influenced by Spanish. This is called cross-linguistic influence, cross-linguistic transfer, or more specifically, Spanish-influenced English. In this study, the language use patterns reflected how language elements were used and were considered as linguistic features when they occurred in a frequent and consistent manner. Because narrative language samples were recorded of bilingual students who were reported to use both languages, the language use patterns or elements were cross-linguistic and considered in three areas: macro-structure, micro-structure, and language complexity.

In narrative assessment, the macro-structure refers to the overall organization and structure of a narrative or story. It involves analyzing how the different elements of a narrative

are arranged to create a cohesive and meaningful whole. The macro-structure includes the larger components of a story, such as its beginning, middle, and end. In this study, the macro-structure included the identification of a problem and solution, which were the elements used early and commonly by kindergartners and first-graders.

On the other hand, the micro-structure refers to the detailed and specific linguistic elements and choices within a narrative or story. Unlike the macro-structure, which focuses on the overall narrative organization and plot development, the micro-structure involves analyzing the finer aspects of language use, such as morphology and syntax. In this study, because Spanish-speaking children showed errors with the use of nouns, pronouns, and verbs, it was important to examine how these children used the English language in those areas, including the plural form of nouns, possessive case, the use of pronouns, verb BE, auxiliary verb, and past tense of both regular and irregular verbs.

Lastly, language complexity in narrative assessment refers to the level of sophistication and variety of language elements used in a narrative or story. For young children, it involves analyzing the complexity of sentence structures and vocabulary choices. In this study, the language complexity was examined by the use of temporal or causal words such as *first…then, after, when, before, once, while, so,* and *because*. Besides, the word choice or use of tier-two nouns and verbs contributes to the language complexity. Tier-two words are defined as a more complex or more precise form of common words (Beck et al., 2002). They are words that are not frequently used in spoken language but are frequently seen in an academic setting across multiple different subjects. Examples of tier-two nouns for kindergartners and first-graders include *autumn, acceptance, chore, country, footprint, glance, goal, invitation, passenger, transportation,* etc. Examples of tier-two verbs for kindergartners and first-graders include

appear, apologize, include, invite, pretend, reach, remind, return, wiggle, wonder, etc. See Appendix for Tier-Two Word lists.

As a result, thirty-six different types of language use patterns in three categories including macro-structure (with six patterns for two elements), micro-structure (21 patterns), and language complexity (nine patterns) were included in the coding (see Tables 1 and 2). In the macro-structural category or story grammar, the narratives were coded to see if the students provided a problem and solution. Under the micro-structure, the use of nouns, pronouns, and verbs was coded. The language complexity included patterns when the student used, misused, or did not use temporal markers, tier-two nouns, and/or tier-two verbs. Please refer to Table 1 for definitions and examples of different language pattern types that were coded at three levels.

Analytic Methods

RQ1: What macro-structural elements do Spanish-speaking bilingual children tend to include most frequently in narrative story production in English?

Descriptive statistics were calculated for two variables PROB and SOLU, which created six patterns: PROB/SOLU included correctly, PROB/SOLU included incorrectly, and PROB/SOLU not included. After coding, the coder counted and recorded 2/1/0 respectively for each element and each student. Specifically, a descriptive analysis included the distribution, *mean, standard deviation,* and *mode* to understand what elements students used and how they tended to identify and express the problem and solution of a narrative story.

Descriptive analyses for grade subgroups were also calculated to compare the difference between the patterns made by kindergartners and first-graders. Language use patterns likely varied between grades given another year of English language exposure in the classroom and age. For this comparison, the *Hedges' g* effect size was calculated from the *mean* and *standard*

deviation of each grade group. The effect size is considered large if *Hedges' g* is equal to or larger than 0.8, medium if it is equal to or larger than 0.5 and less than 0.8, and small if it is less than 0.5. The t-test will also be considered for significant *p*-values.

RQ2: What micro-structural features are most frequently used when Spanish-English bilingual children produce narratives in English?

Descriptive statistics were calculated for six variables PLU, POSS, PRON, BE, AUX, IRV, REV, and VERB. To score for these variables, the frequencies of the sub-variables were counted and recorded; the most or more frequently used sub-variables decided the score. The sub-variables were provided in the parentheses together with their main variables as followed: PLU (PLU_0, PLU_2), POSS (POSS_0, POSS_2), PRON (PRON_0, PRON_1, PRON_2), BE (BE_0, BE_1, BE_2), AUX (AUX_1, AUX_2), IRV (IRV_0, IRV_1, IRV_2), REV (REV_0, REV_1, REV_2), and VERB (VERB_0, VERB_1, VERB_2). Please refer to Table 2 for scoring information.

Similarly to RQ1, the descriptive analysis included the distribution, *mean, standard deviation,* and *mode* to understand how students used nouns, pronouns, and verbs in narrative production. Descriptive analyses for grade subgroups were also calculated to compare the difference between the patterns made by kindergartners and first-graders. For comparison, the *Hedges' g* effect size was calculated from the *mean* and *standard deviation* of each grade group. The t-test was considered for significant *p*-values.

RQ3: What is the language complexity of the English narratives produced by Spanish-English bilingual children?

Descriptive statistics were calculated for three variables TEMP, T2N, and T2V. Similar scoring used in RQ2 was applied for the sub-variables in this language complexity category. The

sub-variables are as followed: TEMP (TEMP_0, TEMP_1, TEMP_2), T2N (T2N_0, T2N_1, T2N_2), and T2VERB (T2V_0, T2V_1, T2V_2). The frequencies of the sub-variables were also counted and recorded; the most or more frequently used sub-variable decided the score. Please refer to Table 2 for scoring information.

Similarly to RQ1 and RQ2, the descriptive analysis included the distribution, *mean, standard deviation,* and *mode* to understand how students used vocabulary and word choice that expresses language complexity. Descriptive analyses for grade subgroups were also calculated to compare the difference between the patterns made by kindergartners and first-graders. *Hedges' g* effect size was calculated from the *mean* and *standard deviation* of each grade group. The t-test was used for significant *p*-values.

RQ4: What is the relationship between the macrostructural, microstructural, and language complexity elements used by Spanish-English bilingual children in kindergarten and first grade?

Correlations were calculated to show the correlation among thirteen language use elements or variables PROB, SOLU, PLU, POSS, PRON, BE, AUX, IRV, REV, VERB, TEMP, T2N, and T2V and other variables including *gender, grade* and IELPAC. The Pearson's correlation was used.

RQ5: What is the relationship between the initial English proficiency and the narrative elements produced by Spanish-English bilingual children during a narrative production task?

Because there were three areas of language use patterns: macro-structure, micro-structure, and language complexity, multiple regression was run to explore the relationship between the student's English proficiency and their use of language elements at different levels. To track change in the variance between elements at each level and the initial English

proficiency, nested models of regression were conducted. Considering the gender difference in language development, *gender* was considered as a covariate. To control for gender effect, gender was the only factor to be included in the first model, as followed:

$$Model\ 1: IELPAC = \beta 0 + \beta 1 Gender + \epsilon$$

Model 2 included the relationship of IELPAC and both macro-structural elements, PROB and SOLU, controlling for *gender*. Model 3 was the Model 2 plus micro-structural elements, PLU, PRON, and VERB. VERB was the use of all four types, BE, auxiliary, irregular and regular verbs. Model 4 is the Model 3 also including language complexity elements, TEMP, T2N, and T2V. The equations were as below:

$$Model\ 2: IELPAC = \beta 0 + \beta 1 PROB + \beta 2 SOLU + \beta 3 Gender + \epsilon$$

$$Model\ 3: IELPAC = \beta 0 + \beta 1 PROB + \beta 2 SOLU + \beta 3 \mathrm{PLU} + \beta 4 \mathrm{POSS} + \beta 5 \mathrm{PRON} + \beta 6 \mathrm{VERB} + \beta 7 Gender + \epsilon$$

$$Model\ 4: IELPAC = \beta 0 + \beta 1 PROB + \beta 2 SOLU + \beta 3 \mathrm{PLU} + \beta 4 \mathrm{POSS} + \beta 5 \mathrm{PRON} + \beta 6 \mathrm{VERB} + \beta 7 TEMP + \beta 8 T2N + \beta 9 \mathrm{T2V} + \beta 10 Gender + \epsilon$$

When using these models, the effect size for each model was reported along with regression coefficients. Unique variance explained by elements at each level was also reported.

CHAPTER IV

RESULTS

This chapter contains the results of the methodology described in Chapter III. The results are presented for each of the five research questions and broken down into the specific analyses conducted. A detailed description of the language samples is also provided to give an overview and background information for the analyses completed. The information includes the IELPAC scores, time of the recorded language sample, total utterances, mean length of utterance (MLU), total number of words, total number of different words, and translanguaging status. For the first three research questions, all elements related to the macro-structure, micro-structure, and language complexity are presented first for general information, and then focusing on the most frequently used patterns. Descriptive analyses for grade subgroups with the *Hedges' g* effect sizes are also shown as a comparison of the use of different English language patterns by kindergartners and first-graders. For questions four and five, the focus was on whether the students included an element or not. The fourth research question investigates the correlation among the elements at three levels. Therefore, the results of a Pearson's correlation calculation are presented for all samples and separately with grade, gender, and language proficiency. Finally, for the last research question, the relation between these elements with the English proficiency scores and gender is displayed. Results of different models of regression using SPSS are discussed.

Description of the Language Samples

Of the 44 language samples, one was by an English-only speaker, and six were duplicates of the same students. Thus, 37 students remained for this study, which yielded 37 separate language samples, one student per sample. In the recording, students were asked to retell a story

after watching a short video clip. All four video topics were used in the samples, with 12 (32.4%) about using a toy bag, 17 (45.9%) about catching a flying umbrella, four (10.8 %) about building sandcastles, and also four (10.8%) about eating ice-cream.

Of these 37 language samples, thirty-two were by students with an EL classification, which was 86.5% of the sample and 5 were by those with an English Proficient (EP) classification, covering 13.5%. Because all students, either with an EL or EP status, were English \ learners, translanguaging is unavoidable. However, not all students code-switched in their narrative retelling. Nearly half of the samples (*n* = 17, 45.9%) showed evidence of translanguaging (i.e., using both Spanish and English). The rest (*n* = 20 samples or 54.1%) were produced in only English. Regarding the grade levels, 11 samples (29.7%) were from kindergartners, and 26 samples (70.3%) were from first graders. The IELPAC scores were collected for 29 samples (meaning eight samples were missing this information). Scores ranged from 150 to 461 with an average score of 296 (*SE* = 20.12) belonging to Level 1 Novice English Learner. There were 19 (65.5%) Novice English Learners, eight (27.6) Immediate English Learners, and two (6.9%) Initial Fluent English Proficient. Regarding gender, there were 17 samples recorded from male students (45.9%) and 20 samples from female students (54.1%).

The total time of each language sample recording varied among these students. Students spoke for at least 30 seconds and at most 104 seconds, with *Mean* = 57, *SE* = 2.63, *Mode* = 35. During this recording time, they produced eight utterances on average (*SE* = .63) with a range from three to 19 utterances. The mean length of utterances (MLU) in words was also counted. On average, students used six-to-seven-word utterances (*Mean* = 6.57, *SE* = .26). However, the MLU was very different among the samples, ranging from three to ten words per utterance per language sample.

Regarding the total number of words and diversity of vocabulary used, the ranges were even larger. The number of total words used in the language samples was between three words and 136 words. The average number of total words used in these samples was about 47 words (*Mean* = 46.51, *SE* = 5.09). Meanwhile, the number of different words which helps to understand the lexical diversity ranged from 3 to 67 words. For the number of different words, different words were counted and repeated words were not. In this set of language samples, the average number of different words is approximately 27 words (*Mean* = 27.3, *SE* = 2.2; see Table 3).

Table 3

Description of the Language Samples

Number of the language samples		37
Gender	***N***	***%***
Female	20	54.1
Male	17	45.9
Grade		
Kindergarten	11	29.7
1st grade	26	70.3
EL status		
EL	32	86.5
EP	5	13.5
IELPAC scores	29	
Level 1 Novice English Learner (150-369)	19	65.5
Level 2 Immediate English Learner (370-449)	8	27.6
Level 3 Initial Fluent English Proficient (450-600)	2	6.9
Narrative topics		
Toy bag	12	32.4
Umbrella	17	45.9
Sandcastles	4	10.8
Ice-cream	4	10.8

	Mean	***SE***	***Min***	***Max***
IELPAC scores	296.07	20.12	150	461
Time of recording (in seconds)	57.03	2.63	30	104
Percentage of pause time (%)	16.5	2.2	0	50
Total utterances	8.03	0.63	3	19
MLU	6.57	0.29	3	10
Number of total words	46.51	5.09	3	136
Number of different words	27.32	2.39	3	67

Data Analysis

For the first three questions, all samples were coded manually using the codes indicated in Chapter III. The primary coder looked for the correctness or counted the frequency of each code (Table 1). To code the problem and solution elements at the macro-structural level, the coders used Table 5 (see Appendix) to score the elements. Samples that reflected correct/incorrect responses or missing information of the narrative problem or solution were scored 2, 1, and 0 respectively. For micro-structural elements such as plural forms of nouns, possessive case of "*'s*", pronouns, and verbs in the past tense, the coder looked for situations when an element was missing, incorrectly used, or correctly used, and counted the frequency of each code (i.e., missing, incorrect, or correct use). The same process was completed for the language complexity elements including temporal/causal markers, and tier-two nouns and verbs (see Table 4a, 4b, 4c, 4d, and 5). As indicated in Chapter III, the primary coder and researcher coded all samples; the second coder did the same for about 20% of the samples for the intercoder agreement check.

Once all frequencies were recorded, the researcher based on how a student used an element in their language sample and gave a score from 0 to 4. A score of 0 meant the student did not use an element, for example, students did not use plural nouns at all in their sample and were scored 0. Students who had only missing or incorrect use of an element, i.e., no evidence of correct use, were scored as 1. If students provided some correct use of an element, but the missing or incorrect uses were more or as frequent as the correct use, then they would be scored 2. A score of 3 was given if students had more correct uses of an element. And lastly, when students used an element correctly at all times, they were given a score of 4.

However, due to the small language samples, it is ideal to have fewer classifications or score levels. For some elements such as plural nouns, possessive case, and past tense of regular and irregular verbs, the researcher found that the number of correct responses that are more or less than the incorrect uses was small; fewer responses were of both correct and incorrect uses. Therefore, they decided to focus on correctness and decrease the score levels to 0, 1, 2, and 3. A score of 0 was, the same as above, given when students did not use an element at all. Score 1 was given to all incorrect uses or misses. Score 2 was given when an element was sometimes used correctly. The last score of 3, similar to the above score of 4, was used when an element was always employed correctly in a narrative production.

