THE EFFECTS OF PAIRED BILINGUAL AND

ENGLISH-ONLY INTERVENTION WITH

STRUGGLING SPANISH-SPEAKING ENGLISH

LANGUAGE LEARNERS ON GENERALIZED

READING PERFORMANCE

By

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Abstract: There has been an increase of students whose first language is not English. In fact, Domínguez de Ramírez and Shapiro (2006) found that 78% of students whom are ELL and in special education are Spanish-speaking in grades K-12. This increases the demand for high quality interventions to address the needs of these students within the schools resources. Previous research by Vaughn et al. (2006), has suggested that an increasing number of students cannot read in their native language and conducted a building block assessments in English and Spanish and measured English and Spanish Reading Fluency. The current study investigated the effects of instructional language on acquiring sight words and fluency skills to generalize over to a reading comprehension skill in English to provide support for Vaughn et al. (2006). Drill flashcard interventions were conducted in Powerpoint formant to address the limited time and resources of teachers. Students were randomly assigned to one of two treatment conditions: English-only or Bilingual. The findings of the current study did not provide sufficient evidence to support bilingual intervention over English only intervention on generalized English reading skills.

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CHAPTER I

INTRODUCTION

Reading is an academic skill that is one of the most impactful in a child's life.

Reading has a close relationship with academic achievement (Whitehurst & Lonigan,

2002); thus, proficient reading ability holds lifelong implications. Adams (1990) states

that reading is the "key to education, and education is the key to success for both

individuals and a democracy" (p. 13). The ability to read opens up professional

opportunities, but also facilitates daily activities: paying bills, staying up to date on the

news, following medicine label directions, following instructions, driving tests, or filling

out applications or forms (Anderson, Hiebert, Scott, & Wilkinson, 1985; Chhabra &

McCardle, 2004). The recognition of the importance of reading has prompted many

initiatives throughout the years with the purpose of better understanding the processes

involved in skilled reading, as well as identifying and setting in place effective ways to

promote its development (Adams, 1990; Anderson et al., 1985; National Commission on

Excellence on Education, 1983; National Reading Panel, 2000; No Child Left Behind,

2001; Snow et al., 1998). Overall, many students, regardless of classification, struggle

with reading. According to the National Center for Education Statistics via 2011 National

Report Card, 66% of all fourth graders are performing below proficient on national

reading state tests. Within the United States approximately 31.1 million of the nation's

population is foreign born; according to the 2000 census, this is a 57% increase from the 1990 (Dominguez de Ramírez & Shapiro, 2006). The influx of diversity in the nation is also reflected in the schools. In fact, children from outside the United States, the majority of whom do not communicate in English fluently and are therefore categorized as English Language Learners (ELL), comprise the quickest growing population within schools nationally (Calderon, Slavin, & Sanchez, 2011). Specifically, Baker, Park, Baker, Basaraba, Kame'enui, and Beck (2012) noted that the number of ELLs within the schools has increased to 11 million nationally in 2010 from the 2 million in 1990. Within the ELL population, Farver, Lonigan, and Eppe (2009) and Baker et al. (2012) both report that Spanish-speaking students currently comprise the biggest bilingual subgroup. Hispanics comprise about 65% of the populace currently in the United States (Slavin & Cheung 2005).

Over the years, the drastic influx of ELLs has caught many school districts unprepared to handle their academic needs, which results in many students whom are ELL obtaining placement in the special education programs (Cardenas-Hagan, Carlson, & Pollard-Durodola, 2007). Domínguez de Ramírez and Shapiro (2006) found that 78% of students whom are ELL and in special education are Spanish-speaking in grades K-12. The necessity of English proficiency is a well-established fact within the United States in order to fully participate as a member of society either within the workforce or post-secondary education (Baker et al., 2012). In conjunction with the need for English proficiency, the staggering number of students whom are ELL within the schools have teachers searching out more effective ways to teach students who are not English proficient due to No Child Left Behind (NCLB) of 2001. Title 1 of NCLB specifically

states that students whom are ELL must be evaluated on listening, speech, reading, and inscribing. Even though ELL students receive the necessary evaluations, for many schools, on the state tests this subgroup does not meet the state's requirements for Adequate Yearly Progress (Schulz, 2009). The 2011 National Report via the NCES states that 67% of Hispanics nation-wide perform below the proficient level in reading. Thus, there is major concern among educations on how best to instruct student whom are ELL to success.

There are strong correlations between literacy and language and long-term achievement. A recent study by Duran, Roseth, and Hoffman (2010), found a significant achievement discrepancy between white students and their Hispanic counterparts on several literacy measures without intervention. Evidence from the National Assessment for Educational Progress (NAEP) on reading assessment found that ELLs scored more than one standard deviation below their non-ELL peers in both 4th and 8th grades. Yet, the effect sizes were not significantly different, when tested on English literacy (Baker, et al., 2012). In conjunction with the previous findings, several studies suggest that the best practice with students whom are ELL lies within effective literacy instruction as early as possible (Baker et al., 2012; Domínguez de Ramírez & Shapio, 2006; Tam, Heward, & Heng, 2006; Bialystok, Luk, & Kwan, 2005).

Literacy as a skill is complex and is typically considered to be composed of five elements, according to the National Reading Panel. The five foundational skills of reading are phonemic awareness, phonics, fluency, vocabulary, and comprehension (National Institute of Child Health and Human Development, 2000). Phonemic awareness measures one's ability to comprehend both the distinct components of words

and then known that the same components are simultaneously blended together when spoken aloud. This skill allows students to read languages based on an alphabet. Secondly, Phonics help provide rules for letter sounds in word formation which helps students read and spell fluently and accurately. The skill of fluency is a student's ability to read both accurately and quickly. Fluency helps automatic the process of reading and recognizing sight words. Fourthly, vocabulary is one's ability to recognize and express the meaning of words. Vocabulary helps build reading skills in terms of word identification, and being able to articulate what was read after reading it. Lastly, comprehension is a student's ability to use all of the previous skills together to formulate meaning in order to answer both explicit and implicit questions about a reading passage. No matter the language, these five skills are still required in order to learn to read. But, according to Paugh, Sandak, Frost, Moore, and Menel (2005), ELL students struggle in acquiring the reading skills in English because ELLs have not mastered the English language itself, yet. ELL students are variable in their understanding of English, but according Fitgerald (1995) when learning to read, ELL students follow the same cognitive thought processes as native readers. Vocabulary plays an important role on reading fluency and comprehension because ELL students tend to listen closely to recognize problems to self-correct errors. One intervention that has been shown to be effective in increasing reading fluency and accuracy while addressing simultaneously error correction is called Repeated Readings.

Repeated Readings (RR) is an intervention created off of LaBerge and Samuels (1974) Automaticity Theory, which states that to be a good reading one needs to be able to recognize words without thinking about it. Thus, with some guidance and sufficient

practice anyone can be automatically recalling when they read. Chard, Vaughn, and Tyler (2002) conducted a study using Repeated Readings to native language readers and found the intervention to be effective in improving reading fluency in the native language. Based on the findings of Fitzgerald (1995) logic follows that Repeated Readings would work for ELL students as well. Tram, Heward, and Heng (2006) conducted a small-N multiple baseline to compare a standard RR intervention and an extend passage practice RR with ELL students struggling with reading. The results show improvement over baseline for both interventions. Tram et al. (2006) also asked comprehension questions after the reads and saw an average increase from one question correct to 4.1 and 4.8 questions right respectively by intervention. Though limited by its design, Tram et al. (2006) demonstrates that RR is an effective intervention for increasing fluency for ELL students and that as fluency increases so does comprehension.

Despite the universal skills necessary to acquire literacy sklls, best practice for teaching literacy to ELL students is still fluid in the field (Linan-Thompson, Vaughn, Hickman-Davis, and Kouzekanani, 2003). Some operate under the theory that literacy requires the same skills no matter the language and thus the focus should be on the skills alone. Meanwhile, the other viewpoint is that the language of instruction interacts with the evidence based practice to demonstrate quicker changes in oral reading fluency that will eventually generalize to comprehension as well. Bialystok et al. (2005) explains literacy in terms of the instructional language as a way in order to explain this interaction. Bialystok et al.'s (2005) view to instruct by language is supported by the findings of Fitzgerald (1995) that states that ELL students follow the same progression in skills as native speakers in acquiring literacy skills. In considering instructional language as an

independent variable impacting the acquisition of literacy skills: phonological skills, fluency, and comprehension have ignited a debate on what best practice for ELL students.

The literature refers to three approaches: Immersion/Sheltered approach, the transitional bilingual approach, and the paired bilingual approach. The Immersion/Sheltered instruction approach focuses on English instructional strategies specific to students who are ELL in helping them acquire literacy skills. With this approach, it can occur one of two ways, through "shelter" instruction or immersion. With the sheltered instruction approach ELL students are pulled out separately for literacy instruction until they are close to the classroom's level to where modeling from classmates and teachers will strengthen the initial skills taught in the pull out situation. The immersion approach operates under the theory that constant exposure to the language and literacy skills in English combined with the classroom modeling from both teachers and peers increases literacy acquisition. The second language instructional approach is the transitional bilingual approach (TBE). In the TBE approach, teachers first instruct ELL students on literacy skills only in their native language until mastery level is obtained (criteria varies by curriculum). Foundational literacy skills are taught to mastery level first in the student's native language. The next step is for the teacher to instruct on the same foundational literacy skills in the dominate culture language (ie. English). The final approach, the paired bilingual model, teaches students who are ELL with both languages simultaneously. This requires the teacher to present literacy skills at a ratio between the two languages in order to reinforce their Spanish skills and have that help the ELL students generalize the skills in Spanish to English (Farver et al., 2009). The ideal

ratio is 1:1 so that each language get equal instruction time but this is not easily controlled in practice (Calderon & Minaya-Rowe, 2003).

Baker et al. (2012) completed a three year longitudinal study on the effects of a school-wide bilingual instruction program, *Lectura,* and an English only instruction program, *Reading Masters*, on the literacy skills of fluency and reading comprehension using a standardized state measure. The researchers found that the bilingual reading program resulted in higher oral reading fluency and comprehension scores for ELL students over the English only program. Dominguez de Ramirez and Shapiro (2006) considered three bilingual education classrooms to test if curriculum based measurement (CBM) materials could be used reliably and validly for both Spanish-speaking ELL student and non-ELL. The results of the study were that CBM was reliable and valid for both. According to Reschly, Busch, Betts, Deno, and Long (2008) Reading CBM (R-CBM) correlates .67 to the standardized test being used originally (Baker et al., 2012). The sensitive nature of this CBM also allowed the authors to examine the student's learning ability. An ELL student's rate of learning was slower in the bilingual classroom than in the general class immediately, but by fifth grade substantial progress had been achieved to be similar to that of their non-ELL peers (Reschly et al., 2008).

Although, Vaugh, Mathes, Linan-Thompson, Cirino, Carlson, Pollard-Durodola-Cardenas-Hagan, and Francis (2006) found that most Spanish-speaking ELLs could not read fluently in Spanish and thus conducted building block assessments in English and Spanish including phoneme work, blending, and sight word interventions and then measured reading fluency. There results found similar results between the two intervention instruction conditions; no significant differences were found. These results

are contrary to this research team's prior two studies in 2003 and 2006 for English instruction only followed by Spanish instruction only respectively found significantly higher results when nurturing the native language literacy first. Therefore, this team provided conducted a one year follow-up study of both Spanish and English interventions in 2007 finding that those who received English performed better on maintenance measures of oral reading fluency (ORF). In 2011 Vaughn et al. conducted a long-term effectiveness study of Spanish and English Early literacy Instruction and found that Spanish instruction generalized the best to English ORF measures after five years. In all of their studies flash card method of drill sandwich, using only unknowns.

From the findings of Vaugh, Mathes, et. al. (2006) and others, this study plans to investigate the effects of instructional language on acquiring sight words and fluency skills to generalize over to a reading comprehension skill in English. Through the use of a flash card intervention demonstrated successful in improving word acquisition and retention for ELL students (Vaughn et al., 2006; Volpe, Mulé, Briesch, Joseph, & Burns, 2011; Albers & Hoffman, 2012). The following research questions will be addressed:

1. Do Spanish-speaking ELLs participating in bilingual flashcard instruction have higher growth rates compared to Spanish-speaking ELLs participating in the English-only intervention?
2. Do Spanish-speaking ELLs participating in bilingual ORF instruction have higher growth rates compared to Spanish-speaking ELLs participating in the English-only intervention?

3. Do Spanish-speaking ELLs participating in bilingual Literacy First sight words flash card instruction attain higher reading comprehension scores, compared to Spanish-speaking ELLs participating in the English-only intervention?

CHAPTER II

REVIEW OF LITERATURE

Intervening on reading difficulties in native English speakers (NES) students has been the focus of research by several investigators over the past decades, which has created a strong database of best practices to improve literacy outcomes for children struggling to read proficiently (Vaughn, Cirino, Talor, Fletcher, Cardenas-Hagan, Carlson, and Francis; 2008). ELLs are expected to make up 40% of the total student population by 2050 (Ardasheva, Tretter, and Kinny, 2012); but the same base of literature does not exist. The current literature states contradictory findings. On one hand, there if the theory that ELLs have unique advantages that include strong abstract thinking, attentional control, problem solving, and the ability to transfer knowledge across languages that helps in academic success. On the other hand, there is the well-documented educational achievement gap between NES and ELLs from national scores on math and reading achievement tests (Fry, 2008). For this reason, a review of the research with ELL students starting with the effects of acquiring a new language to its effects on reading academic achievement in the classroom.

Language Acquisition in ELL Students

Research focusing on the literacy skills of the ELL population, is not as abundant due to the confounding variable of language acquisition that is difficult to measure separate from reading comprehension (Melby-Lervåg & Lervåg, 2013). Gough and Tunmer (1986) found that differences in reading comprehension skills typically are the result of decoding and language comprehension abilities. Due to this reason, three influential theories exist in the field of reading with ELLs.

The first influential theory is referred to as the Threshold Hypothesis, coined by James Cummins. In Cummins (1979) a review of not only bilingual education but existing hypotheses were applied to the results of the education systems for a best fit analysis. Cummins found that neither theory fit perfectly, thus proposed combining the common language proficiency hypothesis along with the developmental interdependence hypothesis to create the threshold theory. The developmental interdependence hypothesis proposes that the competency of a second language is a function of the competency developed in the first language when intensive exposure to the second language begins. The threshold hypothesis proposes that for bilingual children to attain the benefits of bilingualism not only cognitively but academically, then the child must first reach a linguistic competency in their first language (L1) which is made easier when language structure, syntax, grammar, and idioms are similar. Melby-Lervåg and Lervåg (2013) explains Cummins' 1979 combined the hypotheses in the Threshold Hypothesis by stating that a student's ELL status enhances second language literacy skills because of their ability to transfer skills between the two languages. In addition, socioeconomic

status (SES) moderates an ELL student's performance on literacy skills due to an increased exposure to context-independent language.

The second influential theory is based on the contrastive analysis originally proposed by Terence Odlin (1989) and refined by Ulla Connor (1996) and is referred to as the cross-language interface hypothesis. The contrastive analysis proposed by both Odlin and Connor considers the structural aspects of both languages and measures the similarities and differences. The hypothesis is that the more similarities between the two languages there are second language acquisition is facilitated. On the other hand, the more structural differences there are between the two languages, second language acquisition is impeded. In terms of literacy, Melby-Lervåg & Lervåg (2013) states that the degree of structural similarity between two languages effects ELL and English-only group differences in literacy measured by reading comprehension.

Rosalie Porter references the third theory in the field, labeled as "Time –on – task, in the early 1990s. Porter (1990) explains the "Time – on- task" hypothesis focuses on the time spent learning a language stating that it is dependent on the amount of exposure to the language. Specifically, that the time spent learning the first language negatively impacts the learning of a second language. , Melby-Lervåg and Lervåg (2013) found that in applying Porter's hypothesis to literacy skills found that students who spoke both languages at home had better literacy skills in the second language than students who only speak their first language at home. Contrary results were found when Porter's hypothesis was applied to literacy instructional for ELLs. Specifically that literacy instruction in the second language had better literacy skills than those who had received instruction in both languages.

Literacy acquisition is a difficult construct to measure within the ELL population. Most attempts have divided measured decoding, phonological awareness, reading comprehension, and language comprehension since language comprehension highly correlated language acquisition (Melby-Lervåg & Lervåg, 2013). Verhoeven (2000) found that language comprehension begins to significantly impact reading comprehension at age 6. As to which measure accounts for the majority of the literacy skill gap between ELLs and their monolingual counterparts, no clear answer can be derived from the literature. Lervage and Aukruskt (2010) found that vocabulary was the strongest predictor of second language acquisition and therefore reading comprehension. While Droop and Verhoeven (2003) found that decoding and language comprehension explains the reading comprehension gap up through third grade but the impact stops at fourth grade. Nakamoto, Lindsey, & Manis (2007) found that phonological processing and language comprehension accounts for any growth differences in grades first through sixth. But when specifically looking at Spanish-speaking ELLs, they found that group differences did not exist until third grade, but those differences increase through fifth grade. Overall, longitudinal studies comparing monolingual students to ELL students found that phonological awareness, decoding, and language comprehension skills are critical in the prediction of later reading comprehension and overall reading ability. Yet, language comprehension seems to impact the ELL students more than the monolingual students.

Melby-Lervåg and Lervåg (2013) conducted a meta-analysis to compare all three hypotheses and determine which component of literacy is responsible for the gap between ELLs and monolinguals. The study looked at 57 studies considering reading

comprehension, 124 studies on language comprehension, 51 studies on phonological awareness, and 79 studies on decoding. Of the four components, they found significant differences between ELL and monolingual children on all but phonological awareness. On reading comprehension, the researchers found a moderately significant difference, with the monolingual students performing better. Language comprehension resulted in a large significant difference favoring the monolingual students, contrary to all of the theories in the field. There was a small but non-significant significant difference in phonological awareness between ELLs and monolingual students. However, there was a small but statistically significant difference in decoding between ELLs and monolingual students. The researchers also considered the differences in the reading comprehension measures: open-ended to close-ended, and multiple choice or essay; finding that answering single open-ended questions is more difficult than multiple choice or close-ended questions for ELL students. The researchers also looked at any differences in the length of the reading comprehension measure, finding that answering questions after a passage was harder than from a single sentence for ELLs. Overall, small differences between the first and second language equates to small differences in language comprehension and decoding in pre-post assessment.

In regards to the three theories, the common proficiency hypothesis in reference to SES due to exposure to in context was not supported in this meta analysis with reading comprehension, but it was supported when considering listening comprehension in ELL students. Porter's "time – on – task" hypothesis was supported in that ELL students who used both languages at home (more exposure) performed better on the language comprehension measures. Caution should be applied in generalizing this finding because

of a potential confound of parental education levels as well as their skill with the second language. Overall, Melby-Lervåg and Lervåg (2013)'s meta analysis found that NES performed better on decoding and phonological tasks. When considering the cross-language interface hypothesis, the researched found that learning two languages overrode the advantage of being able to compare between the two languages in relation to reading comprehension. The relation between the cross-language interface hypothesis and English reading comprehension was small and non significant. More research is needed to confirm this finding because Adesope et al. (2010) originally found a moderate significant metalinguistic advantage among ELL students congruent with the cross-language interface hypothesis.

Despite Melby-Lervåg and Lervåg (2013)'s claim that there are three main language acquisition theories the majority of the research has focused on Cummins' Threshold Hypothesis. It was for this reason that Ardasheva, et al. (2012) conducted an exploratory analysis to examine the fit of the Threshold Theory to today's changing ELL population where more frequently the ELL students are able to speak their L1 and L2 but not able to read both languages, referenced as a heritage language speakers (Montruil & Ionin, 2012). Montruil and Ionin (2012) found that heritage language speakers have a restricted use of their L1, which results in the demised of language vocabulary and grammar. In considering the new demographics of today's heritage language speaking ELL population, Ardasheva et al. (2012) founded their analysis on Cummins (2000) threshold theory update where he defines types of bilinguals (partial, dominant, additive/balanced) based on their competency proficiency of each language. Dominant bilinguals are students who are sufficiently proficient (reading and speaking) in one

language despite their daily exposure to both languages. Cummins (2000) hypothesizes due to their proficiency in one language that dominant bilinguals should not experience any educational difficulties. Partial bilinguals are students that have low competency of L1 and L2 proficiency; typically these students are strong in either speaking or reading but struggle with the other which is why Cummins (2000) says they are likely to experience a negative interaction between their language and their educational environments. Lastly, additive/balanced bilinguals are students who are fully proficient in both languages and therefore do not experience educational difficulties as well as obtain the full advantages of being bilingual including strong abstract thinking functioning, attentional control, and problem solving (Ardasheva et al., 2010).

Based on today's ELL population Ardasheva et al. (2010) noted the need for two types of language proficiency: academic and social. Academic language proficiency pertains to literacy skills associated with any school-based tasks; while, social language proficiency relates to basic pronunciation, vocabulary, and grammar skills necessary to maintain social interactions. Cummins (2000) considered bilingual and monolingual educational environments and found that a degree of academic language proficiency in their L2 might suffice in both environments but requires follow-up research.

Ardaheva et al. (2000) conducted the follow-up research through exploratory analysis and found that the majority of Cummins' Threshold Hypothesis holds but could benefit from a two refinements. The first refinement would be to the definition proficiency from requiring both reading and oral speaking abilities to limiting it to only oral speaking abilities. This refinement was suggested because it was found that balanced bilinguals, students who had experienced six or more years in U.S. English instruction,

have limited opportunities for academic and literacy skills to be practiced across both languages. Therefore, Proctor (2010) found that balanced bilinguals are associated with L1 literacy skills below grade level. The second refinement is to change the threshold for reaching academic benefits. The exploratory analysis found that academic benefits can be reached by both low and high proficiency thresholds. Ardasheva et al. (2010) hypothesize that access to the academic benefits from both thresholds is due to additive nature of language acquisition that was alluded to in Cummins (2000) through the balanced bilingual. Further experimental research is needed to examine the effects of heritage language speaking ELLs are effected by instructional language and how the previously documented literacy achievement gap is effected.

Literacy Instruction for ELLs

Much debate has gone on about which language to teach first for ELL students. Many people argue that one should teach children in their native language while others argue that you should teach in the culture's dominant language (i.e., English). There have been numerous studies done in this area because of the increase of Spanish-speaking individuals recently. There have been numerous studies done on reading interventions and reading strategies, but there is a lack of research regarding the best literacy instructional strategies. Therefore, best practice for teaching literacy to ELL students is still fluid in the field (Linan-Thompson, Vaughn, Hickman-Davis, and Kouzekanani ,2003).

Reading instruction is a complex process. It involves oral language proficiency, phonological processing, working memory, word-level skills, and text-level skills, such

as scanning, skimming, summarizing, and making inferences (Calderon et a., 2011). Some researchers operate under the assumption that literacy requires the same skills no matter the language and thus the focus should be on the skills alone. This type of instruction is often referred to as explicit instruction.

Explicit instruction is defined as a direct approach to instruction that incorporates both instructional strategy and distribution processes. It includes a sequence through which students are led through the learning method with well-defined clarifications and presentations of the instructional goals, and given ample opportunities for reinforced practice with response until mastery has been attained (Archer & Hughes, 2011). Skinner (1998) wrote an article that delineated general techniques for teachers to upsurge learning rates and instructional competence using explicit instruction, incorporating the use of antecedent demonstrating and cueing, increased opportunities to respond, and recurrent feedback in the form of error correction and reinforcement for suitable replies. Moreover, Skinner (1998) highlighted the significance of standard assessment and progress monitoring to guarantee that students are learning at a reliable degree with prospects.

An example of explicit instruction is a focus on fluency skills, which are skills that a child needs to make sense of a word. Examples include understanding phonemes, which involve letter-sound correspondence, and morphemes, which are the smallest meaningful units of speech. Once a child can automatically identify words (automaticity), then one can move on to meaning (Calderon, Slavin, & Sanchez, 2011).

A study done by Kim (2012) looked at the relationship between literacy skills and comprehension. Kim (2012) identified 150 first grade children with their primary

language being Spanish and were identified as ELL. Kim (2012) measured several variables in this experiment: oral language abilities, word reading automaticity, word reading accuracy, oral reading fluency, silent reading fluency, Spanish literacy skills, and reading comprehension. Oral language abilities was measured the Oral Comprehension subtest of Woodcock-Johnson III, Peabody Picture Vocabulary Test-4, and the Wechsler Abbreviated Sale of Intelligence vocabulary subtest. Word reading automaticity was measured using the Sight Word Efficiency subtest of the Test of Word Reading Efficiency. Word reading accuracy was measured using the Woodcock Reading Mastery Test-Revised Word Identification Subtest. Oral reading fluency was measured using first-grade spring benchmark results and oral reading fluency passages from the Dynamic Indicators of Basic Literacy Skills (DIBELS, 5th edition). Silent reading fluency was measured using the Test of Silent Reading Efficiency and Comprehension. Finally, Spanish literacy skills were measured using the Fluidez en la Segmentacion de Fonemas subtest (Spanish counterpart of the Phonemic Segmentation Fluency test of DIBELS). Results of this study found that word reading accuracy and word reading automaticity in Spanish were equivalent to the norm population, which could have been due to the literacy curriculum that was based on systematic and explicit instruction on deciphering abilities (Kim, 2012). This suggests that ELL's learn the same as non-ELL students.

To expand on systematic and explicit instruction, Cirino et al. (2007) looked at the effectiveness of systematic scaffolding, small group and individual teaching, feedback, and monitoring in regards to ELL children. This experiment included 35 different schools and focused mainly on Spanish speaking children, including141 teachers. They found that systematic and explicit instruction was effective with both ELL

and non-ELL children more so then a business as usual program - Proactive Reading

Teaching. Specifically, Cirino et al. (2007) looked at a multicomponent instructional

intervention and at at-risk children's reading performance in first and second grade. They

used a procedure known as Proactive Reading and also used a Spanish version, Lectura

Proactiva that taught phonemic awareness and phonics. Results showed that

developments made by intervention students at the end of first grade were maintained at

the end of second grade. The control group who did not receive the Proactive Reading

teaching consistently underachieved contrasted to students who did receive the

intervention (experimental group). A limitation with this experiment is that it did not

control for instructional time and there was not an equal amount of time distributed

across instruction. This poses a problem because if time would have been controlled for

then different results may have emerged.

Meanwhile, the other viewpoint is that the language of instruction interacts with

the evidence-based practice to demonstrate quicker changes in oral reading fluency that

will eventually generalize to comprehension as well. Bialystok et al. (2005) explains

literacy in terms of the instructional language as a way in order to explain this interaction.

Bialystok et al.'s (2005) view to instruct by language is supported by the findings of

Fitzgerald (1995) that states that ELL students follow the same progression in skills as

native speakers in acquiring literacy skills. The idea of instructional language as a

variable to impact has ignited a debate on what best practice for ELL students who look

like when considering this variable.

The literature refers to three approaches: Immersion/Sheltered approach, the

transitional bilingual approach, and the paired bilingual approach. The

Immersion/Sheltered instruction approach focuses on English instructional strategies specific to students who are ELL in helping them acquire literacy skills. With this approach, it can occur one of two ways, through "shelter" instruction or immersion. With the sheltered instruction approach ELL students are pulled out separately for literacy instruction until they are close to the classroom's level to where modeling from classmates and teachers will strengthen the initial skills taught in the pull out situation. The immersion approach operates under the theory that constant exposure to the language and literacy skills in English combined with the classroom modeling from both teachers and peers increases literacy acquisition. The second language instructional approach is the TBE. In the TBE approach, teachers first instruct ELL students only literacy skills in their native language until mastery level is obtained (varies by curriculum). After the foundational literacy skills are mastered in the native language, the teacher then teaches provide same foundational literacy skills in English. The final approach, the paired bilingual model, teaches students who are ELL with both languages simultaneously. This requires the teacher to present literacy skills at a ratio between the two languages in order to reinforce their Spanish skills and have that help the ELL students generalize the skills in Spanish to English (Farver et al., 2009). The ideal ratio is 1:1 so that each language gets equal instruction time but this is not easily controlled in practice (Calderon & Minaya-Rowe, 2003).

An experiment examined the association between L1 and L2 ability between ELLs' L1 letter identification and sound recognition, phonological awareness, and oral language abilities and the expansion of these skills on L2 (Cardenas-Hagan, Carlson, & Pollard-Durodola, 2007). This experiment looked at Spanish-speaking ELLs from

kindergarten to second grade. Moreover, participants were selected according to certain criteria. They looked at 35 different schools from four sites across three different regions (Cardenas-Hagan et al., 2007). This experiment had nine schools implement an immersion program, 14 schools implemented TBE, and five implemented two language programs in different classrooms in the same school. Student achievement was gathered using oral language and literacy measures. Also, teacher language was measured three times during the school year (Cardenas-Hagan et al., 2007). This experiment found that there is a relationship between L1 (Spanish) abilities and L2 (English) achievement at the time that a child begins to obtain L2 (English). In short, this means that knowledge of Spanish letter names and sound identification abilities is being transferred such that it has a positive influence on future English letter name and sound identification skills (Cardenas-Hagan et al., 2007). Moreover, initial Spanish abilities predict later English abilities after controlling for initial English abilities. On the other hand, when instruction was given in English, initial Spanish abilities did not project later English abilities after controlling for initial English abilities (Cardenas-Hagan et al., 2007). It is important for educators to understand that children who are ELLs should be provided explicit instruction in phonics in L1 (Spanish) because it helps them transition into reading in L2 (English), (Cardenas-Hagan et al.,2007).

Although both the immersion program and the TBE program are seen to be effective, at least one study found TBE to be more effective. Nakamoto, Lindsey, & Manis (2012) looked at 531 Latino kindergarteners through third grade children. The majority of the children in this study were ELLs. Moreover, the children were randomly assigned to either the TBE or the immersion group to find out which program worked

better. Results showed that the TBE yielded higher scores on oral language, decoding, and reading comprehension in the primary grades (Nakamoto et al., 2012). The reason for the higher scores is possibly due to the emphasis that is put on Spanish instruction that is given in the TBE program. The authors in this study hypothesized that children in the immersion program would have higher English scores due to the immersion program having a greater emphasis in English (Nakamoto et al., 2012). Limitations with these approaches are that the present study did not use randomized selection of students to an instructional program. Also, students' home language usage was not measured. There was no measurement taken on the amount of English and Spanish instruction taught in the classrooms, or the overall application of the programs (Nakamoto et al., 2012).

The third instructional approach is the paired bilingual. This approach operates under the assumption of the cross-language interface hypothesis where instruction in the native language or L1 and dominate culture language, L2, simultaneously to allow for the transference across the languages (Odlin, 1989; Conner, 1996). Following the hypothesis this instruction method functions at its optimal potential when the two languages are the most similar in terms of morphology, syntax, grammar, and phonological awareness (Chen et al., 2012; Melby-Lervåg & Lervåg, 2013).

Additionally, two-way or dual linguistic programs are defined as instruction delivered in one's native language and English at various times, preferable in a 50/50 combination (Calderon & Minaya-Rowe, 2003; Howard, Sugarman, & Christian, 2003). A two-way approach is similar to a paired bilingual model, in that ELLs can learn to read in both English and in their primary language at various times in a day. Limitations with these programs are that the number of children involved, amount of time they have been

taught in their primary language, and amount of time they have been taught in English have not been controlled (Calderon & Minaya-Rowe, 2003; Howard et al., 2003).   This literature review points out several flaws in these programs. A question they bring up is if a child is put in a transitional bilingual program that teaches ELLs primarily in Spanish in grades K-2 and then slowly shifts to English in the fourth grade, at what grade level is it genuine to test children in English? (Slavin & Cheung, 2005). Another problem with this approach is the use of a pretest and in which language (Slavin & Cheung, 2005).

Most of the studies looked at four or five year contributions in bilingual or immersion programs and were usually reflective/retrospective (Slavin & Cheung, 2005). These types of studies have the potential for bias since the authors were often involved in implementation. Also, a problem with these programs is selection bias. Some students end up in these programs because of a parent preference while others are due to the school (Slavin & Cheung, 2005). Again, these programs are found in schools that have a high rate of ELLs, which serves as another form of bias (Ramirez et al., 1991).

In one instance, the authors looked at a Head Start program with ELLs as their main population. They focused on comparing TBE to English-only instruction and found that TBE instruction had higher growth in both Spanish oral vocabulary and letter-word identification (Duran et al., 2010). They found that TBE gave three and four year old ELLs the ability to improve their Spanish oral vocabulary and letter-word recognition. Additionally, they found strong predictive validity for later reading achievement in English among ELLs who participated in TBE (Duran et al., 2010). A limitation of this study is that it was done with a small sample size, which limits generalizability (Duran et al., 2010).

Baker et al. (2012) completed a three year longitudinal study on the effects of a school-wide bilingual instruction program, *Lectura,* and an English only instruction program, *Reading Masters*, on the literacy skills of fluency and reading comprehension using a standardized state measure. The researchers found that the bilingual reading program resulted in higher oral reading fluency and comprehension scores for ELL students over the English only program. Dominguez de Ramirez and Shapiro (2006) considered three bilingual education classrooms to test if curriculum based measurement (CBM) materials could be used reliably and validly for both Spanish-speaking ELL student and non-ELL. The results of the study were that CBM was reliable and valid for both. According to Reschly, Busch, Betts, Deno, and Long (2008) Reading CBM (R-CBM) correlates .67 to the standardized test being used originally (Baker et al., 2012). The sensitive nature of this CBM also allowed the authors to examine the student's learning ability. An ELL student's rate of learning was slower in the bilingual classroom than in the general class immediately, but by fifth grade substantial progress had been achieved to be similar to that of their non-ELL peers (Reschly et al., 2008).

Overall, the literature shows that of the three instructional approaches only TBE and paired bilingualism. These approaches are applicable to schools on a systems level, but not all schools have the ELL population of a single language to require it. Thus, the next question is if the finding of a systems level reading instruction can be narrowed down to the intervention level so that the success of systems level reading instruction can be applicable more universally no matter the location or population in the nation.

Reading Interventions for ELLs

Literacy as a skill is complex and is typically considered to be composed of five elements, according to the National Reading Panel. The five foundational skills of reading are phonemic awareness, phonics, fluency, vocabulary, and comprehension (National Institute of Child Health and Human Development, 2000). Phonemic awareness measures one's ability to comprehend both the distinct components of words and then known that the same components are simultaneously blended together when spoken aloud. This skill allows students to read languages based on an alphabet. Secondly, Phonics help provide rules for letter sounds in word formation which helps students read and spell fluently and accurately. The skill of fluency is a student's ability to read both accurately and quickly. Fluency helps automatic the process of reading and recognizing sight words. Fourthly, vocabulary is one's ability to recognize and express the meaning of words. Vocabulary helps build reading skills in terms of word identification, and being able to articulate what was read after reading it. Lastly, comprehension is a student's ability to use all of the previous skills together to formulate meaning in order to answer both explicit and implicit questions about a reading passage. No matter the language, these five skills are still required in order to learn to read. But, according to Paugh, Sandak, Frost, Moore, and Menel (2005), ELL students struggle in acquiring the reading skills in English because ELLs have not mastered the English language itself, yet. ELL students are variable in their understanding of English, but according Fitgerald (1995) when learning to read, ELL students follow the same cognitive thought processes as native readers. Vocabulary plays an important role on reading fluency and comprehension because ELL students tend to listen closely to

recognize problems to self-correct errors. One intervention that has been shown to be effective in increasing reading fluency and accuracy when doing error correction is called Repeated Readings.

Repeated Readings (RR) is an intervention created off of LaBerge and Samuels (1974) Automaticity Theory, which states that to be a good reading one needs to be able to recognize words without thinking about it. Thus, with some guidance and sufficient practice anyone can be automatically recalling when they read. Chard, Vaughn, and Tyler (2002) conducted a study using Repeated Readings to native language readers and found the intervention to be effective in improving reading fluency in the native language. Based on the findings of Fitzgerald (1995) logic follows that Repeated Readings would work for ELL students as well. Tram, Heward, and Heng (2006) connected a small-N multiple baseline to compare a standard RR intervention and an extend passage practice RR with ELL students struggling with reading . The results show improvement over baseline for both interventions. Tram et al.(2006) also asked comprehension questions after the reads and saw an average increase from one question correct to 4.1 and 4.8 questions right respectively by intervention. Though limited by its design, Tram et al. (2006) demonstrates that RR is an effective intervention for increasing fluency for ELL students and that as fluency increases so does comprehension.

Few researchers have considered the effect of instructional language in regards to targeting oral reading fluency through RR interventions. But, Vaughn, Linan-Thompson, Mathes, Cirino, Carlson, Pollard-Durodola, Cardenas-Hagen, and Francis research team is one of the few have focused on this exact issue. In 2006, Vaughn et al. formulated a study to investigate if an intervention in Spanish would influence outcomes in Spanish

reading and Spanish and English and oral language skills. The results revealed that the

Spanish RR intervention treatment group significantly increased performance on

phonological awareness, word attack, wording reading, reading comprehension, fluency,

and language ability in Spanish. Vaughn et al. (2006) compared Spanish RR and English

RR interventions in first grade students' performance on letter naming and sounds,

phonological awareness, Word reading, and oral reading fluency (Spanish and English).

Contrary to other language studies and the transference of target measure skills between

languages, Vaughn et al. (2006) found that each intervention had a stronger relation

between the foundational skills and oral reading fluency if the language matched. But,

when comparing Spanish intervention instruction to English oral reading fluency, the

results revealed that the only significant relationship was with learning Spanish letter and

then English letters, and Spanish phonological awareness to English phonological

awareness. Due to the contrary results to the field, more research is necessary to confirm

this effect.

In order to confirm their findings, Vaughn, Cirino et al. (2008) conducted a long-

term follow-up study comparing English and Spanish interventions with first graders. The

follow-up study, measured differences after a year of intervention and then a year later as

a maintenance measure. Overall, the results were mixed. In the Spanish intervention, the

only significant effects with strong effect sizes: Spanish connected text fluency, and

English letter-word identification, where the growth was greater for the intervention

group. In the English study, the intervention students on English letter-word

identification, connected text fluency, and listening and passage comprehension achieved

significant and strong effect sizes. Overall, the intervention students did not perform well on Spanish measures.

Despite the effectiveness of RR as a reading intervention, RR is not effective if the student cannot read more than 12 words correct per minute in October of first grade (15th percentile; WCPM) because it does not match the student's instructional level. Designing an intervention is a systematic process. The systematic process most often referenced is known as the instructional hierarchy. The instructional hierarchy is a heuristic framework to help generate instruction treatments like interventions based on skill development originally described by Haring, Lovitt, Eaton, and Hansen (1978) (Daly & Martens, 1994). The instructional hierarchy includes four states of learning: acquisition, fluency, generalization, and adaptation which are most aptly achieved when instructing at the student's level and not their grade level. Each stage of the instructional hierarchy is associated with its own procedures to facilitate mastery of the target skill. Combining general linguistic knowledge with the instructional hierarchy would mean measuring the building blocks of fluency – letter naming and sound (phonics) and phonological awareness (National Institute of Child Health and Human Development, 2000). Following this logic, Gottardo and Mueller (2009) found that both Spanish and English phonolocial awareness is strongly related to English word-reading performance ($r^2 = .81$) and reading comprehension (Manis et al., 2006; Proctor et al., 2005; Tannenbaum, Torgesen, & Wagner, 2006; Verhoeven, 2000). The other predictor found was oral language proficiency (Gottardo & Mueller, 2009; Ardasheva et al., 2010). When focusing on the decoding skills like phonological awareness, letter names, and letter sounds, the best intervention is a flashcard intervention.

Flashcard interventions are both an effective and efficient intervention because when conducted properly require low effort from the administrator and produce high rates of learning in short amounts of time. There are several methods in which a flashcard intervention can be conducted, but they all fall under three general categories: traditional/standard, incremental rehearsal, and drill (Nist & Josseph, 2008).

The traditional method presents new words followed by model reading each word to the student. Next, ask the student to read the word. This procedure continues until all words in the set have been introduced and repeated by the student, the set is complete. During the administration, the administrator keeps track of which words the student gets correct in 2 seconds, gets correct in more than 2 seconds, and have gotten wrong. The set of words are then shuffled and presented to the student to be read aloud without modeling. The students are asked to read the words aloud a third time with immediate feedback after the word set has been shuffled (Volpe, et al., 2011).

The incremental rehearsal method is a type of intersperal procedure that includes various ratios of known and unknown words (Nist & Joseph, 2008; Tucker, 1988; Volpe et al., 2011). Incremental rehersal requires multiple presentations of the same unknown word unlike other interspersal procedures where different unknowns are presented to make the known and unknown ratio. Typically with incremental rehersal, the ratio of unknowns to knowns is folded in with 10% of the set equaling unknowns and the remaining 90% of the set being knowns (Nist & Joseph, 2008; MacQuarrie-Klender, Tucker, Burns, & Hartman, 2002).

The final flashcard intervention type is known as drill sandwich. Drill sandwich is a method of presentation that focuses on a set of all unknowns. The unknowns are presented without modeling from the administrator. Thus, a student is present with a word and asked to read it. Immediate feedback follows; if correct, the administrator provides a praise statement like: "Good Job", but if incorrect, the administrator provides error correction and has the student repeat the correct word three times (Nist & Joseph, 2008). Typically, this procedure is repeated three times.

Previous studies have compared the three types of flashcard interventions: drill sandwich, traditional, and incremental rehearsal in terms of effectiveness or the amount of growth each intervention type creates after equal amounts of time. The findings of these studies consistently revealed that incremental rehearsal was the most effective in word retention (MacQuarrie et al., 2002; Bunn, Burns, Hoffman, & Newman, 2005). But, Nist and Joseph (2008) considered the same three flashcard methods not only for the effectiveness in terms of effectiveness but efficiency, the amount of time required to complete compared to the growth in retention obtained. The results of their study revealed that incremental rehearsal provided more accurate word responses followed by traditional and drill sandwich; but when considering efficiency incremental rehearsal required the most amount of time followed by traditional drill and practice and drill sandwich. Considering social validity of the three interventions through the interaction of efficiency and effectiveness, found that drill sandwich was the most socially valid followed by traditional drill and practice and incremental rehearsal.

The same rigor has not been applied to the study of flashcard interventions focusing on ELL population. The most common applied flashcard intervention methods

that have been incremental rehearsal and drill sandwich. Albers and Hoffman (2012)

conducted a drill sandwich small-n intervention study with third grade ELL students and

found congruent with Nist and Joseph's (2008) study about drill sandwich being the most

efficient and effective. Albers and Hoffamn (2012) found that a drill sandwich

intervention on sight words not only increased word recognition but also generalized to

reading fluency and reading comprehension. Rahn, Wilson, Egan, Brandes,Kunkel,

Peterson, & McComas (2015) and Peterson-Brown & Burns (2011) have studied the

incremental rehearsal flashcard method with ELL students with a target skill of letter

sounds and vocabulary respectively. Rahn et al. (2015) found a moderate effect in letter-

sound expression and found the same effect in the generalized fluency measure.

Similarly, Peterson-Brown & Burns (2011) found a moderate relationship between

reading fluency and reading retention but nonsignificant in second grade ($r =.33$, $p =.08$).

But, in third grade, the same relationship was found to be moderate and significant ($r =$

$.42$, $p = .02$).

Combining all of the literature on the subject of reading intervention with the ELL

populations, it has been established that phonological awareness, letter naming, letter

sounds, and oral proficiency are key for ELLs to succeed in an academic setting when

generalizing to fluency and then eventually to reading comprehension. One difference

with this study is that the type of ELL student that is currently within the schools. Instead

of having fully bilingual ELL students, schools have an increasing number of heritage

language ELL student for whom the oral skills but not literacy exist in their native

language. This study will consider the foundational building blocks of literacy

(phonological awareness, sight words) and find how it generalizes to comprehension

(sight phrases) after a short period of intervention by instructional language (Spanish, English).

CHAPTER III

METHODOLOGY

Research Design

The overall design utilized to assess the research questions in this study is a 2x2

mixed factorial. The Instructional Language is both a randomly assigned and between-

subject variable with two levels – bilingual (Spanish and English) and English only. Time

is the second independent, within-subject variable with two levels - pretest and posttest.

This mixed factorial study has four repeated measures dependent variables – two

measures of oral reading fluency (median score for CBM and subtest standardized score

for standardized assessment) and two measures of reading comprehension (median score

for CBM and subtest standardized score for standardized assessment). Due to the mixed

nature of this study, the factorial design is standard practice within the field to measure

changes in pre and post of intervention (Nist & Joseph, 2008; Vaughn et al., 2009).

Participants and Setting

A total of 57 (26 females, 31 males) first grade, Spanish-speaking ELLs enrolled in two

local, urban elementary schools within the same district participated from the initial 81

(36 females, 45 males) students who assented and obtained parental consent. Eight

females and 13 males were dropped from participation due not meeting

the at-risk reading criterion. While, two females and one male were dropped from participation for not meeting the Spanish language proficiency and ELL status criterion. All research with the participants was conducted at their school as an individual pull-out service.

Participants were included through twofold criteria. The first criterion was teacher nomination of ELL and at-risk reading status. The second criterion was researcher verification of ELL at-risk reading status. A participant's ELL status was verified by being identified as Limited English Proficient (LEP) in the beginning of first grade. According to the Oklahoma Department of Education, students are identified as LEP and eligible to receive additional English language development services if they indicate on a home survey that they speak a language other than English at home and score below the proficiency level on the Wida-Access Proficiency Test from the Assessing Comprehension and Communication in English State-to-State for English Language Learners (ACCESS for ELLS; Lee & Schallert, 1997). A participant's at-risk reading status was verified using both CBM and standardized assessment measures.

language proficiency and ELL status. The ACCESS is currently what the Oklahoma State Department of Education endorses to identify an ELL student's English proficiency. It is composed of four subtests measuring English proficiency in listening, reading, writing, and speaking (reliability indexes range: .82-.98; Kenyon, 2006) Descriptions of the ACCESS English proficiency levels for reading are 1: Entering, 2: Beginning; 3: Developing, and 4: Expanding. A level of 4 is considered proficient mastery, and a level 3 would equate to an instructional level of proficiency. Lee and Schallert (1997) states that WIDA's ACCESS proficiency test specifically measures

abilities on vocabulary, grammar, cohesion, listening comprehension, and reading comprehension. Yet, there is no standardly used measure of Spanish language proficiency. Thus, as a confirmatory measure for English language proficiency and a comparable measure for Spanish language proficiency the Woodcock-Johnson –III and the Woodcock-Munoz Batería –III was used as an inclusion criterion. Specifically, the Woodcock-Johnson –III Broad Reading cluster that measures both basic reading skills and reading comprehension in English via the Letter-Word Identification, Reading Fluency, and Reading comprehension subtests was used for English proficiency. While, the Woodcock-Munoz Batería –III's Amplia Lectura cluster measures the same basic reading skills and reading comprehension skills in Spanish via the Identificación de letras y palabras, Fluidez en la lectura, and Comprensión de textos subtests was used to measure Spanish language proficiency.   Both of these measures use standard scores; therefore, proficiency is defined as any cluster standard score above a 80 for English and Spanish. All participants were more proficient in English than Spanish when applied to reading; although; all participants could understand instructions given in both Spanish and English.

at-risk reading status. Participants are defined as "at-risk" for reading status first through teacher nomination and then followed up by the researcher. The researcher verified reading ability in both English and Spanish through CBM and standardized assessment measures; accounting for both reading fluency and reading comprehension ability. For both the CBM and standardized assessment measures, at-risk is defined as any score whether a standard score or cut off score below the 50th percentile. On the CBM measure the anything below the 50th percentile is considered to be in need of either

strategic or intensive additional supports through the response to intervention system's

Tier 2 or 3, respectively to needed support.

Measures

pre and posttest measures. The researcher measured both reading fluency and

reading comprehension through both CBM and standard assessment measures two times.

The first time was prior to the 4-week intervention phrase as a baseline measure. The

second time was following the 4-week intervention phrase as a measure of effect.

Although, the CBM measure for comprehension was only measured in English because

no compatible measure existed in Spanish.

curriculum based measures. There are two commonly used CBM providers: the

Dynamic Indicators of Basic Early Literacy Skills (DIBELS) and Aimsweb. All of the

materials from both providers for reading fluency and comprehension are standardized,

individually administered, and covers all literacy skills through curriculum based

assessment (Good & Kaminski, 2002; Cummings, Baker, & Good, 2006; Shin & Shin,

2012). While the reliability and validity ranges for both DIBELS and Aimsweb are

similar, the DIBELS ranges are slightly higher. Both providers have an English and

Spanish version for literary skills; but the some DIBELS measures do not start until third

grade while all Aimsweb reading measures begin in first grade. Following this rationale,

Aimsweb was chosen and the CBM provider on both of the dependent variables: reading

fluency and reading comprehension.

oral reading fluency. This dependent variable was measured the median score of

words correct per minute (WCPM) from the three Aimsweb benchmarking probes for

first grade as the pretest measure. As the posttest measure, the median score of WCPM from the first three Aimsweb progress monitoring probes for first grade. Aimsweb reading CBM is a standardized oral reading fluency measure that measures the total number of words that a student can read accurately aloud under a one-minute timed condition.

reading comprehension. Aimsweb's reading comprehension measure is called the MAZE. The MAZE is available for first through eighth grade in English; this was the main rationale that Aimsweb was chosen over DIBELS because both CBM providers has similar reliability and validity ranges and no standardized Spanish version. This measure evaluates a student's ability to silently read a story and choose the word of three words that makes the story cohesive under a three-minute timing condition. The three benchmarking MAZE probes were used to obtain a median number of correct answers as a pretest measure and the first three progress monitoring MAZE probes were used to obtain a median number of correct answers as a posttest measure.

standardized assessment. Since the Woodcock-Johnson-III Broad Reading cluster and the Woodcock-Munoz Batería – III Amplia Lectura cluster were already administered for language proficiency; the standard scores on the reading fluency (fluidez en la lectura) were used as a confirmatory measure for oral reading fluency in English and Spanish. These measures have a practice session that must be passed in order to make it to the 3-minute testing session. The standard scores of the reading comprehension (comprensión de textos) subtests were used as a confirmatory measure in English and Spanish. This measure differs from the CBM measure due to the fact that the comprehension measures in both languages is untimed.

intervention phase measures. The intervention phase lasted four weeks, following the standard set by Nist and Joseph (2008) and Vaughn et al. (2009). The intervention phase had four areas to measure in both English and Spanish: baseline, intervention, maintenance, and generalization. Literacy First was the assessment of choice over the more commonly used Fry words and phrases for two reasons. The first rationale was due to social validity, using Literacy First increased the practicality and generalization of having teachers run the intervention by using a tool already in place. The second reason is that Literacy First is compatible with Aimsweb; within their teacher materials Catapult Learning has stated that their norms and reading passages were from Aimsweb.

English as the instructional language. The Literacy First List B and 100 words of List C, a total of 200 words, were used for the baseline, intervention, and maintenance measures. The Literacy First sight words were chosen as the measure, since it what teachers are currently using to measure sight word knowledge. The standard is that by the end of first grade, students are to have mastered both List A and B, via the Literacy First training materials provided by Catapult Learning. List B was chosen as the starting point since this study was conducted during the spring semester and the teacher's verified that their students were currently working on List B. Only part of List C was used to meet the needs of those students with a higher learning rate; but the focus was on List B. Due to this focus, the Literary First second 100 phrases was used as the measure for generalization because the phrases use the words in List B. See Appendix A for the final list of sight words in English and Spanish.

Spanish as the instructional language. Literacy First does not currently have a Spanish version; therefore, the researcher translated the sight words and phrases and presented them to a expert panel of native speakers to review. From their feedback words were removed from the list or translated differently to better match the Aimsweb passages the participants were measured on as a pre and post intervention setting. From the help of the panel, the 200 sight words and 100 phrases from Literacy First were created in Spanish (Appendix A).

Procedure

This study was conducted with the approval and consent of the Institutional Review Board, the local, urban school district and its first grade teachers and parents of their students. Assent from the first grade students themselves was obtained.

Initial inclusionary criteria. All 81 (36 females, 45 males) participants were nominated by their teachers and tested in English and Spanish on both the CBM and standardized assessments of oral reading fluency and reading comprehension. Any participant found to be at or above the 50th percentile on any measure was not included in this study. During the Spanish administration, if a participant could not understand the directions or reported not speaking Spanish regularly at home; then the language criteria was not met and the participants were not included in the study. A total of 24 participants were dropped prior to the intervention phase.

Pretesting Procedures. The pretesting measures are the same as the inclusionary criteria measures. Thus, all 81 initial participants were tested on Spanish and English through both standard assessment and CBM. Three members of the research team spoke

Spanish and were responsible for both the Woodcock-Munoz Batería - III and the Spanish R-CBM. The remaining members of the research team, covered the Woodcock-Johnson-III and R-CBM in English. Every member of the research team was trained on how to conduct the CBM and standardized assessments prior to pretesting. The CBM measures required approximately 5 minutes per instructional language; while the standardized assessment measures required an additional 10 minutes per language for a total of 15 minutes.

 curriculum based assessment. When conducting the Aimsweb R-CBM in English, the standard instructions listed in the Aimsweb administration and scoring guide were followed (Shin & Shin, 2012). Beyond the basic administration instructions, there are three consideration guidelines: 1) If a participant does not fluently read a word in 3-seconds, then the administrator tells them the word and mark it as incorrect on the scoring page, 2) Do not correct in any other situation unless the 3-second rule is met, and 3) Discontinue testing on a passage if fewer than 10 words are read correctly. At first the administrator worked to build quick rapport with the participant by asking the child their name and teacher, read the following: " Today, I want to see how fast you can read without making mistakes. You will read each story for a total of 1-minute." Afterward, the administrator continued with the standard administration instructions in the Aimsweb administration and scoring guide (Shin & Shin, 2012). After all questions were answered, the administrator started the one-minute timing and making a slash through all incorrect, skipped, or more than 3-second word struggling. After the one-minute timing, the administrator told the participant to stop and mark a bracket where they stopped. This procedure was repeated two more times; it was from these three passages that the median

WCPM was calculated and used as a pretest score for English reading.

When conducting the Aimsweb Spanish R-CBM, the standard instructions listed in the Aimsweb administration and scoring guide were followed (Shin & Shin, 2012), but only translated into Spanish by the researcher. While rapport building, the administrator would say: " Hoy, me quieras ver como rapido tu puedes leer sin cometer errores. Tu leeras cada cuento por un minuto en total." Then the administration instructions were read to the participant in Spanish. Following all answered questions, the one-minute timing began and the same scoring guidelines were followed. After one-minute, testing was complete for the first passage and was twice more for a total of three passages.

standard assessment. The simplicity of the standardized assessment (Woodcock-Johnson-III) in English was that all of the instructions that the administrator read were highlighted in blue. The difficulty came prior to pretesting and training all researchers on the basal, ceiling, discontinue, and backward procession rules. Training was completed in two 30-minute sessions opportunities for those on the research team that had not already been trained on the Woodcock-Johnson materials using the modeling, practice, and feedback. Once, completed, the administration was simple. Feedback was also given during the first couple of administrations during either pretest or posttest. The Woodcock-Munoz Batería -III was designed to be compatible with the Woodcock-Johnson- III and the scores produced can be utilized as such.

Intervention Procedures. The intervention phase included work with Literacy First List B and List C words in English and Spanish and Literacy First's Second 100 phrases due to the compatibility with the focus List B in both English and Spanish. For

each language, this phase included a baseline, intervention, maintenance, and generalization measures.

     Baseline and Intervention. Baseline was conducted prior to the first intervention session in both English and Spanish using both the sight words and the phrases in their entirety. The sight words and phrases were placed into a Powerpoint presentation following the layout described by Hopkins, Hilton-Prillhart, and Skinner (2011) with the slight modification of only presenting the visual stimuli for 3 seconds for sight words and 5 seconds for the phrases instead of 10 seconds in order to test automaticity on each skill. Thus, the baseline sight word Powerpoints included the words from List B and C listed in Appendix A for English and Spanish respectively; each word was on its own slide with a 2-second blank slide preceding and following every word. For the baseline of the phrases, each phrase from the Second 100 phrases (See Appendix B for English and Spanish) was on a slide with the same 2-second blank slide before and after each visual stimuli. To test on all 95 sight words and phrases it would require about 10 minutes for each task, including the recorded instructions, per language.

     Following the collection of the intervention baseline data on sight words and phrases in both English and Spanish the 57 participants were randomly assigned to either the English only intervention condition (28 participants) or the English and Spanish intervention condition (29 participants) using the Microsoft Excel randomize formula. Following randomization, for the 28 participants in the English only intervention, the first 20 unknown words were chosen to start with for each student. They were broken into two word sets of 10 unknown words. The 29 participants in the English and Spanish condition received the first 10 unknown words in English and the first 10 unknown words in

Spanish as their intimal intervention session. The PowerPoints were constructed similarly to the baseline sight word PowerPoints; each word was placed on a separate slide and was presented visually to the students for 3 seconds, after which a 2-second blank slide would appear prior to the next words. Prior to the initial word of each set were the recorded instructions: "Today we're going to work on our sight words, I am going to show you a set of 10 words; I want you read me the words that you know and the ones that you don't know we will practice three times. At the end, we will read all the words again to see how many you have learned so be sure and watch the screen and try your best." for English and "Hoy nos vamos a practicar nuestas palabras de frequencía alta, te mostrarás un groupo de 10 palabras; te quiera leerme las palabras te sabes y las palabras tu no sé nos practicarámos estas tres veces. Al fin, leerás las palabras de nuevo para ver cuantas palabras has aprendido." for Spanish. See Appendix C for the Intervention Protocol for the English Only condition and see Appendix D for the Bilingual Intervention Condition Protocol.

Overall, the intervention sessions were conducted for a total of 5 minutes per student twice daily. Each student worked with 2 sets of 10 words; the order in which these 2 sets were presented was counterbalanced: the English condition it was done via the set of words since both are in English, and for the bilingual condition the counterbalance was obtained via the language of instruction (see Appendix E).

Maintenance and Generalization. Weekly maintenance and generalization measures were collected via the powerpoints of the entire list of sight words (List B) and phrases (second 100 phrases) matching the condition the participant was assigned (See Appendix B for English and Spanish Phrases). Thus, those in the English only received

the English maintenance and Generalization; while the bilingual condition was tested on both languages weekly. Typically, the research would collect this data on a separate, non intervention day because each powerpoint takes about 10 minutes to complete per participant. The order of these were also counterbalanced by matching the presentation of the last day of intervention prior to maintenance and generalization measures were presented.

Posttesting Procedures. The only difference between the pre and post testing procedures was the time at which the data was collected and the number of participants that needed to be tested. During pretesting all 81 potential participants were tested, but during posttesting only the 57 partipants that were involved in the intervention were tested. The procedures were the same.

Interobserver and Interscorer Agreement

Interobserver agreement (IOA) was calculated on 30% of the CBM measures during both pre and post testing periods, the flashcard intervention, maintenance and generalization procedures, and on the administration of the standardized assessments during both pre and post testing. IOA was calculated for both instructional languages. IOA was calculate using the total agreement method (Cooper, Hern, & Heward, 2007) for all measure in the form of a scripted checklist of what the administrator says or does during any part of the study. Thus, for the Spanish administrations, the interobserver was required to understand Spanish. These protocols were how treatment integrity and fidelity were maintained. Interscorer agreement (ISA) was evaluated by having a second administrator score 30% of each instructional language (English and Spanish) and phase

(pre/post-testing; flashcard intervention; flashcard maintenance; flashcard

generalization). Scoring was calculated based on the standardized administration rules of

the WJ-III and Bateria-III. Scoring for the CBM repeated readings was scored on based

on WCPM of the median score of the three probes during pre and post testing in both

English and Spanish. Scoring for the flashcard intervention, flashcard maintenance, and

flashcard generalization phases was the total number of words read correct on the first

presentation in each session. ISA was calculated using total score agreement; when two

scores differed, another scorer was given the probes and the matching scores were

recorded.

CHAPTER IV

RESULTS

A repeated measures MANOVA was conducted to test the flashcard

intervention's effect on English literacy skills for struggling ELL readers in fluency and

reading comprehension. The effect of the flashcard intervention itself was conducted

through two ANOVAs: one on maintenance and one on the generalization data. The

generalization data is the most sensitive data to measure the effect of the intervention due

to it being a formative measure; while the fluency and reading comprehension measures

tend to be more general outcome measures. The results in Table 1 indicated that by

condition there was no significant difference in the growth made by participants in the

maintenance phase. The generalization data indicated no significant difference by

condition as shown in Table 2. Although when considering only the pre-post time factor

and not condition there was a significant difference for both the maintenance measure

and generalization measure. The significance found when considering Time

independently indicates that the intervention is effective in providing growth just not

significant growth under the conditions of this study.

It was hypothesized that there would be a significant difference between

intervention conditions on English reading fluency and reading comprehension over a

time of four weeks. Specifically, that those in the English condition will perform higher

on English ORF and reading comprehension than those in the bilingual condition

on English ORF and reading comprehension measures. Contrary to this hypothesis, the

repeated measures MANOVA for English fluency by pre and post testing and condition

produced an nonsigficant result as seen in Table 3. As for English reading

comprehension, the repeated measures MANOVA measuring pre and post testing scores

by conditions was even more nonsignifcant with a p-value equaling .942 as seen in Table

4.

In terms of weather or not the intervention was successful in improving a more

formative measure of fluency and reading comprehension, the ANOVAs reports no

significant difference between the English only and bilingual conditions on the posttest of

the English sight words or phrases after four weeks (see Table 4). Although visual

analysis of the same data tells a different story, the sight words and phrase data shows an

upward trend when aggregated together on one graph (see Figures 1 and 2). This suggests

that the intervention was successful, but not ran for a long enough amount of time to see a

significant difference.

Interobserver Agreement Results. Protocols for pre and post testing

(Appendices F and G), flashcard intervention (Appendices I and J), flashcard

maintenance (Appendices I and J), and flashcard generalization (Appendices I and J)

were used to maintain treatment integrity. During the pre-testing session, 25 of the

English and Spanish CBM repeated readings and all three subtests of the WJ-III and

Bateria-III were observed by an independent administrator. Treatment integrity on the

CBM repeated reading was maintained at 95% in English and 90% in Spanish. IOA on the WJ-III subtests was 90% and on the Bateria-III subtests IOA was 84.5%. Corrective feedback was provided immediately. Post-testing IOA on the repeated readings in English was 95.4% and 93.5% in Spanish. Post-testing IOA of standardized measures, the WJ-III (English) improved to 94.6% and the Bateria-III (Spanish) improved to 90.3%.

Flashcards. During the intervention phase, each of the 57 participant's had their session observed 5 times by an independent administrator. Based on the treatment integrity protocols for the intervention, maintenance, and generalization phases (Appendix F for English and Appendix G for Spanish), IOA was 100% in both instructional languages. During the maintenance and generalization phases, each of the 57 participant's had their session observed twice by an independent administrator since there were only five total sessions in each phase. IOA was 100% for English maintenance and generalization phases. IOA was 93.2% for the Spanish maintenance phase and 100% for the Spanish generalization phase.

Interscorer Agreement Results. During the pretesting session, 25 of the English and Spanish CBM repeated readings and all three subtests of the WJ-III and Batería-III were used to calculated the ISA. The English RR ISA equated to 72%, the Spanish RR ISA was 88%, the WJ ISA -84%, and the Batería-III IOA- 64%. During the flashcard intervention, each of the 57 participant's had their intervention session observed 5 times. The ISA for the flashcards was 96.5%. The maintenance and generalization sessions only had five sessions including baseline, thus only 2 of each of the 57 participant's sessions needed to be observed. ISA was 83.3% for maintenance and 77.2% for generalization. Post-testing as mentioned above only used the 57 participants and thus 18 of the English

and Spanish RR and standardized assessment protocols were observed and rescored. All ISA were above 70% (English RR- 100%, Spanish RR-71.3%, WJ-III – 72.2%, Batería-III – 88.9%).

CHAPTER V

DISCUSSION

The primary aim of this study was to examine the effect of language instruction had on teaching struggling Spanish-speaking ELLs how to read. Through not only acknowledging that then ELL populations in schools is constantly growing in the U.S. but also the proficiency level of the ELLs in their native and English languages has also changed; this study will expand the literature on best practice in teaching ELLs to read in English. Specifically, this study was built on the proposal that today's ELL population, as a whole, is neither proficient in their native language nor in the dominate language, in this case, English. Furthermore, ELL populations are in need of best practice services whether in rural or urban areas. The current debate is whether bilingual services via full immersion or transitional, that incorporates the student's native language to learn how to read in English or the traditional method of focusing only on teaching the literacy skills of the dominant language. Not every school can afford a bilingual program to best serve their ELL student. Thus, this study was designed to see which method was more effective in teaching ELL student how to read, that could be used to in any environment.

This study found that the 57 participants were not proficient in Spanish for literacy skills and were adequately proficient in English literacy skills. Despite the participants having conversion ability in Spanish the conversation was more that of "Spanglish" than Spanish as evident in their ACCESS and WJ-III and Batería-III scores. From this population three questions were addressed:

1) Do Spanish-speaking ELLs participating in bilingual flashcard instruction have higher growth rates in flashcard mastery compared to Spanish-speaking ELLs participating in the English only intervention?

2) Do Spanish-speaking ELLs participating in bilingual flashcard instruction have higher growth rates in ORF compared to Spanish-speaking ELLs participating in the English only intervention?

3) Do Spanish-speaking ELLs participating in bilingual flashcard instruction have higher growth rates in reading comprehension compared to Spanish-speaking ELLs participating in the English only intervention?

Statistically, the answer to all three of these research questions appears simple. NO, there was no significant difference between the two conditions in terms of oral reading fluency, reading comprehension, and the flashcard intervention itself. But this does not show the whole picture. The fact that no significant differences were found between the language instruction of the flashcards and oral reading fluency or reading comprehension was detrimental. These results suggest that providing instruction in English and Spanish does not add anything extra to that of what the English condition. The fact that via visual analysis, the intervention was shown to have a slight upward trend with the English condition higher than the bilingual condition suggests that this is an effective approach

but that the intervention was not run long enough to see significant results in the ANOA.

The non significant results of this study not only demonstrations the length of intervention as a limitations, in addition to this being run in a homogenous, small, urban school population, it also leads into to many areas of future research. One simple modification to this study would be to run the intervention longer than 4 weeks and see if significant differences between the two conditions are found. As mentioned above, the proficiency level of the ELLs in either language is lacking, but there is a larger deficit in reliable and valid ways to measure a student's proficiency level in any language not just Spanish and English. Another area of needed research would be to conduct this study in a larger urban area that has bilingual programs in place to conduct a randomized controlled comparison between English only literacy instruction and bilingual literacy instruction of today's partially proficient ELL students.

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APPENDICES

Appendix A

English Sight Words

new	where	read	most	saw	mother
sound	help	need	very	put	answer
only	boy	change	after	end	found
little	follow	play	things	another	day
work	want	going	our	well	still
know	show	animals	just	large	learn
place	also	house	much	even	should
years	around	I'm	before	land	world
name	three	see	line	different	been
good	small	page	right	try	
man	such	live	too	kind	
think	here	letter	old	hand	
say	went	back	any	picture	
great	men	give	same	warm	

Spanish Sight Words

nuevo	dice	tal	palabra	justo	otro	palabra
sonido	gran	aquí	ver	mucho	pues	encontró
sólo	adónde	fui	página	antes	grande	día
chiquito	ayuda	hombres	vivo	línea	aún	todavía
trabajo	muchacho	leer	carta	derecho	tierra	aprender
sé	sigue	necesitar	atrás	demasiado	intentar	debe
lugar	quiero	cambia	dar	viejo	amable	mundo
años	mostrar	jugar	mayoría	algunos	mano	sido
nombre	también	va	muy	mismo	foto	al
buen	alrededor	animales	despúes	vi	caliente	
hombre	tres	casa	cosas	poner	madre	
pienso	pequeño	soy	nuestro	fin	respuesta	

Appendix B

English Phrases

Column 1

The people
write it down
the water
who will make it
what will they do
you and I
we had the dog
he called me
what did they say
no way
a number of people
one or two
how long are they
More than the other
come and get it
how many words

Column 2

part of the time
this day is a good day
can you see
sit down
now and then
but not me
go and find her
not now
look for some people
I like him
So there you are
out of the water
a long time
we were here
have you seen it
could you go

Column 3

one more time
we like to write
all day long
into the water
it's about time
the other people
up in the air
she said to go
which way
each of us
he has it
what are these
if we were older
There was an old man
it's no use
it may fall down

Column 4

with his mom
as your house
from my mom
it's been a long time
will you be good
give them to me
then we will go
now is the time
an angry cat
May I go first
write your name
this is my cat
that dog is big
get on the bus
two of us
did you see it

Column 5

the first word
see the water
as big as the first
but not for me
when will we go
how did they get it
from here to there
number two
more people
look up
go down
all or some
do you like it
a long way to go
when did they go
for some people

Spanish Phrases

Column 1

La gente
Escríbalo.
el agua
¿Quien lo hará?
¿Qué harán?
tú y yo
Hemos tenido el perro.
Él me llamó.
¿Qué dijeron?
de ningún manera
un número de personas
un o dos
¿Cuántos son?
Más que el otro.
Ven a por ello.
¿Cuántas palabras?
parte del tiempo

Column 2

este día es un buen día.
¿puedas verme?
siéntese.
ahora y entonces
pero no me
yo encontrarlo
ni ahora
busca por algún gente
me le gusta
así que ahí estas
afuera del agua
hace mucho tiempo
estábamos aquí
lo has visto
podría ir
una vez más
nos gusta escritar.

Column 3

todo el día
por dentro el agua
ya es hora
la otra gente
en el aire
ella dice que va
cúal manera
cada uno
él lo tiene
Qué son estos
si êramos mayores
Había un hombre viejo
no sirve
caerselo
con tu mamá
A tu casa
de me cuarto
lo hace mucho tiempo

Column 4

¿serás buen?
darme los
entonces no irámos
ahora es el tiempo
un gato enojado
puedo ira primera
escrita tu nombre
este es mi gato
eso perro es gran
aborde el bus
los dos
verla?
la primera palabra
ve el agua
tan gran como la primera
pero no paramí
cuando irnos

Column 5

cómo lo consiguen
de aquí por atrás
número dos
más gente
por arriba
bajelo
todo o algún
te gusta
un largo camino en
cuando se fueron
por algunos de la gente

Flashcard Intervention Protocol: English

Flashcard Drill & Practice (D&P)

English Only

Intervention

1. There are two sets of 10 words in the powerpoint. Each day the order of the set will rotate and be listed on the Flashcard Condition Assignment page.

2. After the student has joined you at the table tell them: "This morning I am going to have you read over the first of your two list of 10 words. Tell me the words you know the ones you don't know it's okay just wait for the next word. After you read your 10 words we will practice the ones you miss three times. Then you will read the list of 10 words again. Are you ready?

3. Start the powerpoint on the first word, it is automatically set to move on to the next word. Stop the powerpoint when you reach a blank slide. Mark on the record sheet with a CHECK MARK the words that were accurately responded and an 'X' the words that were not accurately responded to. If the student self corrects a wrong response, count the word correct.

4. Administrator says: "Now let's practice the ones you missed." Pull up the first word on the slideshow view, and say "This word is _____." Pause and then say, "What is this word? (Wait for an accurate response). Without an accurate response you prompt for one with "This word is _____". Repeat this step for all missed words. Provide simple praise for all correct words like "right, ummm hmm, good work".

    a. If no words are missed run through the powerpoint backward – starting with the 10th word to the 1st word.

5. Repeat step 4 twice for a total of three cycles. After the three practices, say: "Now we are going to go through the 10 words again and I want you to read me the words you know aloud".

6. Start the Powerpoint from the 1st word and mark the correct words with a CHECK MARK and the wrong words with a X.

7. Tell the kid how many more words they got correct and ask them to send you the next kid from their class.

8. Repeat in the afternoon with the 2nd set of 10 words

Maintenance

1. There is a single list of 80 words labeled Literacy First List B. Open the powerpoint.

2. After the student has joined you at the table tell them: "Today, I am going to have you read the entire list of sights words we have been working on to see how many more words you have learned. The words will go by very quickly and I want you to read aloud the words you know the ones you don't know just wait for the next word. Just try your best." Ready?

3. Start the powerpoint on the first word, it is automatically set to move on to the next word. Stop the powerpoint when the blank black slide comes up. Remind the student to keep looking at the screening and trying when they don't know several in a row.

4. Provide Basic feedback of "Thank you for working so hard". And send them to get the next student from their class.

Generalization

1. There is a single powerpoint of 80 phrases labeled Phrases. Open the powerpoint.

2. After the student has joined you at the table tell them: "Today, I am going to have you read some phrases. The phrases have some of the sight words we have been working on and some that we have not been working on. I want you to try to read every one but if there is one you know just wait for the next one. The phrases will go by very quickly so you need to pay attention. Just try your best." Ready?

3. Start the powerpoint on the first word, it is automatically set to move on to the next word. Stop the powerpoint when the blank black slide comes up. Remind the student to keep looking at the screening and trying when they don't know several in a row.

4. Provide Basic feedback of "Thank you for working so hard". And send them to get the next student from their class.

Appendix D

Flashcard Intervention Protocol: Spanish

Flashcard Drill & Practice (D&P)

Spanish

Intervention

1. There are two sets of 10 words in the powerpoint. Each day the order of the set will rotate and be listed on the Flashcard Condition Assignment page.

2. After the student has joined you at the table tell them: "Este manana quiero que leer las palabras en tu primera lista de diez. Dime las palabras tu sabes y las no sabes, esta bien solemente espera por la proxima. Despues de lees las palabras nos practiaramos los errors tres veces. Luego, vas leer la lista de 10 palabras otra vez. Listo/a?

3. Start the powerpoint on the first word, it is automatically set to move on to the next word. Stop the powerpoint when you reach a blank slide. Mark on the record sheet with a CHECK MARK the words that were accurately responded and an 'X' the words that were not accurately responded to. If the student self corrects a wrong response, count the word correct.

4. Administrator says: "Ahora, practiamos los errors tres veces." Pull up the first word on the slideshow view, and say "Este palabra es _____." Pause and then say, "Que es este palabra? (Wait for an accurate response). Without an accurate response you prompt for one with "Que es esta palabra _____". Repeat this step for all missed words. Provide simple praise for all correct words like "correcto, ummm hmm, muy bien, bueno".

    a. If no words are missed run through the powerpoint backward – starting with the 10th word to the 1st word.

5. Repeat step 4 twice for a total of three cycles. After the three practices, say: "Ahora no vamos a leer la lista de 10 de Nuevo y quiero que leas las palabras tu sabes con un voz alta."

6. Start the Powerpoint from the 1st word and mark the correct words with a CHECK MARK and the wrong words with a X.

7. Tell the kid how many more words they got correct and ask them to send you the next kid from their class.

8. Repeat in the afternoon with the 2nd set of 10 words.

Maintenance

1. There is a single list of 80 words labeled Literacy First List B_Spanish. Open the powerpoint.

2. After the student has joined you at the table tell them: "Hoy, quiero que lees la lista completa de frequencia alta nos practicamos estas semaanas. Quiero ver cual palabras tienes aprender. Las palabras se mueven muy rapido, entonces lean las palabras tu sabes y espera por la proxima si no sabes. Solemente trate tu mejor. Listo/a?

3. Start the powerpoint on the first word, it is automatically set to move on to the next word. Stop the powerpoint when the blank black slide comes up. Remind the student to keep looking at the screening ("Mira a la computadora") and trying when they don't know several in a row ("Trata de Nuevo").

4. Provide Basic feedback of "Gracia por tu trabajo". And send them to get the next student from their class.

Generalization

1. There is a single powerpoint of 80 phrases labeled Phrases. Open the powerpoint.

2. After the student has joined you at the table tell them: "Hoy, quiero que lees una lista de frases. Estas frases tienen palabras nos nos practicamos y algunos no practicamos. Quiero ver cual frases tu puedes leer. Las frases se mueven muy rapido, entonces lean las frases tu sabes y espera por la proxima si no sabes. Solemente trate tu mejor. Listo/a?"

3. Start the powerpoint on the first word, it is automatically set to move on to the next word. Stop the powerpoint when the blank black slide comes up. Remind the student to keep looking at the screening and trying when they don't know several in a row.

4. Provide Basic feedback of "Gracia por tu trabajo". And send them to get the next student from their class.

Appendix E

Flashcard Condition Assignment: Intervention Language Counter Balance

School 1

	English		English/Spanish	
	AM	PM	AM	PM
Monday, March 7, 2016	1st set	2nd set	English	Spanish
Tuesday, March 8, 2016	2nd set	1st set	Spanish	English
Wednesday, March 9, 2016	1st set	2nd set	Spanish	English
Monday, March 21, 2016	2nd set	1st set	English	Spanish
Tuesday, March 22, 2016	1st set	2nd set	English	Spanish
Thursday, March 24, 2016	2nd set	1st set	Spanish	English
Monday, March 28, 2016	1st set	2nd set	Spanish	English
Tuesday, March 29, 2016	2nd set	1st set	English	Spanish
Thursday, March 31, 2016	1st set	2nd set	English	Spanish
Monday, April 4, 2016	2nd set	1st set	Spanish	English
Tuesday, April 5, 2016	1st set	2nd set	Spanish	English
Thursday, April 7, 2016	2nd set	1st set	English	Spanish

School 2

	English		English/Spanish	
	AM	PM	AM	PM
Thursday, March 31, 2016	1st set	2nd set	English	Spanish
Monday, April 4, 2016	2nd set	1st set	Spanish	English
Tuesday, April 5, 2016	1st set	2nd set	Spanish	English
Thursday, April 7, 2016	2nd set	1st set	English	Spanish
Monday, April 11, 2016	1st set	2nd set	English	Spanish
Tuesday, April 12, 2016	2nd set	1st set	Spanish	English
Thursday, April 14, 2016	1st set	2nd set	Spanish	English
Monday, April 18, 2016	2nd set	1st set	English	Spanish
Tuesday, April 19, 2016	1st set	2nd set	English	Spanish
Thursday, April 21, 2016	2nd set	1st set	Spanish	English
Monday, April 25, 2016	1st set	2nd set	Spanish	English
Tuesday, April 26, 2016	2nd set	1st set	English	Spanish
Thursday, April 28, 2016	1st set	2nd set	English	Spanish

Flashcard Intervention Treatment Integrity Protocol: English

Flashcard Drill & Practice: Treatment Integrity Protocol - English

This protocol is to be used by administrations when observing the Flashcard D&P procedures. It is meant to ensure adherence to treatment and should be used when you are administering the intervention.

Intervention

☐ There are two sets of 10 words in the powerpoint. Each day the order of the set will rotate and be listed on the Flashcard Condition Assignment page.

☐ After the student has joined you at the table tell them: "Este manana quiero que leer las palabras en tu primera lista de diez. Dime las palabras tu sabes y las no sabes, esta bien solemente espera por la proxima. Despues de lees las palabras nos practiaramos los errors tres veces. Luego, vas leer la lista de 10 palabras otra vez. Listo/a?

☐ Start the powerpoint on the first word, it is automatically set to move on to the next word. Stop the powerpoint when you reach a blank slide. Mark on the record sheet with a CHECK MARK the words that were accurately responded and an 'X' the words that were not accurately responded to. If the student self corrects a wrong response, count the word correct.

☐ Administrator says: "Now let's practice the ones you missed." Pull up the first word on the slideshow view, and say "This word is _____." Pause and then say, "What is this word? (Wait for an accurate response). Without an accurate response you prompt for one with "This word is _____". Repeat this step for all missed words. Provide simple praise for all correct words like "right, ummm hmm, good work".

☐ If no words are missed run through the powerpoint backward – starting with the 10th word to the 1st word.

☐ Repeat step 4 twice for a total of three cycles. After the three practices, say: "Now we are going to go through the 10 words again and I want you to read me the words you know aloud".

☐ Start the Powerpoint from the 1st word and mark the correct words with a CHECK MARK and the wrong words with a X.

☐ Tell the kid how many more words they got correct and ask them to send you the next kid from their class.

☐ Repeat in the afternoon with the 2nd set of 10 words

Maintenance

☐ There is a single list of 80 words labeled Literacy First List B. Open the powerpoint.

☐ After the student has joined you at the table tell them: "Hoy, quiero que lees la lista completa de frequencia alta nos practicamos estas semaanas. Quiero ver cual palabras tienes aprender. Las palabras se mueven muy rapido, entonces lean las palabras tu sabes y espera por la proxima si no sabes. Solemente trate tu mejor. Listo/a?

☐ Start the powerpoint on the first word, it is automatically set to move on to the next word. Stop the powerpoint when the blank black slide comes up. Remind the student to keep looking at the screening ("Mira a la computadora") and trying when they don't know several in a row ("Trata de Nuevo").

☐ Provide Basic feedback of "Thank you for working so hard". And send them to get the next student from their class.

Generalization

☐ There is a single powerpoint of 80 phrases labeled Phrases. Open the powerpoint.

☐ After the student has joined you at the table tell them: "Today, I am going to have you read some phrases. The phrases have some of the sight words we have been working on and some that we have not been working on. I want you to try to read every one but if there is one you know just wait for the next one. The phrases will go by very quickly so you need to pay attention. Just try your best." Ready?

☐ Start the powerpoint on the first word, it is automatically set to move on to the next word. Stop the powerpoint when the blank black slide comes up. Remind the student to keep looking at the screening and trying when they don't know several in a row.

☐ Provide Basic feedback of "Thank you for working so hard". And send them to get the next student from their class.

Flashcard Intervention Treatment Integrity Protocol: Spanish

Flashcard Drill & Practice: Treatment Integrity Protocol - Spanish

This protocol is to be used by administrations when observing the Flashcard D&P procedures. It is meant to ensure adherence to treatment and should be used when you are administering the intervention.

Intervention

☐ There are two sets of 10 words in the powerpoint. Each day the order of the set will rotate and be listed on the Flashcard Condition Assignment page.

☐ After the student has joined you at the table tell them: "This morning I am going to have you read over the first of your two list of 10 words. Tell me the words you know the ones you don't know it's okay just wait for the next word. After you read your 10 words we will practice the ones you miss three times. Then you will read the list of 10 words again. Are you ready?

☐ Start the powerpoint on the first word, it is automatically set to move on to the next word. Stop the powerpoint when you reach a blank slide. Mark on the record sheet with a CHECK MARK the words that were accurately responded and an 'X' the words that were not accurately responded to. If the student self corrects a wrong response, count the word correct.

☐ Administrator says: "Ahora, practiamos los errors tres veces." Pull up the first word on the slideshow view, and say "Este palabra es _____." Pause and then say, "Que es este palabra? (Wait for an accurate response). Without an accurate response you prompt for one with "Que es esta palabra _____". Repeat this step for all missed words. Provide simple praise for all correct words like "correcto, ummm hmm, muy bien, bueno".

        ☐ If no words are missed run through the powerpoint backward – starting with the 10th word to the 1st word.

9. Repeat step 4 twice for a total of three cycles. After the three practices, say: "Ahora no vamos a leer la lista de 10 de Nuevo y quiero que leas las palabras tu sabes con un voz alta."

☐ Start the Powerpoint from the 1st word and mark the correct words with a CHECK MARK and the wrong words with a X.

□ Tell the kid how many more words they got correct and ask them to send you the next kid from their class.

□ Repeat in the afternoon with the 2nd set of 10 words

Maintenance

□ There is a single list of 80 words labeled Literacy First List B. Open the powerpoint.

□ After the student has joined you at the table tell them: "Today, I am going to have you read the entire list of sights words we have been working on to see how many more words you have learned. The words will go by very quickly and I want you to read aloud the words you know the ones you don't know just wait for the next word. Just try your best." Ready?

□ Start the powerpoint on the first word, it is automatically set to move on to the next word. Stop the powerpoint when the blank black slide comes up. Remind the student to keep looking at the screening and trying when they don't know several in a row.

□ Provide Basic feedback of "Gracia por tu trabajo". And send them to get the next student from their class.

Generalization

□ There is a single powerpoint of 80 phrases labeled Phrases. Open the powerpoint.

□ After the student has joined you at the table tell them: "Hoy, quiero que lees una lista de frases. Estas frases tienen palabras nos nos practicamos y algunos no practicamos. Quiero ver cual frases tu puedes leer. Las frases se mueven muy rapido, entonces lean las frases tu sabes y espera por la proxima si no sabes. Solemente trate tu mejor. Listo/a?"

□ Start the powerpoint on the first word, it is automatically set to move on to the next word. Stop the powerpoint when the blank black slide comes up. Remind the student to keep looking at the screening and trying when they don't know several in a row.

□ Provide Basic feedback of "Gracia por tu trabajo". And send them to get the next student from their class.

Appendix H

IRB Approval Letter

Oklahoma State University Institutional Review Board

Date: Wednesday, January 15, 2016

IRB Application No ED15127

Proposal Title: The Effects of Paired Bilingual and English-Only Intervention with Struggling Spanish-speaking English Language Learners on Generalized Reading Performance

Reviewed and Processed as: Expedited

Status Recommended by Reviewer(s): Approved   **Protocol Expires: 1/14/2017**

Principal Investigator(s):

Justine J. Celoni
1200 N. Perkins Rd
Apt C7
Stillwater, OK 74075

Gary Duhon

443 Willard
Stillwater, OK 74078

The IRB application referenced above has been approved. It is the judgment of the reviewers that the rights and welfare of individuals who may be asked to participate in this study will be respected, and that the research will be conducted in a manner consistent with the IRB requirements as outlined in section 45 CFR 46.

LU The final versions of any printed recruitment, consent and assent documents bearing the IRB approval stamp are attached to this letter. These are the versions that must be used during the study.

As Principal Investigator, it is your responsibility to do the following:

1. Conduct this study exactly as it has been approved. Any modifications to the research protocol must be submitted with the appropriate signatures for IRB approval. Protocol modifications requiring approval may include changes to the title, PI, advisor, funding status or sponsor, subject population composition or size, recruitment, inclusion/exclusion criteria, research site, research procedures and consent/assent process or forms.
2. Submit a request for continuation if the study extends beyond the approval period of one calendar year. This continuation must receive IRB review and approval before the research can continue.
3. Report any adverse events to the IRB Chair promptly. Adverse events are those which are unanticipated and impact the subjects during the course of this research; and
4. Notify the IRB office in writing when your research project is complete.

Please note that approved protocols are subject to monitoring by the IRB and that the IRB office has the authority to inspect research records associated with this protocol at any time. If you have questions about the IRB procedures or need any assistance from the Board, please contact Dawnett Watkins 219 Cordell North (phone: 405-744-5700, dawnett.watkins(&.okstate.edu).

Sincerely,

Hugh Crethar Chair Institutional Review Board

Table 1

Multivariate Tests – Pre/Post Maintenance

Effect		Value	F	Hypothesis df	Error df	Sig.
Time	Pillai's Trace	.463	47.492[b]	1.000	55.000	.000
	Wilks' Lambda	.537	47.492[b]	1.000	55.000	.000
	Hotelling's Trace	.863	47.492[b]	1.000	55.000	.000
	Roy's Largest Root	.863	47.492[b]	1.000	55.000	.000
Time * Condition	Pillai's Trace	.025	1.383[b]	1.000	55.000	.245
	Wilks' Lambda	.975	1.383[b]	1.000	55.000	.245
	Hotelling's Trace	.025	1.383[b]	1.000	55.000	.245
	Roy's Largest Root	.025	1.383[b]	1.000	55.000	.245

a. Design: Intercept + Condition

 Within Subjects Design: Time

b. Exact statistic

Table 2

Multivariate Tests – Pre/Post Generalization

Effect		Value	F	Hypothesis df	Error df	Sig.
Time	Pillai's Trace	.463	47.492[b]	1.000	55.000	.000
	Wilks' Lambda	.537	47.492[b]	1.000	55.000	.000
	Hotelling's Trace	.863	47.492[b]	1.000	55.000	.000
	Roy's Largest Root	.863	47.492[b]	1.000	55.000	.000
Time * Condition	Pillai's Trace	.025	1.383[b]	1.000	55.000	.245
	Wilks' Lambda	.975	1.383[b]	1.000	55.000	.245
	Hotelling's Trace	.025	1.383[b]	1.000	55.000	.245
	Roy's Largest Root	.025	1.383[b]	1.000	55.000	.245

a. Design: Intercept + Condition

 Within Subjects Design: Time

b. Exact statistic

Table 3

Multivariate Tests[a]

Effect			Value	F	Hypothesis df
Between Subjects	Intercept	Pillai's Trace	.969	842.660[b]	2.000
		Wilks' Lambda	.031	842.660[b]	2.000
		Hotelling's Trace	31.210	842.660[b]	2.000
		Roy's Largest Root	31.210	842.660[b]	2.000
	Condition	Pillai's Trace	.011	.293[b]	2.000
		Wilks' Lambda	.989	.293[b]	2.000
		Hotelling's Trace	.011	.293[b]	2.000
		Roy's Largest Root	.011	.293[b]	2.000
Within Subjects	Time	Pillai's Trace	.505	27.576[b]	2.000
		Wilks' Lambda	.495	27.576[b]	2.000
		Hotelling's Trace	1.021	27.576[b]	2.000
		Roy's Largest Root	1.021	27.576[b]	2.000
	Time * Condition	Pillai's Trace	.033	.915[b]	2.000
		Wilks' Lambda	.967	.915[b]	2.000
		Hotelling's Trace	.034	.915[b]	2.000
		Roy's Largest Root	.034	.915[b]	2.000

Table 4

Multivariate

Within Subjects Effect		Value	F	Hypothesis df	Error df	Sig.
Time	Pillai's Trace	.414	19.059[c]	2.000	54.000	.000
	Wilks' Lambda	.586	19.059[c]	2.000	54.000	.000
	Hotelling's Trace	.706	19.059[c]	2.000	54.000	.000
	Roy's Largest Root	.706	19.059[c]	2.000	54.000	.000
Time * Condition	Pillai's Trace	.002	.059[c]	2.000	54.000	.942
	Wilks' Lambda	.998	.059[c]	2.000	54.000	.942
	Hotelling's Trace	.002	.059[c]	2.000	54.000	.942
	Roy's Largest Root	.002	.059[c]	2.000	54.000	.942

Figure 1

Average Number Correct on Sight Words for all 57 Participants

Figure 2

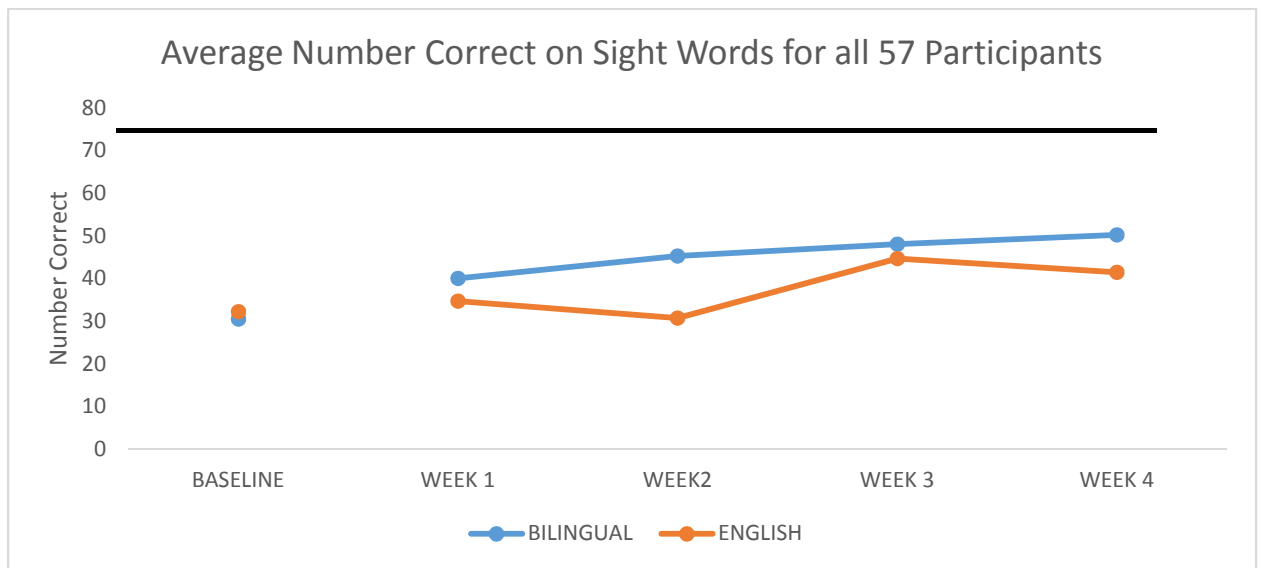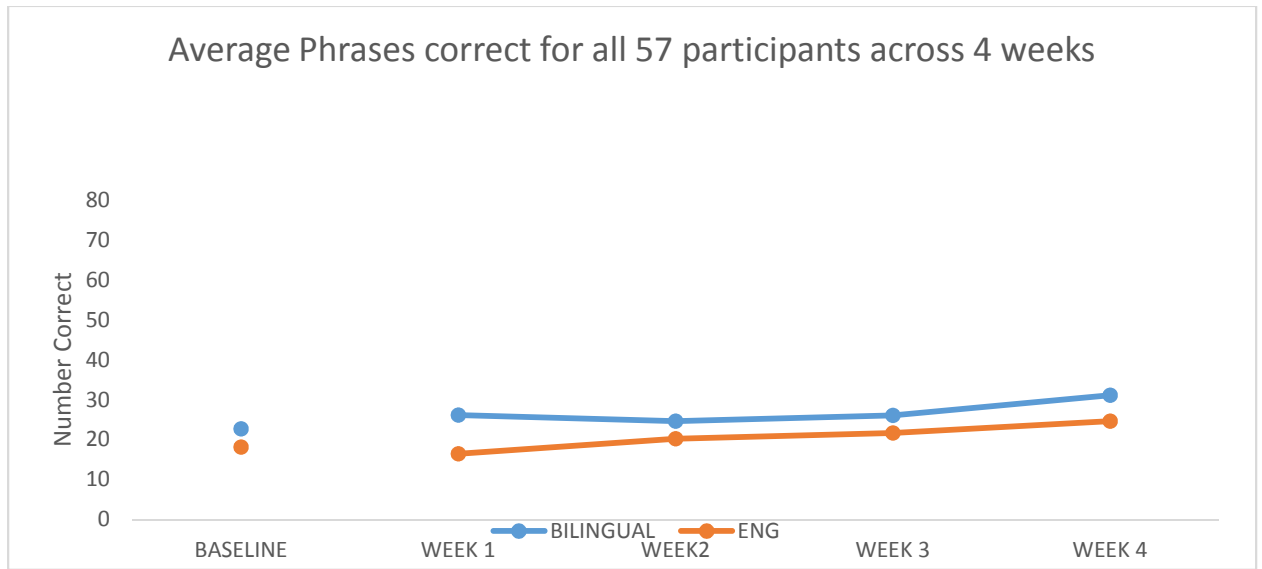Average Phrases correct for all 57 participants across 4 weeks

VITA

Justine J. Celoni

Candidate for the Degree of

Doctor of Philosophy

Thesis: The Effects of Paired Bilingual and English-only Intervention with Struggling Spanish-Speaking English Language Learners on Generalized Reading Performance

Major Field: Educational Psychology (Option: School Psychology)

Biographical:

  Education:

  Completed the requirements for the Doctor of Philosophy in Educational Psychology (Option: School Psychology) at Oklahoma State University, Stillwater, Oklahoma in May 2017.

  Completed the requirements for the Master of Science in Educational Psychology (Option: School Psychometrics) at Oklahoma State University, Stillwater, Oklahoma in 2013.

  Completed the requirements for the Bachelor of Arts in Psychology and Spanish at Central College, Pella, Iowa in 2011.

  Experience:

  July 2016- Present- Pediatric Psychology Pre-Doctoral Intern at Munroe-Meyer Institute Behavioral Outreach Clinics in Kearney and Grand Island, NE
  June 2015- June 2016- Systems Level Consultant for Oklahoma Tiered Intervention System of Support (OTISS), State Dept. of Education
  June 2015- June 2016-400 Hour Clinic-Based Practicum at the School Psychology Center, Oklahoma State University
  August 2014-August 2015- Graduate Research Assistant at Oklahoma State University, Edmon Low Library – Government Documents Department
  August 2013-June 2014- Graduate Research Assistant at Oklahoma State University, School Psychology Center Clinic Assistant
  August 2012-June 2013- Graduate Teaching Assistant at Oklahoma State University, School of Applied Health and Educational Psychology
  600 hours of School Based Practium at all the schools in the Stillwater Public Schools District in Stillwater, OK, August 2014 – May 2015
  400 hours of Clinic Based Doctoral Practicum in School Psychology at Oklahoma State University School Psychology Center, June 2015 – June 2016

National Professional Memberships: APA, AEA, NASP