INTERVENTIONS FOR ENGLISH LANGUAGE LEARNERS: EFFECTS OF READING RECOVERY® ON READING ACHIEVEMENT

A thesis presented

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Abstract

English Language Learners (ELLs) in the United States have been plagued by low reading achievement, high dropout rates, and overrepresentation in special education. One researched-based reading intervention, Reading Recovery®, has a large body of research supporting its effectiveness for native speakers as well as a few studies demonstrating its effectiveness for ELLs. However, there is limited research comparing the rates of progress of native English speakers with those of ELLs as well as exploring if there is a difference in outcomes between students at different English language proficiency levels. The research questions that guided this investigation are: 1) How do the reading achievement outcomes of English Language Learners receiving the intervention Reading Recovery® compare to the outcomes of native English speakers receiving the same intervention in grade one of a large diverse urban school district? 2) What is the relationship between the reading achievement outcomes and proficiency levels of English Language Learners as determined by the Reading Recovery® language proficiency intake assessment? This study employed a quantitative methodology to compare the reading achievement outcomes of students receiving the intervention Reading Recovery® in a large, urban district from 2004-2013. The analysis in this study suggests that Reading Recovery® was actually more effective for ELLs. Based on the results of this research study, it is recommended that access be expanded and that all low reading performing ELLs that meet the selection criteria, regardless of English proficiency, be considered for Reading Recovery®.

Key words: English Language Learners, Reading Interventions, Reading Recovery®, Literacy, Response to Intervention
Dedication:

This paper is dedicated with love to my husband, Desmond, and my daughter, Kyla.

This would not have been possible without their unconditional love and support.

This is also dedicated to my students over the years who were learning English as a Second Language. They taught me so much and inspired this study.
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Chapter One: Introduction

Statement of the Problem

English Language Learners (ELLs) are one of the fastest growing groups of students in the United States (Francis et al, 2006a). Unfortunately, ELLs’ academic achievement lags behind that of their native English speaking peers (U.S. Department of Education, 1995). When students are behind, schools typically turn to academic interventions to accelerate progress. Research has been done over the years to determine which interventions are effective at accelerating reading achievement (Allington, 2006; Clay, 1985; Pinnell, 1989; Snow et al, 1998). However, there is significantly less research citing effective reading interventions for ELLs, leaving teachers struggling to figure out what’s best for their students.

U.S. schools have begun to look at the overrepresentation of culturally diverse students in special education (Artiles & Trent, 2000). The reauthorization of the Individuals with Disabilities Improvement Act (IDEA) in 2004 included a provision that changed the way schools identify students for special education. Rather than use the traditional IQ or discrepancy model, schools can use the Response to Intervention (RTI) model as part of the identification process (U.S. Department of Education, 2007). Reschly (2005) describes the Response to Intervention model as a way to prevent low achievement by providing early screening and a series of interventions while closely monitoring student progress and how they respond to the interventions.

The RTI model hinges on the use of research-based interventions for students who fall below achievement benchmarks. There is a large body of research around processes
of reading and successful interventions for students who have reading difficulties, however, there is significantly less research on successful reading interventions for ELL students.

In more than decade of teaching, I constantly struggled with catching up low-achieving readers. My school would use the RTI model to screen students who were falling behind and then use reading interventions to address their needs and boost their reading achievement. A large majority of our student body spoke a language other than English at home, however we were using reading interventions intended for native English speakers and hoping for the best. Ideally, teachers of ELLs would have a bank of reading interventions that are proven effective based on research with ELLs.

One reading intervention, Reading Recovery®, has a large body of research demonstrating its effectiveness with native English speakers (Shanahan & Barr, 1995; Allington, 2005; Pinnell, 1997; Wasik & Slavin, 2003; Herman & Stringfield, 1997). It has been established in U.S. schools for almost three decades. In my previous work as a literacy coach in this district’s Department of Literacy, I worked side by side with the Reading Recovery® Teacher Leader. I selected Reading Recovery® to evaluate because of its consistent implementation, training of teaching staff, and oversight as well as its demonstrated effectiveness with native English speakers.

The purpose of this investigation was to evaluate ELLs’ reading achievement after participating in the Reading Recovery® program and compare that with the achievement of native English speakers in order to inform ELL teachers’ instruction and decision making in placement of ELLs in Reading Recovery.
The Topic

The topic in this study was effective reading interventions for English Language Learners and the relationship between English proficiency levels and response to a reading intervention. Specifically, this study looked at the reading intervention, Reading Recovery®, and used the program’s teacher ratings to determine the English proficiency of the students. Reading Recovery® is an intervention for low-achieving first graders that was developed by New Zealand educator and researcher Marie Clay. It was launched in U.S. schools in 1984. Some of the terms discussed in this paper are defined as follows:

**Reading Recovery®**: An intervention for low-achieving first graders involving thirty minutes of one to one tutoring daily for 12 to 20 weeks with a trained Reading Recovery® teacher (“Basic Facts,” n.d.).

**Response to Intervention (RTI)**: A way to prevent low achievement by providing early screening and a series of interventions while closely monitoring student progress (Reschly, 2005)

**Effective**: For the purpose of this study, effective is defined as showing improvement on the Text Reading Level assessment on the Observation Survey

**English Language Learners (ELLs)**: Students with a first language other than English

**L2**: Second language

**Observation Survey**: An assessment administered in Reading Recovery® that includes six literacy tasks: Letter Identification, Word Test, Concepts About Print, Writing
Vocabulary, Hearing and Recording Sounds in Words, and Text Reading ("Basic Facts," n.d.)

**English proficiency levels (as defined in the Reading Recovery® program):** In the initial intake assessment, Reading Recovery® teachers rate each student using a rubric with the following categories: Student unable to respond, Isolated words and expressions, Isolated phrases, complete sentences etc. (see Appendix A)

**ESL:** English as a Second Language

**Research Problem.**

Response to Intervention (RTI) provides early screening and a series of interventions for students who have reading difficulties and is designed to reduce the number of special education referrals (U.S. Department of Education, 2007). However, ELLs remain overrepresented in special education programs (Artiles & Trent, 2004) suggesting that the interventions that are currently being used for ELLs may not be effective for these students. If we understood what reading interventions were most effective for ELLs of all proficiency levels, then we could provide better support to these students, increase reading achievement and reduce the number of referrals of ELLs to special education. This study sought to examine the progress that first grade ELLs made in the intervention program Reading Recovery® in a large diverse urban district, compare that progress to the progress of first grade native English speakers in Reading Recovery, and examine the difference in outcomes between students at varying English proficiency levels.
Justification for the Research Problem

The population of school-aged English Language Learners has grown 169% over the past two decades, and is estimated to be over 9.9 million (Francis et al, 2006a). Because this population is so large and these students lag behind their native speaking peers in achievement (U.S. Department of Education, 2005), it is critical that schools utilize effective practices to accelerate their achievement. There is a body of research on interventions for struggling readers (Allington, 2006; Clay, 1985; Pinnell, 1989; Snow et al, 1998) as well as a growing body of research on best practices in literacy instruction for English Language Learners (Rolstad et al, 2005; Cheung & Slavin, 2005; Carlo et al, 2004; August & Shanahan, 2006) that will inform this study. There has been some research evaluating the effectiveness of Reading Recovery® for ELLs (U.S. Department of Education, 2008; Ashdown & Simic, 2000) to which this study contributed.

Deficiencies in the Evidence

Although the body of research on best practices in literacy instruction for ELLs is growing, it is widely recognized that more research is needed (Geva, 2006; Shanahan & Beck, 2006; Ashdown & Simic, 2000). The research on the effectiveness of Reading Recovery® focuses primarily on ELLs as a group and very few studies disaggregate the results to examine the outcomes of the students at varying proficiency levels.

Relating the Discussion to Audiences

This topic is relevant and of interest to a number of different stakeholders including theorists in the field of psychology, educational researchers, and practitioners.
Theorists: This study used Vygotsky (1978) from the field of psychology as the theoretical framework and applied that to research in education. This research contributes to the body of work that has been based in Vygotsky but from an educational perspective.

Educational Researchers: This study contributes to the existing body of literature on reading interventions and the growing subset of literature on reading interventions for English Language Learners.

Practitioners: This study provides information to teachers and administrators that could impact their decision making when placing students in intervention programs.

The context of this research was in a large urban district with a high number of English Language Learners. The aim of this study was to equip practitioners with information on effective interventions for their ELLs at varying proficiency levels in order to impact the practitioners’ decision making when placing ELL students in intervention programs.

**Significance of Research Problem**

As the immigrant population in the United States continues to grow, the number of ELLs in U.S. schools is increasing rapidly. According to the National Clearinghouse for English Language Acquisition (Kindler, 2002), the number of ELLs in U.S. public schools increased 57% from 3,228,799 in 1995-96 to 5,074,572 in 2005-2006. Unfortunately, according to Prospects: Language minority and Limited English proficient children (U.S. Department of Education, 1995), these students lag behind native English speakers in academic achievement. According to this report, ELLs fell in the 30th percentile in reading achievement. In 1999, according to a report published by the U.S.
Department of Education (2000), the dropout rate of a Hispanic student born outside of the United States was 44.2%. Even a quick glance at the statistics suggests that the need for effective reading instruction for ELLs is great. Kindler (2002) also reported that of 39 reporting states, only 16% of ELLs scored at benchmark in reading comprehension.

Many researchers have pointed out that this issue is a very complicated one, compounded by the fact that ELLs come with different language backgrounds and varying levels of literacy (if any) in their native language, Freeman and Freeman (2007) identify three types of English Language Learners that enter U.S. schools: students with adequate formal schooling, limited and interrupted schooling, and long-term English learners. Many ELLs come to the U.S. with previous schooling and strong academic skills in their native language. Some, however, arrive in the U.S. having had very little if any schooling, and what schooling they may have had has been interrupted. The Indiana Department of Education (2008) explains that “Migration, war, lack of education facilities, cultural and economic circumstances can all interrupt a student's formal education” (p. 1). For students whose education has been disrupted or who have experienced chronic interruptions, mastering English can become a lifelong and often unsuccessful process. Valdes (2001) refers to these learners as “lifers,” those who will “remain in ESL for the rest of their academic lives” (p. 17). The 2005 National Assessment of Educational Progress (NAEP) 4th grade reading scores show that the gap between high and low performing ELLs is larger than the gap between ELL and Non-ELL students.
Research Questions

1) How do the reading achievement outcomes of English Language Learners receiving the intervention Reading Recovery® compare to the outcomes of native English speakers receiving the same intervention in grade one of a diverse urban school district?

2) What is the relationship between the reading achievement outcomes and proficiency levels of English Language Learners as determined by the Reading Recovery® language proficiency intake assessment?

Theoretical Framework

It is agreed upon in the field of education that a one size fits all approach is not the best way to educate a child (Tomlinson, 1999; Wiggins & McTighe, 1998). Children have different personalities, different needs, and different preferences. Children also have different educational and cultural backgrounds. This is especially true of a large urban district with a diverse student body. Students in this district come from more than 140 different countries, speak 73 different languages, and have varying school experiences (This information came from a report put out by this district in 2011. However, this district chose not to be named in this study). In order to successfully educate these students, teachers must design their instruction to meet each student’s varying needs. The problem of practice in this study was looked at through the lens of the theories of Lev Vygotsky and how these theories relate to Reading Recovery® and language development.
Zone of Proximal Development. Vygotsky (1978) defines the Zone of Proximal Development as “The distance between the actual developmental level as determined by independent problem solving and the level of potential development as determined through problem solving under adult guidance or in collaboration with more capable peers” (p. 86). Vygotsky explains that rather than define a child’s development by how they achieve on tests (“retrospectively”), the ZPD characterizes the child’s potential when working with guidance (“prospectively”) (p. 87). This study was designed with the understanding that teachers must design their instruction based on where the student is developmentally and that student achievement will accelerate when they are instructed within this zone.

Vygotsky and Reading Recovery. This study examined the intervention program Reading Recovery® through the lens of the theories of Vygotsky. The Reading Recovery® program was designed by Marie Clay based on her own theories on reading, however Clay (1990) acknowledges that “Although no thought was given to Vygotsky’s theories during this program development, it is possible to interpret features of RR in Vygotskian terms” (p. 206). Clay relates the ZPD to Reading Recovery® and notes how it can be applied to both instruction and diagnosis of learning difficulties.

One key component of Reading Recovery® is the match between the reader and the text. In her guidebook for Reading Recovery® teachers, Clay (1993b) emphasizes that the teacher must be “the expert chooser and sequencer of the texts for a Reading Recovery® pupil—this is critical” (p. 13) and that an appropriate text is one that the student can read at 90% accuracy or better. This is clearly aligned with Vygotsky’s (1978) thinking on developmental levels. He states that “A well known and empirically
established fact is that learning should be matched in some manner with the child’s developmental level” (p. 85). Reading Recovery® recognizes that instructing students at their grade level may not be appropriate, that they must look closer at what the student can do and find a text that matches what Vygotsky would call the student’s developmental level.

Another component of the ZPD is the person who is working with the student in that zone. Vygotsky (1978) refers to this person as the More Knowledgeable Other (MKO). Eun, Knotek, & Heining-Boynton (2008) discuss research done on the MKO and conclude that:

Qualities of the tutor are crucial in guiding the development of the tutee. The most important quality has been identified as the tutor’s ability to adjust his or her level of guidance to the current level of the child’s psychological functioning. It is not difficult to understand that support which is beyond the child’s comprehension level, or support which is redundant would do little to stimulate the development of the child. (p. 135)

This encapsulates a key component of the Reading Recovery® program. As the student grows and develops as a reader, the teacher increases the difficulty of the texts used with the student and constantly makes instructional adjustments to work within the ZPD.

**Vygotsky and language development.** Vygotsky also addresses the issue of language development in relation to the ZPD, which is particularly relevant to this study on ELLs. He states that the acquisition of language “can provide a paradigm for the entire problem of the relation between learning and development” (p. 89) and relates this
acquisition of language to the ZPD by explaining that learning only happens when a child is “interacting with people in his environment and in cooperation with his peers” (p. 90).

Although Vygotsky died in 1934 and the body of research on second language acquisition didn’t begin to develop until the early 1960s (Gass & Selinker, 2001), he is often credited with contributing to the field of second language acquisition. When explaining first language acquisition, Brown (2000) details Vygotsky’s theory that children develop language through social interaction. Brown later revisits Vygotsky’s theories when explaining the social constructivist models of second language acquisition. He cites the zone of proximal development, stating that in the ZPD “learners construct the new language through socially mediated interaction” (p.287).

**A research study through the lens of Vygotsky.** Vygotsky’s work was incorporated throughout this research study. The research questions examined the difference in outcomes between ELLs and native speakers as well as the difference in outcomes between the different levels of language proficiency. Vygotsky’s theory of language development through social interaction informed the development of the second research question regarding levels of language proficiency. The methodology was a causal-comparative quantitative study utilizing a T-test to analyze the differences in outcomes between the student groups identified in the research questions. The questions and methodology were developed with the inherent understanding that students have different developmental levels and will respond to instruction and guidance from a more knowledgeable adult or peer. A culmination of Vygotsky’s theories, the study took into account the different developmental levels of students and the varying levels of language development, and analyzed the outcomes after students work with a more knowledgeable
other in the zone of proximal development. The intervention studied in this research, Reading Recovery, also embodies the principles of Vygotsky’s work.

**Organization of this document.** This document is organized into three chapters. Chapter one was the introduction, followed by the literature review in chapter two. The literature review examined research in the areas of best practices for ELLs in the classroom context, Reading Recovery® for native speakers and ELLs, and the relationship between oral proficiency and literacy achievement. Chapter three discussed the research study, detailing the methodology, participants, data collection and analysis, and other aspects of the study.
Chapter Two: Literature Review

Overview

It is critical that schools utilize effective interventions to accelerate the achievement of English Language Learners. Although the research is limited on literacy and English Language Learners as compared to native English speakers, it is an area that is growing. This literature review will examine the bodies of research addressing the problem of practice. It is divided into three sections:

- Research on best practices in reading with English Language Learners
- Research on Reading Recovery® for native English speakers and English Language Learners
- Research on the relationship between oral English proficiency and literacy achievement

The review will be organized in a funnel pattern, starting with the broad classroom context and developing into a more specific review targeting my research topic of Reading Recovery® outcomes for ELLs of varying levels of English proficiency. This review will detail what we know about best practices in reading and reading interventions but also call attention to the gaps in the literature and the need for more research in specific areas.

Overall, additional research is needed regarding literacy and English Language Learners. In the larger context of literacy instruction, research on best practices for ELLs has been consistent with research on best practices with native English speakers.
(Shanahan & Beck, 2006). Large-scale analyses of research on reading interventions with native speakers and ELLs have also indicated that the same principles of quality interventions apply to both groups of students (Allington, 2006; Gerston et al, 2007). The intervention, Reading Recovery, has a large body of research demonstrating its effectiveness as well as a smaller number of studies suggesting its effectiveness for ELLs (U.S. Department of Education, 2008; Ashdown & Simic, 2000). While all of these bodies of literature acknowledge that more research specifically addressing ELLs is needed, the area with the least amount of research available is the relationship between English proficiency and literacy achievement. Available studies have suggested that there is a relationship between the two, however the amount of studies is extremely limited (Geva, 2006). This gap in the literature lead to the development of the research questions in this study:

1) How do the reading achievement outcomes of English Language Learners receiving the intervention Reading Recovery® compare to the outcomes of native English speakers receiving the same intervention in grade one of a diverse urban school district?

2) What is the relationship between the reading achievement outcomes and proficiency levels of English Language Learners as determined by the Reading Recovery® language proficiency intake assessment?

**Research on Best Practices in Reading with English Language Learners**

**Native English speakers vs. ELLs.** Historically a large body of research on literacy instruction has accumulated. However, the body of research on literacy
development in English Language Learners is relatively new and therefore smaller. In The Handbook of Reading Research, Pearson (1984) reflects on the beginnings of reading research in the late 1800s. In contrast, Gass & Selinnker (2001) discuss the field of second language acquisition taking root in the early 1960s.

Although there is a smaller body of literature, the research on this topic has had results that are for the most part consistent with the research on best practices in reading for native English speakers. In a large scale analysis for the National Literacy Panel on Language Minority Children and Youth (NLP), Shanahan & Beck (2006) concluded that the studies on effective literacy teaching for ELLs, “Yielded results that are largely consistent with the findings for native-speaking populations” (p. 435). In 2000, the National Reading Panel (NRP) published a report synthesizing the results of the large body of research on best practices in reading. The report named five key areas for effective reading instruction: phonemic awareness, phonics, fluency, vocabulary, and comprehension (National Institute of Child Health and Human Development, 2000). The National Literacy Panel report notes that the same practices recommended by the National Reading Panel also demonstrated benefits for ELLs. However, to put this in context, Shanahan & Beck (2006) acknowledge that while the National Reading Panel reviewed over 400 studies on the effects of explicitly teaching components of literacy for native English speakers, the National Literacy Panel could only find 17 studies on ELLs that met their criteria for inclusion.

**Language of instruction.** Much of the literature on literacy and ELLs focuses on the issue of language of instruction. Francis, Lesaux, & August (2006) reviewed studies that compared bilingual programs with English-only programs. They found that “the
findings from these studies suggest that there are no negative effects and, in many cases, positive effects of bilingual approaches to instruction” (p. 398). They added that when there were differences between the two instructional models, the differences favored the bilingual programs. Slavin & Cheung (2003) emphasize that their own review as well as that of Greene (1997) have shown that bilingual education programs are more effective than programs using only English as the language of instruction.

Bilingual education also has its opponents. Rossell & Baker (1996) argue that their review concluded that transitional bilingual education is “never better” than English immersion programs. In a meta-analysis of Rossell & Baker’s review, Greene (1997) disagreed with their assertion that English immersion programs are superior to bilingual programs. In a large scale analysis of the research, Cheung & Slavin (2012) conclude that quality of instruction is more important than language of instruction. This aligns with the theory that the more knowledgeable other (Vygotsky, 1978), teacher, is critically important to student success (Eun, Knotek, & Heining-Boynton, 2008).

The issue of language of instruction has been the center of a growing debate in the United States. With the passage of edicts such as Question 2 in Massachusetts and Proposition 227 in California, bilingual education has been prohibited in many areas. Regardless of what the research says, bilingual education is simply not available to a number of ELLs in the United States. For the purpose of this study, this review will focus on research on best practices for ELLs where English is the language of instruction.

**Best practices.** The NRP (National Institute of Child Health and Human Development, 2000) made recommendations for reading instruction for native English
speakers to focus on five key areas: phonemic awareness, phonics, fluency, vocabulary, and comprehension. As previously mentioned, these best practices have also been found to be beneficial for ELLs. The NLP chapter on effective literacy teaching (Shanahan & Beck, 2006) echoed the NRP findings for ELLs, while recognizing that more research was needed. Francis, D.J. Rivera, Lesaux, Keiffer, & H. Rivera (2006a) called for many of the same practices.

In their 2006 report, Francis et al (2006a) make recommendations for instruction in both literacy and math. They also emphasize the need for “early, intensive, and explicit” (p.17) instruction in phonological awareness and phonics to help student “crack the code;” the need for ELLs to have opportunities to develop their vocabulary; and reading instruction that equips students with comprehension strategies. Although Francis et al (2006a) identified fluency as an important area of instruction, they cautioned that rate not be the only focus of fluency instruction but that vocabulary and exposure to print be incorporated as well.

Two other recommendations from this report that are important to note are the need for ELLs to have opportunities for structured academic talk and purposeful independent reading, practices that have also recommended for native English speakers (Allington, 2006; Krashen, 2004; Beck et al, 1997; Cazden, 2001).

Summary

The growing body of research on best practices in literacy development indicates that best practices in literacy development for native English speakers are also beneficial for ELLs. The report from the National Literacy Panel (2006) echoed the National
Reading Panel’s recommendations (2000) in saying that explicit instruction in phonological awareness, phonics, vocabulary, fluency, and comprehension would also be beneficial for ELLs. Literature reviewed on language of instruction favored bilingual programs over English only programs, however this is a topic of great debate (Rossell & Baker, 1996; Greene, 1997; Slavin & Cheung, 2003; Francis, Lesaux, & August, 2006). Because of the restrictions put on schools regarding bilingual programs, this review focuses largely on research in instruction in English. Researchers agree with the call for more studies in this field (Shanahan & Beck, 2006).

**Research on Reading Recovery®**

Reading Recovery® is an intervention for low-achieving first graders involving thirty minutes of one to one tutoring daily for 12 to 20 weeks with a trained Reading Recovery® teacher. Reading Recovery® has shown to be an effective intervention for low-achieving first graders. It has a large body of research demonstrating its effectiveness as well as a smaller number of studies suggesting its effectiveness for ELLs (U.S. Department of Education, 2008; Ashdown & Simic, 2000).

**What is Reading Recovery®?** Reading Recovery® (RR) was developed by Marie Clay, a New Zealand educator and researcher. It is based on her theory of reading development detailed in her 1991 book Becoming Literate: The Construction of Inner Control. The underlying assumptions of RR are that reading is not simply decoding words but an integration of a number of behaviors; that the child attends to many aspects of the text such as letters, words, pictures, language, messages, and stories; and that
beginning reading requires more attention but that children gradually become fluent readers (Clay, 1993b).

RR began in the United States in 1984 and is designed specifically for low-achieving first graders. Students received individual tutoring daily for thirty minutes by a highly trained RR teacher. The duration of the program is 12-20 weeks and students may be discontinued when they demonstrate that they can meet grade level expectations independently in the classroom. Teachers are supervised by a RR Teacher Leader and receive graduate level professional development from a university trainer (“Basic Facts,” n.d.). Although not designed with the theories of Vygotsky in mind (Clay & Cazden, 1990), the Reading Recovery® model embodies Vygotsky’s (1978) theories of the *zone of proximal development* and *more knowledgeable other*. The students’ developmental levels are carefully considered when choosing texts and planning instruction and the teacher serves as the MKO.

RR teachers are certified teachers with successful teaching experience. They receive intensive training prior to the school year on how to administer and interpret the Observation Survey developed by the program and are observed at least four times a year by their RR Teacher Leader. They also participate in weekly classes throughout the school year (“Training for Teachers,” n.d.).

The structure of the program and assessments utilized are highly standardized. Teachers use Clay’s (1993a) Observation Survey to assess the literacy skills of students. The Observation Survey consists of six literacy tasks: Letter Identification, Word Test,
Concepts About Print, Writing Vocabulary, Hearing and Recording Sounds in Words, and Text Reading.

Table 1 details the assessment procedures in RR (The Observation Survey, n.d).

<table>
<thead>
<tr>
<th>The Observation Survey includes six literacy tasks, all of which are necessary for describing a young child’s emerging reading and writing behaviors:</th>
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<tbody>
<tr>
<td><strong>Letter Identification</strong> to determine which letters the child knows and the preferred mode of identification</td>
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<tr>
<td><strong>Word Test</strong> to determine if the child is building a personal resource of reading vocabulary</td>
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<tr>
<td><strong>Concepts About Print</strong> to determine what the child knows about the way spoken language is represented in print</td>
</tr>
<tr>
<td><strong>Writing Vocabulary</strong> to determine if the child is building a personal resource of known words that can be written in every detail</td>
</tr>
<tr>
<td><strong>Hearing and Recording Sounds in Words</strong> to assess phonemic awareness by determining how the child represents sounds in graphic form</td>
</tr>
<tr>
<td><strong>Text Reading</strong> to determine an appropriate level of text difficulty and to record what the child does when reading continuous text (using a running record) (“Observation Survey,” n.d.)</td>
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Table 1: The Six Assessment Tasks of the Observation Survey

Research on Reading Recovery®. In a number of studies since the launching of the program in the United States in 1984, Reading Recovery® has shown to be an effective intervention for low achieving first graders. The Reading Recovery® Council of North America claims that 75% of students who receive the full intervention reach grade level benchmarks. Data for RR is collected and analyzed by the International Data Evaluation Center (IDEC), a project in the College of Education and Human Ecology at
The Ohio State University. Data is collected by the RR Teacher Leader at each site and submitted to IDEC. Site reports as well as national reports are prepared annually (“Research and Evaluation,” n.d.).

A great deal of independent research has been done on RR as well. The U.S. Department of Education’s What Works Clearinghouse (2008) analyzed five studies on RR that met its criteria for inclusion out of a possible 106. They concluded that RR demonstrated positive effects in alphabatics and general reading achievement and potential positive effects in fluency and comprehension. The North American Trainers Group Research Committee (2006) analyzed six studies that met its criteria regarding the effectiveness of RR. Although only some of these studies overlapped with the 2008 What Works Clearinghouse report, they had similar findings stating that the studies “demonstrate strong effects of the Reading Recovery® intervention in carefully controlled experimental studies” (p. 1). A number of other analyses of research on RR has deemed the intervention to be effective (Florida Center for Reading Research, 2008; Shanahan & Barr, 1995; Allington, 2005; Pinnell, 1997; Wasik & Slavin, 2003; Herman & Stringfield, 1997).

**Reading Recovery® and English Language Learners.** Although the body of research is significantly smaller, there have been some studies demonstrating the effectiveness of Reading Recovery® with ELLs. The What Works Clearinghouse reported in 2009 that no studies regarding ELLs and Reading Recovery® met their criteria for inclusion and they were therefore unable to make any conclusions regarding Reading Recovery® and ELLs. Reading Recovery® has a program equivalent in
Spanish, Descubriendo la Lectura, so some of the available research on ELLs receiving the intervention (Escamilla, 1994; Neal & Kelly, 1999) have been on native Spanish speakers receiving the intervention in Spanish. Because of the restrictions placed on districts regarding English-only instruction and the fact that this study involves ELLs from varying language backgrounds receiving the RR intervention in English, this review of the literature will only look at research on the RR intervention in English.

A study by Ashdown & Simic (2000) analyzed data from six school years including over 25,000 first graders receiving the RR intervention. Consistent with the positive results of the research on native English speakers (Florida Center for Reading Research, 2008; Shanahan & Barr, 1995; Allington, 2005; Pinnell, 1997; Wasik & Slavin, 2003; Herman & Stringfield, 1997), they concluded that there was strong evidence that RR was an appropriate intervention for ELLs. However, they did raise a concern that the lowest performing ELLs were not always selected for the program, highlighting the issue of access. They emphasized that selecting the lowest performing students (including ELLs) was critical and noted that some school administrators and teachers “appear to lack confidence in the potential for non-native speaking children to benefit from this literacy intervention” (p. 27) therefore affecting placement decisions.

Kelly et al (2008) also raised the issue of access. They looked at national RR data for the 2002-2003 school year, comparing the outcomes of ELLs with their native English speaking peers. They found that 69% of ELLs who received a complete RR intervention achieved grade level benchmarks compared with 76.42% of their native English speaking peers. Although there was a statistically significant difference in
outcomes, the authors concluded that the differences were not sufficient and that ELLs should have access to RR.

Similar to other studies addressing the issue of language of instruction (Rossell & Baker, 1996; Greene, 1997; Slavin & Cheung, 2003; Francis, Lesaux, & August, 2006), Neal & Kelly (1999) looked at the outcomes of ELLs receiving Reading Recovery® and Spanish speaking students receiving Descubriendo la Lectura over three years in California and compared these outcomes with native English speakers. They found that statistically significant progress was made by both groups of students and that their outcomes “compared favorably” (p. 81) with the total population receiving the Reading Recovery® intervention.

**Criticisms of Reading Recovery.** Two major criticisms of RR are cost and long term effectiveness (Hiebert, 1994; Erlbaum et al, 2000; Shanahan & Barr, 1995; Snow, Burns, & Griffin, 1998). The cost is difficult to define definitively because of differences in teacher salaries, benefits, and the presence of other variables such as including costs of training and other extraneous costs. Hiebert (1994) puts the cost at $3000 to $8,000 depending on those variables. Proponents, however, say that the cost is minimal considering the future costs of special education and retention that RR could prevent. Critics argue that the RR intervention administered to small groups rather than individually would be much more cost effective. Erlbaum et al (2000) concluded that students receiving instruction in groups of 2-6 made the same gains as student receiving the RR intervention individually. However in a briefing paper the Reading Recovery®
Council of North America (2006) disputes these assertions claiming that studies with these conclusions had distorted evidence and faulty methodologies.

Researchers have also questioned the long-term effects of RR, arguing that students lose much of the gains they made when they completed the program (Hiebert, 1994; Shanahan & Barr, 1995; Snow, Burns, & Griffin, 1998). A number of studies, however, tout long-term gains for students who received Reading Recovery® (Rowe, 1995; Brown et al, 1999; Schmitt & Gregory, 2005; Briggs & Young, 2003; Askew & Frasier, 1999).

**Summary**

Reading Recovery® is an intervention with a large body of research showing its effectiveness that has grown since the intervention’s debut in the United State almost three decades ago. Critics of Reading Recovery® have pointed out concerns regarding cost effectiveness and long term maintenance of gains. There is a small subset of research on the effectiveness of Reading Recovery® for English Language Learners, which indicates that it is an effective intervention for ELLs. However, more research on Reading Recovery® and ELLs is needed.

**Oral English Proficiency and Literacy Achievement**

While all of these bodies of literature acknowledge that more research specifically addressing ELLs is needed, the area with the least amount of research available is the relationship between English proficiency and literacy achievement.
Available studies have suggested that there is a relationship between the two, however the amount of studies is extremely limited.

**L2 Oral Proficiency and L2 Literacy Achievement.** In a chapter of the NLP report entitled Second-Language Oral Proficiency and Second-Language Literacy, Geva (2006) addressed this issue. Geva reviewed a number of studies regarding oral proficiency and two aspects of reading: word-level skills and text-level skills. In terms of word-levels skills, Geva concluded that English oral language proficiency skills “explain a modest proportion of unique variance (usually 3%-4%) in students’ word reading scores” (p.131), however, phonological processing skills and working memory “are more robust and consistent predictors of accurate English word reading skills” (p. 131). In addition, the review found that while phonological processing skills are a predictor for spelling skills, oral proficiency is not.

The research on text-level skills, which many would argue are the most important skills for readers to develop, consistently showed a positive correlation between English oral proficiency and those skills. Geva reviewed studies on the relationship between oral proficiency and comprehension, general measures of English reading performance, and English writing and all demonstrated this relationship. However, a mere three studies that met the reviewer’s criteria were examined in general measures of English reading performance. More studies were available in the area of comprehension, but two of the studies (Peregoy & Boyle, 1991; Peregoy, 1989) only involved six students. The author recognized that the research on writing skills was also limited. Although the research does show a link between oral language proficiency and literacy achievement, having strong oral English proficiency does not guarantee strong
text-level skills. Geva concludes that “Having well-developed language skills may be necessary but not sufficient for ensuring writing proficiency in English as a second language” (p. 138).

Other studies have come to similar conclusions as Geva. Droop & Verhoeven (2003) compared the oral language and reading outcomes of 163 Dutch third and fourth graders of high and low SES backgrounds with 72 Turkish, and 67 Moroccan third and fourth graders of low SES backgrounds. The students were from 21 schools in the Netherlands randomly selected from the Dutch database. After comparing the reading comprehension, word decoding, and oral language skills of these students, the authors concluded that, “The results of the present study show oral proficiency in the target language to be of critical importance for the development of both first- and second-language reading comprehension among third- and fourth-grade students” (p. 101).

Butler & Hakuta (2009) studied the English oral proficiency and reading proficiency of 61 fourth graders, both native English speakers and ELLs. The study examined the students’ responses to a science-based oral activity. They concluded that oral language performance and reading performance were linked for both native English speakers and ELLs. They found that the stronger readers demonstrated better performance on the oral tasks than the struggling readers. However, this study only included ELLs who had “sufficient oral conversational proficiency” (p. 419) and not all proficiency levels.

**Oral language proficiency and Reading Recovery® outcomes.** An even smaller pool of research exists on Reading Recovery® outcomes of students at varying English proficiency levels. These few studies do appear to have results consistent with
the research linking oral proficiency to literacy achievement. (Voyles, 2001; Kelly, Gómez-Bellengé, Chen, & Schultz, 2008) analyzed national Reading Recovery® data for the 2002-2003 school year, comparing the outcomes of ELLs with native English speakers. The results showed that 76.4% of the native English speakers were successfully discontinued compared with 69% of ELLs and that the scores of the Text Reading Level (TRL) assessment were similar for native English speakers and ELLs. In terms of oral proficiency, the results showed that successfully discontinued ELLs of varying proficiency levels had similar TRL outcomes. The study did show a discrepancy between rates of successful discontinuation between the proficiency levels. The rate of successful discontinuation for level 1 students was 60.6%, level 4 was 71.2%, and level 5 was 74.7%.

In a dissertation examining a similar topic, Voyles (2011) looked at the relationship between oral language proficiency in English and Reading Recovery® outcomes for 57 Hispanic ELLs in a rural school district in northeast Georgia. Voyles utilized a linear regression of TRL outcomes and concluded that student oral language proficiency at posttest predicted TRL posttest outcomes. This study did not look at initial oral proficiency levels of students entering Reading Recovery, however.

**Summary**

This review of the research shows that there does appear to be a positive relationship between oral language proficiency and literacy outcomes. Oral language proficiency is one of many factors in reading achievement, however, and oral proficiency alone does not ensure successful literacy development. The studies reviewed indicated
the need for more research and emphasized that this is an area of literacy development that is not fully understood. The studies specifically concerning Reading Recovery® also have similar findings but the small amount of studies demonstrates that more research is needed.

**Conclusion**

The body of literature on best practices for ELLs in the classroom context indicate that best practices for native English speakers are also beneficial for ELLs while the body of research on Reading Recovery® showed similar findings. However, the lowest performing ELLs are not always selected to receive Reading Recovery® services (Ashdown & Simic, 2000). Kelly et al (2008) showed similar outcomes for students at varying proficiency levels, however one study is not enough and this study only looked at one year of data.

In a report analyzing studies that met the criteria for scientifically based reading research as defined by the U.S. Department of Education, North American Trainers Group Research Committee (2006) addressed the concern that Reading Recovery® studies with positive outcomes were authored by researchers associated with the program. They recognized that some of the studies were written by researchers affiliated with Reading Recovery® (Pinnell, 1989; Quay, Steele, Johnson, & Hortman, 2001; Pinnell, Lyons, DeFord, Bryk, & Seltzer, 1993). Two of the studies, however, were completed by researchers who have been historically critical of the program (Center, Wheldall, Freeman, Outhred, & McNaught, 1995; Iversen & Tunmer, 1993). They did note that regardless of affiliation, all the studies meeting the criteria demonstrated strong effects of the Reading Recovery® program.
This review of the literature shows gaps in the amount of research on ELLs, specifically the relationship between oral proficiency and literacy outcomes. Additionally, there are only a few studies that look at these variables in Reading Recovery® outcomes. This study helps to fill this gap in the literature, adding to what we know about ELLs at varying levels of English proficiency and their response to the reading intervention, Reading Recovery®.
Chapter Three: Research Design

Research Problem

Response to Intervention (RTI) provides early screening and a series of interventions for students who have reading difficulties and is designed to reduce the number of special education referrals (U.S. Department of Education, 2007). However, ELLs remain overrepresented in special education programs (Artiles & Trent, 2004) suggesting that the interventions that are currently being used for ELLs may not be effective for these students. If educators understood what reading interventions were most effective for ELLs of all proficiency levels, then they could provide better support to these students and reduce the number of referrals of ELLs to special education.

This study sought to examine the progress that first grade ELLs made in the intervention program Reading Recovery® in a large diverse urban district, compare that progress to the progress of first grade native English speakers in Reading Recovery®, and examine the difference in outcomes between students at varying English proficiency levels. Obtaining more information on ELLs at different proficiency levels and their response to this intervention program will help teachers and administrators make informed decisions on which students will benefit from this intervention and which students should be considered for other interventions programs.
Research Questions

1) How do the reading achievement outcomes of English Language Learners receiving the intervention Reading Recovery® compare to the outcomes of native English speakers receiving the same intervention in grade one of a large diverse urban school district?

2) What is the relationship between the reading achievement outcomes and proficiency levels of English Language Learners as determined by the Reading Recovery® language proficiency intake assessment?

Purpose Statement

The purpose of this causal comparative study was to understand the relationship between the reading intervention Reading Recovery® and language proficiency for first graders in a large diverse urban district. Reading Recovery® is defined as a 12-20 week one on one intervention program for low-achieving first graders.

Positionality Statement

I am a teacher in the district in which this study took place. Although I have never been a Reading Recovery® teacher nor have I taught in a school that had Reading Recovery®, I am familiar with the program. I previously worked in the district’s Literacy Department where the Reading Recovery® program is located. Additionally, I have been teaching for over ten years working primarily with English Language Learners. I spent four of those years working with first graders, the grade of the students in this study.
Because I have never been affiliated with the Reading Recovery® program, I was able to maintain an outsider viewpoint therefore reducing bias.

**Research Design**

The study employed quantitative methodology comparing the reading achievement of native English speakers and English Language Learners receiving the research-based intervention Reading Recovery® (U.S. Department of Education, 2008). Additionally, the study compared the reading achievement of students at varying levels of language proficiency within the ELL student group. The study was a secondary data analysis using a causal-comparative research strategy. Baseline data of students prior to beginning Reading Recovery® and post data after the intervention was analyzed to compare the rates of response of the two student groups.

Reading Recovery® teachers measured progress on the Text Reading and Writing Vocabulary tasks of the Observation Survey, correlated with the program. The other tasks of the observation survey, such as Hearing and Recording Sounds and The Ohio Word Test have a ceiling which would skew the data analysis. For example, there are a certain number of words on *The Ohio Word Test*. Once the students have mastered all of the words on the test, they have achieved the highest possible score. As the student continues to develop as a reader, this development is not reflected in this subtest because the student has already reached the maximum score.

Reading Recovery® defines English Language Learners as students who speak another language at home. In the initial intake, the Reading Recovery® teacher rates students’ English proficiency as 0: Student unable to respond (no proficiency); 1: Isolated words and expressions; 2: Isolated phrases and fragmented or very simple sentences; 3:
Complete sentences, often with systematic errors in syntax; 4: Coherent sentences with native-like fluency; and 5: Complete sentences that are coherent and syntactically correct. I disaggregated the data to compare outcomes between these six levels of English proficiency.

The purpose of this study was to assess the effectiveness of an intervention program for different groups of students and therefore a quantitative design best served this purpose. Creswell (2009) states that “If the problem calls for (a) the identification of factors that influence and outcome, (b) the utility of an intervention, or (c) understanding the best predictors of outcomes, then a quantitative approach is best. It is also the best approach to use to test a theory or explanation” (p. 18). This study involved groups that were pre-existing (i.e. native English speakers, ELL students at varying proficiency levels) and not created by the researcher. Because these differences already existed and could not be manipulated, and the study looked at the consequences of those differences (Fraenkel & Wallen, 2011), causal-comparative research design was the best choice.

The lens for this study was from the Postpositivist research paradigm (Ponterotto, 2005). The researcher’s role was an objective one, aiming to study the phenomenon and generalize the findings. Data and evidence were central in this investigation. The purpose was also to examine the causal relationships between variables. Creswell (2009) details this aspect of the postpositivist view “Research seeks to develop relevant, true statements, ones that can serve to explain the situation of concern or that describe the causal relationships of interest. In quantitative studies, researchers advance the relationship among variables and pose this in terms of questions
or hypotheses” (p. 7). This paradigm lead to a quantitative design to answer the research questions.

Participants

This study analyzed the ten years (2004-2013) of student data for the Reading Recovery® program in a large diverse urban district. In 2013, Reading Recovery® was offered in 12 schools in this district. There were 16 trained RR teachers total, servicing approximately 128 first graders over the course of the year. In the past three years of Reading Recovery®, the numbers had gone down so the data pool was larger for previous years. All students participating in Reading Recovery® were included in the study. The participants were a diverse group of first graders: boys and girls, native English speakers and ELLs of varying language backgrounds, and students of different socioeconomic statuses.

Students in the study were not chosen by random sample but rather because they were enrolled in the Reading Recovery® program. Because this was a causal-comparative design, it compared subgroups with different characteristics (i.e. native speaker, ELLs at varying proficiency levels) and therefore did not use a control group. The number of students serviced in Reading Recovery® in this district had declined in the last few years, therefore this study analyzed ten years of data (2004-2013) in order to have a sufficient data pool.

Student outcomes in the Reading Recovery® program could be influenced by factors other than language proficiency, affecting external validity. The native English speakers and ELLs in Reading Recovery® are heterogeneous groups with differences in
gender, socioeconomic status, and home language within the group. To mediate this threat to validity, the descriptive statistics were inspected for the difference scores across language group, gender, and socioeconomic status and they did not indicate any dramatic differences that could potentially affect the validity.

**Recruitment and Access**

This study involved a secondary data analysis of information that was already collected as part of the Reading Recovery® program. The data was de-identified and there was no interaction between the researcher and the subjects. A proposal was submitted to the district for permission to access the data, which was approved. Many details of the district’s Reading Recovery® program in this paper such as number of teachers and students in the program and procedures for data collection and distribution were informed by conversations with the Reading Recovery® Teacher Leader in the district.

**Protection of Human Subjects**

Because this was a secondary data analysis and there was no interaction between the researcher and the subjects, the risk to subjects in this study was extremely limited. Parents sign a consent form for their child to participate in the Reading Recovery® program and data was de-identified.

**Data Collection**

A proposal requested access to the Reading Recovery® data supplied by the district at the completion of the 2013 school year for the past ten school years (2003-2004
to 2012-2013). This data included a baseline administration and a post-intervention administration of An Observation Survey of Early Literacy Achievement (Clay, 1993a) which included six literacy tasks to assess early literacy behaviors: Letter Identification, Word Test, Concepts about Print, Writing Vocabulary, Hearing and Recording Sounds in Words, and Text Reading. This study only analyzed the outcomes of the Text Reading Level task. Four remaining tasks have a ceiling, which would skew the data analysis and therefore were not included in this study. The last remaining task, Writing Vocabulary, did not reflect the research question in this study which specified reading outcomes. Each year student data is collected and analyzed by the International Data Evaluation Center (IDEC), and the Reading Recovery® Teacher Leader is provided with a data report for the district. However, prior to this study there had not been an analysis at the district level of Reading Recovery® outcomes that looks specifically at the progress of English Language Learners and the differences between students at varying levels of English proficiency.

**Data Storage**

The data collected was stored on the researcher’s computer, which is password protected. The researcher was the only one with access to the data, as well as anyone who assisted with the development of this paper such as the statistical consultant, advisor, or other related university personnel.

**Data Analysis**

This causal-comparative research study examined the differences in outcomes between different groups. It analyzed the differences between native speakers and ELL
students as well as the differences in outcomes between ELL students at different English proficiency levels: 0: Student unable to respond (no proficiency); 1: Isolated words and expressions; 2: Isolated phrases and fragmented or very simple sentences; 3: Complete sentences, often with systematic errors in syntax; 4: Coherent sentences with native-like fluency; and 5: Complete sentences that are coherent and syntactically correct.

As is the case with causal-comparative research, one variable was categorical (English proficiency) and the other was quantitative (assessment data) (Fraenkel, Wallen, & Hyun, 2012). The Statistical Package for the Social Sciences (SPSS®) software was utilized to run a T-test on the pre-existing data collected over a ten-year period. The T-test was performed to determine the effect of the independent variable, language proficiency, on the dependent variable, outcomes of the Reading Recovery® intervention. Fraenkel et al (2011) explain that a T-test is a type of inferential statistics “used to compare two different, or independent, groups” (p. 234).

Validity

There were several possible threats to validity. The first was instrumentation (Fraenkel et al, 2012). The assessment data that the Reading Recovery® program uses, The Observation Survey, was collected by the Reading Recovery® teachers which could result in data collector bias. Although Reading Recovery® instruction is highly standardized, there could have been differences in quality of individual teachers which could have also been a threat to validity. The teachers undergo intensive training and there is a Reading Recovery® Teacher Leader who frequently observes lessons to ensure consistency. This oversight served to minimize this threat to validity. Another possible
threat was mortality (Creswell, 2009) because students could have dropped out of the program or moved, unsuccessfully discontinuing services. Data were analyzed from ten school years in order to have a large sample size to minimize this threat.

The two main threats to internal validity in a causal-comparative research design are “lack of randomization and inability to manipulate an independent variable” (Fraenkel & Wallen, p. 370). Because the groups were already formed, random sampling was not possible which could have been a threat to validity. Additionally, the independent variable (language proficiency) could not be manipulated, which could also have been a threat to validity. To minimize this threat, descriptive statistics were inspected for the difference scores across language group, gender, and socioeconomic status and they did not indicate any dramatic differences that could possibly confound the dependent variable, reading achievement.

**Limitations**

As previously mentioned, the outcomes Reading Recovery® could have been influenced by other outside factors such as socioeconomic status, gender, and home language. Although every effort was made in this study to rule out these factors, there could have been other factors that we did not have data on that could have influenced student outcomes in this intervention. For example, parental level of education and the Reading Recovery® teacher’s experience and effectiveness could have played a role in student outcomes.
Chapter Four: Summary of Findings

Problem of Practice

The academic performance of English Language Learners (ELLs) is below that of native English speakers (U.S. Department of Education, 1995). Although there is extensive research on interventions to accelerate reading achievement, there is significantly less research on effective reading interventions for ELLs. Additionally, ELLs are being disproportionately referred for special education services (Artiles & Trent, 2000). As a part of 2004’s IDEA, schools are required to determine eligibility for special education based on how the student responds to various interventions. This process is called Response to Intervention, or RTI. The problem of practice is that there are fewer interventions that have been shown to be effective for ELLs (Geva, 2006; Shanahan & Beck, 2006; Ashdown & Simic, 2000).

Purpose of Study

The purpose of this investigation is to evaluate ELLs’ reading achievement after participating in the Reading Recovery® program and compare that with the achievement of native English speakers in order to inform ELL teachers' instruction and decision making in placement of ELLs in Reading Recovery®. The Reading Recovery® data in this district have never been analyzed to determine effectiveness for ELLs or for the difference in outcomes between the identified language proficiency levels.
Research Questions

The research questions that guided this investigation are:

1) How do the reading achievement outcomes of English Language Learners receiving the intervention Reading Recovery® compare to the outcomes of native English speakers receiving the same intervention in grade one of a large diverse urban school district?

2) What is the relationship between the reading achievement outcomes and proficiency levels of English Language Learners as determined by the Reading Recovery® language proficiency intake assessment?

Design of the Study

The most effective research design for this study was determined to be a quantitative study utilizing a causal-comparative design to compare reading achievement results for two populations. This study used secondary data to compare the reading achievement of native English speakers and English Language Learners receiving the research-based intervention Reading Recovery® (U.S. Department of Education, 2008). Additionally, the study compared the reading achievement of students at varying levels of language proficiency within the ELL student group. The entry Text Reading Level score for each student served as a baseline and the exit Text Reading Level was used as a post-test. From these scores a Reading Level Difference Score was calculated. A T-test was then used to calculate the mean Reading Level Difference Score for each group. Fraenkel et al (2011) explains that a T-test for independent means is a type of inferential statistics “used to compare to different, or independent, groups” (pg. 234). This test was chosen to
compare the mean Reading Level Difference score of the native English speakers with that of the non-native speakers.

Students in the study were not chosen by random sample but selected because they are enrolled in the Reading Recovery® program as English Language Learners. Because this is a causal-comparative design, subgroups with different characteristics (i.e. native speaker, ELLs at varying proficiency levels) were compared and therefore a control group was not used. Causal Comparative research examines “consequences of differences that already exist” between groups of individuals (Fraenkel et al, 2011, p. 366). This study compared the outcomes of the Reading Recovery® intervention between two different student groups, native English speakers and non-native speakers. The number of students serviced in Reading Recovery® in this district had declined over the years, therefore this study analyzed ten years of data in order to have a sufficient data pool.

Site and Participants

The district is a large, diverse, urban district with multiple Reading Recovery® school sites. The number of school sites varied over the 10-year period. The sample consisted of 2,010 first graders who were below grade level proficiency, as determined by classroom assessments. The students spoke a variety of home languages, and 87.8% qualified for free or reduced school lunch based on family income.

The Use of Secondary Data

The data analyzed in this study were secondary data, which are data collected by somebody other than the researcher for another purpose (Boslaugh, 2007). The Reading
Recovery® teachers and administrators in the school district collected the data in this study through the Reading Recovery® program, not the researcher in this study. The purpose of the data collection was to monitor and evaluate student and site progress, not to answer the research question in this study.

**Advantages of Secondary Data.** There are several advantages to utilizing secondary data in a study. One is the financial and time investment. Since the data are already there, researchers do not have to dedicate time and resources to collect the data. This then creates another advantage: size. One researcher would typically not have the time and resources to collect a data set as large as they would be able to if using secondary data. The size and scope of research studies can therefore be larger (Boslaugh, 2007). The data set in this study includes multiple school sites in a large district over a ten-year period. Utilizing secondary data for this study was advantageous because it allowed for a sample size of over 2,000 students. A sample size that large would be far more difficult for one researcher to obtain without using secondary data.

**Disadvantages of Secondary Data.** Boslaugh (2007) also explains some key disadvantages to using secondary data. Because the data were not collected to answer the research question, important information that could be important to the research may not be included or because of confidentiality reasons may not be available to the researcher. Additionally, since the researcher was not there for the collection of the data, he/she does not know how the data were collected. The researcher does not know if the data collection was done well and may not understand certain aspects of the data because they were not a part of the collection process. However, Reading Recovery® teachers are highly trained and the data collection process is standardized. There are strict guidelines
laid out by the International Data and Evaluation Center (IDEC) regarding data collection to mediate this problem.

**Description of the Data**

**Original purpose.** The data used in this study were collected through the Reading Recovery® program in a large, diverse, urban school district over the course of ten school years (2003-2004 through 2012-2013). The data were used by teachers, administrators, and district personnel to view and evaluate progress of students and sites, as well as for research reports.

**Collection protocol.** The Reading Recovery® teachers collect baseline and post-intervention data which included six literacy tasks to assess early literacy behaviors: Letter Identification, Word Test, Concepts about Print, Writing Vocabulary, Hearing and Recording Sounds in Words, and Text Reading. For the purposes of this study, only Text Reading Level data were analyzed. A Reading Recovery® Teacher Leader monitors the data for accuracy. The data collection process is standardized and teachers and the Teacher Leader must follow the strict guidelines set forth by the International Data and Evaluation Center (IDEC), which is a research project that processes evaluation data for all Reading Recovery® programs.

In order to have a large enough pool of data, ten years of Reading Recovery® data from this district were analyzed. However, the data were not differentiated or compared longitudinally but rather looked at as one large data set. The purpose of the study was to compare the outcomes based on language proficiency, therefore differentiating the data by year did not serve the purpose of the study.
**Micro data and aggregate data.** There are two types of data in this study, micro data and aggregate data. Micro data are “data directly observed or collected,” while aggregate data are “statistical summaries organized in a specific data file structure that permits further computer analysis” (Data and Statistics, n.d). The Micro data were collected by the Reading Recovery® site and submitted to the International Data and Evaluation Center. Once the researcher had appropriate permission from the school district, IDEC provided an excel spreadsheet with all the aggregate data that the researcher requested (entry and exit reading level, language proficiency, home language, gender, socioeconomic status, etc).

**Validity & Reliability**

Reading Recovery® utilizes *The Observation Survey* for entry and exit testing of students participating in the Reading Recovery® program. One of the subtests of *The Observation Survey*, Text Reading Level, is the measure that was analyzed for this study. In 2012, The National Center for Response to Intervention (NCRTI) gave *The Observation Survey* the highest possible rating in all five of the NCRTI’s technical standards, including validity and reliability. Fraenkel et al (2011) explains that validity is “The degree to which correct inferences can be made based on results from an instrument” (p. G-9) and reliability is “The degree to which scores obtained with an instrument are consistent measures of whatever the instrument measures” (p. G-7).

Multiple large-scale studies were analyzed to determine the rating of this instrument. *The Observation Survey* had >.70 alignments with various validity measures and aligned with national literacy standards. In the ratings for reliability, *The Observation
Survey scored >.80 on multiple measures. The other categories in which the instrument received the highest rating were disaggregated reliability and validity, generalization, and classification accuracy (D’Agostino, 2012).

Teachers assess The Observation Survey and Text Reading Level subtest. Allowing for human error and bias, the NCRTI determined that they are valid and reliable assessments. Reading Recovery® teachers receive a great deal of training on the assessment tool. Clay (2005) explains the reliability of the measure. In the Text Reading Level subtest, the highest level text read with 90% accuracy is the student’s Text Reading Level. Accuracy is measured by the Running Record, a way of recording the student’s behaviors while reading. On reliability measures, Clay (2005) found that The Observation Survey was shown to be highly reliable (.98) when measuring accuracy and error when administered by a trained teacher. Self corrections are when a student makes an error but then corrects their mistake and reads the word accurately. When measuring self-corrections, The Observation Survey was less reliable (.68).

Protection of the Data

The data collected were stored on the researcher’s computer, which is password protected. The researcher was the only one with access to the data, as well as anyone assisting with the development of this paper such as a statistical consultant, university advisor, or other related university personnel. The data were de-identified, which means that any identifying information was removed and data cannot be connected to the student. There was no interaction between the researcher and the subjects.
Sampling strategies

Students in the study were not chosen by random sample but rather because they were enrolled in the Reading Recovery® program, which created a purposeful sample. Because this was a causal-comparative design, comparisons were made between subgroups with different characteristics (i.e. native speaker, ELLs at varying proficiency levels) and therefore a control group was not used. Even with ten years of data, the number of students at each language proficiency level was too low to perform a random sampling. When including all students, there were some proficiency levels that still did not have enough data to include in the analysis; therefore those proficiency levels were excluded.

Description of the Data: Charts and Tables

The total data collected includes 2,010 students who participated in the Reading Recovery® program over a ten-year period. Figure 1 shows the decline in the numbers in Reading Recovery® in this district in that period, with 326 total students in 2004 falling below 150 each year in 2010-2013.
Figure 1: Number of Students in Reading Recovery® 2004-2013

Of the 2010 students, 56.3% were male and 43.7% were female (Figure 2).
Table 2 shows that based on family income, 87.8% of the students qualified for free/reduced lunch.

<table>
<thead>
<tr>
<th></th>
<th>Number of Students</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Free</td>
<td>1262</td>
<td>82.3</td>
</tr>
<tr>
<td>Reduced</td>
<td>85</td>
<td>5.5</td>
</tr>
<tr>
<td>Regular</td>
<td>122</td>
<td>8.0</td>
</tr>
<tr>
<td>Information</td>
<td>64</td>
<td>4.2</td>
</tr>
<tr>
<td>Unavailable</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>1533</td>
<td>100.0</td>
</tr>
<tr>
<td>Missing</td>
<td>477</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>2010</td>
<td></td>
</tr>
</tbody>
</table>

Table 2. Free and Reduced Lunch Count
Table 3 shows that 60.5% of the students had a home language of English and 39.5% spoke a language other than English at home.

<table>
<thead>
<tr>
<th></th>
<th>Number of Students</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Native English</td>
<td>1205</td>
<td>60.5</td>
</tr>
<tr>
<td>Speakers</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Non-Native English</td>
<td>787</td>
<td>39.5</td>
</tr>
<tr>
<td>Speakers</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>1992</td>
<td>100.0</td>
</tr>
<tr>
<td>Missing</td>
<td>18</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>2010</td>
<td></td>
</tr>
</tbody>
</table>

**Table 3. Native English Speakers and Non-Native English Speakers**

Figure 3 shows the breakdown of the various home languages, the largest group being Spanish at 25.5%.
Figure 3. Native Language

Figure 4 shows where the non-native speakers fell within varying language proficiency levels: 1.4% of non-native speakers were in the isolated words category, 22.7% in isolated phrases, 38% in complete sentences, 30.2% in coherent sentences, and 7.5% were articulate and proficient.
Of the 2010 students, 1671 of them had both an entry and exit reading level, which was in turn calculated into a reading level difference score.

**Confidence in the Analysis**

A T-test was used to determine the mean difference between entry and exit reading level scores for each group. Before running the T-test, it was necessary to check the assumptions before proceeding. The first assumption was normality. The data were approximately normally distributed and it therefore met the normality assumption. The second assumption was Levene’s test for equality. The standard deviation was very close (3.979 and 4.007) which satisfied the Levene’s test for equality. The result of the Power Analysis was 1.000000 which is very high. Based on the fact that both assumptions were satisfied and the very high power analysis, there was great confidence in the T-test.
**Question 1**

1) How do the reading achievement outcomes of English Language Learners receiving the intervention Reading Recovery® compare to the outcomes of native English speakers receiving the same intervention in grade one of a diverse urban school district?

**Variables**

As is the case with causal-comparative research, one variable is categorical (English proficiency) and the other is quantitative (assessment data) (Fraenkel, Wallen, & Hyun, 2012). The Statistical Package for the Social Sciences (SPSS®) software was utilized to run a T-test on the pre-existing data collected over a ten-year period. The T-test was performed to determine the effect of the independent variable, language proficiency, on the dependent variable, outcomes of the Reading Recovery® intervention. The groups are native English speakers and students who speak another language at home.

**Data Results**

The T-test revealed that native English speakers had a mean difference score (difference between entry and exit reading levels on the Text Reading Level measure) of 10.61 and the non-native English speakers had a mean difference score of 11.26 (Figure 5).
Figure 5. T-Test Mean Reading level difference score (exit - entry reading levels)

The mean difference score for the non-native English speakers was .65 higher than the mean difference score for the native English speakers. The p value was .001, demonstrating a statistically significant difference. This means that the non-native English speakers receiving the Reading Recovery® intervention had greater gains in reading level than the native English speakers.

Question 2

2) What is the relationship between the reading achievement outcomes and proficiency levels of English Language Learners as determined by the Reading Recovery® language proficiency intake assessment?

Variables

The second question also has language proficiency as the independent variable and the outcomes of the Reading Recovery® intervention as the dependent variable. However, this question is not comparing native speakers and non-native speakers but rather looking within the group of non-native speakers to compare the outcomes of
student at each language proficiency level (0-5).

Data Results

The mean reading level difference score was also calculated for each English proficiency level on the IDEC scale 0-5 (Figure 8).

Figure 8. Mean Reading level difference score (exit - entry reading levels)

The mean difference score for each level are as follows: Level 0 (Unable to respond): 9; Level 1 (Isolated words): 13; Level 2 (Isolated phrases): 10.71, Level 3 (Complete Sentences): 11.24, Level 4 (Coherent Sentences): 12.14, Level 5 (articulate and proficient): 10.70. The lowest two levels of English proficiency and the highest level of English proficiency did not have enough data for it to be a valid analysis (Level 0 had 1 student, Level 1 had 7 students, and Level 5 had 33 students), therefore this research
will only consider levels 2-4 to answer this research question. Beginning with a 10.71 gain at level 2, the Reading Level Difference Score improved as students gained more English proficiency. It improved to 11.24 at level 3 and peaked at 12.14 at level 4.

Conclusion

This study examined the difference in outcomes between native and non-native English speakers receiving the Reading Recovery® intervention in a large, diverse, urban district over a ten-year period. The study also analyzed the difference in outcomes between the varying English proficiency levels as measured by the IDEC Rubric for Oral English Proficiency.

A T-test was utilized to determine a mean Reading Level Difference Score for each group and subgroup. The non-native English speakers made larger gains than the native English speakers, achieving statistical significance. Within the non-native English speaker group, the highest and two lowest proficiency levels did not have adequate data for a valid analysis. There were differences found between the three remaining levels, with outcomes improving as students became more proficient in English.
Chapter Five: Discussion of Findings and Implications for Practice

This chapter will provide a discussion of the findings of this research study in relation to the available literature on this topic, the theoretical framework and the collection of research data. Based on the research findings, recommendations for future study and implications for practice will be discussed. The chapter will be organized into the following sections: Introduction, Statement of the Problem, Purpose, Research Questions, Research Design, Areas of Vulnerability and Limitations, Overview and Discussion of Findings, Validity and Reliability, Implications for Future Study, Implications and Recommendations for Practice, and Conclusion.

Overview

This research study is a secondary data analysis of ten years (2004-2013) of student achievement data from the Reading Recovery® intervention program in a large diverse urban district. In 2013, Reading Recovery® was offered in 12 elementary schools in this district with 16 trained RR teachers total. The Reading Recovery® program serviced approximately 128 low achieving first graders over the course of the year, although the numbers have declined over the ten-year period. The study compared the outcomes of native English speakers and non-native English speakers who participated in the Reading Recovery® intervention. It also compared outcomes of non-native speakers at the varying levels of English proficiency. The primary analysis of the Reading Recovery® student achievement data was for teachers, administrators, and district personnel to view and evaluate progress of students and school sites, as well as for
Reading Recovery® research reports. Therefore, the purpose of a secondary data analysis for the research study was to look specifically at outcomes of English Language Learners and to examine outcomes at the varying levels of English proficiency levels, as this district has not analyzed the data in this way.

**Statement of the Problem**

The number of English Language Learners (ELLs) in U.S. schools continues to rise (Francis et al, 2006a), however ELLs struggle academically (U.S. Department of Education, 1995) and have been overrepresented in special education (Artiles & Trent, 2004).

The reauthorization of the Individuals with Disabilities Improvement Act (IDEA) calls for schools to use the Response to Intervention (RTI) model as part of the identification process (U.S. Department of Education, 2007). Response to Intervention is a way to prevent low achievement by providing early screening and a series of research-based interventions while closely monitoring student progress and how they respond to the interventions (Reschly, 2005). There is a large body of research around processes of reading and successful interventions for students who have reading difficulties (Allington, 2006; Clay, 1985; Pinnell, 1989; Snow et al, 1998), however, there is significantly less research on successful reading interventions for ELL students.
Purpose

The purpose of this investigation was to evaluate ELLs’ reading achievement after participating in one researched-based intervention program, Reading Recovery® (Shanahan & Barr, 1995; Allington, 2005; Pinnell, 1997; Wasik & Slavin, 2003; Herman & Stringfield, 1997), and compare that with the achievement of native English speakers in order to inform ELL teachers' instruction and decision making in placement of ELLs in Reading Recovery®. An analysis of outcomes of English Language Learners participating in the Reading Recovery® intervention has not been done before in this district but has been done in other districts and at the national level by the Reading Recovery® program. However, there is very little research available comparing the outcomes of ELLs at various levels of English proficiency in Reading Recovery®. Understanding which proficiency levels perform better is important in order to determine which students are likely to benefit from the reading intervention.

Research Questions

This study sought to answer the following questions:

1) How do the reading achievement outcomes of English Language Learners receiving the intervention Reading Recovery® compare to the outcomes of native English speakers receiving the same intervention in grade one of a diverse urban school district?
2) What is the relationship between the reading achievement outcomes and proficiency levels of English Language Learners as determined by the Reading Recovery® language proficiency intake assessment

The research questions were developed to investigate if a reading intervention shown to be effective for native English speakers would also be effective for English Language Learners and also to see if there is a level of language proficiency that yields the best results. This research is important to help teachers and administrators choose effective reading interventions for their ELLs and also to make informed placement decisions in reading intervention programs.

Research Design

This quantitative study utilized a causal-comparative design to compare reading achievement results for two groups in a reading intervention program, grade one native English speakers and non-native English speakers. The research study was a secondary data analysis of ten years (2004-2013) of data to compare the reading achievement of native English speakers and English Language Learners receiving the research-based intervention Reading Recovery® (U.S. Department of Education, 2008). Additionally, the study compared the reading achievement of students at varying levels of language proficiency within the non-native speaker student group. The original purpose of the data analyzed in this study was for teachers, administrators, and district personnel to view and evaluate progress of students and sites, and for Reading Recovery® research reports. Because the original purpose of the data was not to compare of outcomes of ELLs with
native speakers or outcomes of students at varying English proficiency levels, this study was a secondary data analysis.

The entry Text Reading Level score for each student served as a baseline and the exit Text Reading Level was used as a post-test. From these scores a Reading Level Difference Score was calculated. A T-test was then used to calculate the mean Reading Level Difference Score for each group. The purpose of this analysis was to determine the effect of the independent variable, language proficiency, on the dependent variable, reading achievement outcomes of the Reading Recovery® intervention.

**Areas of Vulnerability and Limitations**

It is important to acknowledge the limitations of this research study. The limitations of a study should be considered because they may impact interpretation and generalizability of study results. The first limitation in this study was the amount of students at each level of English proficiency. The sample size was not large enough in levels 1 and 5 to include in the results. Additionally, some parts of the data set were incomplete and data in various categories were missing. For example, there were 18 students that did not have a native language listed. Although this only reflects .9% of the sample size, it should be noted.

An Analysis of Covariance (ANCOVA) analysis to rule out additional variables such as gender or socioeconomic status was not performed because of significant interactions among the possible independent variables. What was done to account for the potentially confounding influence that gender and SES had on this study was that the
descriptive statistics were inspected for the difference scores across language group, gender, and socioeconomic status and they did not indicate any dramatic differences that could possibly confound the dependent variable, reading achievement.

An additional threat to validity is maturation. The data were collected over a ten-year period and it should be recognized that although the larger data set provides more statistical power, old data can present a risk to the design of the study. Although this threat is acknowledged, the Reading Recovery® program and procedures are highly standardized and have remained consistent over this period of time therefore minimizing the potential threat.

The last area of concern is instrumentation (Fraenkel et al, 2012). The assessment data that the Reading Recovery® program uses, The Observation Survey, is collected by the Reading Recovery® teacher which could result in data collector bias. In addition, multiple teachers at multiple school sites collected the secondary data in this study over the ten-year period, raising the concern of inter-rater reliability. In order to mitigate these threats, the teachers undergo intensive training and there is a Reading Recovery® Teacher Leader who frequently observes lessons to ensure consistency.

Discussion of Findings

First research question. The first research question looked at reading achievement outcomes for students in the Reading Recovery® program over a ten-year period. A T-test was used to determine the differences in scores between the two categories of students, native English speakers and non-native English speakers. A T-test
for independent means is a type of inferential statistics “used to compare two different, or independent, groups” (Fraenkel et al, 2011, pg. 234). The T-test revealed that the mean reading level difference score for the non-native English speakers was .65 levels higher than the mean reading level difference score for the native English speakers. The probability value (p-value) was .001, which indicates there was a statistically significant difference. Thus, this difference points to a major finding of the research study that the non-native English speakers receiving the Reading Recovery® intervention had greater gains in reading level than the native English speakers. This finding helps to dispel the notion among some teachers and administrators, highlighted by Ashdown & Simic (2000), that selection for the Reading Recovery® intervention should be delayed until students become more proficient in English.

Kelly et al (2008) raised the issue of access for ELLs to the Reading Recovery® intervention. Ashdown & Simic (2000) also raised a concern that the lowest performing ELLs were not always selected for the program, highlighting the issue of access as well. They emphasized that selecting the lowest performing students (including ELLs) was critical and noted that some school administrators and teachers “appear to lack confidence in the potential for non-native speaking children to benefit from this literacy intervention” (p. 27) and that it appeared that there was a “Perception among teachers and administrators, that children with limited English proficiency are not suited for Reading Recovery® instruction” (p. 29), therefore affecting placement decisions. ELLs’ access to the Reading Recovery® intervention and placement decisions in this district was not investigated as a part of this study. However, because of the literature citing access as a
concern it is important that teachers and administrators are aware of the positive outcomes for ELLs in this study in order to make informed placement decisions.

**Second research question.** The second research question looked at reading achievement outcomes within the non-native speaker group in the Reading Recovery® program. A T-test was used to determine the differences in scores between students at each level of English proficiency as determined by the IDEC Rubric for Oral English Proficiency.

Oral language proficiency is a term used to describe students’ oral proficiency in English. August & Shanahan (2006) describe how it is operationalized in research on English Language Learners as, “It includes both receptive and expressive skills and can also encompass knowledge or use of specific aspects of oral language, including phonology, vocabulary, morphology, grammar, and discourse features, as well as pragmatic skills” (p. 55). Oral language proficiency is generally assessed with rubrics or rating scales. Although many studies have noted the positive relationship between second language oral language proficiency and reading achievement (Butler & Hakuta, 2009; Geva et al, 2003; Geva, 2006; Voyles, 2001; Kelly et al, 2008), this study looked specifically at the relationship between oral language proficiency prior to beginning the intervention and the intervention outcomes in order to understand which students are best suited to participate in the Reading Recovery® intervention. Determining which language proficiency levels have the best outcomes will help teachers and administrators choose which students might benefit from participation in the Reading Recovery® program.
Reading Recovery® teachers determine each non-native speaker’s English language proficiency by using the International Data and Evaluation Center’s (IDEC) Rubric for Oral English Proficiency. The English proficiency levels are as follows: 0: Student unable to respond (no proficiency); 1: Isolated words and expressions; 2: Isolated phrases and fragmented or very simple sentences; 3: Complete sentences, often with systematic errors in syntax; 4: Coherent sentences with native-like fluency; and 5: Complete sentences that are coherent and syntactically correct.

The mean reading level difference score was also calculated for each English proficiency level on the IDEC scale 0-5. The lowest two levels of English proficiency and the highest level of English proficiency did not have enough data for it to be a valid analysis (Level 0 had 1 student, Level 1 had 7 students, and Level 5 had 33 students), therefore this research was only able to consider levels 2-4 to answer this research question. Students at a level 2 of English proficiency had a gain of 10.71 reading levels over the course of the 20-week intervention (Reading Level Difference Score). From there, the Reading Level Difference Score improved as students gained more English proficiency. The difference score improved to a gain of 11.24 reading levels at level 3 and peaked at 12.14 reading levels at level 4.

Because the numbers of students were too low at the lowest and highest proficiency levels, it was difficult to draw conclusions from this data. What is clear is that all proficiency levels performed better than native English speakers who had a mean reading level difference score of 10.61. Students appeared to achieve incrementally better with each proficiency level 2-4. What is interesting about this data set is that the few students at the lowest proficiency level with data available had improved by 13 reading
levels over the course of the intervention, which is the highest of all groups (native and non-native). ELL students at the highest level of English proficiency did slightly better than native speakers but lower than all of the other proficiency levels. Unfortunately, the numbers of students at levels 1 and 5 were not enough to consider valid and therefore were excluded from the official results.

This analysis is viewed through the lens of Vygotsky, specifically the Zone of Proximal Development (1978). The Zone of Proximal Development is, “The distance between the actual developmental level as determined by independent problem solving and the level of potential development as determined through problem solving under adult guidance or in collaboration with more capable peers” (p. 86). A key component of the Reading Recovery® program is to instruct students at their developmental level and match them with appropriate texts.

The field of language acquisition has often used Vygotsky’s (1978) theories to explain language development. In the way that the Zone of Proximal Development describes an optimal instructional zone, this study sought to determine a student’s ideal level of language proficiency to enter the Reading Recovery® intervention that would yield the greatest reading achievement results. This study, however, does not reveal the level of language proficiency with the best outcomes in a statistically significant way because of a limited number of students in certain proficiency levels. However, gains were noted in all levels of proficiency, which has meaning for future involvement of ELLs in the Reading Recovery® program.
Validity and Reliability

Creswell (2009) explains that validity “refers to whether one can draw meaningful and useful inferences from scores on particular instruments” (p. 235) and that reliability “refers to whether scores to items on an instrument are internally consistent, stable over time, and whether there was consistency in test administration and scoring” (p. 233). It is important to recognize any threats to validity and reliability and if possible mitigate any of those threats.

A T-test was used to determine the mean difference between entry and exit reading level scores for each group. Before running the T-test, it was necessary to check two assumptions before proceeding. If either of the assumptions were violated, the validity of the analysis would be compromised. The first assumption is normality. In a T-test it is necessary to check whether or not the data are normally distributed. Salkind (2008) explains that it is very important that data are normally distributed because “A lot of what we do when we talk about inferring from a sample to a population is based on the assumption that what is taken from a population is distributed normally” (p. 136). If the data were not normally distributed, it would impact validity. The data were approximately normally distributed and it therefore met the normality assumption.

The second assumption that must be met before running a T-test is Levene’s test for equality. This checks that the population variances from the two groups being compared are equal (Fraenkel et al, 2012). In order to make any meaningful comparisons between two mean scores, their variability must be relatively equal for the comparisons to
be fair. The standard deviation of the native and non-native speakers was very close (3.979 and 4.007) which satisfied the Levene’s test for equality.

One last check to ensure that there can be confidence in the statistical test is the Power Analysis. Fraenkel et al (2012) explain “When the purpose of a statistical test is to assess differences, power is the probability that the test will correctly lead to the conclusion that there is a difference when, in fact, a difference exists” (p. 239). A strong power analysis gives the researcher confidence in the results of the data analysis. In this research study, the result of the Power Analysis was 1.000000, which is very high. Based on the fact that both assumptions were satisfied and the very high power analysis, there was great confidence in the T-test.

**Implications for Future Study**

Although this study answered some questions regarding outcomes of Reading Recovery® for English Language Learners, it is important to continue to investigate effective reading interventions for ELLs. The following are recommendations for future study:

1. The research study retrieved data from as far back as ten years to investigate Reading Recovery® outcomes for ELLs in this district and there still were not enough data in some proficiency levels to include in the analysis. This area of study needs to be expanded to either a larger district or multiple districts to provide enough data to analyze each proficiency level and look deeply at the intervention outcomes for those students. The district under investigation had
1205 native speaker students and 787 ELL students over a ten year period participating in the Reading Recovery® program, so numbers larger than this will be needed.

2. The research study only examined the relationship between English proficiency and outcomes in a reading intervention. There are other variables in Reading Recovery® (and other intervention programs) that can potentially influence students’ outcomes. For example, one study could look at the timing of the intervention. Reading Recovery® is a 12-20 week intervention for first graders and students can be selected to participate in the program in September or in the middle of the year. The study might look at when in the year the intervention was administered (beginning of the year, midyear) and determine if there is a time of year that is developmentally best for first graders and yields the best outcomes. Another study might look at Reading Recovery® teachers that have the best results and determine what practices they are utilizing that make them more effective. Another potential study looking at other variables is the influence of the native language of ELLs. The students in this data set had a wide variety of home languages including the most prevalent, Spanish, but also non-alphabetic languages such as Chinese. This study could analyze the impact of the home language on outcomes in the Reading Recovery® program.

3. The data in this research study suggest that Reading Recovery® is an effective intervention for English Language Learners. Future studies might look at the effectiveness of other reading interventions used in U.S. schools for English
Language Learners in order to develop a larger bank of research-based reading interventions.

4. This study was a large-scale data analysis that looked at the outcomes of over 2,000 students. A potential future study could utilize a qualitative methodology to better understand the variables at play in this data such as home language, quality of instruction, socioeconomic status, etc. A qualitative study would add richness to this research and examine the context of these outcomes.

These future studies would expand the body of research on reading interventions for English Language Learners and build a larger bank of research-based reading interventions. Research studies such as these would assist teachers and administrators in choosing appropriate interventions for ELLs and making placement decisions. If we had more research on what interventions are most effective for ELLs, then schools could utilize those interventions in their RTI programs and potentially reduce the number of ELLs in special education.

**Implications and Recommendations for Practice**

Research-based interventions for English Language Learners are important to any district’s Response to Intervention program, and in particular, to this researcher’s diverse urban school district. The following results of this research study will be shared with the district’s Office of English Language Learners, the Literacy Department, and the Reading Recovery® Teacher Leader.
1. As a result of the achievement levels of non-native speakers as demonstrated by the data, it is recommended that placement in RR should not be restricted by language proficiency, and that access to Reading Recovery® for ELLs should be expanded due to their positive reading outcomes in the intervention. Additionally, ELLs of all proficiency levels should be considered for this intervention since even the lowest performing proficiency level still performed better than the native English speakers.

2. As a result of the positive outcomes for ELLs in the Reading Recovery® intervention, it is recommended that the Reading Recovery® program and school districts work to educate teachers and administrators on literacy for ELLs and dispel the notion that ELLs need to become proficient in English before literacy instruction or intervention can begin. It is important that teachers and administrators understand the benefits of Reading Recovery® for ELLs and the need to consider them for this intervention program regardless of language proficiency.

3. As a result of the achievement levels of non-native speakers as demonstrated by the data, it is recommended that districts make recommendations of effective reading interventions that are researched based for English Language Learners for schools to use in their Response to Interventions programs. Not all reading interventions have been proven effective for ELLs so it is important that districts ensure that schools are using only interventions that are appropriate for their ELL students.
Conclusion

The number of ELLs in U.S. schools is growing rapidly and teachers are struggling to meet the diverse needs of this large group of students. Reading Recovery® is an intervention that has been in U.S. schools since 1984 with a strong research base for native English speakers (Florida Center for Reading Research, 2008; Shanahan & Barr, 1995; Allington, 2005; Pinnell, 1997; Wasik & Slavin, 2003; Herman & Stringfield, 1997) along with some criticisms regarding cost and long-term effectiveness (Hiebert, 1994; Erlbaum et al, 2000; Shanahan & Barr, 1995; Snow, Burns, & Griffin, 1998). There is a growing amount of research demonstrating its effectiveness for ELLs (Ashdown & Simic, 2000; Kelly et al, 2008), however, these same studies suggest that ELLs’ access to this intervention can be limited in some sites and that teachers and administrators may hold the misconception that ELLs must become more proficient in English before entering the intervention. The analysis in this study suggests that Reading Recovery® was actually more effective for ELLs in this urban school district over a ten-year period (2004-2013). More research is needed to determine if there is a difference in outcomes between all of the varying proficiency levels, however, because three of the levels did not have enough data to include in this analysis in a statistically significant way. Based on the results of this research study, it is recommended that access be expanded and that all low reading performing ELLs that meet the selection criteria, regardless of English proficiency, be considered for Reading Recovery®.
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U.S. Department of Education, National Center for Education Statistics


Appendix A

**IDEC Rubric for Oral English Proficiency**

**0: Student unable to respond**
No proficiency. Students at this level of development are able to understand little or none of the language.
Examples: They might mimic, nod or look at you but are not able to speak except for a word or two.

**1: Isolated words and expressions**
Receptive language only. Students at this level produce only isolated words and expressions. They are able to understand conversational language in varying degrees but they are unable to use the language for effective communication. They might be able to repeat short phrases or words commonly used to meet basic needs.
Examples: Student says single words such as drink, cold, sick.

**2: Isolated phrases and fragmented or very simple sentences**
At this level students can make themselves understood by using a few phrases and fragmented or very simple sentences. They might use gestures and words of their native language. Sentences are often incoherent and difficult to associate with a storyline. Students sometimes omit nouns or verbs and may make errors in the use of articles, verb endings, and pronouns. They are able to communicate ideas and feelings using “survival language.”
Examples: me playing, you red ball have, I give you ball, she have a blue ball

**3: Complete sentences, often with systematic errors in syntax**
Students are able to communicate their ideas using longer and more coherent sentences. They can control syntactic structures that include plurals, articles, pronouns, and verb endings. There are some errors in using complex verb forms and these errors tend to be repeated. They still have difficulty in combining words with the ease of the native speaker.
Examples: The bird got seed. The bird eat that. The bird have very hungry.

**4: Coherent sentences with native-like fluency**
At this level, the students control most of the basic structures of the language. They are approaching native-like proficiency and fluency. Their occasional errors in syntax or vocabulary are common among native speakers.
Examples: Once upon a time there was a beautiful girl named Little Red Riding Hood. Her grandmother was very sick so she went to take her a basket with gifts. The wolf was hiding in her grandmother's house and he catch her.

**5: Complete sentences that are coherent and syntactically correct**
The students at this level are fluent speakers and are able to construct sentences that are complete, coherent, and syntactically correct with native-like proficiency.
Examples: Once upon a time there was a lion who wanted to be the king of the jungle. All the animals gathered around him to listen to his speech. He wanted to convince them that he could be the best king they ever had. They liked what they heard so they decided to vote for him. Pretty soon they realized that had been a big mistake.

*International Data Evaluation Center, Data Entry Procedures for Reading Recovery® and Descubriendo la Lectura, 2013-2014*