For the last two questions where correlation and regression analyses were used, the categorical variables that were used in the first three questions may not suffice the equal interval requirement of continuous variables needed for the analyses. Moreover, the focus was on whether or not these kindergartners and first-graders knew a grammatical rule or how to use an element. Therefore, once more, the codes dropped down to 0 and 1, with 0 being “no use at all” or “all incorrect uses” and 1 being “some correct uses”, “more correct uses than incorrect and missing combined”, and “all correct uses”. The fewer patterns examined, the larger the number of language samples for each pattern. Please see Table 6 for a summary of the patterns used in the investigation of all research questions.

Because students with the same scores happened repeatedly in this set of language samples, they were classified and temporarily considered *a pattern* in this study. These patterns were used in all analyses for a description of each element use, the correlation among the elements, and the relation between these elements and the English proficiency scores.

Table 6

Element Patterns and Scores for All Research Questions (RQ)

Element	*Pattern*	*RQ1, 2, &3*	*RQ4 & 5*
		Score	*Score*
Problem Solution	No or incorrect detail	0	0
	Some related details	1	1
	Correct detail	2	1
Plural nouns Possessive case Irregular verbs Regular verbs	No use at all	0	0
	All incorrect uses	1	0
	Some correct uses	2	1
	All correct uses	3	1
Pronouns Verb “to be” Auxiliary verbs Verbs Temporal/causal markers	No use at all	0	0
	All misses or incorrect uses	1	0
	Misses or incorrect uses are more or equal to correct uses	2	1
	Correct uses are more than incorrect and missing uses combined.	3	1
	All correct uses	4	1
Tier-2 nouns Tier-2 verbs	No use at all	0	0
	Use of all generic vocabulary, such as thing, stuff, or lexical errors, e.g., words of similar sounds/meaning but incorrect meaning, Spanish words	1	0
	The generic vocabulary uses and lexical errors are more or equal to the correct uses	2	1
	Correct uses are more than incorrect and generic vocabulary uses combined.	3	1
	All correct uses of tier 2 vocabulary indicated in Table 4a, 4b, 4c, and 4d (see Appendix)	4	1

Inter-Coder Agreement (ICA)

Two coders worked on the frequency counts for 28 variables at three levels. They are a) macro-structural: PROB and SOLU; b) micro-structural: PLU_0, PLU_2, POSS_0, POSS_2, PRON_0, PRON_1, PRON_2, BE_0, BE_1, BE_2, AUX_0, AUX_1, AUX_2, IRV_1, IRV_2, REV_1, and REV_2; and c) language complexity: TEMP_0, TEMP_1, TEMP_2, T2N_0, T2N_1, T2N_2, T2V_0, T2V_1, and T2V_2. At first, they practiced coding five samples together and gained 100% agreement. The practice helped to familiarize them with the codes and led to a consensus between the two coders about coding.

Afterward, the two coders randomly picked seven samples (19%) to code independently. For comparison, there were 196 codes (7 samples*28 codes/sample). Of 196 codes, there were discrepancies in 29 codes. The ICA achieved was 85.2%, fulfilling the expected percentage of agreement of 85% and above.

$$R = \frac{\text{total codes} - \text{\# of disagreements}}{total\ codes} \text{x } 100$$

$$R = \frac{196 - 29}{196} \text{x } 100 = 85.2\%$$

The ICA was calculated for each level. For the macro-structural level, there were only two variables and therefore 14 codes. However, there were six disagreements and the agreement was only 57.1%

$$R = \frac{14 - 6}{14} \text{x } 100 = 57.1\%$$

The microstructural level yielded 17 variables, the most variables of the three levels. There were 119 codes and 23 disagreements. The ICA gained was 80.6%

$$R = \frac{119 - 23}{119} \text{x } 100 = 80.6\%$$

For language complexity, there was no discrepancy between the two coders. The ICA achieved was 100%.

After discussing the discrepancies, the coders were able to resolve and finally agreed on the scores for 28 out of 29 codes with disagreement. There was only one code left of the SOLU variable that was different between the two coders, raising the ICA to 99.5% for three levels, 92.9% for the macro-structural level, and 100% for both the micro-structural and language complexity levels.

$$R = \frac{196 - 1}{196} \text{x } 100 = 99.49\%$$

Research Question 1: Macro-Structural Elements

What macro-structural elements do Spanish-speaking bilingual children tend to include most frequently in narrative story production in English?

Identification of Problem. The problem in a narrative indicates what went wrong. Students had to identify the correct root cause of the problem to be scored 2. For example, in the Toy Bag narrative, they had to indicate that the bear dropped the toys because she had too many toys to hold. In the Umbrella story, the problem happened when the umbrella flew away. In the Sandcastles, the first sandcastle got ruined or destroyed. And lastly, in the last story of Ice Cream, the ice cream fell. Students who provided any related information but not the exact cause would be scored 1. Related information meant students may describe the background setting such as the beach, an explanation of why the toys fell, an emotional state, e.g., *she felt sad*, or an introduction of characters in a story, such as *a bear and her daddy bring an umbrella*. Otherwise, they would be considered as giving an incorrect problem and score 0. Table 7 shows examples of students responding to the problem in their narrative production.

Table 7

Examples of Responses of Problem in Child Narrative Production

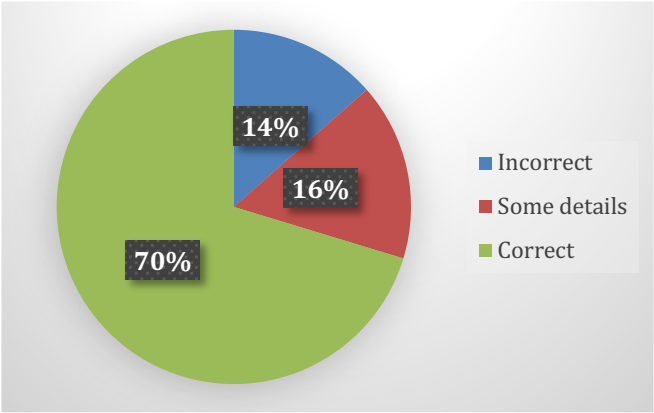
Topic	***Score***	***Examples***
Toy Bag	2	His (error: "Her") toys fell. Then it (error: "they" or the toys) pop (error: "fell") out And then all of the five things fell off
	1	Poppy couldn't get toys with her hands. The kids was going to the water (error: "beach"). He was grabbing stuff para ir a la playa* The bear get (error: "got") a toy (error: toys)
	0	The X toys X in the bolsa*
Umbrella	2	The umbrella fell and then the wind took it off in (error: "of") the sand The dad put the umbrella down and then it flew away. Then the sun-thingy the sombrella* just fly (error: "flew") away The wind blew the umbrella away And the wind just threw (error: "blew") away the umbrella The wind took away the umbrella
	1	And después el wind se fue* The winter (error: "wind") blow and the dad was running to get that The daddy and the X* bring the sombrilla* It was windy
	0	The toddler is pulling this The umbrella is…
Sandcastle	2	Then the ball destroyed his X* The ball is punch on her house and it fell down And he smash (error: "smashed") it And (error: missing "on") accident, she ruin (error: ruined) the castle
	1	The dog go (error: goes/went) to jump (error: "on") it**
	0	(none)
Ice-cream	2	And her ice-cream that (error: redundant) fell down And then it fell on the floor And la* ice-cream fell off
	1	(none)
	0	(none)

Note. * the word(s) was/were unintelligible or translanguaged. **sample was a duplicate

The frequency statistics results show that 26 students (70.3%) stated the correct problem of the narrative clip they watched. Six students (16.2%) provided related information about the problem. Meanwhile, five students (13.5%) did not indicate a correct or related detail of the problem (see Figure 1).

Figure 1

Patterns of Problem Identification



Using descriptive statistics, the *Mode* = 2 and *Mean* = 1.57 (*SE* = 0.12, *SD* = 0.73), which means although more students identified the correct problem, the students sampled, on average, tended to give either specifically correct or related details of the problem.

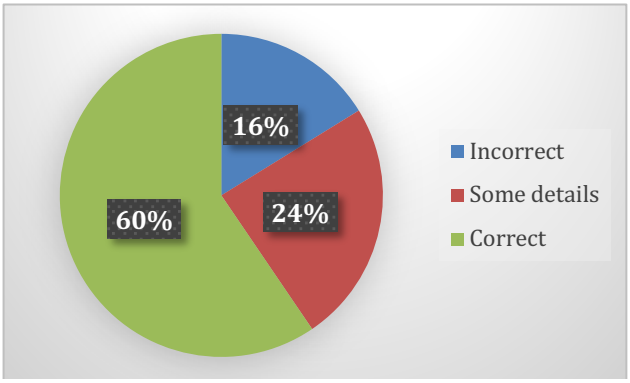
In comparison between kindergarteners and first-graders, the percentage of first graders who identified the narrative problem (*n* = 18, 69.2%) was not as high as that of kindergartners (*n* = 8, 72.7%). Moreover, the percentage of kindergartners who gave a related detail (*n* = 3, 27.3%) was higher than that of first graders (*n* = 3, 11.5% respectively). Lastly, while no kindergartner (0%) incorrectly identified a story problem, there were 19% of first graders that did not provide a correct problem or a related detail of the problem (*n* = 5). When calculating the *Hedges' g* to

examine the mean difference between the two groups, the test was not significant, $t(35) = 1.07$, $p = .29 > .05$, and the effect size ($g = .304$) was small.

Identification of Solution. Four narratives were assigned with four solutions to the problems indicated in the previous section. Similarly to the problem identification, the student responses regarding a solution were either correct (i.e., score 2), related but not specific (i.e., score 1), or missing or incorrect identification (i.e., score 0). For correct responses, students spoke about the little bear using the toy bag given by her dad to put all the toys in, the dad tying the umbrella to the tree so it could not fly away, sandcastles getting rebuilt, and the bear getting or buying a new ice-cream cone depending on the topic they were given. Please see Table 8 (next page) for examples of the students' narrative solution identification.

Figure 2

Patterns of Solution Identification



The frequency statistics results show that 22 students (or 59.5%%) understood the concept of a narrative solution and identified the correct solution. Nine students (24.3%) provided related information about the solution. Lastly, six students (16.2%) did not indicate a correct or related detail of the solution (see Figure 2 above).

Table 8

Examples of Responses of Solution in Child Narrative Production

Topic	***Score***	***Examples***
Toy Bag	2	So his (error: her) dad bring (error: brought) a bag to put them in there The dad got a bag for it (error: them) The dad came to help her with a bad and the girl put the five things in the bag
	1	So he can put (error: take) all of the toys for (error: to) the beach** And his dad grab (error: grabbed) a bag And so dad help (error: helped)
	0	And to go (error: missing "to") the beach
Umbrella	2	The dad put rope in (error: on/around) the sombrilla* He tape (error: taped) it to a tree He catched (error: caught) it and sticked (error: stuck) it to a tree
	1	And the umbrella to cover them from the sun
	0	(none)
Sandcastle	2	And then he built three sandcastles with three shell (errors: shells) A turtle (error: squirrel) helped her and then they make (error: made) a castle (error: sandcastle)
	1	And he arm (error:Spanish "armar" meaning "assemble") another more big (error: bigger) one A squirrel came and helped her
	0	(none)
Ice-cream	2	Then this guy he (error: redundant) give (error: gave) her to (error: redundant) another one The ice-cream man gave him another one Then the dad buys a new one
	1	(none)
	0	(none)

Note. * the word(s) was/were unintelligible or translanguaged. **sample was a duplicate

In comparison between kindergarteners and first-graders, the percentage of first graders who identified the correct narrative solution (n = 17; 65.4%) was higher than that of kindergarteners (n = 5; 45.5%). In contrast, the percentages of kindergarteners who gave a related detail (n = 4; 36.4%) or not provide the correct problem (n = 2; 18.2%) were higher than

those of first graders (19.2% and 15.4% respectively). However, an independent sample t-test was conducted to examine the mean difference between the two groups in identifying solutions. The test was not significant, $t(35) = -.81$, $p = .42 > .05$, and the effect size ($g = -.289$) was small, which means the indication of the narrative solution between the two grades was not significantly different.

Problem versus Solution. According to the frequency statistics, the students provided more correct problems (70.3%) than correct solutions (59.5%). On the contrary, more students gave an incorrect indication of the solution (16.2%) than of the problem (13.5%, see Figure 3).

The paired sample t-test was analyzed to examine the difference in student responses to problems and solutions. The result shows that the test was not significant ($t = 1.15$, $df = 36$, $p = .26$). The effect size ($g = .185$) was small. In conclusion, the difference in identifying a narrative problem and solution was not significant or there was no difference between kindergarteners and first graders in how correctly and frequently the students included the problem and solution elements in their narrative production.

Figure 3

Comparison of Students' Identification of Problem and Solution

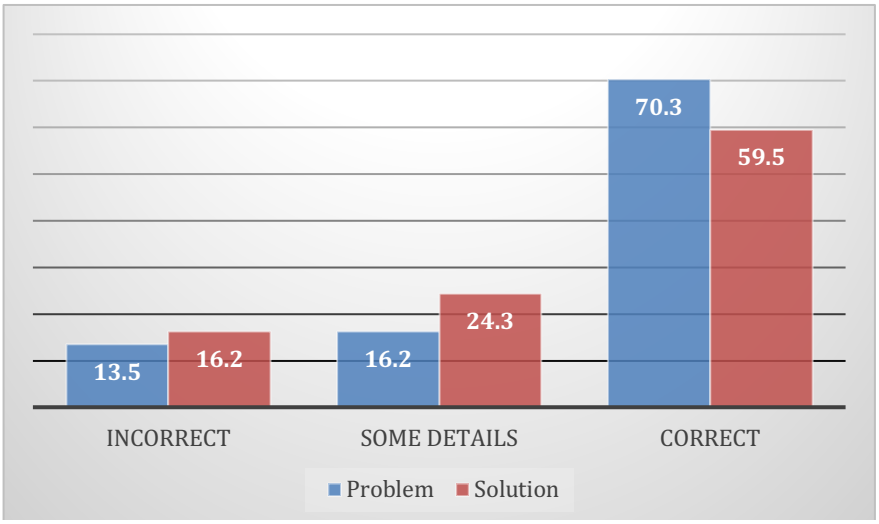


Table 9 shows the statistical report of both elements.

Table 9

Statistical report of the macro-structural elements

Element	***Score***	***Kindergarten***		***First Grade***		***Both***	
		n (%)	*Mean (SE)*	*n (%)*	*Mean (SE)*	*n (%)*	*Mean (SE)*
	2	8 (72.7)		18 (69.2)		26 (70.3)	
Problem	1	3 (27.3)	1.72 (.14)	3 (11.5)	1.5 (.16)	6 (16.2)	1.57 (.12)
	0	0		5 (19.2)		5 (13.5)	
	2	5 (45.5)		17 (65.4)		22 (59.5)	
Solution	1	4 (36.4)	1.27 (.24)	5 (19.2)	1.5 (.15)	9 (24.3)	1.43 (.13)
	0	2 (18.2)		4 (15.4)		6 (16.2)	
		Hedges' g		*t(df)*	*p*	*95% Confidence*	
Kinder vs. 1st grade in Problem		.304		.87 (35)	.39	[-.31, .76]	
Kinder vs. 1st grade in Solution		-.298		-.82 (35)	.42	[-.79, .33]	
Use of Problem vs. Solution – both grades		.185		1.15 (36)	.26	[-.13, .5]	

Research Question 2: Micro-Structural Elements

What micro-structural elements were most frequently used when Spanish-English bilingual children produce narratives in English?

Use of Plural Form of Nouns. The frequency statistics results show that only ten students (27%) correctly used plural nouns. About 5% of the samples produced some correct uses, which means these students did not consistently and correctly produce the form. Specifically, one student performed the form all incorrectly. However, there was a large number

of students who did not make use of the form at all (n = 24, ~ 65%). These students might not have had the opportunity to use the form; possible reasons will be discussed further in the next chapter. Calculations were made for those samples who presented the use of the plural form (n = 13): 77% of the students produced the correct form all the time, 15% inconsistently used the form with some correction, and 8% had all incorrect uses.

The descriptive statistics were not calculated for the plural nouns due to the large number of students who did not produce plurals in their narrative production.

In comparison between kindergarteners and first graders, the percentage of first graders who could always use the form correctly (30.8%) was higher than that of kindergarteners (18.2%). No kindergarteners were reported to provide some or no correction of the form. However, the percentage of kindergarteners who did not use the form at all (81.8%) was higher than that of first-grade students (57.7%). When calculating Hedges' g to examine the difference between two groups, the test was not significant (t = -1.18, df = 35, p = .25) and the effect size (g = .414) was medium. The use of plural nouns between the two grades was not significantly different.

Figure 4a

Patterns of Use of Plural Form of Nouns

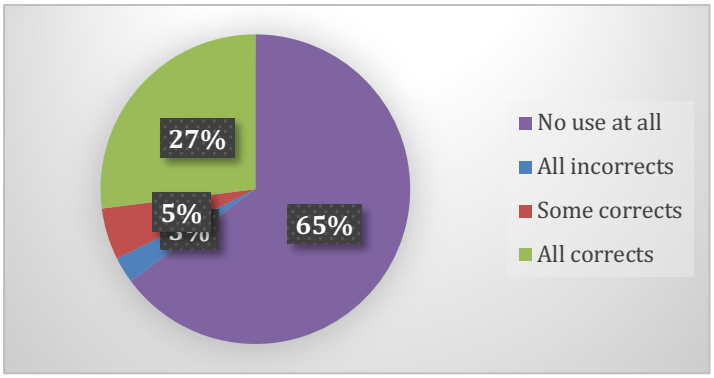
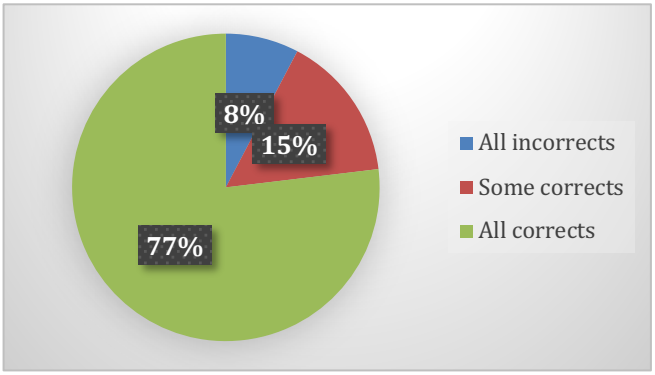


Figure 4b

Patterns of Use of Plural Form of Nouns Excluding "No Use at All"



Use of Possessive Case. No students were reported to provide any form of the possessive case, specifically the "*'s*". Therefore, no statistics are provided for this use. Possible reasons why students did not use this element will be discussed in Chapter V.

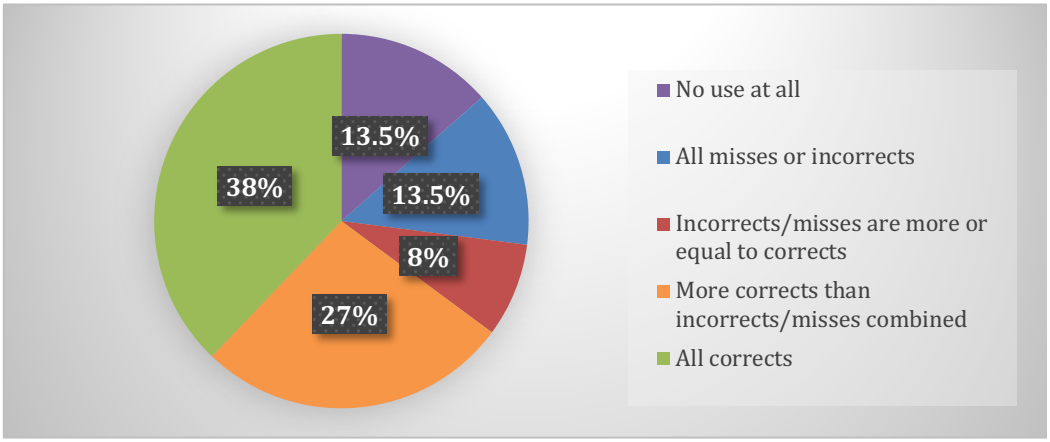
Use of Pronouns. The frequency statistics results show that most students (n = 14, ~38%) fluently used pronouns, either as a subject, object, or possessive one. About 35% showed some correct form in the use: while 27% of the students used pronouns more correctly than incorrectly, 8% of them *often* used them incorrectly. On the other hand, 13.5% *always* used them incorrectly and another 13.5% did not make use of pronouns at all in their narrative sample (see Figure 5). Using the descriptive statistics, the *Mode* = 4 and *Mean* = 2.62 (*SE* = 0.24, *SD* = 1.46), which means although many students identified and used the correct pronouns, the students sampled, on average, inconsistently produced them.

In comparison between kindergarteners and first-graders, the percentage of first graders who used the pronouns all correctly (42.3%) was higher than that of kindergarteners (27.3%). The percentage of first-grade students who could make some correct use of pronouns (42%) was also higher than that of kindergarteners (18%). In contrast, the percentages of kindergarteners

who provided all incorrect pronouns (36.4%) and did not use any pronouns (18.2%) were higher than those of first graders (3.8%% and 11.5% respectively). When the *Hedges' g* was calculated to test the difference between the two groups, the test was not significant (t = -1.7, df = 35, p = .09) and the effect size (g = .609) was large. By which it means, the use of pronouns between the two grades was not significantly different.

Figure 5

Patterns of Use of Pronouns



Use of Verbs in Past Tenses. The use of verbs in past tenses is the combination of the four verb uses listed in the codes, including the verb "to be", auxiliary verbs, and irregular and regular verbs. The frequency statistics results show that most students (n = 15, 40.5%) were only learning to conjugate past tense verbs, or the skill was just emerging, and they often used the verbs incorrectly. Around 22% showed a proficient use with *all* correctly conjugated past verbs and about 19% used these past tense verbs correctly *most of the time*. Meanwhile, there were still 16% of the students who used the verbs incorrectly. One student was reported to not use any verb in their narrative production. Using the descriptive statistics, the *Mode* = 2 and *Mean* = 2.405 (*SE* = 0.18, *SD* = 1.79), which means more students identified and used the form of verbs in the past

tense; however, they use them inconsistently and more incorrectly than correctly (see Figure 6). Analyses of the use of different types of verbs are provided in Table 10b.

In comparison between kindergarteners and first-graders, the percentage of first-grade students with consistent correct use of past tense verbs (23%) was slightly higher than that of kindergarten students (18%). Similarly, the percentage of kindergartners who provided more correct verb forms than incorrect ones (9%) was also smaller than those of first graders (23%). More kindergarten students formed incorrectly conjugated verbs, for example, more half of them (54.5%) provided more incorrect verbs than correct ones and 18% provided all incorrect verbs, as compared to 34.6% and 15.4% of first graders respectively. When the *Hedges' g* was examined to see the difference between the two groups, the test was not significant (t = -0.48, df = 35, p = .64) and the effect size (g = .17) was very small. That means, the use of verbs in past tenses between the two grades was not significantly different. Similarly, the use of different types of verbs such as *to be*, auxiliary verbs, regular, and irregular verbs were not significantly different between these two groups.

Figure 6

Patterns of Use of Verbs in Past Tenses

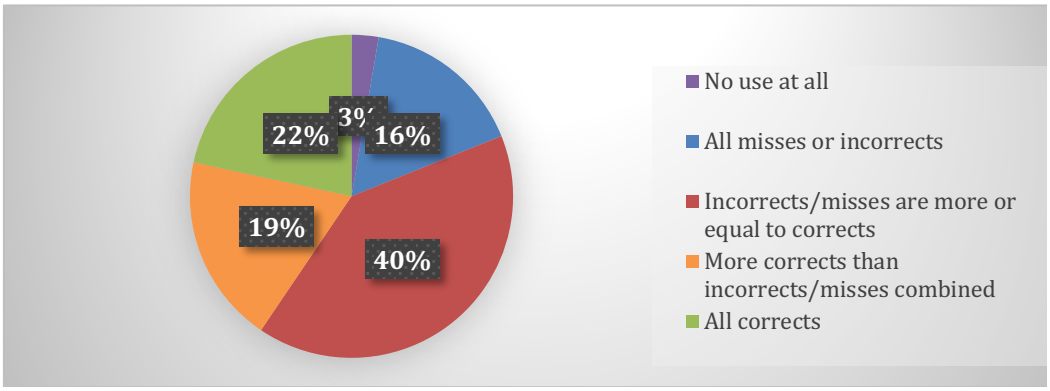


Table 10a shows the statistical report of all elements at the micro-structural level.

Table 10a

Statistical report of the micro-structural elements

Element	***Score***	***Kindergarten***		***First Grade***		***Both***	
		n (%)	*Mean (SE)*	*n (%)*	*Mean (SE)*	*n (%)*	*Mean (SE)*
Plural nouns	3	2 (18.2)	.55 (.37)	8 (30.8)	1.12 (.27)	10 (27)	.95 (.22)
	2	0		2 (7.7)		2 (5.4)	
	1	0		1 (3.8)		1 (2.7)	
	0	9 (81.8)		15 (57.7)		24 (64.9)	
Pronouns	4	3 (27.3)	2 (.49)	11 (42.3)	2.88 (.26)	14 (37.8)	2.62 (.24)
	3	2 (18.2)		8 (30.8)		10 (27)	
	2	0		3 (11.5)		3 (8.1)	
	1	4 (36.4)		1 (3.8)		5 (13.5)	
	0	2 (18.2)		3 (11.5)		5 (13.5)	
Verbs	4	2 (18.2)	2.27 (.3)	6 (23.1)	2.46 (.22)	8 (21.6)	2.41 (.18)
	3	1 (9.1)		6 (23.1)		7 (18.9)	
	2	6 (54.5)		9 (34.6)		15 (40.5)	
	1	2 (18.2)		4 (15.4)		6 (16.2)	
	0	0		1 (3.8)		1 (2.7)	

	Hedges' g	*t(df)*	*p*	*95% Confidence*
Kinder vs. 1st grade in Plural Nouns	-.414	-1.18 (35)	.25	[-1.55, .41]
Kinder vs. 1st grade in Pronouns	-.609	-1.73 (35)	.09	[-1.92, .15)
Kinder vs. 1st grade in Verbs	-.167	-.48 (35)	.64	[-1, .62]

Table 10b

Statistical report of the different types of verbs

Element	***Score***	***Kindergarten***		***First Grade***		***Both***	
		n (%)	*Mean (SE)*	*n (%)*	*Mean (SE)*	*n (%)*	*Mean (SE)*
To be	4	2 (18.2)	.73 (.49)	5 (19.2)	1 (.31)	7 (18.9)	.92 (.24)
	3	0		0		0	
	2	0		2 (7.7)		2 (5.4)	
	1	0		2 (7.7)		2 (5.4)	
	0	9 (81.8)		17 (65.4)		26 (70.3)	
Auxiliary verbs	4	3 (27.3)	1.73 (.47)	9 (34.6)	1.85 (.35)	12 (32.4)	1.81 (.28)
	3	0		1 (3.8)		1 (2.7)	
	2	1 (9.1)		2 (7.7)		3 (8.1)	
	1	5 (45.5)		5 (19.2)		10 (27)	
	0	2 (18.2)		9 (34.6)		11 (29.7)	
Irregular verbs	3	2 (18.2)	1.55 (.28)	7 (26.9)	1.77 (.2)	9 (24.3)	1.7 (.16)
	2	3 (27.3)		10 (38.5)		13 (35.1)	
	1	5 (45.5)		5 (19.2)		10 (27)	
	0	1 (9.1)		4 (15.4)		5 (13.5)	
Regular verbs	3	1 (9.1)	.82 (.33)	6 (23.1)	1.04 (.24)	7 (18.9)	.97 (.2)
	2	2 (18.2)		2 (7.7)		4 (10.8)	
	1	2 (18.2)		5 (19.2)		7 (18.9)	
	0	6 (54.5)		13 (50)		19 (51.4)	

	Hedges' g	*t(df)*	*p*	*95% Confidence*
Kinder vs. 1st grade in to be	-.166	-.47 (35)	.64	[-1.45, .9]
Kinder vs. 1st grade in auxiliary verbs	-.068	-.19 (35)	.85	[-1.36, 1.13]
Kinder vs. 1st grade in irregular verbs	-.218	-.62 (35)	.54	[-.96, .51]
Kinder vs. 1st grade in regular verbs	-.179	-.51 (35)	.61	[-1.1, .66]

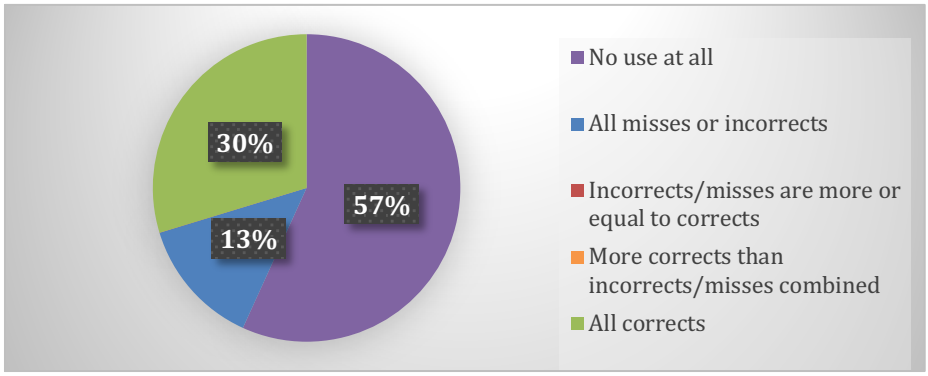
Research Question 3: Language Complexity Features

What was the language complexity of the English narratives produced by Spanish-English bilingual children?

Use of Temporal and Causal Markers. The frequency statistics results indicate that more than half of the students (n = 21, 56.8%) did not produce any sentence structure to support the use of temporal or causal markers. Whenever students did, they consistently provided either an all correct (29.7%) or all incorrect use (13.5%, see Figure 7). Using the descriptive statistics, the *Mode* = 0 and *Mean* = 1.32 (*SE* = 0.3, *SD* = 1.8), which means, many students did not use any markers, and when they did, they, on average, tended to use them incorrectly.

Figure 7

Patterns of Use of Temporal or Causal Markers



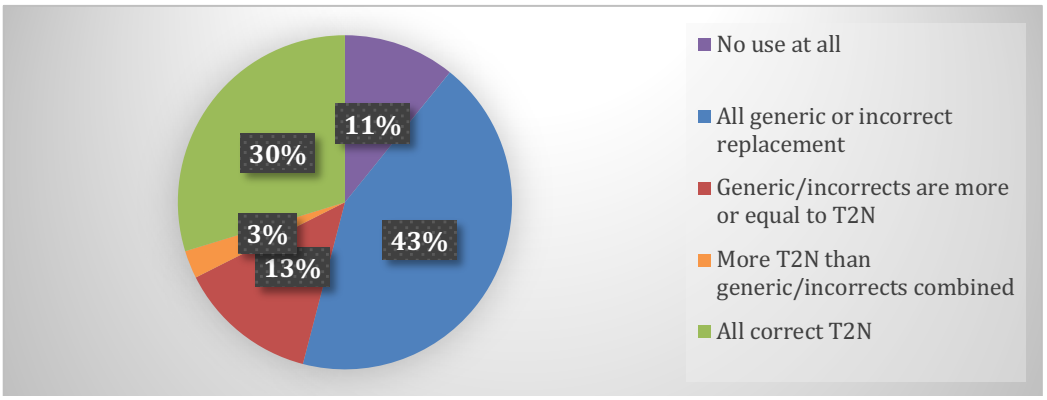
In comparison between kindergarteners and first-graders, the percentages of students who produced correct use of temporal/causal markers were very similar: 27.3% of kindergarteners and 30.8% of first graders. However, the percentage of kindergartners with all incorrect use (27.3%) was larger than that of first graders (7.7%). The number of students who did not use the markers at all was very large: 45.5% of kindergartners and 61.5% of first graders. When calculating the *Hedges' g* to see the difference between two groups, the test was not significant (*t*

= .085, *df* = 35, *p* = .93) and the effect size (*g* = .025) was very small. To conclude, the use of temporal/causal markers between the two grades was not significantly different.

Use of Tier-Two Nouns. The frequency statistics results show that almost half of students (*n* = 16, 43.2%) either used generic nouns, such as *thing, thingy,* and *stuff*, or made lexical errors, meaning words of similar sounds/meanings (e.g., *winter* for *wind, castle* for *sandcastle*) or Spanish words. Meanwhile, about one-third of them (*n* = 11, 29.7%) used the tier-two nouns indicated for their age groups and did not make any lexical errors (see Figure 8). Using the descriptive statistics, the *Mode* = 1 and *Mean* = 1.97 (*SE* = 0.24, *SD* = 1.46), which means the students sampled, on average, had a tendency to use generic nouns, words of similar sounds or meanings, or Spanish nouns in replace for the correct vocabulary that they did not know or could not think of at the moment of verbal narrative production.

Figure 8

Patterns of Use of Tier-Two Nouns



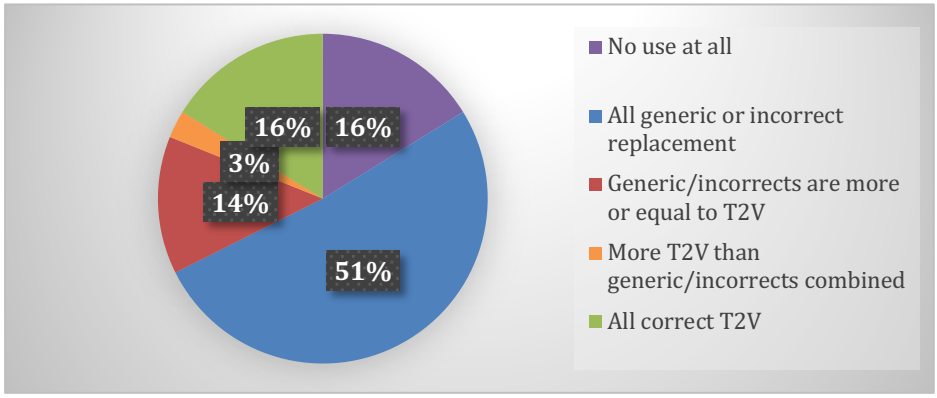
In comparison between kindergarteners and first-graders, there were more percent of first-grade students that produced lexical errors or generic nouns (50%), as compared to those of kindergartners (27.3%). Moreover, the percentage of first graders who actually used tier-two nouns (30.8%) was only slightly higher than that of kindergartners (27.3%). When calculating

the *Hedges' g* to see the difference between the two groups, the test was not significant (t = .072, df = 35, p = .94) and the effect size (g = .025) was very small. By which it means, the use of complex or tier-two nouns between the two grades was not significantly different.

Use of Tier-Two Verbs. The frequency statistics results show that over half of the students (n = 19, 51.4 %) either used generic verbs, such as *do* or *go*, or made lexical errors, for example, they mixed between *blow* and *flow*. Only 16.2% of the students provided correct use of tier-two verbs without any errors (see Figure 9 for a summary of this use). Using the descriptive statistics, the *Mode* = 1 and *Mean* = 1.51 (*SE* = 0.2, *SD* = 1.28), which means the students sampled, on average, were more likely to use generic verbs or verbs of similar sounds or meanings in replace with the correct tier-two vocabulary.

Figure 9

Patterns of Use of Tier-Two Verbs



In comparison between kindergarteners and first-graders, kindergarten students did not use any complex or tier-two verbs in a correct manner. Instead, a large percentage of them (72.7%) produced all generic verbs or lexical errors, as compared to that of first graders (43.2%). Of all first graders, the number of students who made all errors was the most (n = 12, 41.4%).

One-fourth of the first graders (23.1%) displayed a correct use with no generic verbs or lexical errors. When calculating the *Hedges' g* to examine the difference between the two groups, the test was significant (t = -2.66, df = 34.8, p = .012 < 0.05) and the effect size (g = .681) was medium. By which it means, the use of complex or tier-two verbs between the two grades was significantly different and the difference was medium.

To compare the use of tier-two nouns and verbs, a paired sample test was conducted. The test was not significant, $t(36) = 1.35$, $p = .19 > 0.05$. That means how correctly students used tier-two nouns and verbs was not different. See Figure 10 for the two uses placed together.

Figure 10

Comparison of Use of Tier-Two Nouns vs Tier-Two Verbs

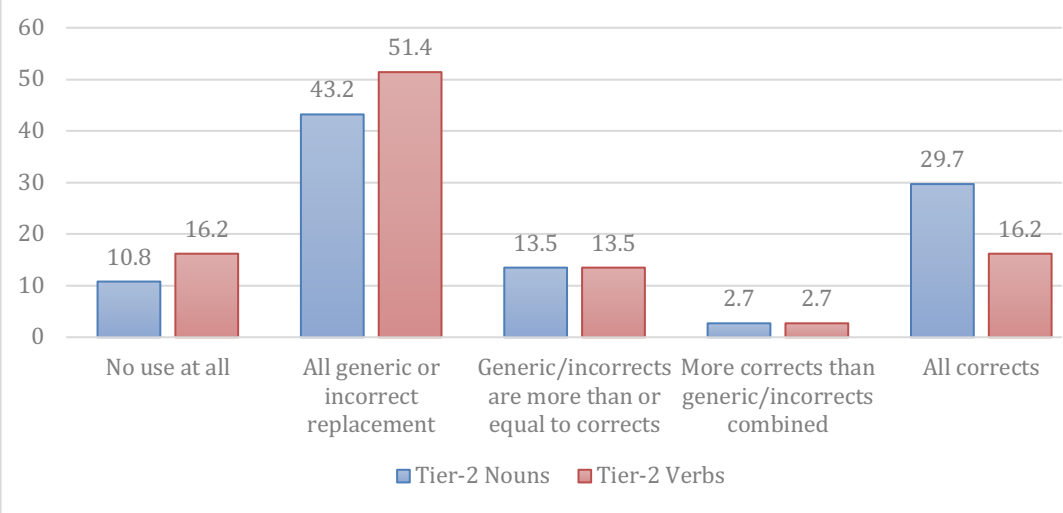


Table 11 shows the statistical report of all elements at the language complexity level.

Table 11

Statistical report of the language complexity elements

Element	***Score***	***Kindergarten***		***First Grade***		***Both***	
		n (%)	*Mean (SE)*	*n (%)*	*Mean (SE)*	*n (%)*	*Mean (SE)*
Temporal & causal markers	4	3 (27.3)		8 (30.8)		11 (29.7)	
	3	0		0		0	
	2	0	1.36 (.53)	0	1.2 (.36)	0	1.32 (.3)
	1	3 (27.3)		2 (7.7)		5 (13.5)	
	0	5 (45.5)		16 (61.5)		21 (56.8)	
Tier-two nouns	4	3 (27.3)		8 (30.8)		11 (29.7)	
	3	1 (9.1)		0		1 (2.7)	
	2	2 (18.2)	2 (.47)	3 (11.5)	1.96 (.29)	5 (13.5)	1.97 (.24)
	1	3 (27.3)		13 (50)		16 (43.2)	
	0	2 (18.2)		2 (7.7)		4 (10.8)	
Tier-two verbs	4	0		6 (23.1)		6 (16.2)	
	3	0		1 (3.8)		1 (2.7)	
	2	1 (9.1)	.91 (.16)	4 (15.4)	1.77 (.28)	5 (13.5)	1.51 (.21)
	1	8 (72.7)		11 (42.3)		19 (51.4)	
	0	2 (18.2)		4 (15.4)		6 (16.2)	

	Hedges' g	*t(df)*	*p*	*95% Confidence*
Kinder vs. 1st grade in temporal/causal markers	.03	.085 (35)	.93	[-1.27, 1.39]
Kinder vs. 1st grade in tier-two nouns	.025	.072 (35)	.94	[-1.04, 1.12]
Kinder vs. 1st grade in tier-two verbs	-.681	-2.66 (34.8)	.012	[-1.51, -.2]

Research Question 4: Correlation among Elements

What was the relationship between the macrostructural, microstructural, and language complexity elements used by Spanish-English bilingual children in kindergarten and first grade?

***Pearson's* Correlation.** Pearson's correlation was calculated to examine if there was a relationship between each two of the language use variables PROB, SOLU, PLU, PRON, BE, AUX, IRV, REV, VERB, TEMP, T2NOUN, T2VERB, and other variables including *gender, grade,* and IELPAC. Unlike the patterns used in the first three questions, these variables turned dichotomous with two values 0 and 1 (see Table 6). Because no students produced any possessive case (POSS), the calculation excluded this variable. Please refer to Table 12 for detailed information on the correlations among different pairs of variables.

Results. The results show that *gender* did not correlate with any of the narrative language elements. Findings about *grade* are different from what was found in Questions 2 and 3, where there was no significant difference in the use of pronouns (or PRON) and a significant difference in the use of tier-two verbs (or T2V) between the two grades. Instead, the correlation analysis shows a moderate correlation between grade and PRON, $r = 0.403$, $p = 0.013 < 0.05$, meaning the first-graders knew and tended to use more pronouns correctly than kindergartners. Although the correlations between *grade* and T2V were not significant, the results still indicated weak correlations for the pair, $r = 0.324$, $p = 0.05$. The English proficiency scores were moderately correlated with the use of past tense verbs in general ($r = 0.378$, $p < 0.05$).

The correlations among the narrative language elements were mostly nonsignificant. However, whenever the tests were significant, the correlations were shown as weak or moderate; no strong correlations were reported. The moderate correlations could be seen between the identification of the narrative problem and solution ($r = 0.47$, $p < 0.01$), between the use of plural

nouns and past tense verbs (r = -.402, $p < 0.05$), between the use of pronouns and verbs (r = 0.483, $p < 0.01$), and between the use of regular verbs and tier-two verbs (r = 0.434, $p < 0.01$). Smaller or weak correlations included those between the identification of problem and the use of auxiliary verbs (r = 0.345, $p < 0.05$), between solution and irregular verbs (r = 0.383, $p < 0.05$), between the use of pronouns and both irregular (r = 0.365, $p < 0.05$) and regular verbs (r = 0.396, $p < 0.05$). The positive correlations mean a more linear correlation or a higher likelihood. For example, students who identified the narrative problem correctly were likely to find the narrative solution (r = 0.47, $p < 0.01$). Or, those who could find the correct narrative solution or its related detail possibly knew the past form of irregular verbs (r = 0.383, $p < 0.05$). In contrast, the negative correlation, such as that of plural nouns and past tense verbs (r = -.402, $p < 0.05$), means an inverse relationship. For instance, students who knew how to make plural nouns were more likely to conjugate the wrong past tense of verbs.

Table 12

Pearson's Correlation among Elements

	gender	*grade*	IELPAC	PROB	SOLU	PLU	PRON	BE	AUX	IRV	REV	VERB	TEMP	T2N	T2V
gender	1														
grade	0.112	1													
IELPAC	0.188	-0.154	1												
PROB	-0.047	-0.257	0.321	1											
SOLU	0.183	0.035	0.199	**.470****	1										
PLU	0.059	0.198	-0.1	0.105	0.148	1									
PRON	0.05	**.403***	0.306	0.115	0.062	0.032	1								
BE	0.143	0.093	0.118	-0.144	-0.263	-0.124	0.203	1							
AUX	0.148	0.09	0.288	**.345***	0.236	-0.022	0.286	0.014	1						
IRV	-0.099	0.186	0.344	0.157	**.383***	-0.133	**.365***	-0.173	**.387***	1					
REV	-0.112	0.035	0.321	0.257	0.126	0.055	**.396***	0.183	0.029	0.296	1				
VERB	-0.03	-0.012	**.378***	0.011	-0.025	**-.402***	**.483****	0.274	**.422****	**.585****	0.314	1			
TEMP	-0.112	0.035	-0.116	-0.089	-0.035	-0.198	-0.004	**-.369***	-0.09	0.176	0.094	0.012	1		
T2N	0.088	-0.112	0.218	0.047	-0.036	-0.175	0.195	-0.017	**.399***	0.099	-0.006	0.307	0.112	1	
T2V	0.059	0.324	0.082	0.274	0.305	0.137	0.292	-0.124	0.094	0.102	**.434****	0.04	-0.072	0.056	1

Note: *. Correlation is significant at the 0.05 level (2-tailed); **. Correlation is significant at the 0.01 level (2-tailed); EL means English language status.

Research Question 5: Regression Models

What is the relationship between initial English proficiency and narrative elements produced by Spanish-English bilingual children during a narrative story production task?

Different Regression Models. Four regression models were run to investigate the relationship between the student's English proficiency and language elements using (randomly sampled) 29 language samples with available IELPAC scores of kindergarteners and first-graders in California after controlling for gender. Therefore, the first model was run to examine the variance between the gender and the English proficiency scores. Later, regression analyses were run for elements at the macro-structural level, then adding elements at the micro-structure, and those at the language complexity, one level at a time, making three models altogether, Models 2, 3, and 4. These variables used in the regression models were dichotomous (Table 6).

The regression analyses were performed using SPSS 29.0.

Results. All three multiple regression analyses to examine the relationship between the students' IELPAC scores and language elements at different levels were not significant (see Table 13), indicating that, in this sample, there were no relations between the English proficiency scores and the measured narrative language elements (see Tables 13 for reports of all models). The non-significant results and the small sample size of the study require us to be cautious in any interpretation. For example, when examining the variance between the language elements and IELPAC scores, elements in models 2, 3, and 4 respectively explained for 14.8%, 29.7%, and 31.4% of the IELPAC scores. That means the macro-structural elements alone could explain for 11.3% of the English proficiency scores. Similarly, the micro-structural elements could explain for 14.9%, and the language complexity elements for 1.7%. Model 3 results indicated that when combining elements after controlling for gender, they could contribute to predicting over a

quarter of the student's initial English proficiency score. The elements that seemed to contribute most in Model 3 included $\widehat{B}_{PROB}$= 92.84, $SE = 60.67$, $\hat{\beta}_{PROB}$ = .33, t = 1.53, p = .14; $\widehat{B}_{VERB}$= 101.75, $SE = 57.71$, $\hat{\beta}_{VERB}$= .36, t = 1.57, p = .13; and $\widehat{B}_{gender}$= 50.3, $SE = 40.29$, $\hat{\beta}_{gender}$= .24, t = 1.25, p = .225. It means when students were able to or were learning to identify a narrative problem, they gained an IELPAC score of .33 standard deviation higher than those who did not know about the narrative problem. Similarly, students who knew or were learning to conjugate past tense verbs could gain a .36 standard deviation higher than those who did not develop the verb conjugation skill. Female students gained a .24 standard deviation higher than male students.

Model 4 multiple regression analysis was performed to examine the relationship between IELPAC and all elements at three levels, also controlling for gender. In this model, the elements might be responsible for 31.4% of the IELPAC scores, slightly higher than Model 3. However, the standard error of the estimate was larger, with residual *SD* = 108.92, as compared to that of Model 3, with residual *SD* = 102.53, meaning the prediction using Model 4, if significant, would have been less precise than Model 3. Moreover, the language complexity elements had a very small variance of 1.7% of the IELPAC scores.

After all, such interpretation could only be meaningful if the regression analyses had been significant, and these elements had been significant predictors. For the regression analyses calculated for these 29 Spanish-English bilingual students, none of them were significant, so caution should be taken for any interpretation of the narrative language elements and their prediction of the English proficiency scores.

Table 13

Report of regression models controlling for gender

Predictor	Model 1				Model 2				Model 3				Model 4			
	B* ***(SE)***	***β****	***t***	***p***	***B**** ***(SE)***	***β****	***t***	***p***	***B**** ***(SE)***	***β****	***t***	***p***	***B**** ***(SE)***	***β****	***t***	***p***
Intercept	275.36 (28.97)	-	9.51	<.001	193.63 (56.77)	-	3.41	.002	106.66 (73.01)	-	1.46	.158	114.21 (84.93)	-	1.35	.195
gender	40.04 (40.28)	.19	.99	.33	45.38 (40.03)	.21	1.13	.268	50.3 (40.29)	.24	1.25	.225	44.76 (44.24)	.21	1.01	.324
PROB	-	-	-	-	94.56 (61.5)	.34	1.54	.137	92.84 (60.67)	.33	1.53	.14	85.15 (66.09)	.3	1.29	.213
SOLU	-	-	-	-	0.868 (61.68)	.003	.014	.989	-3.31 (60.28)	-.01	-0.06	.957	3.95 (66.62)	.01	.06	.953
PLU	-	-	-	-	-	-	-	-	-4.99 (45.1)	-.02	-.11	.913	-10.58 (52.08)	-.05	-.2	.841
PRON	-	-	-	-	-	-	-	-	8.79 (57.71)	.03	.15	.88	8.09 (66.28)	.03	.12	.904
VERB	-	-	-	-	-	-	-	-	101.75 (64.7)	.36	1.57	.13	93.5 (70.54)	.33	1.33	.201
TEMP	-	-	-	-	-	-	-	-	-	-	-	-	-21.79 (51.05)	-.09	-.43	.674
T2N	-	-	-	-	-	-	-	-	-	-	-	-	24.35 (44.25)	.11	.55	.588

T2V	-	-	-	-	-	-	-	-	-	-	-	-	.92 (47.91)	.004	.02	.985
R-squared	.035			.148			.297			.314						
Residual SD	108.38			105.83			102.53			108.92						
F	.988			1.451			1.546			.968						
p	.329			.252			.210			.494						

Note. IELPAC score is the dependent variable. * *B* is an unstandardized coefficient. ** β is a standardized coefficient.

CHAPTER V

DISCUSSION

The purpose of this dissertation was to identify what language patterns bilingual Spanish-English students in the early grades of elementary school made in their English narrative production, leading to an understanding of the relationship between their development of language elements and English language proficiency. This chapter includes a discussion of major findings as they relate to the literature on bilingual language development and narrative language assessment, and what implications may be valuable for use by professionals and teachers working with bilingual students. The chapter concludes with a discussion of the limitations of the study, areas for future research, and conclusions.

This study addressed the following research questions:

RQ1: What macro-structural elements did Spanish-speaking bilingual children tend to include most frequently in narrative story production in English?

RQ2: What micro-structural features were most frequently used when Spanish-English bilingual children produce narratives in English?

RQ3: What was the language complexity of the English narratives produced by Spanish-English bilingual children?

RQ4: What was the relationship between the macro-structural, micro-structural, and language complexity elements used by Spanish-English bilingual children in kindergarten and first grade?

RQ5: What was the relationship between the initial English proficiency and the narrative elements produced by Spanish-English bilingual children during a narrative story production task?

Elements proposed in this study were grouped into three levels: (a) macro-structural level with two story grammars of problem and solution, (b) micro-structural level with the use of plural nouns, pronouns, possessive case, and past tense verbs, and (c) language complexity included the use of temporal or causal markers, tier-two nouns, and tier-two verbs. The students' use of these elements was different depending on their English proficiency. The findings contribute to an understanding of typical English language patterns produced by emergent Spanish-speaking bilinguals.

Interpretation of the Findings

Narrative competence, the ability to understand and construct stories, is a critical aspect of language development in children. Narratives typically follow a structured format that includes a setting, characters, an initiating event, a problem, attempts to solve the problem, and a resolution. Moreover, the stories that children produce, either through storytelling or retelling, help to understand not only their comprehension of the above story grammar but also their linguistic ability to structure information through the use of grammatical structures and vocabulary repertoire. While narrative production requires the use of various language elements, each of these elements was a prominent factor in understanding the language development of bilingual Spanish-speaking students included in this study. These elements are described in detail at three different levels and in correlation with one another in the following sections.

Identification of Macro-Structural Elements of Problem and Solution

In the story grammar, the problem and solution are two crucial elements because they form the core of the narrative arc, driving the plot forward and providing resolution. The study results indicate that the majority of these bilingual students in their early elementary education frequently included problem and solution components in their narratives; however, the frequency

and sophistication of these elements varied. More students provided correct problems than correct solutions. Instead, they gave incorrect or only related information to the solution. The finding confirms what is known about young children: they can start identifying problems in narratives as early as preschool and before kindergarten and before they can identify solutions (Hutson-Nechkash, 2001; Martins, 2024; Spivey, n.d.). At this stage, they seem to recognize easily when something goes wrong in a story but might not always articulate a complete solution. For example, students identified correct verbs to describe problems, such as *toys fell,* and *the ball destroyed* […]. However, when providing a solution, more students tended to give related, but not correct, details to the solutions, such as a related action or the action reason. For instance, they may say *his dad grab a bag,* or *so dad help*, instead of *her dad bring a bag to put toys in*. The number of students who provided incorrect solutions was also higher than those who gave incorrect problem responses.

However, the *Hedges' g* analysis to compare the problem and solution identification in this study indicated that there was no significant difference between the two elements. Bohnacker (2016) also suggested the invariance in identifying the two elements in both languages of young bilingual students, and the author did not mention which element developed earlier. Regarding the relationship between macro-structural elements and language proficiency, the regression was conducted with a small sample size of 29 and was also non-significant. Problem identification was not reported as a significant predictor of the IELPAC scores in this calculation. Nevertheless, Uccelli and Páez (2007) found that this developmental trajectory of problem-solution identification was similar, although proficiency in each language could influence how effectively children express these narrative elements. Lucero (2018) provided

evidence that problem identification in narrative skills contributed to English language proficiency. These contradictory findings warrant future investigation.

Use of Micro-Structural Elements in Narrative Production

The microstructure in narrative production refers to the finer details of narrative construction, involving various parts of speech and morphosyntactic rules at the word and sentence levels. For linguistic rules that are similar in both or more languages, students learn and apply them with convenience (Goldstein, 2022; Paradis et al., 2021). For example, because the formation of plural nouns is similar in Spanish and English, it is supposed that these Spanish-speaking students would not be challenged in forming plurals in English. The study presented a similar result: most students who included the plural noun formation in their narrative production did it correctly. However, it was also reported the number of students who did not include the formation was still very large. The "no use at all" pattern then can be explained by the chosen narrative topic, which did not involve any use of plural nouns. Of the four topics, the Toy Bag and Sandcastle required plurals while the Umbrella and Ice-cream did not. More than half of the students were given the Umbrella and Ice-cream corresponding to the considerable "no use at all" pattern.

The cross-linguistic interference was more apparent in the use of possessive cases and pronouns. In Spanish, the possessive case follows the structure *the ice cream of the child*; meanwhile, the "*'s*" is more common as in *the child's ice cream.* It was reported that no "'s" structure was used in the narrative production samples. Instead, the students made use of the structure of possessive adjectives, which follows a similar word order in both languages. This "no use at all" pattern of the possessive case can be explained by the unified language system: these students were at the stage when they used only one possessive structure in both languages

and this structure was ruled by their dominant Spanish language (Paradis et al., 2021). This situation was different from that of the plural noun formation because students in the study did not use the *'s* structure although there existed opportunities for such use. Instead of *'s*, the students used possessive adjectives that share the same word order in both Spanish and English, which emphasizes Volterra and Taeschner's unified syntactic rule system (1978). The students produced the same syntactic rules while having differentiated vocabularies (i.e., different possessive adjectives in different languages). This explanation can also be employed to make sense of the use of pronouns. It was commonly seen that these students misused the pronoun gender (e.g., she/her instead of he/his). Moreover, they were also very likely to use pronouns after a noun subject, such as *the daddy he bring umbrella*, creating an erroneous structure in their narrative English production. Differently from Castilla-Earls et al. (2014)'s study, the use of pronouns in this study did not have a relationship with language proficiency.

Among the micro-structural elements, verbal morphology appears to receive the most attention because it can be used to distinguish between a language difference and a language disorder (Castilla-Earls et al., 2020; Paradis, 2005). However, while Castilla-Earls and colleagues suggested the use of verbs and subjective mood for the prediction of a language disorder, Paradis (2005) warned that it was possible that typically developing ELs could be mistaken as having language impairments based on their use of verbal morphology. After all, in both studies, the importance of verbal morphology is emphasized. This is consistent with a finding in this study that the use of past tense verbs was significantly correlated with the student's English proficiency. However, although the correlation was significant, the regression analysis did not indicate the use of past tense verbs predicted language proficiency. More

research with larger language samples is needed to test the extent to which verbs in past tenses are used as a predictor of English language proficiency.

Language Complexity in Narrative Production

Investigating language complexity in English narrative production for Spanish-speaking students involves examining the challenges posed by differences in vocabulary, syntax, morphology, and narrative conventions between the two languages. In this study, three elements of the English language use were considered: temporal/causal markers to test the syntactic complexity, and tier-two nouns and tier-two verbs to test the lexical complexity. For the sentence structure, a large number of this group of Spanish-speaking kindergartners and first-graders defaulted to simpler sentences without any temporal or causal markers, which was likely due to limited proficiency. This finding is consistent with what has been known to describe ELs: using short simple sentences (Paradis et al., 2021; Uccelli & Páez, 2007). Moreover, whenever students used a temporal/causal adverb or conjunction, none of them produced a complex sentence. Most of them used *because* with a dependent clause to answer the *why* question. For example, *because of* the wind, or *because* his cosas can't fit in his hands. Some students mixed up the use of *because, for* and *so*. Others overused conjunction *because* by adding it to both the subordination and main clauses. For example, *because the sun is shooting (*meaning *shining) on the ice-cream because it fell down*. Such incorrect structures can be explained by the transfer of patterns from Spanish.

Regarding vocabulary range or the variety of words used in the narrative production, these Spanish-speaking EL students were reported to use generic nouns often, such as *thing, thingy*, or *stuff.* In one sample, a student used *a sun-thingy* to refer to an umbrella. They also employed different English nouns to replace words they did not know or could not retrieve at

that time. For example, they used *air* instead of *wind, puppy* instead of *bear, water* instead of *beach*, and *sir* instead of *ice-cream man*. Moreover, there were many reported cases of code-switching, using Spanish nouns within an English syntactic structure. For example, the use of *cosas, la playa,* and *sombrilla* was repeated in quite a few samples. This sign of limited English vocabulary or rare use of tier-two nouns affected their ability to convey detailed and nuanced stories, which could be explained by the lexical gap hypothesis (Paradis et al., 2021) where ML students make use of their language resources (Guzman-Orth et al., 2017; McMillen et al., 2020, Uccelli & Páez, 2007).

Selecting appropriate and varied verbs was reportedly a concern for students in this study. Similarly to the use of tier-two nouns, Spanish speakers were seen to struggle with verbs of similar meanings in English. For instance, they used *put* (instead of *tied) umbrella to a tree*; *left (*instead of *dropped) the shovel, the dad catch* (instead of *grabbed) the umbrella,* and *the wind blowed (*instead of *flew) it away*. Generic verbs reported included *put (put → take all the toys to the beach), go (go → get out of the car),* and *get (get → hold the toys).* Lastly, similarly to the use of tier-two nouns, Spanish verbs such as *armar* (meaning *build*) were also employed in the student's narration.

Correlations of Language Elements

The correlation results in this study showed an association, although weak, between problem-solution identification and the use of past tense verbs, especially irregular verbs and tier-two verbs. Although verbs were not specified in their study, Uccelli and Páez (2007) found positive moderate associations between vocabulary and narrative quality. In a recent study, Lucero and Uchikoshi (2019) gained similar results. They emphasized that it is the total number of different words, not the total number of words, that decides the coherence of a narrative

production, i.e., the sequence of a story. It is widely known that irregular verbs do not follow the regular pattern of adding *"-ed*" for their past tense forms. For example, *"go" (went), "see" (saw),* and *"run" (ran)*. These verbs are essential for proper grammatical construction and are frequently encountered in everyday language and reading materials. Learning irregular verbs requires learners to recognize and remember exceptions to rules and the variety of forms of vocabulary. Similarly, tier-two verbs consist of words that are more complex than basic, everyday language (tier-one), yet more commonly used than highly specialized academic terms (tier-three). These words are essential for understanding and producing rich and nuanced language. Examples include verbs like *"analyze," "predict,"* and *"justify."* Because tier-two vocabulary serves as a bridge between conversational language and the more specialized vocabulary of academic subjects, such use aids in the transition from informal to formal language use, or from lower to higher language proficiency. In short, the more complex use of vocabulary, especially verbs, is apparently associated with a better ability to identify problems and solutions in narrative telling and vice versa.

Regarding the different types of verbs in use, irregular verbs and auxiliary verbs were shown to be moderately correlated with the use of verbs in general. English has many irregular verbs, and their patterns are less predictable (e.g., *go/ went, put/put, take/took*) compared to those more systematic patterns in Spanish. Therefore, most students were reported to use verbs in the present tense instead. For those who used past irregular verbs, some of them showed confusion among irregular verbs that look similar, such as *blew, flew*, and *threw*. A small number of students generalized the regular verb rule and applied *-ed* for irregular verbs. Regarding the use of auxiliary verbs, omission (e.g., *she holding toys* instead of *she was holding toys*) was common

due to differences in how these verbs are used in Spanish. Students also tended to use auxiliary verbs in the present tense instead of the past tense.

Regarding language complexity, Uccelli and Páez (2007) observed and found a consistent and moderate correlation between English vocabulary and narrative skills. In our study, the correlations between the use of tier-two verbs and problem-solution identification were present, although they were shown as nonsignificant in the statistical report. Moreover, the tier-two verbs were significantly and moderately correlated with regular verbs. This is probably because the regular verbs used in these topics were considered as frequently used verbs for academic purposes. Understanding the factors that contribute to language complexity in narrative production among Spanish-speaking students helps in creating an appropriate assessment that can measure their narrative skills as well as language skills (Guzman-Orth et al., 2017).

Grade Difference

The progression from kindergarten to first grade is expected in the use of narrative language elements to reflect significant growth in cognitive and linguistic abilities (Bohnacker, 2016) or significant exposure to the English language (Paradis, 2010). However, among the many narrative language elements identified in this study, only the use of tier-two verbs was significantly different between the two grades through the calculation of *Hedges' g*. This finding makes sense because tier-two verbs occupy a middle ground, being high-utility words that are more sophisticated than everyday language but are widely applicable in academic contexts (Paradis, 2010). First graders might have had more exposure to academic English at school. Moreover, as they responded to these narrative topics, students were required to use various verbs to describe the problem and solution.

Another element that was significantly correlated with *grade* was pronouns. Pearson's correlation indicated a moderate positive correlation between grade and pronouns. It means these first graders knew and used the structures that included subject, object, or possessive pronouns more frequently and precisely. The ability to use pronouns helps to maintain cohesion and clarity in narrative production, as well as avoiding repetition of nouns.

Most of the correlation findings were nonsignificant, contrary to our hypothesis, which anticipated differences favoring the first graders across the use of various elements at three levels. This unexpected outcome suggests that the predicted advantages in linguistic and cognitive measures for first graders compared to kindergartners were not as pronounced or consistently correlated as hypothesized. This probably happened because the number of samples examined was quite small. More replication with a larger sample size will be needed to provide more valid and reliable results.

Implications for Theory and Practice

Despite the small sample size and lack of significant effects in regression models, descriptive findings may have implications for theory and practice.

Problem Identification for Narrative Coherence and Complexity

The frequency with which bilingual students include problem and solution elements in their narrative production highlights their developing narrative competence and language proficiency. Moreover, problem identification in narratives is shown as a critical skill that significantly enhances English proficiency among learners (Bohnacker, 2016; Lucero, 2018). Many studies show that, by the end of first grade, most students can produce well-structured narratives with clear problems (Hutson-Nechkash, 2001; Martins, 2024; Spivey, n.d.). Other studies conclude that Spanish speakers feel comfortable talking about problems in their dominant

language (Fiestas & Peña, 2004). Moreover, problems are associated with solutions, supporting the goal-based narrative production with temporal sequences. Because understanding these developmental patterns can inform educational assessment and strategies, focusing on the production of a problem statement in scoring narratives with Spanish-speaking ELs can improve scoring. For emergent bilinguals, it might be best to focus more on the production of the problem rather than the solution in scoring. Spencer and Petersen (2018) discussed the shortened form of narrative language assessment by dropping some narrative elements. It is therefore suggested that, of the two macro-structural elements, the problem identification should be included in language assessment for young ML students.

Use of Past-Tense Verbs in Association with English Proficiency

English proficiency encompasses a range of skills including vocabulary, syntax, and grammar, all of which are critical for effective communication (California Department of Education, n.d.). Among these skills, proficiency in using past-tense verbs is indicative of higher cognitive and linguistic capabilities in English (Paradis, 2010). In this study, there was a correlation between the use of past-tense verbs and overall English proficiency. Moreover, the linear regression also indicated that the use of past-tense verbs, if significant, might explain almost 15% of the variance of the English proficiency score. In language assessment, incorporating past-tense verbs means examining different types of verbs in past tenses, such as the copula *be*, auxiliary verbs, and regular and irregular verbs. It was reported that, of the four types, auxiliary and irregular verbs were significantly and moderately correlated with the use of past tense verbs in general. Therefore, it is suggested that more research be conducted about past-tense verbs, especially auxiliary and irregular, to consider the past-tense verbs to be used as a component in a language assessment for young bilingual students.

Consideration of Multilingual Development in Language Assessment

Multilingual students navigate two or more linguistic systems, often resulting in diverse language experiences and varying proficiency levels in each language (Goldstein, 2022; Guzman-Orth et al., 2017; Paradis et al., 2021). In this study, the English vocabulary of these Spanish-speaking bilingual students appeared limited. Almost half of them employed generic words such as *stuff, thing, do, go,* or incorrect words that sound the same or have similar meanings. They also code-switched to utilize Spanish equivalents. Only about 30% used correct tier-two nouns and 16% used correct tier-two verbs in English. Although their total vocabulary across both languages could be comparably sufficient for their ages, their English vocabulary knowledge is still developing. Assessments focusing solely on English for those English learners would underestimate their lexical development and cognitive flexibility if their emerging vocabulary, such as generic and tier-one words, close replacements, or Spanish equivalents, was not considered in scoring. Emerging vocabulary reflects their active engagement with the linguistic environment and their ability to learn and integrate new words. For bilingual students, the ability to use and understand emerging vocabulary in both languages can indicate robust linguistic and cognitive development. This is particularly important given that vocabulary knowledge in one language can facilitate learning in another, a phenomenon known as cross-linguistic transfer (Paradis et al., 2021). Assessments that allow for emerging vocabulary in English and their use of Spanish can provide a more dynamic and holistic view of the student's linguistic capabilities.

In a similar manner, it was noticed that these English learners used not only simple structures but also those that were similar in their Spanish language. For example, only 30% of them used temporal/causal markers and 100% of these users provided only a marker and a

dependent clause. No complex sentences were made. For possessive structures, no students used possessive case *'s*; instead, they chose possessive adjectives, a grammatical point with a similar word order rule in Spanish. Therefore, it is recommended that translanguaging, such as using Spanish vocabulary and grammar, be allowed in language assessments of young bilingual learners. Such assessments can capture the nuances of multilingual language development, such as the child's ability to comprehend, produce new words, and apply new morpho-syntactical rules, which is essential for academic success and social integration in multilingual settings.

Limitations and Recommendations for Future Research

Several limitations of this study must be noted. First, our sample size was small (i.e., 37 language samples and 29 proficiency scores). It is known that small samples may not be representative of the broader population, making it challenging to generalize findings to a larger group. Therefore the results provided were mostly descriptive and interpreted with caution. Further research with larger samples is highly needed.

Second, reports of cultural backgrounds and SES status were not provided in the study. It is known that these pieces of information can reflect the student's access to education and parental involvement, which directly affect their narrative and language experience (Farver et al., 2013; Ibáñez-Alfonso et al., 2021; Kigel et al., 2015). Students from well-resourced backgrounds tend to have more opportunities for language development (Dixon & Wu, 2014; Sun & Yin, 2020), which can lead to more complex narratives (Pillinger & Vardy, 2022). Exposure to books and storytelling activities in school can significantly influence language complexity (Pillinger & Vardy, 2022). Moreover, active engagement by parents in storytelling and discussions can help in developing more sophisticated language skills in children (Dickinson & McCabe, 2001, Dixon & Wu, 2014; Pillinger & Vardy, 2022). In future research, such information should be collected

and could serve as a moderator to explain the students' language proficiency and performance in narrative measures.

Conclusion

In summary, the evaluation of narrative macro-structural, micro-structural, and language complexity elements provides a comprehensive understanding of a child's linguistic and cognitive abilities. Narrative macro-structures, including story problems and solutions, reflect a child's ability to comprehend and convey complex ideas in a logical sequence, highlighting their grasp of broader linguistic and cognitive frameworks. Micro-structural elements, such as specific grammatical constructions of nouns, pronouns, and verbs, offer insight into the finer aspects of language proficiency, including the ability to manipulate morpho-syntax, or word form and word order, effectively within a narrative. Finally, assessing language complexity encompasses both macro-structural and micro-structural elements, revealing the depth of a child's linguistic skills, including the use of complex structures and varied vocabulary, which are essential for advanced communication and literacy development. Together, these elements provide a holistic view of a child's narrative skills, enabling educators and clinicians to identify strengths and areas requiring support.

REFERENCES

Barac, R., & Bialystok, E. (2012). Bilingual effects on cognitive and linguistic development: Role of language, cultural background, and education. *Child Development, 83*(2), 413–422. https://doi.org/10.1111/j.1467-8624.2011.01707.x

Beck, I. L., McKeown, M. G., & Kucan, L. (2002). *Bringing words to life.* The Guilford Press

Bedore, L. M., Fiestas, C. E., Peña, E. D., & Nagy, V. J. (2006). Cross-language comparisons of maze use in English and Spanish in functionally monolingual and bilingual children. *Bilingualism: Language and Cognition, 9*(3), 233-247. https://doi.org/10.1017/S1366728906002604

Bedore, L. M., Peña, E. D., Anaya, J. B., Nieto, R., Lugo-Neris, M. J., & Baron, A. (2018). Understanding disorder within variation: Production of English grammatical forms by English language learners. *Language, Speech, and Hearing Services in Schools, 49*(2), 277–291. https://doi.org/10.1044/2017_LSHSS-17-0027

Bialystok, E. (2002). Acquisition of literacy in bilingual children: A framework for research. *Language Learning, 52*(1), 159 – 199. https://doi.org/10.1111/j.1467-9922.2007.00412.x

Bohnacker, U. (2016). Tell me a story in English or Swedish: Narrative production and comprehension in bilingual preschoolers and first graders. *Applied Psycholinguistics, 37*(1), 19–48. https://doi.org/10.1017/S0142716415000405

Bowles, R. P., Justice, L. M., Khan, K. S., Piasta, S. B., Skibbe, L. E., & Foster, T. D. (2020). Development of the Narrative Assessment Protocol-2: A tool for examining young children's narrative skill. *Language, Speech, and Hearing Services in Schools.* Advance online publication. https://doi.org/10.1044/2019_LSHSS-19-00038

California Department of Education. (n. d.). *English Language Proficiency Assessments for California (ELPAC): California's statewide test for English language proficiency.* https://www.cde.ca.gov/ta/tg/ep/

Castilla-Earls, A.. Petersen, D., Spencer, T., & Hammer, K. (2015). Narrative development in monolingual Spanish-speaking preschool children. *Early Education and Development, 26*, 1-21. https://doi.org/10.1080/10409289.2015.1027623

Castilla-Earls, A., Auza, A., Pérez-Leroux, A. T., Fulcher-Rood, K., & Barr, C. (2020). Morphological errors in monolingual Spanish-speaking children with and without developmental language disorders. *Language, Speech, and Hearing Services in Schools, 51*(2), 270–281. https://doi.org/10.1044/2019_LSHSS-19-00022

Castilla-Earls, A., Pérez-Leroux, A. T., Fulcher-Rood, K., & Barr, C. (2021). Morphological errors in bilingual Spanish-speaking children with and without developmental language disorders. *Language, Speech, and Hearing Services in Schools, 52*(2), 497–511. https://doi.org/10.1044/2020_LSHSS-20-00017

Cavazos, L. O., & Ortiz, A. A. (2020) Incorporating oral language assessment into MTSS/RTI frameworks: The potential of personal narrative assessment. *Bilingual Research Journal, 43*(3), 323-344. https://doi.org/10.1080/15235882.2020.1826367

Colozzo, P., Gillam, R. B., Wood, M., Schnell, R. D., & Johnston, J. R. (2011). Content and form in the narratives of children with specific language impairment. *Journal of Speech, Language, and Hearing Research, 54*(6), 1609–1627. https://doi.org/10.1044/1092-4388(2011/10-0247)

Condouris, K., Meyer, E., & Tager-Flusberg, H. (2003). The relationship between standardized measures of language and measures of spontaneous speech in children with autism.

American Journal of Speech-Language Pathology. https://doi.org/10.1044/1058-0360(2003/080)

Davison, M. D., & Hammer, C. S. (2012). Development of 14 English grammatical morphemes in Spanish-English preschoolers. *Clinical Linguistics & Phonetics, 26*(8), 728–742. https://doi.org/10.3109/02699206.2012.700679

Dickinson, D. K., & McCabe, A. (2001). Bringing it all together: The multiple origins, skills, and environmental supports of early literacy. *Educational Research, 16*(4), 186–202. https://doi.org/10.1111/0938-8982.00019

Dixon, L., & Wu, S. (2014). Home language and literacy practices among immigrant second-language learners. *Language Teaching, 47*(4), 414-449. https://doi.org/10.1017/S0261444814000160

Dodwell, K. & Bavin, E. (2008). Children with specific language impairment: An investigation of their narratives and memory. *International Journal of Language and Communication Disorders, 43*(2), 201-218. https://doi.org/10.1080/13682820701366147

Duinmeijer, I., de Jong, J., & Scheper, A. (2012). Narrative abilities, memory and attention in children with a specific language impairment. *International Journal of Language & Communication Disorders, 47*(5), 542–555. https://doi.org/10.1111/j.1460-6984.2012.00164.x

Fabiano-Smith, L. & Goldstein, B. (2010). Phonological cross-linguistic effects in bilingual Spanish–English speaking children. *Journal of Multilingual Commununication Disorder, 3*, 56-63. https://doi.org/10.1080/14769670400027316.

Farnsworth, M. (2018). Differentiating second language acquisition from specific learning disability: An observational tool assessing dual language learners' pragmatic

competence. *Young exceptional children*, *21*(2), 92-110. https://doi.org/10.1177/1096250615621356

Farver, J. A., Xu, Y., Lonigan, C. J., & Eppe, S. (2013). The home literacy environment and Latino Head Start children's emergent literacy skills. *Developmental Psychology, 49*(4), 775–791. https://doi.org/10.1037/a0028766

Fiestas, C. E., & Peña, E. D. (2004). Narrative discourse in bilingual children: Language and task effects. *Language, Speech, and Hearing Services in Schools, 35*(2), 155–168. https://doi.org/10.1044/0161-1461(2004/016)

Fichman, S., & Altman, C. (2019). Referential cohesion in the narratives of bilingual and monolingual children with typically developing language and with specific language impairment. *Journal of Speech, Language, and Hearing Research, 62*(1), 123–142. https://doi.org/10.1044/2018_JSLHR-L-18-0054

Genesee, F. (1989). Early bilingual development: One language or two? *Journal of Child Language, 16*(1), 161–179. https://doi.org/10.1017/S0305000900013490

Gibson, T. A., Peña, E. D., & Bedore, L. M. (2014). The receptive-expressive gap in bilingual children with and without primary language impairment. *American Journal of Speech-Language Pathology, 23*(4), 655–667. https://doi.org/10.1044/2014_AJSLP-12-0119

Gillam, S., Gillam, R. & Reece, K. (2012). Language outcomes of contextualized and decontextualized language intervention: Results of an early efficacy study. *Language, Speech, Hearing Services in Schools,* 1 – 44. https://doi.org/10.1044/0161-1461(2011/11-0022)

Goldstein, B. A. (2022). *Bilingual Language Development and Disorders in Spanish-English Speakers* (3rd Ed.). Paul H. Brookes Publishing.

Guo, L., & Schneider, P. (2016). Differentiating school-aged children with and without language impairment using tense and grammaticality measures from a narrative task. *Journal of Speech, Language, and Hearing Research, 59*(2), 317-29. https://doi.org/10.1044/2015_JSLHR-L-15-0066

Gutiérrez-Clellen, V. F., & Peña, E. (2001). Dynamic assessment in diverse children: A tutorial. *Language, Speech, and Hearing Services in Schools, 32*, 212 – 224. https://doi.org/10.1044/0161-1461(2001/019)

Guzman-Orth, D., Lopez, A.A. and Tolentino, F. (2017). A framework for the dual language assessment of young dual language learners in the United States. *ETS Research Report Series,* 1-19. https://doi.org/10.1002/ets2.12165

Heilmann, J., Miller, J. F., Nockerts, A., & Dunaway, C. (2010). Properties of the narrative scoring scheme using narrative retells in young school-age children. *American Journal of Speech-Language Pathology, 19*(2), 154–166. https://doi.org/10.1044/1058-0360(2009/08-0024)

Hoff, E., Core, C., Place, S., Rumiche, R., Señor, M., & Parra, M. (2012). Dual language exposure and early bilingual development. *Journal of Child Language, 39*(1), 1–27. https://doi.org/10.1017/S0305000910000759

Hutson-Nechkash, P. (2001). *Narrative toolbox: Blueprints for storybuilding*. Thinking Publications.

Ibáñez-Alfonso, J. A., Hernández-Cabrera, J. A., Duñabeitia, J. A., Estévez, A., Macizo, P., Bajo, M. T., Fuentes, L. J., & Saldaña, D. (2021). Socioeconomic status, culture, and reading comprehension in immigrant students. *Frontiers in Psychology, 12*, 752273. https://doi.org/10.3389/fpsyg.2021.752273

Justice, L. M., Bowles, R., Pence, K., & Gosse, C. (2010). A scalable tool for assessing children's language abilities within a narrative context: The NAP (Narrative Assessment Protocol). *Early Childhood Research Quarterly, 25*(2), 218–234. https://doi.org/10.1016/j.ecresq.2009.11.002

Kapantzoglou, M., Fergadiotis, G., & Restrepo, M. A. (2017). Language sample analysis and elicitation technique effects in bilingual children with and without language impairment. *Journal of Speech, Language, and Hearing Research : JSLHR*, *60*(10), 2852–2864. https://doi.org/10.1044/2017_JSLHR-L-16-0335

Kelley, A., & Kohnert, K. (2012). Is there a cognate advantage for typically developing Spanish-speaking English-language learners? *Language, Speech, and Hearing Services in Schools, 43*(2), 191–204. https://doi.org/10.1044/0161-1461(2011/10-0022)

Kigel, R. M., McElvany, N., Becker, M. (2015). Effects of immigrant background on text comprehension, vocabulary, and reading motivation: A longitudinal study. *Learning and Instruction, 35*, 73–84. https://doi.org/10.1016/j.learninstruc.2014.10.001

Kirby, M. S., Spencer, T. D., & Chen, Y. I. (2021). Oral narrative instruction improves kindergarten writing. *Reading & Writing Quarterly, 37*(6), 574-591. https://doi.org/10.1080/10573569.2021.1879696

Kohnert, K. (2010). Bilingual children with primary language impairment: Issues, evidence, and implications for clinical actions. *Journal of Communication Disorders, 43*(6), 456–473. https://doi.org/10.1016/j.jcomdis.2010.02.002

Kohnert, K., Kan, P. F., & Conboy, B. T. (2010). Lexical and grammatical associations in sequential bilingual preschoolers. *Journal of Speech, Language, and Hearing Research : JSLHR*, *53*(3), 684–698. https://doi.org/10.1044/1092-4388(2009/08-0126)

Laing, S. P., & Kamhi, A. (2003). Alternative assessment of language and literacy in culturally and linguistically diverse populations. *Language, Speech, and Hearing Services in Schools, 34*, 44 – 55. https://doi.org/10.1044/0161-1461(2003/005)

López, L. M., & Foster, M. E. (2021). Examining heterogeneity among Latino dual language learners' school readiness profiles of English and Spanish at the end of head start. *Journal of Applied Developmental Psychology, 73*, 101239. https://doi.org/10.1016/j.appdev.2021.101239

Lucero, A. (2018). The development of bilingual narrative retelling among Spanish–English dual language learners over two years. *Language, Speech, and Hearing Services in Schools, 49*(3), 607–621. https://doi.org/10.1044/2018_LSHSS-17-0152

Mancilla-Martinez, J., Hwang, J. K., & Oh, M. (2021). Assessment selection for multilingual learners' reading development. *The Reading Teacher, 75*, 351–362. https://doi.org/10.1002/trtr.2053

Marchman, V., Martínez-Sussmann, C. & Dale, P. (2004). The language-specific nature of grammatical development: Evidence from bilingual language learners. *Developmental Science.* https://doi.org/7. 212-24. 10.1111/j.1467-7687.2004.00340.x

Marks, I., & Stokes, S. F. (2010). Narrative-based intervention for word-finding difficulties: a case study. *International Journal of Language & Communication Disorders, 45*(5), 586–599. https://doi.org/10.3109/13682820903277951

Martins, K. (2024, March 10). *Improving storytelling skills in childhood – Narrative language*. VoxLingue. https://www.voxlingue.com/post/improving-storytelling-skills-in-childhood-narrative-language

McCabe, A. & Rosenthal-Rollins, P. (1994). Assessment of preschool narrative skills. *American Journal of Speech-Language Pathology, 3*, 45-56. https://doi.org/10.1044/1058-0360.0301.45

McGregor, K. K. (2020). How we fail children with developmental language disorders. *Language, Speech, and Hearing Services in Schools, 51*, 981 – 992. https://doi.org/10.1044/2020_LSHSS-20-00003

McMillen, S., Griffin, Z. M., Peña, E. D., Bedore, L. M., & Oppenheim, G. M. (2020). "Did I say cherry?" Error patterns on a blocked cyclic naming task for bilingual children with and without developmental language disorder. *Journal of Speech, Language, and Hearing Research, 63*(4), 1148–1164. https://doi.org/10.1044/2019_JSLHR-19-00041

Migration Policy Institute. (n.d.). Young dual language learners in the United States and by State. Retrieved May 25, 2022, from https://www.migrationpolicy.org/programs/data-hub/charts/us-state-profiles-young-dlls

Miller, J. F., Heilmann, J., Nockerts, A., Iglesias, A., Fabiano, L., & Francis, D. J. (2006). Oral language and reading in bilingual children. *Learning Disabilities Research & Practice, 21(*1), 30–43. https://doi.org/10.1111/j.1540-5826.2006.00205.x

Miller, J. F., & Iglesias, A. (2019). *Systematic Analysis of Language Transcripts* [Computer software]. Salt Software, LLC.

Minami, M. (2002) Culture-specific language styles: The development of oral narrative and literacy. *Journal of Child Language, 32*(1), 241-247. https://doi.org/10.1017/S0305000904006762

National Center for Education Statistics. (2023). English Learners in Public Schools. *Condition of Education*. U.S. Department of Education, Institute of Education Sciences. Retrieved [date], from https://nces.ed.gov/programs/coe/indicator/cgf.

National Center for Learning Disabilities. (2020, October 19). *Significant Disproportionality in Special Education.* https://ncld.org/sigdispro

National Council on Measurement in Education. (2020). *Position Statement on Testing English Learners.* https://higherlogicdownload.s3.amazonaws.com/NCME/4b7590fc-3903-444d-b89d-c45b7fa3da3f/UploadedImages/English_learners_Statement_sept_2020.pdf

Office of Early Childhood Development. (2017, January 5). *Dual Language Learners.* https://www.acf.hhs.gov/ecd/dual-language-learners

Office of English Language Acquisition. (2021). *English Learners with Disabilities* [Fact sheet]. https://ncela.ed.gov/files/fast_facts/20201216-Del4.4-ELsDisabilities-508-OELA.pdf

O'Neill, D. K., Pearce, M. J., & Pick, J. L. (2004). Preschool Children's Narratives and Performance on the Peabody Individualized Achievement Test – Revised: Evidence of a Relation between Early Narrative and Later Mathematical Ability. *First Language, 24(*2), 149-183. https://doi.org/10.1177/0142723704043529

Oregon Department of Education. (2020). *English Language Learners in Oregon: Annual Report 2018-2019*. Retrieved from https://www.oregon.gov/ode/reports-and-data/LegReports/Documents/Oregon%20English%20Learners%20Report%202018-19%20Final.pdf

Parker, C. E., O'Dwyer, L. M., & Irwin, C. W. (2014). *The correlates of academic performance for English language learner students in a New England district* (REL 2014–020).

Washington, DC: U.S. Department of Education, Institute of Education Sciences, National Center for Education Evaluation and Regional Assistance, Regional Educational Laboratory Northeast & Islands. Retrieved from http://ies.ed.gov/ncee/edlabs

Pauls, L. J., & Archibald, L. M. (2021). Cognitive and linguistic effects of narrative-based language intervention in children with developmental language disorder. *Autism & Developmental Language Impairments, 6*, 23969415211015867. https://doi.org/10.1177/23969415211015867

Paradis, J. (2010). Bilingual children's acquisition of English verb morphology: Effects of language exposure, structure complexity, and task type. *Language Learning, 60*, 651 - 680. https://doi/org/10.1111/j.1467-9922.2010.00567.x.

Paradis, J. (2005). Grammatical morphology in children learning English as a second language: Implications of similarities with specific language impairment. *Language, Speech, and Hearing Services in Schools, 36*(3), 172–187. https://doi.org/10.1044/0161-1461(2005/019)

Paradis, J., Genesee, F., Crago, M. (2021). *Dual language development and disorders: A handbook on bilingualism and second language learning* (3rd Ed.). Brookes Publishing.

Pearson, B. Z. (1998). Assessing lexical development in bilingual babies and toddlers. *International Journal of Bilingualism, 2*(3), 347-372. https://doi.org/10.1177/136700699800200305

Pearson, B. Z. (2002). Narrative competence among monolingual and bilingual school children in Miami. In K. Oller & R. Eilers (Ed.), *Language and literacy in bilingual children* (pp. 135-174). Bristol, Blue Ridge Summit: Multilingual Matters. https://doi.org/10.21832/9781853595721-008

Petersen, D. B., Gillam, S. L., & Gillam, R. B. (2008) Emerging procedures in narrative assessment: The Index of Narrative Complexity. *Topics in Language Disorders, 28*(2), 115-130. https://doi.org/10.1097/01.TLD.0000318933.46925.86

Petersen, D. & Spencer, T. (2012). The Narrative Language Measures: Tools for language screening, progress monitoring, and intervention planning. *Perspectives on Language Learning and Education.* https://doi.org/19. 119. 10.1044/lle19.4.119

Petersen, D. B., & Spencer, T. D. (2016). *CUBED Assessment: Narrative Language Measures & Dynamic Decoding Measures*. Language Dynamics Group. https://www.languagedynamicsgroup.com/cubed-assessment-download/

Pieretti, R. A., & Roseberry-McKibbin, C. (2016). Assessment and intervention for english language learners with primary language impairment: Research-based best practices. *Communication Disorders Quarterly, 37*(2), 117-128. https://doi.org/10.1177/1525740114566652

Pillinger, C., & Vardy, E.J. (2022). The story so far: A systematic review of the dialogic reading literature. *Journal of Research in Reading, 45*(4), 533-548. https://doi.org/10.1111/1467-9817.12407

Prath, S. (2016, April 12). Know these four areas of typical second-language "errors". ASHAWIRE. https://leader.pubs.asha.org/do/10.1044/4-quick-ways-to-identify-typical-language-patterns-of-bilingual-children/full/

Rezzonico, S., Chen, X., Cleave, P. L., Greenberg, J., Hipfner-Boucher, K., Johnson, C. J., Milburn, T., Pelletier, J., Weitzman, E., & Girolametto, L. (2015). Oral narratives in monolingual and bilingual preschoolers with SLI. *International journal of language & communication disorders*, *50*(6), 830–841. https://doi.org/10.1111/1460-6984.12179

Rojas, R., & Iglesias, A. (2013). The language growth of Spanish-speaking English language learners. *Child Development, 84*, 630-646. https://doi.org/10.1111/j.1467-8624.2012.01871.x

Sanchez, C. (2017, February 23). *English Language Learners: How Your State is Doing.* NPR. https://www.npr.org/sections/ed/2017/02/23/512451228/5-million-english-language-learners-a-vast-pool-of-talent-at-risk

Spencer, T. D., & Petersen, D. B. (2018). Bridging oral and written language: An oral narrative language intervention study with writing outcomes. *Language, Speech, and Hearing Services in Schools, 49*(3), 569–581. https://doi.org/10.1044/2018_LSHSS-17-0030

Spencer, T. D., & Petersen, D. B. (2020). Narrative intervention: Principles to Practice. *Language, Speech, and Hearing Services in Schools, 51*, 1081 – 1096. https://doi.org/10.1044/2020_LSHSS-20-00015

Spencer, T. D., Thompson, M. S., Petersen, D. B., Liu, Y., & Restrepo, M. A. (2023). Reliability and validity evidence for the English and Spanish preschool narrative language measures-listening. *Early Childhood Research Quarterly, 64*, 148-161. https://doi.org/10.1016/j.ecresq.2023.02.005

Spivey, B. L. (n.d.). *Narrative stages*. HandyHandouts. Retrieved June 24, 2024, from https://www.handyhandouts.com/viewHandout.aspx?hh_number=350&nfp_title=Narrative+Stages

Sun, H., & Yin, B. (2020). Multimedia input and bilingual children's language learning. *Frontiers in Psychology, 11*, 2023. https://doi.org/10.3389/fpsyg.2020.02023

Uccelli, P., & Páez, M. M. (2007). Narrative and vocabulary development of bilingual children from kindergarten to first grade: Developmental changes and associations among English

and Spanish skills. *Language, Speech, and Hearing Services in Schools, 38*(3), 225–236. https://doi.org/10.1044/0161-1461(2007/024)

U. S. Census Bureau. (2022). *Language use in the United States, 2019: American Community Survey Reports*. U. S. Department of Commerce. Retrieved from https://www.census.gov/content/dam/Census/library/publications/2022/acs/acs-50.pdf

U.S. Department of Education, National Center for Education Statistics, EDFacts file 141, Data Group 678, extracted October 10, 2022; and Common Core of Data (CCD), "State Nonfiscal Survey of Public Elementary and Secondary Education," 2020–21. See Digest of Education Statistics 2022, table 204.27.

van den Broek, P. (1997). Discovering the cement of the universe: The development of event comprehension from childhood to adulthood. In P. van den Broek, & T. Bourg (Eds.), *Developmental spans in event comprehension: Bridging fictional to actual events* (pp. 321 – 342). Erlbaum.

Veraksa, A., Bukhalenkova, D., Kartushina, N., & Oshchepkova, E. (2020). The Relationship between Executive Functions and Language Production in 5-6-Year-Old Children: Insights from Working Memory and Storytelling. *Behavioral sciences (Basel, Switzerland)*, *10*(2), 52. https://doi.org/10.3390/bs10020052

Volterra, V., & Taeschner, T. (1978). The acquisition and development of language by bilingual children. *Journal of Child Language, 5*(2), 311-326. https://doi.org/10.1017/S0305000900007492

Winters, K. L., Jasso, J., Pustejovsky, J. E., & Byrd, C. T. (2022). Investigating narrative performance in children with developmental language disorder: A systematic review and

meta-analysis. *Journal of Speech, Language, and Hearing Research, 65*(10), 3908–3929. https://doi.org/10.1044/2022_JSLHR-22-00017

Yousef, H., Karimi, L., & Janfeshan, K. (2014). The relationship between cultural background and reading comprehension. *Theory and Practice in Language Studies, 4*(4), 707 – 714. https://doi.org/ tpls.4.4.707-714

Appendix

Table 4a

Tier 2 Nouns for Kindergarten

age	goal	reach
artist	gust	round
autumn	half	row
bay	herd	sail
beak	invitation	scene
bloom	knight	shade
buzz	laundry	ship
care	leaf	shore
chore	library	sink
comfort	market	slide
community	month	slip
country	mud	soap
cradle	museum	spring
decision	note	summer
dentist	pace	supplies
dew	pair	tent
drawer	patient	tomorrow
edge	peace	trade
farmer	peck	trunk
fear	pilot	wave
firefly	plan	week
flipper	pond	winter
glance	president	wish
glow	race	yesterday

Table 4b

Tier 2 Verbs for Kindergarten

appear	glance	shade
bloom	glow	ship
burst	include	sink
buzz	leak	slide
care	melt	slip
check	note	sniff
comfort	pair	sparkle
country	peck	stare
cover	plan	supply
cradle	protect	tangle
dangle	race	trade
decide	reach	trunk
disappear	relax	warm
fear	rotten	wave
fix	round	wiggle
follow	row	wish
gallop	sail	
giggle	scrub	

Table 4c

Tier 2 Nouns for First Graders

ache	decoration	rescue
alarm	directions	restart
appetite	fair	return
applause	fancy	rise
atmosphere	feast	roar
attention	focus	scratch
basket	fog	seed
batch	footprint	shell
bolt	forest	shovel
bundle	grip	shriek
cabin	heap	sibling
caterpillar	hobby	silence
caution	howl	sob
cave	illustrator	spot (spotless, spotted)
centaur	injury	sprinkle
champion	knob	storm
chat	leader	stripe
chimney	list	suggestion
compass	mask	surprise
conductor	mountain	switch
consequences	note	thunder
construct	notice	ticket
costume	pain	transportation
crash	passenger	travel
creak	pattern	trust
croak	pest	warning
crowd	problem	weed
cue	promise	whimper
curve	question	whirl
dart	report	wonder

Table 4d

Tier 2 Verbs for First Graders

ache	fascinate (fascinating)	remind
adjust	fasten	remove
afford	flee	repeat
alarm	focus	report
annoy	freeze (freezing)	rescue
apologize	frustrate (frustrated)	restart
applaud	gather	return
attach	gleam (gleaming)	rhyme
behave	grab	rise
belong	grin	roar
bend	grip	scold
blink	groan	scratch
blush	hatch	search
borrow	hide	seed
celebrate	howl	shovel
chat	ignore	shriek
cheat	illustrate	sneak
complain	investigate	sob
construct	invite	spiral
crash	knob	sprinkle
creak	list	squirm
croak	listen	startle
cue	loosen	stomp
curve	measure	stripe
dart	mumble	suggest
decide	narrow	surprise
decorate	nibble (nibbled)	surround
delight (delighted)	note	switch
deny (denied)	notice	terrify (terrified)
deserve	obey	travel
disappoint (disappointed)	observe (observing)	trust
discover	pain	upset
divide	polish	whimper
dodge	positive	whirl
drench (drenched)	prefer	wonder
embarrass (embarrassed)	pretend	worry (worried)
exclaim	promise	yank
exhaust (exhausted)	protect	
explore	question	

Tier-two vocabulary word lists are created by Berg (2023), based on the work of Beck and colleagues (2002).

Table 5

Macro-Structural Elements in Narrative Story Production in English and Tier-2 Vocabulary

Toy Bag

Problem	Correct Inclusion of Main Problem
	• She dropped the toys/The toys fell.
	  ○ *"The toys fell."*
	  ○ *"She had too many toys and they fell."*
	  ○ *"The bear had too many toys and she dropped them."*
		2

	Incorrect Mention of Main Problem
	• Explanation why the toys fell: e.g., too many; couldn't carry them.
	  ○ *"She was too small to grab everything, and they fell."*
	  ○ *"The bear couldn't carry so many toys"*
	  ○ *"There were so many toys"*
	• Purpose of the toys: e.g., going to the beach; to play at the beach.
	  ○ *"The bear is going to the beach."*
	  ○ *"She is bringing the toys to play at the beach."*
	• Names specific toys: e.g., shovel, ball, towel.
	  ○ *"Picks up a ball, and has a towel."*
	  ○ *"The bear got a ball but also a shovel and a bucket"*
	• Cognitive or emotional state: e.g., sad; frustrated.
	  ○ *"The girl was frustrated."*
	  ○ *"She was sad when toys fall."*
		1

	No Mention of Main Problem	0

Solution	Correct Inclusion of Main Solution
	• The toys are put in the bag.
	  ○ *"Puts them all in the bag"*
	  ○ *"The dad opens the bag and the girl puts the toys in"*
		2

	Incorrect Mention of Main Solution
	• Adult actions: e.g., dad/mom/bear brought a bag/basket.
	  ○ *"The other bear brings a bag."*
	  ○ *"The dad has a basket"*
	• Pick up of the toys: e.g., picking them up and putting them in the bag.
	  ○ *"And then she picked up the ball again."*
	  ○ *"She puts all the toys in the bag"*
	• Emotional state: e.g., happy.
	  ○ *"She is happy when dad gets a basket for the toys."*
	• Conclusion: e.g., go to the beach; carry all the toys.
	  ○ *"Now she can take all the toys to the beach."*
		1

	No Mention of Main Solution	0
T2 Nouns	basket, beach, bear, shovel, buckets, swimsuit, towel, umbrella, floaties, snorkel, beach toys, hat, beach chairs, snacks, cooler, sunglasses, shore, ship	Count
T2 Verbs	grab, frustrate (as in frustrated), carry, shovel	Count

Umbrella

Problem	Correct Inclusion of Main Problem
	• The umbrella flew away.
	  ○ *The umbrella flowed away.*
	  ○ *La viento se pushó la umbrella.*
		2

	Incorrect Mention of Main Problem
	• Introduction to the scene: e.g., going to the beach, characters
	  ○ *"The bear and her dad went to the beach."*
	  ○ *"It was a very windy day."*
	  ○ *"They drove to the beach."*
	• Cause of the problem: i.e., why the umbrella blew away.
	  ○ *"There was wind."*
	  ○ *"The viento come."*
	• Communication: e.g., telling/tapping the dad.
	  ○ *"She told the dad that the umbrella flew."*
	• Cognitive or emotional state: e.g., realized that the umbrella flew away, was shocked.
	  ○ *"Dad had an idea"*
	  ○ *"She was very surprised"*
		1

	No Mention of Main Problem	0

Solution	Correct Inclusion of Main Solution
	• The dad tied the umbrella
	  ○ *"The papa tied it."*
	  ○ *"So he tied it up in the tree."*
	  ○ *"The dad put rope in the sombrilla."*
	  ○ *"And después put it on the tree."*
	  ○ *"And put the sombrilla in the tree and wrap it with a rope."*
		2

	Incorrect Mention of Main Solution
	• Chasing the umbrella: e.g., ran after it
	  ○ *"The dad run after the umbrella"*
	  ○ *"Try to catch it"*
	• Reason for tying the umbrella to the tree: e.g., it doesn't fly away, they can relax
	  ○ *"For not goes in the air."*
	  ○ *"Para que no go away again."*
	  ○ *"So they cannot get sunburned or sun in their face."*
	• Emotional state: e.g., are happy
	  ○ *"And now the dad is happy."*
	• Conclusion: e.g., can relax, sit back down
		1

	No Mention of Main Solution	0
T2 Nouns	stripe (in striped), rainbow, polka dots, rain, sprinkle, storm, thunder, wind (in windy)	Count
T2 Verbs	grab, whirl, loosen	Count

Sandcastle

Problem	Correct Inclusion of Main Problem
	• The sandcastle gets ruined/destroyed.
	  ○ *"And he smashed it."*
	  ○ *"And on accident she ruin the castle."*
	  ○ *"And then a ball destroyed the whole thing."*
		2

	Incorrect Mention of Main Problem
	• Introduction to the scene: e.g., in the beach, building a castle.
	  ○ *"There is a bear in the beach."*
	  ○ *"The girl is making a castle in the sand."*
	• Setting: i.e., beach
	  ○ *"The bear is at the beach, playing with sand."*
	• Explanation on castle destruction: e.g., dog chasing a ball, dog ran over.
	  ○ *"The dog, he's play with the ball."*
	  ○ "*A dog was running, following a ball."*
	• Cognitive or emotional state: e.g., sad.
	  ○ *"And then the girl got really sad."*
	  ○ *"The bear cries."*
		1

	No Mention of Main Problem	0

Solution	Correct Inclusion of Main Solution
	• Sandcastle gets rebuilt.
	  ○ *"And then they make a castle."*
	  ○ *"He built three sandcastles."*	

	Incorrect Mention of Main Solution
	• Friend or additional character: e.g., friend helped, someone came.
	  ○ *"And then the turtle [raccoon] helped her"*
	  ○ *"Somebody else came."*
	• Information on new castle: e.g., bigger, better.
	  ○ *"And he arm another more big one."*
	  ○ *"And then he build three sandcastles with three shells and the flag on the big one."*
	  ○ *"He will put a door on it."*
	• Emotional state: e.g., happy; proud.
	  ○ *"They are so proud."*
	• Conclusion: e.g., play together.
		1

	No Mention of Main Solution	0
T2 Nouns	shell, sandcastle, ship, sail, flag	count
T2 Verbs	swim, play with the sand, find seashells, run after a ball, make a sandcastle, eat an ice cream, sleep, riun, destroy, smash, fasten	count

Ice Cream

Problem	Correct Inclusion of Main Problem • The ice-cream fell down ○ *"And then his ice cream falls off."*	2

	Incorrect Mention of Main Problem
	• Introduction to the scene: e.g., going to buy ice cream.
	  ○ *"The girl and the dad were going to buy a ice cream."*
	  ○ *"The dad and the kid went to… went to the ice cream shop."*
	  ○ *"Two bears were going to grab ice cream."*
	  ○ "She get ice cream, and su dad too."
	• Cause of the problem: e.g., bear licked the ice cream.
	  ○ *"And then the kid lick/ed it. And then it fell."*
	• Description of the setting: e.g., fox serving ice cream, ice cream cart, ice cream flavors, etc.
	  ○ *"There was an ice cream store"*
	  ○ *"The girl got a strawberry ice cream"*
	• Emotional description: e.g., bear emotional reaction to the ice cream falling.
	  ○ *"He was crying."*
		1

	No Mention of Main Problem	0

Solution	Correct Inclusion of Main Solution
	• Li/the bear gets another paleta.
	  ○ *"(…) and he got another one."*
	  ○ *"And then the dad buys a new one."*	

	Incorrect Mention of Main Solution
	• Adult actions: Fox gives her another paleta.
	  ○ *"This guy he give to the kid a ice cream"*
	  ○ *"And then the sir give he a new one"*
	• Child emotional state: e.g., happy, not crying anymore.
	  ▪ *"And now, the little bear is happy."*
	• Adult emotional state: e.g., dad was happy, fox was proud.
	• *"And he give it to her [the ice cream] and he was so proud."*
	• Conclusion: e.g., she is not hungry anymore, she is happy to finally have an ice cream.
		1

	No Mention of Main Solution	0
T2 Nouns	vanilla, chocolate, strawberry, raspberry, lemon, mint, caramel, rocky road, almond, pistachio, coffee	count
T2 Verbs	frustrate (in frustrated), grab, delight (delighted), disappoint (disappointed), upset	count