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# The effects of explicit and systematic phonemic awareness instruction on reading for English language learners

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**HARDING**  
U N I V E R S I T Y

THE EFFECTS OF EXPLICIT AND SYSTEMATIC PHONEMIC AWARENESS  
INSTRUCTION ON READING FOR ENGLISH LANGUAGE LEARNERS

by

Annette Freeman

Dissertation

Submitted to the Faculty of

Harding University

Cannon-Clary College of Education

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in

Educational Leadership P-20

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THE EFFECTS OF EXPLICIT AND SYSTEMATIC PHONEMIC AWARENESS  
INSTRUCTION ON READING FOR ENGLISH LANGUAGE LEARNERS

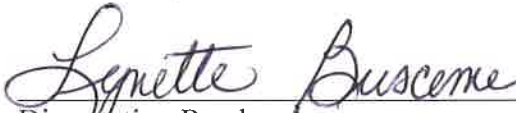
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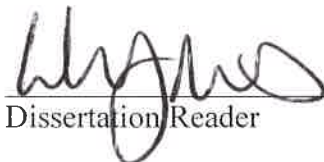
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Many people contributed to the completion of this dissertation. I would like to thank my family, Andrew, Ryan, and Robert Freeman. To my boys, remember you can always achieve your dreams. You are my pride and joy.

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## **DEDICATION**

I would like to dedicate this dissertation in memory of my mother, Dorothy Jean Cochran. Without her love, support, and pride in me, this journey would have been much harder. I am honored to walk and receive my diploma on her birthday, December 17, 2016. My heavenly angel will be with me in spirit on this glorious day.

## **ABSTRACT**

by

Annette Freeman  
Harding University  
December 2016

Title: The effects of explicit and systematic phonemic awareness instruction on reading for English language learners (Under the direction of Dr. Michael Brooks)

The purpose of this dissertation was to find effective phonological instruction for improving reading comprehension and oral language proficiency of ELLs. In addition, this study was conducted to inform school administrators without ESL certification about best practices in ELL education so they could make informed, school-wide decisions for better serving ELLs before entry into secondary schools.

The sample included first and second-grade students identified as ELLs in two Northwest Arkansas elementary schools. The two schools were selected based on their similar student demographics of grade configuration, ethnicity, and poverty rate. All students selected for the study were identified as ELLs using a home language survey that indicated the primary language spoken in the home. The majority of the students spoke Spanish as their native language. The population of both schools consisted of 65-75% of the students as ELLs. Both schools averaged at least 90% of their students qualifying for free or reduced-cost lunches.

To address Hypotheses 1-8, eight 2 x 2 factorial analyses of variance (ANOVAs) were performed. Type of instruction (explicit and systematic phonemic awareness

instruction versus no explicit and systematic instruction) and gender served as the independent variables for all the hypotheses. Rhyme recognition, rhyme production, phoneme segmentation, and phoneme blending measured by the Ekwall/Shanker Reading Inventory (Shanker & Cockrum, 2013) served as the dependent variables for the two sets of four hypotheses (1-4 and 5-8), respectively. Hypotheses 1-4 included first-grade ELL participants from two Northwest Arkansas schools; Hypotheses 5-8 included second-grade ELL participants from the same two schools.

This causal-comparative study was conducted in a Northwest Arkansas school district. For the first four hypotheses, no significant interaction effects were found between type of instructional strategy and gender for the first-grade sample. However, significance was found for the main effect of type of instructional strategy for Hypotheses 1-4, which included rhyme recognition, rhyme production, phoneme segmentation, and phoneme blending, respectively. Effect sizes ranged from a medium size of 0.07 to a large effect size of 0.28. In addition, the main effect of gender was only significant in Hypothesis 4, which included phoneme blending only. The effect size for this result was a small effect size of 0.04.

For Hypotheses 5-8, no significant interaction effects were found between type of instructional strategy and gender for the second-grade sample. However, significance was found for the main effect of type of instructional strategy for Hypotheses 6 and 7, which included rhyme production and phoneme segmentation, respectively. Effect sizes ranged from a large effect size of 0.18 to 0.27. In addition, the main effect of gender was not significant in the last four hypotheses.

Explicit and systematic phonemic awareness instruction is not the only intervention method for all the reading gap issues, especially for ELLs. Non-explicit and systematic phonemic awareness instruction can provide some students with the skills needed to succeed in reading. However, the results do demonstrate that, on average, explicit and systematic phonemic awareness instruction helps both female and male Spanish speaking ELLs improve reading achievement, thus reducing the gap between this student population and their native English language peers. In other words, explicit and systematic phonemic awareness instruction should be highly considered when choosing best classroom practices in helping students improve their reading skills.

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## **CHAPTER I**

### **INTRODUCTION**

The fastest growing population of students in the nation's schools today is English language learners (ELLs). During the 2013-2014 school year, 86% of ELLs enrolled in Arkansas' schools spoke Spanish as their native language (Arkansas Department of Education, 2015a). With the implementation of No Child Left Behind in 2002 and the Every Child Succeeds Act of 2015 (U.S. Department of Education, 2015)), the accountability for the achievement of ELLs has risen significantly. Based on the National Assessment of Educational Progress, the ELLs make up the student group that is the furthest behind (Hemphill & Vanneman, 2011). Izquierdo (2012) argued that administrators who lacked the foundations of second-language acquisition and the understanding and skills to deliver content were common in schools with high populations of ELLs. Furthermore, Izquierdo proposed that students did not adequately progress due to (a) inconsistent implementation within and across program models, (b) inconsistent application across grade levels, (c) poor English language development models, and (d) a lack of skills to deliver content in a way that was comprehensible to ELLs (see also Ballantyne, Sanderman, & Levy, 2008). Challenges such as these could cause ELLs to perform academically well below their native English language-speaking peers.

With the passing of the ESSA, schools in Arkansas are now held more accountable for making significant annual progress in both English language acquisition and academic achievement because both accountability measures will be reported on each school district's report card starting in 2016. Each school and overall district must make their Annual Measurable Objectives for English language acquisition and reach reading level benchmarks as measured by the state's assessment system. The challenge to get all ELLs on grade level in reading before third grade begins before ELLs enter school. Children from non-English-speaking families with a low socioeconomic level are more likely to enter school with a lower level of English proficiency as compared to their monolingual peers (Lesaux, Kieffer, Kelley, & Harris, 2014). Lesaux et al. (2014) argued that, without targeted instruction, ELLs did not catch up with the national average. In their study, they found ELLs' English reading performance was three grade levels below the national average. In addition, the lack of English proficiency correlated with low literacy achievement (Oh, Hagger, & Windemeuller, 2007). According to the National Assessment of Educational Progress, from 2003 to 2009, there was a trend of decreasing literacy scores for ELLs. In 2003, 72% of ELLs scored below the fourth-grade reading level, and by 2009, 94% of fourth-grade ELLs scored below grade level in reading comprehension (National Center for Educational Statistics, 2009). To improve the academic performance of ELLs, educators need to have a better understanding of effective reading instructional practices to provide support for ELLs upon their entrance to primary school.

## **Statement of the Problem**

This study had two main purposes with four parts to each purpose. First, the purpose of this study was to determine by gender the effects of explicit and systematic phonemic awareness instruction versus no explicit and systematic instruction on rhyme recognition, rhyme reproduction, phoneme segmentation, and phoneme blending measured by the Ekwall/Shanker Reading Inventory (ESRI, Shanker & Cockrum, 2013) for first-grade ELLs in a Northwest Arkansas school district. Second, the purpose of this study was to determine by gender the effects of explicit and systematic phonemic awareness instruction versus no explicit and systematic instruction on rhyme recognition, rhyme reproduction, phoneme segmentation, and phoneme blending measured by the ESRI (Shanker & Cockrum, 2013) for second-grade ELLs in a Northwest Arkansas school district.

## **Background**

The 2000 National Reading Panel Report recommended that a balanced approach consisting of five literacy elements should be implemented in all kindergarten through third-grade classrooms in the U.S. (National Reading Panel, 2000). These elements were phonemic awareness, phonics, vocabulary, comprehension, and fluency. Although all components have been shown to be equally important in reading development, phonological awareness has been shown to have the greatest impact on reading development in later grades (Kelly, Roe, Blanchard, & Atwell, 2015). Furthermore, preschool-age children's awareness of phonemes has historically been shown to account for as much as 50% of the variance in reading proficiency at the end of first-grade (Gersten et al., 2007). Their longitudinal study followed a sample population of ELLs

from kindergarten to the end of first-grade. They found students who had a stronger understanding of phonemes had higher literacy achievement by the end of first-grade.

To better advise practitioners on effective literacy instruction for a growing population, The National Literacy Panel on Language-Minority Children Youth (August, Shanahan, & Escamilla, 2009) was developed to review the existing research on effective practices for teaching to ELLs. Although specific reading strategies had been labeled as effective for ELLs, they based their conclusions on a limited number of empirical studies (August et al., 2009). The growth of the ELL population in U.S. schools complicated this issue. In addition to the growing population of ELLs being underserved in U.S. schools, the panel found that the essential elements of reading instruction, outlined by The 2000 National Reading Panel Report, were not sufficient to develop literacy proficiency of ELLs. Their review of research also supported the development of oral language in English as a predictor of reading and writing proficiency (August et al., 2009).

In one highly cited study, ELLs who received explicit daily instruction in English language instruction during a protected block of instructional time outperformed ELLs who had English instruction embedded within the literacy instruction block (Saunders, Foorman, & Carlson, 2006). This finding was significant because the researchers found that, as children's English language acquisition levels increased, their reading comprehension also improved. However, other researchers have claimed that a reliable predictor of reading comprehension development was the understanding of phonological awareness (Lesaux et al., 2014). This finding was true for both English and Spanish-speaking students.

To better inform practicing teachers, