

**EXAMINING THE IMPACT OF SUPPLEMENTAL DIRECT INSTRUCTION
DELIVERED BY BILINGUAL PARAPROFESSIONALS TO ENGLISH
LANGUAGE LEARNERS STRUGGLING TO READ IN ENGLISH**

A Dissertation

by

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ABSTRACT

English language learners, one of the fastest growing groups of students in public schools, continue to score lower in reading achievement when compared to non-English language learners. Struggling readers who do not receive early intervention are at-risk for reading failure and often continue to struggle with reading and academics. This small-n, quasi-experimental, longitudinal study (n=20) explored the differences in English reading between two closely matched groups of elementary Spanish-speaking ELLS, identified as struggling English readers, representing both structured English immersion and transitional bilingual programs. Treatment students received two years of supplemental English direct reading instruction provided by highly-trained bilingual paraprofessionals during Grades 2 and 3. Control students received standard district-based ESL instruction. This study derived from a randomized, longitudinal, federally funded research project (Project ELLA, #R305P030032) targeting native Spanish-speaking ELLs from low-SES backgrounds in a large urban school district in Southeast Texas.

Scores for English oral reading fluency and broad reading ability were used to compare growth over time and to compare students across conditions using descriptive statistics and repeated measures mixed analysis of variance (ANOVA). Students demonstrated statistically significant gains over time in both English oral reading and English road reading ability. However, there were no significant differences in oral reading fluency or broad reading ability between conditions at the end of Grade 3.

Additional exploratory analyses further examined bilingual program within the treatment group. Treatment students demonstrated similar growth in English oral reading fluency, across both bilingual programs. In English broad reading ability, transitional bilingual treatment students outperformed structured English immersion treatment students.

The findings of this study expand the work of previous researchers in the area of supplemental direct English reading instruction of Grade 1 Spanish-speaking ELLs. The study adds to research that has not yet reported longitudinal L2 oral reading fluency and L2 broad reading findings for ELLs in Grades 2 and 3 who are struggling to learn to read in English. This study also contributes to limited studies investigating the effectiveness of bilingual paraprofessionals as tutors.

DEDICATION

This dissertation is dedicated to my family. To Abuela, who many years ago looked upon a university campus from the cotton fields, dreaming one day that someone in her family could attend. To my husband Gabriel and my suegra who did more than their fair shares, allowing time for me to study. To my beautiful children, Gabriel and Ana – know that with perseverance you can achieve your goals. To my dad who has always been supportive. And to my beloved mother in heaven, I finally finished.

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CHAPTER I

INTRODUCTION

More than 4.4 million school-aged children in the United States speak a language other than English, and these numbers are predicted to increase (National Center of Education Statistics [NCES], 2014). In Texas alone, approximately 840,724 students were served in English language learner (ELL) programs in 2013, accounting for 16.6% of the school population (Texas Education Agency, 2014). Schools are charged with providing a quality education for the growing ELL population. The No Child Left Behind [NCLB] Act (U. S. Department of Education [USDOE], 2002) holds states accountable for student achievement, including ELLs, while mandating that states measure student performance on an annual basis.

Findings that ELLs experience lower levels of reading achievement when compared to native-English speaking peers (August & Hakuta, 1997; Bialystok, 2002) are further supported in the most recent Texas accountability report in which 55% of ELLs met the satisfactory standard on the state reading assessment, compared to native-English speakers – 87% White and 68% African-American (Texas Education Agency, 2014). As ELLs are the fastest growing population in schools, early identification of struggling ELLs and provision of high quality reading instruction is critical (August & Shanahan, 2006; Mathes, Pollard-Durodola, Cardenas-Hagan, Linan-Thompson, & Vaughn, 2007; Slavin & Cheung, 2005).

One method of providing high-quality reading instruction for ELLs is by implementing small-group direct instruction reading interventions (Brown, Morris, & Fields, 2005; Ehri, Dreyer, Flugman, & Gross, 2007; Fried, Konza, & Mulcahy, 2012). However, often teachers face the challenge of finding time in the day meet the instructional needs of the varying levels of students in their classrooms. Schools that serve economically-disadvantaged and at-risk students receive federal and state funds that provide paraprofessionals. Traditionally, the role of paraprofessionals has been to assist teachers with housekeeping and materials preparation; however, with increased accountability, the role of they play is changing to include working directly with students to help meet educational needs (Wallace, Shin, Bartholomay, & Stahl, 2001).

Definition of Terms

Direct Instruction

Direct Instruction is an approach to teaching. It is skills-oriented, and the teaching practices it implies are teacher-directed. It emphasizes the use of small-group, face-to-face instruction by teachers and aides using carefully articulated lessons in which cognitive skills are broken down into small units, sequenced deliberately, and taught explicitly (Carnine, Silbert, Keme'enui, & Tarver, 2004).

English Language Learners

English language learners. ELLs are those who are in the process of learning English or who have not demonstrated proficiency in English (Padrón & Waxman, 1999).

L1

L1 refers to first language. In my study, L1 is Spanish.

L2

L2 refers to second language. In my study, L2 is English.

Paraprofessional

Paraprofessional refers to a school employee assigned to assist teachers and staff. Paraprofessionals are also known as teacher aides, teaching assistants, and classroom assistants. In my study, paraprofessionals are Spanish and English-speaking bilingual individuals who assist in elementary bilingual classrooms.

Small-group Instruction

Placement of students into a group of 3-5 students for the purpose of learning while using specific instructional strategies (Abrami, Lou, Chambers, Poulsen, & Spence, 2000).

Structured English Immersion (SEI) Model

Program that serves students identified as students of limited English proficiency through curriculum provided in English only, with “attempts made to adjust the level of English so subject matter is comprehensible,” (August & Hakuta, 1997, p. 19).

Transitional Bilingual Education (TBE) Model

Bilingual program that serves students identified as students of limited English proficiency in both English and Spanish and transfers a student to English-only instruction not earlier than two or later than five years after the student enrolls in school (Texas Education Agency, 2012).

Theoretical Framework

The theoretical framework for this study is based upon second language acquisition hypotheses related to the interdependence of L1 and L2, comprehensible input, and affective filter. Cummins' (1984) interdependence hypothesis posits that both L1 and L2 have a shared cognitive space, or common underlying proficiency, suggesting that cognitive academic knowledge and skills learned in one language can be transferred to a second language. This hypothesis implies that reading knowledge in one language is a valuable resource when learning to read in another language. August, Calderon, and Carlo (2002) discuss similarities between Spanish and English languages that facilitate the transfer of reading knowledge from one language to the other. Both Spanish and English languages use the Roman alphabet, therefore the letters are similar in appearance. Additionally, 30% to 40% of English words have Spanish cognates, words with similar sound, appearance, and meaning. Further, learning to read in both languages follow the same basic processes including phonemic awareness, decoding, fluency, and comprehension. Once learned, these reading related concepts and processes do not need to be retaught when learning to read in a second language.

However, differences in orthographic depth of Spanish and English may cause some interference in cross-linguistic transfer. Spanish has a shallow orthography, meaning that letter-sound correspondences are consistent, whereas English has a deep orthography in which letter-sound correspondences are less regular (Durgunoglu & Goldenberg, 2011). For example, Spanish has only five vowel sounds while English has more than 14. Spanish includes some consonants that are not found in English (ll, rr,

ñ), while English includes digraphs (e.g., ou, ow, sh, th), consonant blends (e.g., spr, scr), initial sounds (e.g., kn, qu), final sounds (e.g., ck, ng), in addition to word endings, affixes, and contractions that are not found in Spanish. These differences can be confusing to Spanish-speaking ELLs and potentially affect English pronunciation, decoding, and spelling.

Krashen's input hypothesis suggests that ELLs acquire a second language when instruction is comprehensible and at a level slightly above students' level of L2 language proficiency (Gass & Selinker, 2008). Student participants in this study who received English direct reading instruction were assessed and placed in small groups based on English reading ability, allowing students to receive instruction at and slightly above their independent levels. In addition, the scripted lessons are broken into a series of short activities that make new information understandable as each skill, including English letter-sound correspondences and word parts, are explicitly taught and mastered in isolation before the introduction of more complex skills.

Also related to small-group direct English reading instruction, Krashen's affective filter hypothesis suggests that second language acquisition is positively affected when the learning environment is created so that there is low anxiety (Gass & Selinker, 2008). Repetition and opportunities to practice skills, gentle error-correction, predictable routines and cues, and opportunities to demonstrate and celebrate mastery help lower student anxiety, stress, while increasing motivation and self-confidence.

Statement of the Problem

ELLs, one of the fastest growing groups of students in public schools, continue to score lower in reading achievement when compared to non-ELLs. In 2013, 64% of fourth grade ELLs scored below basic reading compared to 30% non-ELLs (National Center for Education Statistics, 2013). To address the achievement gap between ELLs and English-proficient students, schools must address the language and literacy needs of ELLs more effectively (August & Hakuta, 1997; Bialystock, 2002; Calderon, Slavin, & Sanchez, 2011; Texas Education Agency, 2014). Struggling readers who do not receive early intervention are at-risk for reading failure and often continue to struggle with reading and academic coursework, (Calderon, et al., 2011; Clarke et al., 2011; Mathes & Denton, 2002), resulting in increased drop-out rates for ELLs. A report released by the U. S. Department of Education in 2012, stated that 24 states had an ELL high-school graduation rate of 60% or less, with one state reporting an ELL graduation rate of only 25%. (USDOE, 2012).

Spanish-reading students who struggle to learn to read in English need direct, implicit instruction that teaches letter-sound correspondences, builds automatic word recognition, and allows for practice of oral reading fluency in English (Mathes, Pollard-Durodola, Cardenas-Hagan, Linan-Thompson, & Vaughn, 2007). Providing intervention in a small-group setting during the primary elementary school years can effectively meet the needs of ELLs (Begeny, Hawkins, Krouse, & Laugle, 2011), helping to lay a path for future academic success. Paraprofessionals who implement an explicit research-based curriculum and take part in high-quality professional development can positively impact

reading achievement of struggling readers (Fried et al., 2012; Grek, Mathes, & Torgesen, 2003), including small group or one-on-one implementation with English language learners (Brown et al., 2005; Ehri et al., 2007). In this study, I will evaluate the effectiveness of supplementary small-group direct English reading intervention implemented by highly-trained paraprofessionals with struggling ELLs in both structured English immersion, SEI, and transitional bilingual programs, TBE, over the duration of the ELLs' second and third grade experiences.

Purpose of the Study

The purpose of this small-n analysis of archive data, originally collected during a longitudinal randomized control study, was to investigate the effects of direct English reading instruction with Spanish-speaking ELLs. Highly-trained bilingual paraprofessionals provided supplementary small-group tutoring to ELL students who were struggling to read in English. This study examines the English oral reading fluency and English broad reading ability of treatment students who received two years English direct instruction during second and third grade, compared to carefully matched students who received standard district-based English as a second language, ESL, instruction in the control condition.

Research Questions

The following research questions were addressed to determine the differences in English reading between two matched groups of Spanish-speaking ELLs, identified as struggling readers, representing both SEI and TBE classrooms in an urban district in Southeast Texas. Treatment students received two years of supplemental English direct

reading instruction provided by highly-trained bilingual paraprofessionals. Control students received standard district-based ESL instruction.

1. What differences exist in English oral reading fluency, as measured by DIBELS Oral Reading Fluency between treatment and control Spanish-speaking English language learners identified as struggling readers?
2. What differences exist in English broad reading ability, as measured Woodcock Language Proficiency Battery-Revised, WLPB-R, subtests of Letter-Word Identification and Passage Comprehension, between treatment and control Spanish-speaking English language learners identified as struggling readers?

Significance of the Study

Exploring the impact of supplemental direct English reading instruction will contribute to the existing research related to effective reading interventions for struggling ELL readers. Although there have been numerous studies inclusive of the effectiveness of small-group reading interventions with struggling readers (Bonfiglio, Daly, Persampieri, Anderson, 2006; Foorman & Torgesen, 2001; Mathes, Denton, Fletcher, Anthony, Francis, Schatschneider, 2005) including direct instruction English reading interventions with ELLs (Cirino, Vaughn, Linan-Thompson, Cardenas-Hagan, Fletcher, & Francis, 2009; Denton, Anthony, Parker, & Hasbrouck, 2004; Gunn, Biglan, Smolkowski, and Ary, 2000; Gunn, Smolkowski, Biglan, Black, & Blair, 2005; Gyovai, Cartledge, Kourea, Yurick, and Gibson, 2009 ; Kamps, Abbott, Greenwood, Arreaga-Mayer, Willis, Longstaff, Culpepper, & Walton, 2007; Kamps & Greenwood, 2005;

Santoro, Jitendra, Starota, & Sacks, 2006; Tong, Irby, Lara-Alecio, Yoon, & Mathes, 2010; Vaughn, Cirino, Linan-Thompson, Mathes, Carlson, Cardenas-Hagan, Pollard-Durodola, Fletcher, & Francis, 2006; Vaughn, Mathes, Linan-Thompson, Cirino, Carlson, Pollard-Durodola, Cardenas-Hagan, & Francis, 2006); no researchers have conducted a small-n analysis of data collected from a longitudinal study comparing the L2 oral reading fluency and L2 broad reading ability of Spanish-speaking, struggling ELLs in SEI and TBE programs who received supplemental small-group direct English reading instruction led by a highly-trained bilingual paraprofessionals for two consecutive years.

Limitations

The present study includes limitations that should be considered when interpreting results. First, as archival data is used, the small sample size is due to the fact that only 10 Spanish-speaking ELLs in the treatment condition received 2 years of supplementary small-group direct English reading instruction. Students were classified as struggling readers in English and were enrolled in either SEI or TBE programs. A closely matched group of 10 students were included in the comparison, or control group. Analyses were limited to the existing data set. Second, generalizability is limited to second and third grade, low-SES, Spanish-speaking ELLs in SIE and TBE bilingual programs that are identified as struggling readers in English. Third, information related to any learning difficulties or disabilities of the participants was not available. Fourth, both treatment and control classrooms were only observed during ESL instruction. All participating campuses were Title I schools, and any supplemental English reading

instruction or Title I services provided outside of the ESL block was not observed. Further, this study was conducted in a school district that received the Broad Prize, recognized for academic performance and improvement in reducing achievement gaps among poor and minority students.

Delimitations

In an effort increase generalizability, a between-group experimental design was used in which a group of treatment students who received supplementary small-group reading intervention were carefully matched with a control group of students who received standard district-based ESL instruction in SEI and TBE classrooms. Repeated measures of each assessment were used during analysis in an effort to increase experimental control, thus increasing power, the probability that the test to detect a meaningful effect (Purswell & Ray, 2014).

Assumptions

An assumption of the present study is that the bilingual paraprofessionals followed the scripted direct reading curriculum while implementing supplemental small-group tutoring with struggling readers. Bilingual paraprofessionals received initial and ongoing training. In addition, the paraprofessionals were observed and mentored by research coordinators. The assumption that the curriculum was implemented with fidelity is therefore reasonable. A second assumption is that teachers in the control condition followed the district-based ESL curriculum aligned to state standards.

Organization of the Study

This research study is presented in five chapters. Chapter I included definitions of terms, statement of the problem, theoretical framework, purpose of the study, research questions, significance of the study, limitations, delimitations, and assumptions.

Chapter II includes a literature review of direct instruction in terms of its critical components, direct reading instruction interventions with struggling readers who are Spanish-speaking ELLs, including EIR, paraprofessionals implementing supplementary instruction with struggling readers, and bilingual paraprofessionals implementing supplementary instruction with ELLs who are struggling readers.

Chapter III describes the method used for this research study, which includes the context of the study, research design and sampling, instrumentation, data collection, and data analysis procedures. Chapter IV, reports the data analysis and summary. Chapter V presents a discussion of the findings, limitations, recommendations, and conclusions.

CHAPTER II

LITERATURE REVIEW

This chapter includes a literature review of direct instruction in terms of its critical components, direct reading instruction interventions with struggling readers who are Spanish-speaking ELLs, including EIR, paraprofessionals implementing supplementary instruction with struggling readers, and bilingual paraprofessionals implementing supplementary instruction with ELLs who are struggling readers. A search of empirical articles published in peer-reviewed journals between the years 2000-2015, using electronic databases were used to search and retrieve peer-reviewed journal articles. These databases included Academic Search Complete, Education Full Text, Educational Resources Information Center, and JSTOR using the following search word descriptors: English language learners, bilingual, ESL, Hispanic, elementary, direct instruction, struggling readers, reading intervention, small-group, and bilingual paraprofessionals.

Direct Instruction

Three critical components of direct instruction are organization of instruction, program design, and teacher presentation techniques (Carnine, Silbert, & Kame'enui, 1997). Organization of instruction includes: (a) engaged time in learning, the actual amount of time that students spend reviewing, learning, and practicing instructionally appropriate reading exercises; (b) scheduling in terms of allocating instructional time by minimizing transition time; and (c) arranging and managing materials in an efficient manner. Direct instruction program design includes: (a) specifying objectives as specific

observable behaviors; (b) explicitly teaching reading strategies; (c) developing detailed teaching procedures including scripting what teachers should say, examples, signals, and correction methods should be used to be used; (d) selecting examples of words that provide review of known letters and practice of newly introduced letters; (e) sequencing skills to reduce student error rates, and (f) providing practice and review within each lesson and across lessons. Direct instruction presentation techniques include: (a) small-group instruction of homogeneous groups of students with similar skills allows for frequent oral response and teacher feedback; (b) unison oral responding that encourages active involvement of all students; (c) wait time followed by a cue to respond enables all students to participate; (d) appropriate pacing helps keep students attentive, (e) monitoring individual student performance; (f) diagnosis of student response errors and correction by modeling, leading, and testing; and (g) motivating students by helping students realize they can be successful readers and by providing affective feedback. Direct reading instruction integrates strong curriculum, active presentation and participation, and structured pacing. “Much of the failure in schools can be attributed to deficits in the instructional system. Reading failure can be prevented; however, by efficiently organizing instruction, carefully selecting and modifying reading material, and effectively presenting the material,” (Carnine et al., 1997, p. 19).

Direct Reading Instruction with Elementary Spanish-Speaking ELLs

Reading failure most commonly occurs in poor children, minority children, and children’s whose native language is not English (Burns, Griffin, & Snow, 1999; Snow, Burns, & Griffin, 1998) and is a critical problem in urban schools (Pierce, Katzir, Wolf,

& Noam, 2010). ELLs face the challenge of learning literacy in a second language, and are often overrepresented among struggling readers; therefore early identification is important so that prevention services can be provided before they continue to fall behind (Lesaux & Geva, 2006), resulting in low academic achievement, loss of interest in school, disengagement, and possible dropout (Balfanz, Herzon, & Iver, 2007).

Struggling readers often demonstrate slow and inaccurate word reading, which affects reading fluency, and comprehension. Snow et al. (1998) found that high quality, early reading intervention can reduce cases of reading failure. Further, struggling readers benefit from systematic, intensive instruction in letter-sound associations, decoding, blending of sounds to create words, decoding, accurate and efficient reading fluency, vocabulary instruction, and reading comprehension (Adams, 1990; Pierce et al., 2010; Pressley, 1998). Research demonstrates that implementation of reading programs that incorporate underlying direct instruction principles positively impacts L2 reading skills and reading achievement of elementary Spanish-speaking ELLs in grades K-3 (Denton et al., 2004; Gunn et al., 2000; Gunn et al., 2005; Gyovai et al., 2009 ; Kamps et al., 2007; Kamps & Greenwood, 2005; Santoro et al., 2006).

Gunn et al. (2000) longitudinally investigated supplemental small-group implementation of two direct English reading instruction programs with elementary struggling readers in three rural districts in Oregon. Students were screened on measures of aggressive social behavior and reading ability. Students were matched, and then randomly assigned to condition within the same classrooms. Treatment students in grades K-2 received Reading Mastery (Engelmann & Brunner, 1988), while students in

grades 3-4 received Corrective Reading (Engelmann, Carnine, & Johnson, 1988), in homogeneous groups of 1-3 students, 30 minutes daily for 2 years. The intervention also included components of skills training for parents and social behavior intervention. Tutoring was provided by instructional assistants, three of whom were certified teachers, and 7 of whom were paraprofessionals with experience delivering small-group instruction. Two of the paraprofessionals spoke both English and Spanish. Paraprofessionals received 10 hours of training before implementation, were observed once a week during the first four weeks of implementation using an observation checklist, and met twice a month to refine teaching techniques. Of the 256 student participants, 122 were Hispanic, 19 of whom were non-English speaking. After 2 years of supplemental direct reading instruction, treatment students outperformed control students in letter-word identification, word attack, reading vocabulary, and passage comprehension. Oral reading fluency approached significance ($p < .056$). Although non-Hispanic participants had a significantly greater gain in vocabulary when compared to Hispanic students, these groups did not differ significantly on letter-word identification, word attack, or passage comprehension. A secondary analysis focused on the Hispanic student subgroup, found no significant interactions on any variable, indicating that non-English speaking Hispanic students benefited from supplemental direct English reading instruction as much as other Hispanic students. Further, the non-English speaking participants who received supplemental direct English reading instruction had significantly higher oral reading fluency rates when compared to control non-English speaking participants, $F(1,14) = 4.741, p = .05$.

To examine the long-term effects of direct English reading instruction, Gunn et al., (2005) conducted a follow-up study examining growth in reading 2 years after instruction ended. The analysis included 154 participants included 118 Hispanic and 36 non-Hispanic students, all with complete data sets. No differences were found in word attack or in reading vocabulary. However, statistically significant differences were found in terms of small Cohen's *d* effect sizes favoring treatment participants in letter-word identification, .25, oral reading fluency, .29, and passage comprehension, .29, indicating that the benefits of direct English reading instruction were still evident 2 years after supplemental instruction ended. While this study provides some evidence that Hispanic students maintained decoding and comprehension skills two years after implementation of direct reading instruction, only a small number of the Hispanic students were non-English speaking. The study did not identify the Spanish or English language proficiency of Hispanic participants, nor the type of bilingual program in which the students were enrolled. It is also important to note that while the direct reading curricula required 40 minutes of daily instruction, due to school scheduling students only received 30 minutes daily. Perhaps if the prescribed time was followed, adding 10 minutes daily over 2 years of implementation, the results could be positively affected.

Kamps et al. (2007) conducted a similar study that also longitudinally investigated the effect of multiple supplementary direct English reading programs on reading achievement of elementary struggling readers, both native-English speakers, Spanish-speaking ELLs, and ELLs representing other languages. Unlike Gunn et al.

(2000, 2005), this study represented both urban and rural schools. The study included 144 ELLs, of which 99 reported Spanish as their primary language. A subgroup of 117 (84 ELL, 33 English-only) treatment students received second-tier, evidence-based direct instruction reading curricula that used structured and sequenced scripted lessons focusing on phonological and phonemic awareness, letter-sound recognition, decoding, fluency, and comprehension in small homogeneous groups of 3 to 6 students. Three treatment schools, 2 urban and 1 suburban, implemented three different direct instruction interventions included Reading Mastery (SRA, 1995 edition), Early Interventions in Reading (Mathes & Torgesen, 2005), and Read Well (Sprick, Howard, & Fiddanque, 1998). Treatment students received English during both first and second grade, with the exception of 16 students who transitioned into balanced literacy during second grade. Instruction was provided by teachers and paraprofessionals who attended 3 days of training in addition to follow-up workshops and ongoing consultation and feedback. A total of 113 (60 ELL, 53 English-only) control students received supplementary balanced literacy ESL intervention focusing on word study, and group and individual story reading in groups of 6 to 15 students.

At the beginning of second grade, ELLs who received second-tier small group direct English reading instruction demonstrated large Cohen's *d* effect sizes in Nonsense Word Fluency, .879, and Oral Reading Fluency, .947, as measured by DIBELS, indicating gains from first grade. Treatment students also demonstrated large effect sizes in Word Attack in first grade, 1.78, Word Identification in first and second grades, 1.54 and 1.39, respectively, and Passage Comprehension in first and second grades, 1.04 and

1.35, respectively, as measured by the Woodcock Reading Mastery Test (Woodcock, 1991). Further, results provide evidence that ELLs were responsive to second-tier direct English reading instruction, 12 of 88 treatment students continued to need intensive English reading intervention, compared to 27 of 34 of control students. By spring of second grade, a higher percentage of treatment ELLs scored in the grade level benchmark range (85+ standard score) on Woodcock Reading Mastery subtests, including Word Identification, 100% and 48%, respectively, and in Passage Comprehension, 97% and 47%, respectively. In contrast to Gunn et al. (2000), this study found significant differences in oral reading fluency after 1 year of intervention, and significant differences in word identification and passage comprehension after two years of intervention. Unfortunately, this study did not identify the Spanish or English language proficiency of Hispanic participants, the type of bilingual program in which the students were enrolled, nor the experience of teacher and paraprofessional tutors.

Although shorter in intensity, Denton et al. (2004) also investigated the effectiveness of direct English reading instruction using Read Well (Sprick et al., 1998), a program that provides systematic, explicit phonics instruction with practice in decodable text, vocabulary, and comprehension. Participants included 33 Spanish-speaking students in grades 2-3 who were struggling readers in a transitional bilingual program in five schools in a central Texas district with 56.2% economically disadvantaged, 31.9% Hispanic, and 7.3% students served in ESL or transitional bilingual programs. All participants had adequate oral English proficiency and at least basic proficiency in Spanish reading. Participants were matched, paired, and then

randomly assigned either treatment or control within the same classroom. Nineteen treatment students received Read Well three times a week, in homogenous groups of 1-4 students, 40 minutes day, for 10 weeks. Instruction was provided by undergraduate special education students who had little if any prior teaching experience. Tutors received training as part of a college course, and were supervised by graduate students who were experienced teachers. Fourteen transitional bilingual control students did not receive tutoring. Results indicated that while treatment gained average of 4.06 standard score points in word identification, control students did not demonstrate gains. Repeated measures ANOVA showed statistical significance on Word Identification subtest $F(1, 31) = 5.70, p = .023$, as measured by Woodcock Reading Mastery Tests. Although treatment students' decoding skills increased, comprehension was not affected, likely due to the short duration of the intervention.

Santoro et al. (2006) also investigated Read Well using a multiple baseline design. Participants included 2 second grade Spanish-speaking ELLs, one male and one female who received one-on-one English direct reading intervention. Instruction was provided by a special education teacher and special education graduate students who received 2 hours of training. The female participant received a total of 28 hours of intervention over 14 weeks, while the male received 14 hours of intervention over 7 weeks. Both subjects demonstrated gains in Oral Reading Fluency, Phoneme Segmentation Fluency, Letter Naming Fluency, Letter Sound Fluency, and Nonsense Word Fluency as measured by DIBELS during intervention, while gains continued to increase during the maintenance phase. On Woodcock Reading Mastery subtests, both

subjects demonstrated gains in Word Attack; however, interestingly both demonstrated losses on Word-Identification. On Passage Comprehension, only the female demonstrated gains. It is worth noting that the male subject was referred to special education. Due to the extremely small sample, these findings have limited generalizability.

Also implementing direct English reading intervention using a multiple baseline design, Gyovai et al. (2009) conducted a study that included 1 Spanish-speaking ELL. Eleven kindergarten ESL students in the Midwest, from low socioeconomic backgrounds, were determined to be at-risk based on DIBELS and below-grade level achievement on Woodcock Johnson Tests of Achievement. Participants received Early Reading Intervention, ERI, (Simmons & Kame'enui, 2003) a scripted, explicit instruction program that targets phonological and phonics skills using the model-lead-test-approach. Three homogeneous intervention groups were created using the ERI placement test, depending on the level of each group, participants received between 7 and 15 weeks of intervention, for 20 minutes a day, 2-4 times a week. Results indicate that all participants improved in Phoneme Segmentation and Nonsense Word Fluency as measured by DIBELS, with the lowest performing group, Group 1, making the greatest gains. Similar results were demonstrated on Woodcock Johnson subtests. Groups 1, 2, and 3 demonstrated raw score mean gains on both Letter-Word Identification, 4, .7, and .3, respectively, and in Word Attack 12.3, 2.2, and .2, respectively. It is important to note that the lowest performing students in Group 1 were selected to enter intervention first, and therefore received more instruction. Although this study reports direct English

reading positively impacts phonemic skills and English decoding skills for one struggling ELL reader, again generalizability is limited. Further, this study failed to report which intervention the group in which the Spanish-speaking ELL student participated, and also failed to report the student's language proficiency in L1 and L2.

The aforementioned studies (Denton et al., 2004; Gunn et al., 2000; Gunn et al., 2005; Gyovai et al., 2009 ; Kamps et al., 2007; Kamps & Greenwood, 2005; Santoro et al., 2006) indicate mixed results of direct English reading instruction with elementary Spanish-speaking ELLs who are struggling readers in grades K-3. Both longitudinal studies found that Hispanic ELLs who received direct instruction reading outperformed comparison students in oral reading fluency, letter word identification, and passage comprehension. However, Gunn et al. (2000) found that oral reading fluency approached significance ($p = .056$), while Kamps et al. (2007) found a large effect size in favor of treatment students after one year of intervention ($d=.947$). Further Kamps et al. (2007) found large effect sizes in favor of treatment word identification ($d = 1.39$) and in passage comprehension ($d=1.35$) after two years of intervention.

Multiple baseline studies, although containing only 1-2 Spanish-speaking ELL participants, indicated improvement in English phonemic awareness, decoding skills, and passage comprehension. The next section reviews studies that implement EIR, the direct English reading curriculum used in this current study, with Spanish-speaking ELLs who are struggling readers.

EIR with ELLs

EIR, discussed in further detail in Chapter 3, is a comprehensive curriculum built on the design principles of direct instruction to deliver systematic and explicit instruction in phonemic awareness, letter knowledge, word recognition, connected text fluency, and comprehension (Vaughn et al., 2005). EIR has proven successful for monolingual English speakers who are struggling readers (Mathes & Denton, 2002; Mathes et al., 2005). In addition to the previously discussed study conducted by Kamps and Greenwood (2005), a series of studies examining the use of EIR with Spanish-speaking ELLs who are struggling to learn to read in English have been conducted, including an initial study with the first cohort of students, a replication study of a second cohort, and a follow-up study one year after intervention concluded.

As part of a larger randomized control study, the first cohort of Spanish-speaking ELLs that participated in implementation of EIR attended four schools from two school districts in Texas, including one large urban, and one border district (Vaughn, et al., 2006). The schools were selected based on the percentage of Spanish-speaking ELLs, which ranged from 48-99%. Additionally, each of the schools was deemed effective based on past performance of the state reading assessment, ensuring that students on these campuses had access to adequate core reading instruction. Forty-one first grade Spanish-speaking ELLs, determined to be struggling readers who scored below the 25th percentile in English reading, were randomly assigned condition within schools. Twenty-two treatment students received EIR, in addition to core reading instruction in English, in homogeneous small-groups of 3-6 students, 50 minutes a day, for

approximately 7 months. Instruction was provided by hired bilingual teachers who received 12 hours of training prior to implementation, 6 hours over the first 6 weeks of implementation, along with ongoing sessions and on-site coaching. Nineteen control students received district-typical core reading instruction in English, in addition, 14 control students received additional reading intervention. Results indicated no significant difference in the area of oral language, as both groups showed similar improvement. However, results demonstrated large Cohen's *d* effect sizes in favor of treatment students were indicated in the areas of phonological awareness, 1.24, word reading, 1.09, dictation, .76, and passage comprehension, 1.08. No differences were indicated in oral reading fluency.

A replication study was conducted within the same two districts, and addition of a third mid-size urban district in Texas. The non-overlapping second cohort of students demonstrated lower levels of initial English oracy and literacy, when compared to the first cohort (Vaughn et al., 2006). Ninety-one first grade struggling readers who were Spanish-speaking ELLs, were randomly assigned condition within schools, with 43 treatment and 48 control students. Instruction in both treatment and control, including the description of teacher training, mirrored the previous study. Results in this replication study are similar to the initial study in that Cohen's *d* effect sizes, although moderate, in favor of treatment students were indicated in the were indicated in the areas of phonological awareness, .38, in word reading, $d=.41$. Although both groups demonstrated growth in passage comprehension, in contrast to the initial study, no

significant differences were found. Again, there were no differences in oral reading fluency.

A follow-up study, which examined the long term impact of EIR one year after intervention ended, included a total of 111 Spanish-speaking ELLs, representing students from both the initial and replication cohort. Analysis of data collected at the end of second grade included 56 treatment students who received EIR in English during first grade and 55 control students. Moderate Cohen's *d* effect sizes, in favor of treatment students, were indicated in L2 word and text reading, as measured by Letter-Word Identification, .43, Word Attack, .45, Word Fluency, .41, and Oral Reading Fluency, .36. In addition, moderate effect size differences were indicated in L2 reading comprehension, as measured by Passage Comprehension, .31, and in spelling, .40. Cirino et al. (2009) and Gunn et al. (2005) are the only known follow-up studies of direct English reading interventions implemented with small-groups of Spanish-speaking ELLs. Both studies show continued effects in L2 word and text reading, and reading comprehension.

The previous line of studies investigated supplementary implementation of EIR with Spanish-speaking ELLs in small-groups. In contrast, Tong et al. (2010) studied a modified version of EIR delivered in large-group with Spanish-speaking ELLs during second grade. Tong et al. (2010) researched the effects of longitudinal enhanced ESL instruction and explored the effect of gender with 196 Spanish-speaking ELLs enrolled in SEI continuously from kindergarten to second grade, in a large urban Texas school district in with a student population of approximately 85% economically disadvantaged

and 40% ELL. Eighty-four students (40 girls and 44 boys) from 9 SEI classrooms within 8 schools were randomly assigned to treatment, received enhanced ESL instruction daily in kindergarten (75 minutes) and first and second grades (90 minutes). During second grade, treatment students received 45 minutes daily of EIR Level II, implemented in large-group. Instruction was provided by certified ESL teachers who attended two days of intensive training and ongoing bi-weekly professional development. One-hundred twelve students (48 girls and 64 boys) from 18 classrooms within 10 schools were randomly assigned to district-typical ESL instruction. Reflective of enhanced structured ESL instruction in grades K-2, including EIR Level II direct English instruction during second grade, treatment students improved more over time than control students in L2 phonological awareness, and showed steeper growth in receptive L2 oral language, and in L2 reading skills. In regards to gender, differences were found in the area of segmenting phonemes in favor of girls, and oral vocabulary, in favor of boys while both ELL girls and boys obtained similar levels of L2 decoding and reading.

Research of implementation of EIR with small-groups of first grade struggling Spanish-speaking ELLs learning to read in English, including an initial cohort, a replication cohort, and a follow-up study, show consistent findings in development of phonological awareness skills (Cirino et al., 2009; Vaughn et al., 2006); however, findings related word and text reading are mixed. Moderate to large effect sizes in word attack skills were demonstrated by both first grade cohorts who received EIR, and they maintained these skills one year later. These same cohorts showed no significant

differences in L2 letter-word identification or L2 oral reading fluency at the end of first grade (Vaughn et al. 2006); however, they demonstrated moderate differences at the end of second grade, one year after implementation ceased (Cirino et al., 2009). Reading comprehension results are also mixed. Although the first cohort demonstrated a large effect size in L2 reading comprehension, the second cohort did not. However, the follow-up study that combined both cohorts showed moderate effects in L2 passage comprehension at the end of second grade (Cirino et al., 2009).

Research that studied EIR in conjunction with other intervention components, either implemented large-group as part of a structured ESL block of instruction (Tong et al., 2010), or as one of several direct English reading programs (Kamps & Greenwood, 2005; Kamps et al., 2007), both showed differences in L2 passage comprehension in favor of treatment students. However, results in L2 decoding were mixed. Kamps et al. (2007) found a large effect in L2 word attack, while Tong et al. (2010) found no significant differences.

Paraprofessionals Implementing Supplementary Instruction with Struggling Readers

The traditional role of paraprofessionals providing assistance with clerical and housekeeping tasks has shifted to require paraprofessionals to provide instructional support to students individually or in small-groups, including implementation of supplemental reading interventions. Causton-Theoharis, Giangreco, Doyle, & Vadasy (2007) outline five ways in which paraprofessionals are used to successfully support and improve the reading skills of at risk students and students with disabilities. First,

effective paraprofessionals provide supplementary instruction, whereas primary instruction is delivered by certified teachers. Paraprofessionals support primary instruction through reinforcement of skills and working with individual or small groups of students. Second, effective paraprofessionals are provided with instructional strategies and systematic approaches that are research based; therefore, paraprofessionals do not make unqualified pedagogical decisions and students benefit from explicit instruction. Third, effective paraprofessionals receive systematic, ongoing training of literacy interventions. Fourth, effective paraprofessionals receive training in behavior management to facilitate successful implementation of small-group reading instruction. Fifth, effective paraprofessionals receive ongoing supervision, monitoring, and feedback from a certified instructor. Some suggested methods of ongoing communication between teachers and paraprofessionals include reoccurring meetings, communication notebooks, and email to ask and respond to questions and discuss student progress.

Four empirical studies investigate the effectiveness of paraprofessional implementation of supplementary reading instruction with struggling readers in elementary grades. Two studies include kindergarten students identified as at-risk for reading difficulties (Vadasy, Sanders, & Payton, 2006; Musti-Rao & Cartledge, 2007), one study includes two cohorts of first grade struggling-readers (Miller, 2003), and one study includes participants beyond first grade (Brown et al., 2005).

Vadasy et al., (2006) evaluated both the effectiveness of supplemental reading instruction provided by paraprofessionals to kindergarten students who were at risk for reading difficulties. Student participants represented nine campuses with an average of

73% minority students, 17% limited English proficient students, and 59% of students eligible for free or reduced lunch. Students were randomly assigned within schools to condition, with approximately equal numbers of students assigned to treatment and control on each of the nine campuses. Sixty-seven kindergarten student participants were selected for participation after scoring in the at-risk range on two or more phonemic subtests. Thirty-six treatment students received 18 weeks of scripted, supplementary one-on-one tutoring in alphabetic and phonemic skills for 30 minutes, 4 times per week. Thirty-one control students received that same primary literacy instruction, and although they did not receive individual tutoring, some control students may have been served with varied levels of services provided by the schools.

Tutoring for treatment students was provided by 11 paraprofessionals (9 females, 2 males), 10 of which were nonminority. Six paraprofessionals had more than a high school education and paraprofessional experience varied. Researchers provided paraprofessionals with 4 hours of initial training in which lesson activities, routines, and error correction were modeled. Follow-up training, coaching, and modeling were provided throughout the intervention, particularly for paraprofessionals with limited experience and low fidelity of implementation. To measure fidelity, researchers observed and rated each paraprofessional an average of 16 times using an implementation checklist, resulting in treatment fidelity of 91%, and interrater fidelity of $r = .90$.

Student outcomes on pre-post assessments demonstrated large treatment effects for reading accuracy, $d=1.02$, and oral reading fluency, $d=0.81$, and moderate effects in

reading efficiency, $d=0.61$, and developmental spelling, $d=0.57$. When researchers compared the effect sizes of common measures across both teacher and paraprofessional implemented interventions, those implemented by paraprofessionals resulted in similar effect sizes of earlier reported teacher-implemented effect sizes. One limitation of this study includes a lack of classroom observation data to determine if some students received additional reading instruction. Researchers recommended that schools have a staff member that helps select and supervise supplementary reading instruction, and that future research include experimental design with paraprofessional-implemented treatment group and teacher-implemented control group. Findings of this study suggest that trained paraprofessionals, with the support of ongoing training, mentoring, coaching, and monitoring of fidelity, can effectively implement structured, supplementary literacy tutoring with kindergarten students who are at risk for developing reading difficulties.

Also investigating the effectiveness of paraprofessional implementation of supplemental literacy intervention with kindergarten students at-risk for reading failure, Musti-Roo and Cartledge (2007) conducted a multiple-baseline study using a research-based curriculum, Early Reading Intervention (Simmons & Kame'enui, 2003). Seven urban, low socio-economic African-American kindergarten students. Student participants, 6 males and 1 female, from two kindergarten classrooms were identified as struggling readers by teacher nomination and based on low performance in phonemic and decoding skills as assessed by DIBELS and Woodcock-Johnson. One African-American female paraprofessional with 8 years of experience received 2 hours of

training, a video demonstration of lesson implementation, and guided practice provided by the researcher. The first two group lessons were conducted by the researcher as the paraprofessional observed, while remaining lessons were co-taught as activities were divided between the paraprofessional and researcher, and feedback was provided. Students received EIR 20 minutes a day, 3 days a week from 8-16 weeks. Accurate lesson implementation was observed and monitored, resulting in 99.65% integrity across the three small groups. Thirty percent of the implementation sessions were also observed, resulting in 100% interrater reliability between two observers. Pre-post assessments indicated that phoneme segmentation fluency significantly increased for all seven students (group mean $d=1.8$), and that 4 of 7 students reached the end-of-year benchmark. Five of seven kindergarten students also significantly increased in nonsense word fluency (group mean $d=1.9$), with 5 reaching the end-of-year benchmark. Participants also made gains in letter-word identification and word attack, resulting in at-or above-grade level performance after implementation. Additionally, the paraprofessional in this study reported an increase in self-efficacy and interest in continuing implementation.

This study is one of few that investigates the use of a paraprofessional in early supplemental implementation of research-based curriculum, in which integrity of implementation is monitored. Findings support that a paraprofessional is most effective when roles are clearly defined and training and supervision is provided. This study implies that a paraprofessional can successfully provide small-group supplementary instruction with struggling readers. Some limitations of this study include that ERI is

prescribed to be implemented for 30 minutes daily, not 20 minutes, 3 times as week, as implemented in this study. Researchers recommend that future studies should investigate differing levels of paraprofessional experience, the quality of training provided, and evaluation of sustainability of supplementary reading implementation provided by paraprofessionals.

Miller (2003) investigated immediate and long-term effects of classroom assistants, or paraprofessionals, as tutors with two cohorts of first grade students identified as struggling readers. The study was conducted in an elementary school in which 75% of students are low-socioeconomic status, and 65% of students are minority, primarily African-American. Fifty-four first grade students received implementation of Partners-in-Reading (PIR), a tutoring program designed to increase the phonemic awareness and orthographic knowledge of students, as well as to increase the number of books students read independently. Supplementary instruction was provided for 30-40 minutes daily, at least 4 times per week. Student participants were selected based on low achievement on word reading and spelling, in addition to teacher rankings of reading ability. Control students did not receive supplementary reading instruction.

The first cohort included 19 students who received tutoring from 4 paraprofessionals, 2 of whom graduated high school, 1 with an associate degree, and 1 certified teacher. Paraprofessionals attended two half-day workshops related to administering and scoring assessments, and two half-day trainings related to organizing and delivering a lesson. During the first six weeks of implementation, paraprofessionals were monitored, and every 3 weeks thereafter. To evaluate short-term effects, pre-post

first grade assessments resulted treatment students outperforming control students in word recognition and spelling.

The second cohort included 35 students who received PIR tutoring, implemented by 7 paraprofessionals, 3 of which continued from the previous year, and 4 new paraprofessionals who graduated high school. Paraprofessional training and monitoring mirrored the first cohort. When evaluating short-term effects, the second cohort resulted in similar findings to the first cohort, with significant growth in word recognition and spelling in favor of treatment students.

Long-term effects were measured by the Metropolitan Achievement Test administered at the end of second grade, for both cohorts combined. Treatment students outperformed control students in word recognition and reading comprehension. Findings support the use of paraprofessionals who receive training and mentoring as tutors of first-grade struggling readers. Teachers also commented on paraprofessional's "new sense of pride" (Miller, 2003, p. 354). The researcher recommends that schools need provide oversight and frequent monitoring of paraprofessionals and implementation of supplementary reading instruction. Further, research should continue on how to utilize paraprofessionals to help meet the needs of struggling readers.

Brown et al. (2005) investigated the effectiveness of paraprofessionals' implementation of supplemental reading instruction with struggling readers beyond first grade in a large, urban school district. District demographics revealed approximately 40% of students were of color, 34% were ELLs, and 46% qualified for free or reduced lunch. For the purpose of this literature review, I will focus on describing

implementation and reporting findings for second and third grade struggling readers. Thirty-five treatment students (20 second grade, 15 third grade), from three campuses, who scored below grade level on reading assessments received 45 minute tutoring sessions, twice per week. Treatment tutoring was provided by 18 certified teachers and 16 paraprofessionals. All treatment paraprofessionals graduated high school and five held associate degrees. Tutoring included one-to-one instruction in guided reading, vocabulary and word study, and reading for fluency. Reading specialists, one at each of the three treatment campuses, supervised implementation and coached tutors. Training included modeling of a lesson and an initial set of lessons. Tutors then planned their own lessons. Monthly observations, immediate feedback, and coaching was provided.

Thirty-four (17 second grade, 17 third grade) control students, representing four campuses, received 45 minutes daily, small-group instruction in guided reading and phonics from 18 certified teachers and 12 paraprofessionals. All control paraprofessionals graduated from high school and five held associate degrees. Control paraprofessionals were supervised by certified teachers.

Results indicated that overall treatment students statistically outperformed control students in passage reading at third grade ($d=1.33$), but not second grade. A secondary analysis of paraprofessional-tutored treatment students compared to control students resulted in treatment students statistically outperforming control students in word recognition ($d=.78$), passage reading ($d=.55$), and passage comprehension (1.01). Further, when paraprofessional-tutored treatment student outcomes were compared to certified teacher-tutored treatment student outcomes, there were no significant

differences in word reading, passage reading, and passage comprehension. There were however, significant differences in pseudoword reading ($d=1.10$) in favor of certified teacher-tutored students.

Some limitations of this study include differences in tutor-student ratio and frequency of implementation. Further, the study was limited to one school year and therefore, long-term effects were not determined. Treatment students received one-on-one tutoring, for 45 minutes, twice a week while control students received small group tutoring, for 45 minutes daily. However, findings of this study imply that paraprofessionals are effective in implementing supplemental instruction with struggling readers in second and third grade. And that paraprofessionals who receive ongoing training, coaching, and feedback are as effective as certified teachers based on student outcomes of word reading, passage reading, and comprehension. Further, this study highlights the importance of site-based supervision of supplementary reading implementation.

Bilingual Paraprofessionals Implementing Supplementary Instruction with ELLs who are Struggling Readers

Passing of the Bilingual Education Act of 1968 provided funding to hire and train bilingual paraprofessionals to assist in the reading, writing, and math education of ELLs (Gonzalez, 2008). Bilingual paraprofessionals often share similar culture, socioeconomic status, and neighborhoods of the ELLs they serve, which helps to create relationships with students and parents and bridge the gap between home and school (Carrasquillo, 1980; Gonzalez, 2008). In efforts to decrease the achievement gap of

minority students and to help address the needs of the growing ELL population, NCLB expanded hiring of highly-qualified bilingual paraprofessionals by requiring at least 48 hours course work from an institute of higher learning, an associate's degree, or passing a certification assessment.

The previous line of studies investigated paraprofessional-implemented supplementary reading tutoring of struggling readers. Brown et al. (2005) found that highly-trained paraprofessionals can be effective tutors of second and third grade struggling readers, some of which were ELLs. However, there have been few studies that investigate the effectiveness of bilingual paraprofessionals' implementation of English reading tutoring with Spanish-speaking ELLs (Ehri et al., 2007), including direct English reading instruction (Gunn et al., 2000).

Ehri et al. (2007) found that trained and supervised bilingual paraprofessionals were effective tutors of ELL struggling readers in first grade. Students from 5 urban public schools within a metropolitan city, 90% reporting a first language of Spanish and 95% economically disadvantaged, participated in the study. Special education students, students with physical or behavior problems, and students that had little to no knowledge of English were excluded from participation. Students who were unable to read a preprimer reading passage, but who could name at least 17 letters, qualified to participate in the study. Sixty-four treatment students were randomly assigned to receive 6 months of one-on-one English reading tutoring using Reading Rescue. Supplementary instruction was provided by 59 tutors, which included 17 certified reading specialists, 15 certified teachers, and 27 paraprofessionals, all who were randomly assigned to tutees.

All paraprofessionals graduated high school, some were enrolled in college, some held college degrees, and half, or approximately 14 of the paraprofessionals were bilingual. Tutors received 5 days of explicit and systematic training, in addition to ongoing site-based supervision and coaching. Tutors made instructional decisions based on their analysis of student performance as guided by their observations and the scope and sequence of the curriculum. Tutor records of implementation were scored and fidelity was measured using an adherence measure requiring a minimum score of 13 which indicated full adherence to the program. A mean value of 13.5 indicated that tutors on average adhered to the program, closer inspection of the scores showed that 63% of tutors fully adhered to implementation.

Two control groups included one group of 62 matched students who enrolled on campuses in which Reading Rescue was offered, and a second control group of 60 students enrolled on campuses that did not offer Reading Rescue. These groups were reconfigured to clarify that 52 students received the district-mandated small-group reading intervention, and 70 control students did not receive intervention. The district-mandated small-group (3-6 students) tutoring included implementation of an explicit, scripted curriculum taught for 30-40 minutes daily, over 26 weeks. Control tutor training included one initial session and on-site support provided by a literacy coach.

Results indicate that treatment students who received one-on-one Reading Rescue tutoring outperformed both control groups, including control students who received district-mandated small-group intervention, and those who did not, in word decoding ($p < .01$) and reading comprehension ($p < .01$). When comparing tutor type, no

main effects were found in word identification and reading comprehension, implying that paraprofessionals tutored as effectively as certified teachers and reading specialists in these areas. Further, paraprofessionals tutored as well as certified teachers, who were not reading specialists, in pseudo word reading.

Some limitations to this study include design, differences in size of tutoring groups, and levels of paraprofessional education. Although this study is quasi-experimental, control students were matched and pre-test differences were adjusted. Another limitation is that treatment students received one-on-one tutoring, whereas some of the control students received tutoring in small-groups of 3 to 6 students. The difference in tutor-tutee ratio may have impacted results. Further, as some paraprofessionals in this study held college degrees, generalizability to other paraprofessional populations may be limited. Researchers recommend further investigation of long-term effects of supplementary reading instruction implemented by paraprofessionals with varying levels of education.

Although the foci of Gunn et al. (2000) and the follow-up study (2005), both previously discussed in detail, were not to investigate differences in tutor type, these studies provide evidence of the effectiveness of bilingual paraprofessionals' implementation of individual and small-group direct English reading intervention with struggling ELLs. Hispanic ELL treatment students outperformed comparison students in L2 oral reading fluency and passage comprehension. It is important to note, however, that only two of the paraprofessionals implementing the reading intervention were bilingual.

Summary

This chapter reviewed direct instruction in terms of its critical components as well as empirical articles related to direct English reading instruction interventions with struggling readers who are Spanish-speaking ELLs, including EIR, paraprofessionals implementing supplementary instruction with struggling readers, and bilingual paraprofessionals implementing supplementary instruction with ELLs identified as struggling readers.

Studies that investigated direct English reading intervention include mixed evidence of the effectiveness of direct English reading instruction with elementary Spanish-speaking ELLs who are struggling readers in grades K-3. Two longitudinal studies found that Hispanic ELLs who received direct instruction reading outperformed comparison students in oral reading fluency, letter word identification, and passage comprehension (Gunn et al., 2000; Kamps et al., 2007). However, Gunn et al. (2000) found that oral reading fluency approached significance ($p = .056$), while Kamps et al. (2007) found a large effect size in favor of treatment students after one year of intervention ($d=.947$). Further Kamps et al. (2007) found large effect sizes in favor of treatment word identification ($d = 1.39$) and in passage comprehension ($d=1.35$) after two years of intervention. Multiple baseline studies, although containing only 1-2 Spanish-speaking ELL participants, found improvement in English phonemic awareness, decoding skills, and passage comprehension.

A series of studies investigating supplementary small-group direct English reading instruction using EIR with two first grade cohorts of Spanish-speaking ELLs

who were struggling readers consistently demonstrates development of L2 phonological awareness skills (Cirino et al., 2009; Vaughn et al. 2006). However, findings related word reading, text reading, and reading comprehension are mixed. After one year of implementation, moderate to large effect sizes were found in L2 word attack skills, but no significant differences in L2 letter-word identification or in L2 oral reading fluency. One cohort demonstrated large effect sizes in L2 reading comprehension, while the second cohort did not. However, a follow-up study of both cohorts revealed moderate differences L2 letter-word identification, L2 oral reading fluency, and in L2 passage comprehension one year after implementation ended (Cirino et al., 2009). Unfortunately many of these studies included a limited number of Spanish-speaking ELL participants, and failed to include information about their L1 and L2 proficiencies.

There is also a paucity in research investigating the effectiveness of paraprofessionals as literacy tutors of struggling readers. Effective supplementary literacy instruction by paraprofessionals requires the use of research-based reading approaches, training in reading approaches and behavior management, and ongoing monitoring and feedback (Causton-Teoharis et al., 2007). Four studies investigated paraprofessional implementation of supplementary reading instruction with minority and low-SES struggling readers in elementary grades kindergarten through third grade. Treatment student outcomes indicate that paraprofessionals effectively tutor in areas of word reading (Brown et al., 2005; Miller, 2003; Musti-Rao & Cartledge, 2007; Vadasy et al., 2006), spelling (Miller, 2003; Vadasy et al., 2006), and in passage comprehension (Brown et al., 2005; Miller, 2003).

However, there are fewer studies that investigate the effectiveness of bilingual paraprofessionals as L2 literacy tutors of Spanish-speaking ELLs. Ehri et al., (2007) found that paraprofessionals tutored as effectively as certified teachers and reading specialists in areas of word decoding and reading comprehension, and that paraprofessionals tutored as effectively as certified teachers, but not reading specialists in pseudoword reading. These findings replicate Brown et al. (2005) findings that paraprofessionals tutor as well as teachers in word and text reading, but not in pseudoword reading, and further extends these findings to include paraprofessionals that are bilingual.

In summary, research on supplementary small-group direct English reading instruction of Spanish-speaking ELLs using EIR is limited to two studies of first grade SIE cohorts that received one year of tutoring. This present study expands knowledge in this area by investigating longitudinal, supplementary small-group EIR implementation with both SEI and TBE students who received two consecutive years of tutoring during second and third grade. Further, studies investigating the effectiveness of bilingual paraprofessionals as tutors are limited. Of the two studies identified, only some of the tutors were bilingual paraprofessionals, including half of the tutors in Ehri et al., (2007) and two tutors in Gunn et al. (2000). In contrast, this current study includes only bilingual paraprofessionals as tutors who provide supplemental L2 reading instruction to Spanish-speaking ELLs identified as struggling readers.

CHAPTER III

METHODOLOGY

The purpose of this study was to investigate the effects of supplemental direct English reading intervention, provided by highly-trained paraprofessionals through small-group instruction, on the English oral reading fluency and English broad reading ability of struggling Spanish-speaking ELLs when compared to a matched group of students who received standard district-based English as a second language instruction in the control condition.

This chapter outlines the methodological design of the study. It includes the context of the study, research design and sampling, instrumentation, intervention procedures, data collection, data analysis, and a summary.

Context of the Study

The present study took place in a large urban school district in Southeast Texas in which 80% of the students qualified for free or reduced lunch, an indicator of low-SES status. Sixty-six percent of the students were classified as Hispanic, with 45% of students with L1 of Spanish who were enrolled in SEI and TBE programs. The district was selected because of its consistency in program philosophy and implementation, the accessibility of both SEI and TBE programs within the district, and extensive experience serving the ELL population (Tong, Lara-Alecio, Irby, Mathes, & Kwok, 2008). Further, the participating school district that received the Broad Prize, recognized for academic performance and improvement in reducing achievement gaps among poor and minority students.

Research Design and Sampling

This present study was derived from English Language and Literacy Acquisition (Project ELLA, #R305P030032), a 5-year longitudinal federally funded randomized control trial study that targeted approximately 800 native Spanish-speaking ELLs in an urban school district in Southeast Texas. The purpose of Project ELLA was to evaluate an enhanced instructional model for English as a second language instruction, in both SEI and TBE programs. The primary language of all ELLA participants was Spanish, as indicated by the Home Language Survey, and all participants were identified as being limited English proficient. Participating schools were randomly assigned a condition of either treatment or control as state law prohibits random assignment at individual student level. Twenty-three schools were randomly assigned to condition, with 12 randomly assigned to treatment, and 11 randomly assigned to control. Teachers in these schools were randomly selected for participation. Project ELLA is considered to be experimental at the school level and quasi-experimental at the student level.

This present study is a small-n, quasi-experimental, longitudinal study, as it includes fewer than 30 subjects (Purswell & Ray, 2014), who were categorized as either treatment or control, based on the randomization of the campuses in which students were enrolled, who were observed over two years. The treatment group received an intervention and the control group received district-typical instruction. All student participants were administered the same assessments before, during, and after intervention. The longitudinal design allowed for several observations of the same subjects over two years so that changes could be detected over time.

The quasi-experimental design, which in this study includes two groups of student participants, protects against internal threats of history, maturation, and instrumentation. The internal threat of regression to the mean is the tendency for extreme scores to regress, or move, towards the population mean on subsequent tests. The internal threat of regression to the mean is controlled in this study in that participants for both conditions are closely matched, all participants are struggling readers, and both groups demonstrate equivalency at the beginning of this study (Rubin, 2008). The internal threat of experimental mortality, or loss of participants across groups is controlled for in this study as all participants were continuously enrolled during both Grades 2 and 3. Further, the external threat of population validity is addressed in the limitations as results from this study are applicable only to similar populations of economically disadvantaged Spanish-speaking ELLs who are struggling readers.

As archival data is used in this study, the small sample size includes all treatment students who received 2 years of supplementary small-group direct English reading instruction, and a closely matched control group. Originally, 14 treatment students participated in supplemental tutoring; however 4 participants withdrew during the second semester of third grade. The small sample size of 20 includes all 10 treatment students received two years of supplemental English direct instruction, and a closely matched group of 10 control students. Condition of either treatment or control was based on the random assignment of schools in which the participants were enrolled.

In the treatment group, 7 were enrolled in TBE (3 males, 4 females) and 3 were enrolled in SEI (1 male, 2 females), from 5 treatment campuses, received tutoring

provided by bilingual paraprofessionals for 45 minutes daily. A carefully matched set of control students were selected based on variables of enrollment in bilingual program, gender, and pre-test scores, in efforts to create an equated sample (Rubin, 2008). Exact matches were achieved on variables of bilingual program and gender, resulting in 7 control students enrolled in TBE (3 males, 4 females) and 3 enrolled in SEI (1 male, 2 females), representing 6 elementary campuses. Control students were matched as closely as possible on pretest scores of oral reading fluency, as measured by DIBELS, and broad reading ability, as measured by the Woodcock Language Proficiency Battery-Revised. Table 1 shows descriptive statistics used to match control participants based on L1 and L2 pre-test variables of oral reading fluency and broad reading.

Table 1

Descriptive Statistics of Pre-Test (T1) Reading Scores by Condition

| Measure | Condition | Mean | Std. Deviation | N |
|-------------------------|-----------|--------|----------------|----|
| L1 Oral Reading Fluency | Treatment | 35.90 | 19.18 | 10 |
| | Control | 36.10 | 20.34 | 10 |
| | Total | 36.00 | 19.24 | 20 |
| L2 Oral Reading Fluency | Treatment | 25.00 | 7.80 | 10 |
| | Control | 25.10 | 7.81 | 10 |
| | Total | 25.05 | 7.60 | 20 |
| L1 Broad Reading | Treatment | 452.70 | 36.14 | 10 |
| | Control | 474.90 | 36.63 | 10 |
| | Total | 463.80 | 23.55 | 20 |
| L2 Broad Reading | Treatment | 454.00 | 26.14 | 10 |
| | Control | 459.60 | 21.69 | 10 |
| | Total | 456.80 | 37.20 | 20 |

Table 1 indicates that both the treatment and control groups qualified as struggling readers in English, as both groups performed below the twenty-fifth percentile, reading less than 32 words per minute correctly at the end of Grade 1 (Good & Kaminski, 2002). The control group was closely matched with the treatment group in both L1 oral reading fluency (M=36.10, M=35.90, respectively) and in L2 oral reading fluency (M=25.10, M=25.00, respectively). At pre-test, control students outperformed

treatment in L1 broad reading (M=474.90, M=452.70, respectively), while L2 broad reading scores were more closely matched (M=459.60, M = 454.00).

Instrumentation

Archived data collected from Project ELLA was used for this study, including a measure of L2 oral reading fluency from Dynamic Indicators of Basic Early Literacy Skills, DIBELS, (Kaminski & Good, 1996), and a measures of L2 broad reading from the Woodcock Language Proficiency Battery-Revised ,WLPB-R, (Woodcock, 1991).

L2 Oral Reading Fluency

Dynamic Indicators of Basic Early Literacy Skills, DIBELS, (Kaminski & Good, 1996), includes a set of measures for accessing the acquisition of early literacy skills for students in kindergarten through sixth grade. One minute fluency measures are administered to students individually and designed to assess early literacy skills as they change over time (Good, Simmons, & Kame'enui, 2009). For the purpose of this study, scores from the DIBELS subtest Oral Reading Fluency (ORF) were selected as a measure of participants' English reading fluency.

Oral reading fluency. Oral Reading Fluency (ORF) includes a standardized set of reading passages designed to identify students who may need additional instructional support and to monitor progress towards instructional goals (Assessment Committee Analysis of Reading Assessment Measures, 2002). Students are asked to read three grade-level reading passages aloud for 1 minute each. Student performance is measured as the number of correct words read per minute. The median score of the three passages was recorded. Students who perform below the twenty-fifth percentile (read less than 28

words per minute correctly at the beginning of second grade, and less than 57 words read correctly at the beginning of third grade) are considered at-risk for reading difficulty (Good et al., 2002). The English ORF subtest was administered at the beginning, middle, and end of second and third grades. Alternate-form reliability ranges from .89 to .96 and concurrent validity with the Test of Oral Reading Fluency (Children's Educational Resources, 1987) ranges from .91 to .96 (Good, Kaminski, Shinn, Bratten, Shinn, & Laimon, 2001).

L2 Broad Reading Ability

The Woodcock Language Proficiency Battery-Revised, WLPB-R, (Woodcock, 1991), assesses language proficiency in measures of oral language, reading, and writing. Reading items are administered to students individually, in which students are given verbal prompts by a tester. For the purpose of my study, scores from Letter-Word Identification and Passage Comprehension were selected as a measure of participants' English broad reading ability.

Letter-word identification. Letter-Word Identification was administered to assess participants' English decoding skills. Letter-Word Identification consists of a list of letters and words that students name or read aloud. Each item is coded either correct or incorrect, with 1 point for correct and 0 for incorrect, with a total possible raw score of 57. Internal consistency of Letter-Word Identification is .96, and the average reliability coefficient of Cronbach's alpha based on the current sample is .92.

Passage comprehension. Passage comprehension was administered to assess participants' reading comprehension skills. Passage comprehension consists of multiple-

choice questions in which students point to the picture that represents a written phrase. The task increases in difficulty as students are asked to read a written passage and select the appropriate word or words that complete the passage. Each item is coded either correct or incorrect, with 1 point for correct and 0 for incorrect, with a total possible raw score of 43. Internal consistency of Passage Comprehension is .94, and the average reliability coefficient of Cronbach's alpha based on the current sample is .81.

Intervention

Early Interventions in Reading

EIR (Mathes & Torgesen, 2004) is a research-based direct instruction reading program with the goal of preventing reading failure with early intervention. EIR is designed to help develop oral language, vocabulary, phonological and phonemic awareness, decoding of letter-sound combinations, concepts of print, word recognition and spelling, fluency, and comprehension strategies.

Five highly-qualified and highly trained female bilingual paraprofessionals implemented EIR Level I during second grade (2006-2007), and implemented EIR Level II during third grade (2007-2008), with small-groups of 3-5 ELL struggling-readers who scored in the bottom twenty-fifth percentile on English DIBELS Oral Reading Fluency. Daily implementation occurred 45 minutes daily during the English as a second language, ESL, block. On average, treatment students completed 77 lessons of EIR Level I during second grade, and completed 47 lessons of EIR Level II during second grade.

The prescriptive and detailed lessons incorporate routines and cues, scripted dialogue that includes what the educator should say, what the student response should be, and how the educator should respond based on the accuracy of the students' responses (Mathes & Torgesen, 2005). Each lesson is designed to introduce and review skills to prepare students to successfully read and comprehend the targeted reading passage. Daily lesson activities include letter-sound correspondence, word recognition and spelling, vocabulary, fluency, and comprehension. Advancing to the next activity is dependent on student mastery of the targeted skill(s).

Training for Bilingual Paraprofessionals

To meet the NCLB standard of being highly-qualified, paraprofessionals must have at least 48 hours course work from an institute of higher learning, an associate's degree, or pass a certification assessment. Five highly-qualified female bilingual paraprofessionals initially attended two days of intensive training in direct English reading instruction from Dr. Patricia Mathes, co-author of EIR Reading, and staff from the Institute for Evidence-Based Education. This training included an overview of EIR Reading, modeling of routines and cues, modeling of English pronunciation of consonant and vowel sounds, as well as letter-sound combinations. On-going training was conducted once a month by research faculty and staff in which paraprofessionals received training related to second language theory, interpersonal relationships, classroom management, providing corrective feedback, student assessment, and continued support related to English phonemic awareness and pronunciation. Further, a

research coordinator conducted classroom observations of the paraprofessionals implementing EIR, provided feedback, and modeled activities when needed.

Research Questions

The following research questions were addressed to determine the differences in English reading between two matched groups of Spanish-speaking ELLs, identified as struggling readers, representing both SEI and TBE classrooms in an urban district in Southeast Texas. Treatment students received two years of supplemental English direct reading instruction provided by highly-trained bilingual paraprofessionals. Control students received standard district-based ESL instruction.

1. What differences exist in English oral reading fluency, as measured by DIBELS Oral Reading Fluency between treatment and control Spanish-speaking English language learners identified as struggling readers?
2. What differences exist in English broad reading ability, as measured by Woodcock Language Proficiency Battery-Revised, WLPB-R, subtests of Letter-Word Identification and Passage Comprehension, between treatment and control Spanish-speaking English language learners identified as struggling readers?

Data Collection

Archival data retrieved from Project ELLA for 20 Spanish-speaking struggling readers in SEI and TBE classrooms was analyzed for this study. Scores of DIBELS English Oral Reading Fluency were collected at the beginning of first grade and at the beginning, middle, and end of second and third grades (May 2006, September 2006,

January 2007, May 2007, September 2007, January 2008, May 2008). Scores of WLPB-R English Broad Reading were collected at the end of first, second, and third grades (May 2006, May 2007, May 2008). Trained testers administered each of the tests. I participated in the implementation and training for Project ELLA.

Data Analysis

Analysis of variance (ANOVA) is a common inferential statistic used to analyze the differences between group means. A repeated measures mixed ANOVA compares the mean differences of a dependent variable over two or more time points when subjects are assigned to two or more groups (Laird, 2013). Two advantages of repeated measures include requiring fewer participants, and allowing researchers to monitor how participants change over time. Some disadvantages to using repeated measures include effects due to repetition, regression to the mean, and maturation. Effects due to repetition infers that repeated exposure to an assessment may result in students becoming familiar with the test item or task, and therefore score higher (Collie, Maruff, Darby, & McStephen, 2003). The DIBELS Oral Reading Fluency reading passages, used to measure L2 oral reading fluency, protected against effects due to repetition as each set of reading passages were unique and progressively increased in difficulty. The Woodcock Letter-Word Identification and Passage Comprehension subtests, used to measure L2 broad reading ability, were susceptible to effects due to repetition, as there are no alternate forms of this assessment available. However, effects due to repetition were minimized as the assessment was only administered once per school year, at the end of Grades 1-3.

Laird (2013) outlined assumptions that are required for a mixed ANOVA to yield valid results. Archive data used in this study met the first assumption that dependent variables (L2 oral reading fluency for question 1 and L2 broad reading ability for question 2) are continuous or quantitative. Second, the within-subjects independent factor of time has at least two related groups - meaning all subjects were measured on at least two occasions on the same dependent variable. Third, the between-subjects independent factor has at least two categorical groups – in this study treatment and control. The data was further verified to ensure it met the remaining assumptions, including: no significant outliers in any group of the within-subjects (time) or between-subjects factors (condition); approximated normal distribution for each combination of the groups in the two factors; homogeneity of variances for each combination of the groups in the two factors; and sphericity or equal variances of the differences between related groups of the within-subject factor (time) for all groups of the between-subjects factor (conditions). Descriptive statistics, results of tests of homogeneity of variance and sphericity, interaction effects, effect sized, and visual representations of the data are reported. This study used the statistical software SPSS to analyze the archive data.

Research Question 1: L2 Oral Reading Fluency

A repeated measures mixed ANOVA was run to answer research question 1: What differences exist in English oral reading fluency, as measured by DIBELS Oral Reading Fluency between treatment and control Spanish-speaking English language learners identified as struggling readers? A mixed between-within ANOVA analysis was conducted with L2 oral reading fluency as the dependent variable and independent

variables of time as the within-subjects independent factor and condition (either treatment or control) as the between-subjects factor. Analysis was limited to the existing data set, including 7 repeated measures of L2 oral reading fluency. *Post hoc* tests were conducted to determine the achieved power at a statistical significance of $p=.05$ using the G*Power analysis online software (Faul, Erdfelder, Buchner, & Lange, 2009). A *post hoc* power analysis revealed for a mixed ANOVA with a total sample size of 20, 2 groups, repeated measures at 7 time points, an achieved power of .88 was calculated to detect an effect size of .25.

Research Question 2: L2 Broad Reading Ability

A mixed ANOVA was run to answer research question 2: What differences exist in English broad reading ability, as measured by Woodcock Language Proficiency Battery-Revised, WLPB-R, subtests of Letter-Word Identification and Passage Comprehension, between treatment and control Spanish-speaking English language learners identified as struggling readers? A mixed between-within ANOVA analysis was conducted with L2 broad reading ability as the dependent variable and independent variables of time as the within-subjects independent factor and condition of treatment or control as the between-subjects factor. Analysis was limited to the existing data set, including 3 repeated measures of L2 broad reading ability. *Post hoc* tests were conducted to determine the achieved power at a statistical significance of $p=.05$ using the G*Power analysis online software (Faul et al., 2009). Limited statistical power because of the small sample size may have played a role in limiting the significance of the analyses, particularly for Question #2. A *post hoc* power analysis revealed for a

mixed ANOVA with a total sample size of 20, 2 groups, repeated measures at 3 time points, an achieved power of .65 was calculated to detect an effect size of .25.

Summary

Chapter III presented the methodology of this study, including a description of the research design, data collection, and analysis methods. Archival data including scores from standardized assessments collected during first, second and third grades were analyzed. The results of the data analyses are presented in the following chapter.

CHAPTER IV

RESULTS

This chapter presents the results of the data analysis to answer the two research questions examining the differences in English reading between two matched groups of Spanish-speaking ELLs, identified as struggling readers in English, representing both SEI and TBE classrooms in an urban district in Southeast Texas. Treatment students received two years of supplemental English direct reading instruction provided by highly-trained bilingual paraprofessionals. Control students received standard district-based ESL instruction. Descriptive and inferential statistics were used to investigate the two research questions.

Research Question 1: L2 Oral Reading Fluency

Question 1: What differences exist in English oral reading fluency, as measured by DIBELS Oral Reading Fluency between treatment and control Spanish-speaking English language learners identified as struggling readers? The first research question examined the results of L2 oral reading fluency. At each time point students read three grade-level reading passages aloud for 1 minute each. Student performance was measured as the number of words correctly read per minute (wcpm) per passage. The median score of the three passages was recorded. Descriptive statistics of L2 oral reading fluency scores for seven time points for each condition, both treatment and control, are listed in Table 2.

Table 2

Descriptive Statistics of L2 Oral Reading Fluency by Time and Condition

| Time | Condition | N | Mean | Std. Deviation |
|------|-----------|----|-------|----------------|
| T1 | Treatment | 10 | 25.00 | 7.80 |
| | Control | 10 | 25.10 | 7.81 |
| | Total | 20 | 25.05 | 7.60 |
| T2 | Treatment | 10 | 20.30 | 6.65 |
| | Control | 10 | 25.50 | 7.56 |
| | Total | 20 | 22.90 | 7.43 |
| T3 | Treatment | 10 | 41.10 | 10.48 |
| | Control | 10 | 41.60 | 16.34 |
| | Total | 20 | 41.35 | 13.36 |
| T4 | Treatment | 10 | 52.80 | 14.89 |
| | Control | 10 | 52.10 | 19.19 |
| | Total | 20 | 52.45 | 16.72 |
| T5 | Treatment | 10 | 45.20 | 13.62 |
| | Control | 10 | 46.30 | 17.77 |
| | Total | 20 | 45.75 | 15.42 |
| T6 | Treatment | 10 | 63.90 | 13.63 |
| | Control | 10 | 55.30 | 14.50 |
| | Total | 20 | 59.60 | 14.39 |
| T7 | Treatment | 10 | 77.70 | 13.78 |
| | Control | 10 | 79.70 | 27.26 |
| | Total | 20 | 78.70 | 21.05 |

Note: T1 (end of year Grade 1), T2 (beginning of year Grade 2), T3 (middle of year Grade 2), T4(end of year Grade 2), T5(beginning of year Grade 3), T6(middle of year Grade 3), T7(end of year Grade 3)

Table 2 indicates L2 oral reading fluency gains for each condition during Grades 2 and 3. When comparing Grade 2 L2 oral reading fluency gains, the treatment group gained 32.5 mean wcpm, compared to 26.6 mean wcpm for the control group. A closer examination of mean gains of each semester of Grade 2 indicated the treatment group gained 20.8 mean wcpm as compared to a gain of 16.1 mean wcpm for the control group during the fall semester. During the spring semester of Grade 2, the treatment group gained 11.7 mean wcpm as compared to a gain of 10.5 mean wcpm for the control group. The control group demonstrated greater dispersion as expressed by standard deviations in Grade 2 oral reading fluency scores when compared to the treatment group.

When comparing Grade 3 L2 oral reading fluency gains, the treatment group gained 32.5 mean wcpm, compared to a gain of 33.4 mean wcpm for the control group. A closer examination of mean gains of each semester of Grade 3 indicated the treatment group gained 18.7 mean wcpm as compared to a gain of 9 mean wcpm for the control group during the fall semester. During the spring semester of Grade 3, the treatment group gained 13.8 mean wcpm as compared to 24.4 wcpm for the control group. Again, the control group demonstrated higher standard deviations when compared to the treatment group, most notably at the end of Grade 3.

After two years, at the end of Grade 3, treatment group L2 oral reading fluency increased 52.7 mean wcpm, as compared to growth of 54.6 mean wcpm for the control group. Overall, as time progressed, group means for both conditions increased across the progressive time points, except at T2 and T5, which were assessed after students returned from summer break. The combined L2 oral reading fluency mean of both

groups decreased 2.15 words correctly read per minute (wcpm) after summer, upon return to Grade 2, and decreased 6.7 mean wcpm upon return to Grade 3. The total mean wcpm gain during the second semester of Grade 2 was 11.1 wcpm; however, students lost 6.7 wcpm upon returning after summer to Grade 3.

Before conducting a repeated measures mixed ANOVA, the outlier and normality assumptions were explored. Examination of the studentized residuals of L2 oral reading fluency scores indicated there were no outliers, as all residuals were $< \pm 3$ standard deviations. All variables of L2 oral reading fluency revealed normal distributions with the exception of T1 and T5 for treatment, and T6 for control, as assessed by Shapiro-Wilk's Test of Normality ($p > .05$); however, ANOVA is robust to moderate deviations from normality (Glass, Peckham, & Sanders, 1972).

Having tested for outliers and normal distribution of data, a repeated measures mixed ANOVA was conducted to examine the interaction of time and condition on L2 oral reading fluency. Levene's Test of Equality of Variances indicated the assumption of homogeneity of variances was met, $p > .05$. Mauchly's Test of Sphericity indicated the assumption of sphericity had been violated, $\chi^2(20) = 41.897, p < .003$. Therefore, a Greenhouse & Geisser correction, epsilon (ϵ) of .585, was used. Table 3 presents the repeated measures mixed ANOVA summary table for L2 oral reading fluency.

Table 3

Mixed ANOVA Results Comparing Time and Condition on L2 Oral Reading Fluency (Tests of Within-Subjects Effects)

| Source | SOS | df | Mean Square | F | Sig. | Partial Eta Squared |
|--------------------|-----------|--------|-------------|--------|------|---------------------|
| Time | 45759.743 | 3.509 | 13041.856 | 63.273 | .000 | .779 |
| Time* Condition | 534.686 | 3.509 | 152.389 | .739 | .552 | .039 |
| Error | 13017.87 | 63.156 | 206.121 | | | |

As noted in Table 3, the interaction effect of time*condition was not statistically significant, $F(3.509, 63.156) = .739, p < .552$, partial $\eta^2 = .039$. Therefore, the main effect of time was analyzed. The main effect of time showed a statistically significant difference in L2 oral reading fluency, $F(3.509, 63.156) = 63.273, p < .01$, partial $\eta^2 = .779$. These results indicate that time elicits a significantly significant increase in L2 oral reading fluency.

To further analyze the main effect of time on each condition, additional ANOVA analyses were conducted. There was a statistically significant effect of time on L2 oral reading fluency for the treatment group, $F(2.492, 22.424) = 64.994, p < .01, \eta^2 = .878$. Pairwise comparisons revealed the treatment group L2 oral reading fluency significantly increased at each progressive time point, except at T2 (beginning of Grade 2) and T5 (beginning of Grade 3), both of which were assessed at the beginning of the school year, after returning from summer break. Similarly, there was a statistically significant effect

of time on L2 oral reading fluency for the control group, $F(6, 54) = 20.085$, $p < .01$, $\eta^2 = .691$. Pairwise comparisons revealed the control group L2 oral reading fluency significantly increased between T2 (beginning of Grade 2) and T3 (middle of Grade 2), and between T6 (middle of Grade 3) and T7 (end of Grade 3). Figure 1 provides a visual representation of both conditions across time.

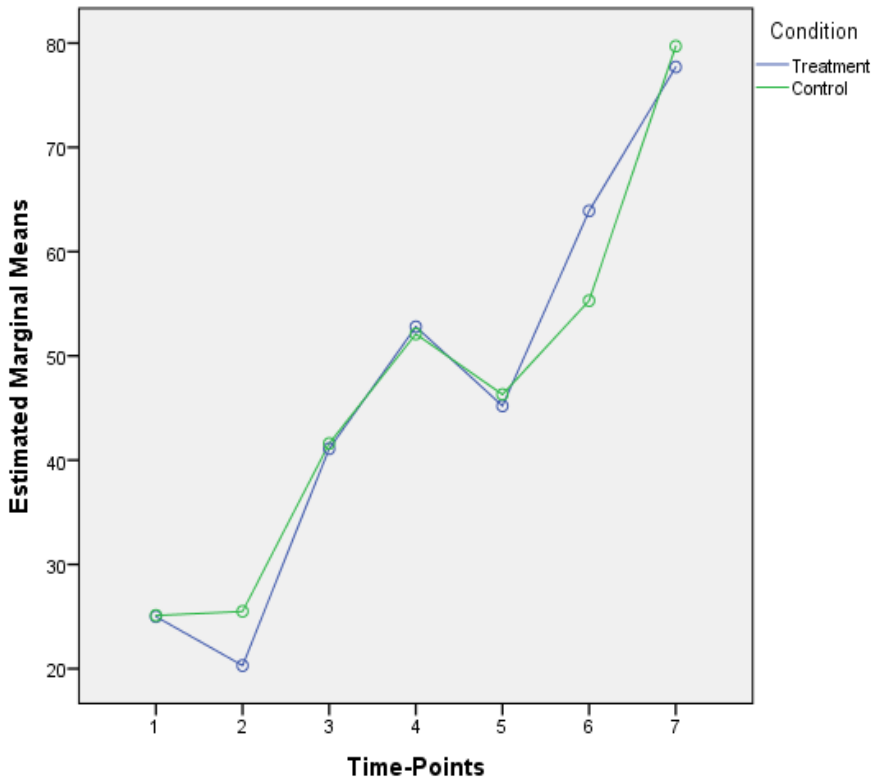


Figure 1. Graph of L2 Oral Reading Fluency Across Conditions.

Figure 1 confirms general improvement in L2 oral language fluency across both conditions. The main effect of condition showed there was not a significant difference

in L2 oral reading fluency between treatment and control groups $F(1,18) = .000$, $p = .991$, $\eta^2 = .000$.

Research Question 2: L2 Broad Reading Ability

Question 2: What differences exist in English broad reading ability, as measured by Woodcock Language Proficiency Battery-Revised, WLPB-R, subtests of Letter-Word Identification and Passage Comprehension, between treatment and control Spanish-speaking English language learners identified as struggling readers? The second research question examined the results of L2 broad reading ability by assessing students' L2 decoding skills and reading comprehension. Descriptive statistics of L2 broad reading ability from three time points are listed in Table 4.

Table 4

Descriptive Statistics of L2 Broad Reading Ability by Time and Condition

| Time | Condition | N | Mean | Std. Deviation |
|------|-----------|----|--------|----------------|
| T1 | Treatment | 10 | 454.00 | 26.136 |
| | Control | 10 | 459.60 | 21.686 |
| | Total | 20 | 456.80 | 23.550 |
| T2 | Treatment | 10 | 475.40 | 11.452 |
| | Control | 10 | 462.60 | 18.001 |
| | Total | 20 | 469.00 | 16.085 |
| T3 | Treatment | 10 | 496.30 | 17.702 |
| | Control | 10 | 506.60 | 16.688 |
| | Total | 20 | 501.45 | 17.557 |

Note: T1(end of year Grade 1), T2 (end of year Grade 2), T3 (end of year Grade 3)

Table 4 indicates L2 broad reading ability gains during Grades 2 and 3. After one year of intervention, at the end of Grade 2, the treatment group increased 21.4 standard mean points compared to an increase of 3 standard mean points for the control group. The control group demonstrated greater dispersion as expressed with a notably higher standard deviation at the end of Grade 2. Between the end of Grade 2 and the end of Grade 3, the treatment group increased 20.9 standard mean points, compared to an increase of 44 standard mean points for the control group.

At each progressive time point, group means for both conditions increased. After two years, the L2 broad reading ability increased 42.4 standard mean points for the

treatment group, compared to an increase of 47 standard mean points for the control group.

Before conducting a repeated measures mixed ANOVA, the outlier and normality assumptions were explored. Examination of the studentized residuals of English broad reading scores indicated there were no outliers, as all residuals were $< +/- 3$ standard deviations. L2 broad reading ability was normally distributed for both conditions at all time points, as assessed by Shapiro-Wilk's test ($p > .05$).

Having tested for outliers and normal distribution of data, a repeated measures mixed ANOVA was conducted to examine the interaction of time and condition on L2 broad reading. Levene's Test for Equality of Variances indicated the assumption of homogeneity of variances was met, $p > .05$. Mauchly's Test of Sphericity indicated that the assumption of sphericity had not been violated, $\chi^2(2) = 2.115, p < .347$. Table 5 presents the repeated measures mixed ANOVA summary table for L2 broad reading ability.

Table 5

Mixed ANOVA Results Comparing Time and Condition on L2 Broad Reading Ability (Tests of Within-Subjects Effects)

| Source | SOS | df | Mean Square | F | Sig. | Partial Eta Squared |
|--------------------|-----------|----|-------------|--------|------|---------------------|
| Time | 21303.100 | 2 | 10651.550 | 27.569 | .000 | .605 |
| Time* Condition | 1490.433 | 2 | 745.217 | 1.929 | .160 | .097 |
| Error | 13909.133 | 36 | 386.365 | | | |

As noted in Table 5, the interaction effect of time*condition on L2 broad reading ability was not statistically significant, $F(2,36)=1.929$, $p=.16$, partial $\eta^2 = .097$.

Therefore, the main effect of time was analyzed. The main effect of time showed a statistically significant difference in L2 broad reading at the different time points, $F(2, 36) = 27.569$, $p < .05$, partial $\eta^2 = .605$. These results indicate that time elicits a significantly significant increase in L2 broad reading ability.

To further analyze the main effect of time on each condition, additional ANOVA analyses were conducted. The treatment group increased 42.5 mean points over two years of intervention, resulting in a statistically significant effect of time on L2 broad reading ability, $F(2, 18) = 12.961$, $p < .01$, partial $\eta^2 = .590$. Pairwise comparisons revealed the treatment group's L2 broad reading ability significantly increased at each progressive time point. The control group increased 47 mean points over two years, resulting in a statistically significant effect of time on L2 broad reading ability, $F(2, 18)$

= 16.191, $p < .01$, partial $\eta^2 = .643$. Pairwise comparisons revealed that between T1 (end of Grade 1) and T2 (end of Grade 2) the control group's L2 broad reading ability increased only 3 mean points, compared to an increase of 21 mean points for the treatment group. Figure 2 provides a visual representation of both conditions across time.

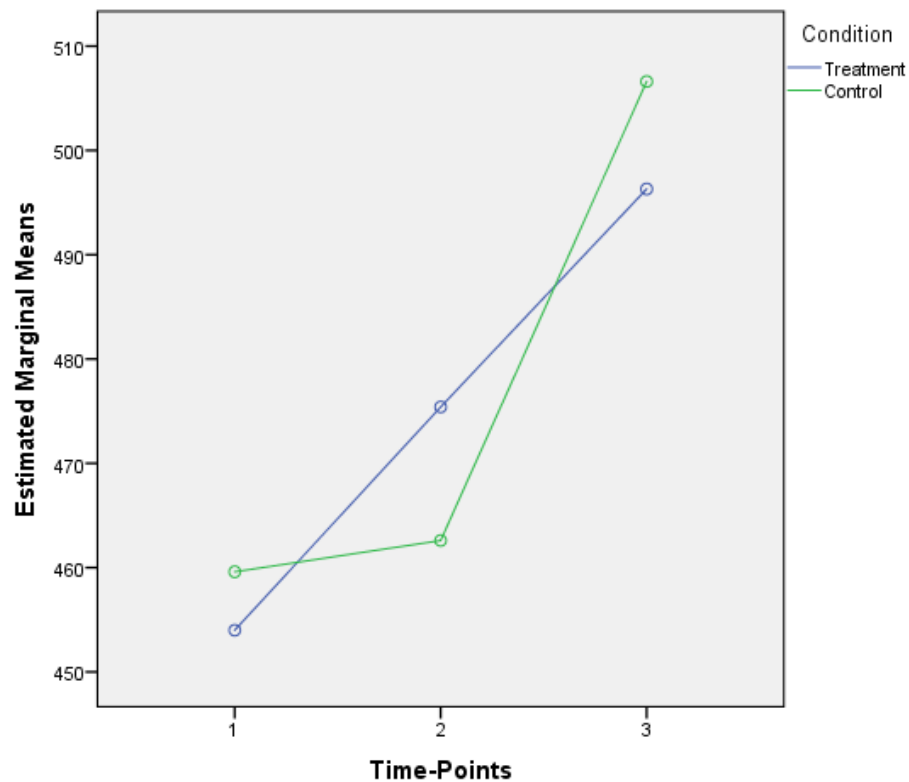


Figure 2. Graph of L2 Broad Reading Ability Across Conditions

Figure 2 confirms that general improvement is noted in L2 broad reading ability across both conditions; however, only the treatment group exhibited statistically significant growth during second grade, after one year of intervention. The main effect of condition showed there was not a significant difference in English Broad Reading between treatment and control groups $F(1,18) = 16.017, p = .827, \eta^2 = .003$.

Additional Analyses

In addition to the data analyzed to respond to the two research questions, further analyses were conducted to further examine bilingual program within the treatment condition. Descriptive statistics of treatment group L2 oral reading fluency by bilingual program are listed in Table 6.

Table 6

Descriptive Statistics of Treatment L2 Oral Reading Fluency by Bilingual Program

| Time | Bilingual Program | Mean | Std. Deviation | N |
|------|-------------------|-------|----------------|---|
| T1 | SEI | 26.67 | 14.224 | 3 |
| | TBE | 24.29 | 4.680 | 7 |
| T7 | SEI | 81.00 | 14.177 | 3 |
| | TBE | 76.29 | 14.500 | 7 |

Note: T1(end of year Grade 1), T7(end of year Grade 3)

Table 6 displays treatment group growth English reading fluency by bilingual program. At the end of Grade 3, SEI treatment students increased 54 words correctly

read per minute, compared to an increase of 52 words read correctly per minute for TBE treatment students. After two years of L2 direct reading instruction, SEI and TBE treatment students performed similarly in English reading fluency.

Additional exploratory analyses were also conducted to explore L2 broad reading ability within the treatment group. Descriptive statistics of treatment group L2 broad ability by bilingual program are listed in Table 7.

Table 7

Descriptive Statistics of Treatment L2 Broad Reading Ability by Bilingual Program

| Time | Bilingual Program | Mean | Std. Deviation | N |
|------|-------------------|--------|----------------|---|
| T1 | SEI | 458.00 | 36.387 | 3 |
| | TBE | 452.29 | 23.915 | 7 |
| T3 | SEI | 481.33 | 13.614 | 3 |
| | TBE | 502.71 | 15.756 | 7 |

Note: T1(end of year Grade 1), T3(end of year Grade 3)

Table 7 displays treatment group growth in L2 broad reading ability by bilingual program. At the end of Grade 3, SEI treatment students increased 23.3 mean points in L2 broad reading ability, compared to an increase of 50 mean points for TBE treatment students. Figure 3 illustrates that after two years of L2 direct reading instruction, TBE treatment students outperformed SEI treatment students in English reading achievement.

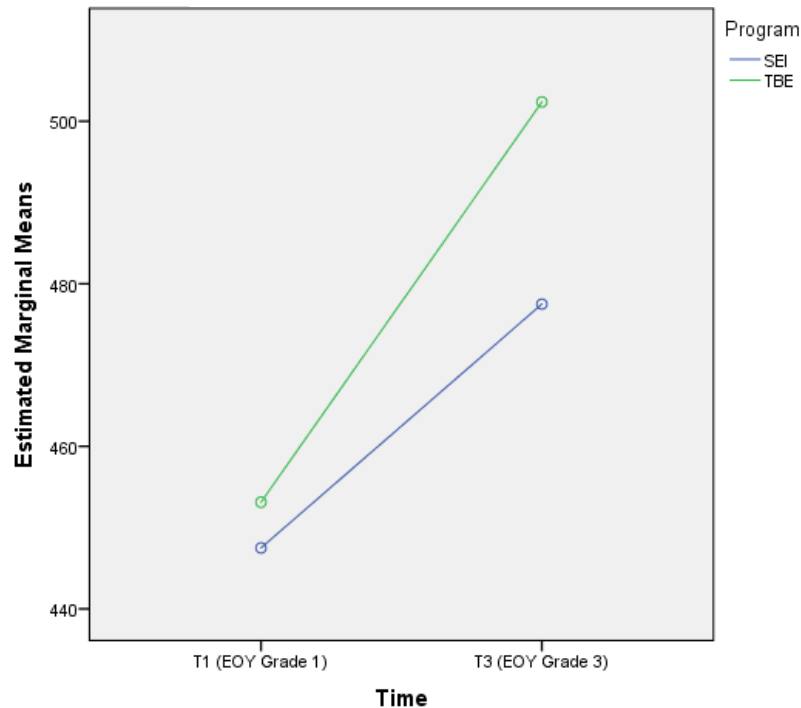


Figure 3. Graph of Treatment L2 Broad Reading by Bilingual Program

Summary

The purpose of the present study was to investigate the effects of direct English reading instruction with Spanish-speaking ELLs. Highly-trained bilingual paraprofessionals provided supplementary small-group tutoring to ELL students who were struggling to read in English. To address the research questions, this study examined the English oral reading fluency and English broad reading ability of treatment students who received two years English direct instruction during second and third grade, compared to carefully matched students who received standard district-based English as a second language, ESL, instruction in the control condition. Data analysis

responding to the research questions were reported with descriptive statistics, examination of assumptions, interaction analysis, and main effects analysis. Additional analyses reporting descriptive statistics were conducted to further examine bilingual program within the treatment condition. The following chapter will present a discussion of findings, limitations, recommendations, and conclusions.

CHAPTER V

DISCUSSION, LIMITATIONS, RECOMMENDATIONS, AND CONCLUSIONS

English language learners experience lower levels of reading achievement when compared to native-English speaking peers (August & Hakuta, 1997; Bialystok, 2002). Elementary students enrolled in structured English immersion and transitional bilingual education programs face the challenge of quickly learning how to read in a second language. Early identification of struggling ELLs and provision of high quality reading instruction is critical (August & Shanahan, 2006; Cheung & Slavin, 2012; Mathes et al., 2007; Slavin & Cheung, 2005). Providing supplementary English direct reading intervention in a small-group setting during the primary elementary school years can effectively meet the needs of Spanish-speaking ELLs identified as struggling readers (Gunn et al., 2000; Gunn et al., 2005; Kamps et al., 2007), helping to lay a path for future academic success.

Implementation of Early Interventions in Reading improves L2 phonological awareness skills, word reading, text reading, and comprehension of first grade ELLs identified as struggling readers. (Vaughn et al., 2006; Cirino et al., 2009). Paraprofessionals who implement an explicit research-based curriculum and take part in high-quality professional development can positively impact reading achievement of struggling readers (Fried et al., 2012; Grek et al., 2003), including small group or one-on-one implementation with English language learners (Brown, et al., 2005; Musti-Rao & Cartledge, 2007; Vadasy et al., 2006). Further, bilingual paraprofessionals tutor as

well as certified teachers and reading specialists in word reading and comprehension (Ehri et al., 2007). However, no researchers have conducted a small-n, quasi-experimental study analyzing data collected from a longitudinal study investigating English reading of Spanish-speaking, struggling ELLs in SEI and TBE programs who received supplemental small-group direct English reading instruction led by a highly-trained bilingual paraprofessionals for two consecutive years in Grades 2 and 3.

The participants in this study consisted of 20 Spanish-speaking ELLs who were struggling to learn to read in English during second and third grades. Ten treatment students received two years of supplemental English direct instruction provided by highly trained bilingual paraprofessionals. A carefully matched group of 10 control students received standard district-based ESL instruction. All participants were administered repeated measures assessing English oral reading fluency and English broad reading ability.

The results of this study were analyzed using a repeated measures mixed ANOVA to determine if there were differences between the performances of the treatment and control groups, as well as to determine if there was a significant change in each group's performance over time. Additional exploratory analyses were conducted to further examine bilingual program within the treatment condition. This chapter includes a discussion of the findings for each research question as linked to previous literature, limitations, recommendations, and conclusions.

Discussion

Research Question 1: L2 Oral Reading Fluency

What differences exist in English oral reading fluency between treatment and control Spanish-speaking English language learners identified as struggling readers?

Both treatment and control groups made significant gains in L2 oral reading fluency over the course of two years, during Grades 2 and 3, as measured by DIBELS Oral Language Fluency. The main effect for time was statistically significant ($p < .01$) and substantial (partial eta squared = .779). The treatment group outperformed the control group by almost 6 mean wcpm during Grade 2, most notably during the fall semester as treatment outperformed control 4.7 mean wcpm. In Grade 3, both groups made similar overall gains during, with less than 1 wcpm mean difference between groups; however, the treatment group again noticeably outperformed the control group by 9.7 mean wcpm during the fall semester. Although both treatment and control groups made similar overall gains in L2 oral reading fluency over two years, the treatment group demonstrated more consistent growth, gaining 32.5 mean wcpm each year during Grades 2 and 3.

Results revealed no interaction effect between time and condition, indicating there were no significant differences in English oral reading fluency between treatment and control groups at the end of third grade. The treatment group's L2 oral reading fluency increased 52.7 words per minute over two years from the end of Grade 1 to the end of Grade 3, as compared to growth of 54.6 words per minute for the control group.

Findings of this present study are supported by other longitudinal studies implementing direct English reading instruction with participants that include Spanish-speaking ELLs. Kamps et al. (2007) found no significant differences in Grade 2 in L2 oral reading fluency, although a large effect size was found after Grade 1 implementation. However, Gunn et al. (2000) conducted a secondary exploratory analysis of the Hispanic subpopulation who received 2 years of direct English reading instruction, resulting in no differences in L2 oral reading fluency.

Studies that implemented EIR, the same direct reading curriculum implemented in the current study, also support the present study's findings. Vaughn et al., (2006) found no significant differences in English oral reading fluency between treatment and control groups in two non-overlapping cohorts; however, the participants in were in first grade with only one year of intervention. Therefore, the current study adds insight into L2 oral reading fluency of Spanish-speaking ELLs in Grades 2 and 3.

An intriguing finding of my study is confirmation of summer loss, the decline in reading skills due to lack of literacy instruction and lack of access to reading material during summer break, which greatly impacts students of low-income families (Allington, McGill-Franzen, Camilli, Williams, Graff, Zeig, Zmach, & Nowak, 2010; Mraz & Rasinkski, 2007). A meta-analysis found that summer resulted in a reading gap of approximately 3 months for economically disadvantaged students (Cooper, Nye, Charlton, Lindsay, & Greathouse, 1996). Findings of this study documents summer loss of L2 oral reading fluency for Spanish-speaking ELLs who are struggling readers in Grades 2 and 3. Descriptive data indicates that across both conditions, treatment and

control, L2 oral reading fluency mean scores increased between each of the progressive time points, except for time points T2 (beginning of Grade 2) and T5 (beginning of Grade 3). Summer loss of decoding skills is evident as the combined L2 oral reading fluency of both groups decreased during summer breaks. More than one-half of the English oral fluency gains acquired during the spring semester of Grade 2 (11.1 mean wcpm across both conditions) were lost during the summer. This finding supports research that indicates struggling readers in the bottom quartile, who often make slow gains during the academic year, lose much of those gains over the summer (Heyns, 1987).

Research Question 2: L2 Broad Reading Ability

What differences exist in English broad reading ability between treatment and control Spanish-speaking English language learners identified as struggling readers?

Both treatment and control groups made significant gains in L2 broad reading ability over the course of two years as measured by the Woodcock Munoz Language Survey – Revised, using subtests of letter-word identification and passage comprehension. The main effect for time was statistically significant ($p < .01$) and substantial (partial eta squared = .605). At the end of third grade, the treatment group's L2 broad reading ability increased 42.5 mean points compared to 47 mean points for the comparison group.

Results revealed no interaction effect between time and condition, indicating there were no significant differences in English broad reading ability between treatment and control groups at the end of third grade. However, after one year of intervention, the

treatment group demonstrated a statistically significant difference L2 broad reading ability ($p = .042$), with an increase of 21 mean points compared to an increase of only 3 mean points for the control group. This finding indicates the effectiveness of EIR as indicated in broad reading ability scored during second grade. Further, the treatment group demonstrated more consistent gains each year during Grades 2 and 3, when compared to the control group.

As the broad reading ability score is composed of both letter-word identification and passage comprehension subtests, results related to previous research reference these subtests. When compared to other longitudinal studies implementing English direct reading with participants that included Spanish-speaking ELLs, Gunn et al. (2000) findings support this study in that no statistically significant differences were reported in letter-word identification and passage comprehension. However, my findings were inconsistent with Kamps et al., (2007) which found strong evidence in favor of treatment students in areas of word identification and passage comprehension at the end of Grade 2.

Studies that implemented EIR, the same direct reading curriculum implemented in the current study, support the present study's findings as related to letter-word identification. Vaughn et al., (2006) found no differences in letter-word identification between treatment and control groups in two non-overlapping cohorts; however, the participants in were in first grade with only one year of intervention. In passage comprehension, however, one cohort demonstrated strong evidence in favor of treatment students, whereas the second cohort did not. These results reflect participants in first

grade with only one year of intervention. After one year of intervention, during Grade 2, the treatment group in the present study demonstrated a statistically significant difference L2 broad reading ability ($p = .042$), however the influence of each subtest is unknown. Perhaps reporting both letter-word identification and passage comprehension separately would provide different results than the composite broad reading ability scores. The current study adds insight into L2 broad reading ability of Spanish-speaking ELLs in Grades 2 and 3.

Additional Analyses

Further analyses were conducted to explore variables of bilingual program and gender within the treatment condition as related to L2 oral reading fluency and L2 broad reading ability. After two years of intervention, both SEI and TBE treatment students performed similarly in L2 oral reading fluency across bilingual programs, with a difference of only 2 mean wcpm after two years of supplementary direct English reading instruction. These findings support Gunn et al.'s (2000) exploratory secondary analysis of the Hispanic subgroup which found no differences in L2 oral language fluency, indicating that non-English speaking Hispanic student benefited from supplemental direct English reading instruction as much as other Hispanic students.

After two years of L2 direct reading instruction, the TBE treatment group outperformed the SEI treatment group in L2 broad reading ability (50 mean points, 23.3 mean points, respectively). Whereas Gunn et al.'s (2000) exploratory secondary analysis found no differences in letter-word identification and passage comprehension within the

Hispanic subgroup, exploratory findings of this study contradict previous findings and adds new knowledge related to L2 broad reading ability of Spanish-speaking students.

Limitations

As archival data is used in this study, the small sample size of 20 includes all 10 treatment students who received 2 years of supplementary small-group direct English reading instruction, and a closely matched group of 10 control students. Although limited statistical power due to small sample size may have played a role in limited the significance of the analysis, longitudinal repeated measures were used to increase experimental control and thus increasing power. Generalizability is limited to second and third grade, low-SES, Spanish-speaking ELLs in SIE and TBE bilingual programs that are identified as struggling readers in English. In an effort to increase generalizability, a between-group experimental design was used in which the treatment and control groups were closely matched. Information related to any learning difficulties or disabilities of the participants was not available. Participating classrooms were observed during ESL instruction; therefore, any supplemental English reading instruction provided outside of the ESL time was not observed.

Recommendations

Given the findings that direct English instruction benefits Spanish-speaking ELLs identified as struggling readers in areas of L2 oral language development and L2 broad reading ability, future research in these areas are warranted. Additional longitudinal research on oral reading fluency and reading achievement of ELLs who are struggling readers, across elementary grade levels is needed. This study lends itself to

being replicated with a larger sample to include equal numbers of participants representing the different bilingual programs. Variables of both Spanish and English literacy measures should be carefully analyzed to monitor literacy development in both languages across bilingual programs should be compared longitudinally. In addition, teacher interviews and multiple classroom observations would provide rich descriptions of primary and supplementary literacy instruction across conditions. Further investigation of the effectiveness of highly-trained bilingual paraprofessionals implementing supplemental reading instruction is also needed. Future studies should compare teachers and paraprofessionals as tutors across conditions with struggling ELL readers.

Implications and Conclusions

This study resulted in significant growth over time in L2 oral reading fluency and L2 broad reading ability for Spanish-speaking ELLs who received direct English reading instruction tutoring. Spanish-speaking ELLs, enrolled in bilingual programs that promote early transition into English may struggle with the tricky parts of learning to read in English. Differences in the orthographic depth of Spanish and English can be confusing to Spanish-speaking ELLs and potentially affect English pronunciation and decoding. The program design, organization of instruction, and presentation of direct reading instruction helps make English reading skills comprehensible. Further, direct English reading instruction implemented by highly-trained bilingual paraprofessionals who provide gentle error-correction, predictable routines, and celebrating mastery help lower stress and increase student motivation. As ELLs experience lower levels of

reading achievement when compared to native-English speaking peers (August & Hakuta, 1997), small-group direct reading instruction is an effective method of providing high-quality supplemental reading instruction to ELLs identified as struggling readers.

This study also contributes to limited literature that indicate that paraprofessionals effectively tutor in areas of word reading and passage comprehension (Brown et al., 2005), and that bilingual paraprofessionals tutor ELLs as effectively as certified teachers in word decoding and reading comprehension (Ehri et al., 2007). Paraprofessionals are most effective in implementing supplementary reading instruction when the strategies, approaches, and curriculum are research-based, when training is systematic and ongoing, and when monitoring and ongoing feedback are provided (Causton-Theoharis et al., 2007). Utilizing bilingual paraprofessionals to provide small-group reading instruction can help address the challenges of meeting instructional needs of struggling students in an economically feasible way.

In addition, this study found that ELLs, enrolled in both SEI and TBE, experienced summer loss of L2 oral reading fluency and L2 broad reading ability. Implications of summer reading loss for Spanish-speaking ELLs who are struggling readers are to offer summer programs either within the community, or provided by schools that continue literacy instruction and provide students with opportunities to maintain and improve their reading proficiency.

Concluding Remarks

In this study, I evaluated the effectiveness of supplementary small-group direct English reading intervention implemented by highly-trained paraprofessionals with

struggling ELLs in both structured English immersion and transitional bilingual programs during Grades 2 and 3. The findings of this study expand the work of previous researchers in the area of supplemental direct English reading instruction of Grade 1 Spanish-speaking ELLs. The study adds to research that has not yet reported longitudinal L2 oral reading fluency and L2 broad reading findings for ELLs in Grades 2 and 3 who are struggling to learn to read in English. This study also contributes to limited studies investigating the effectiveness of bilingual paraprofessionals as tutors.

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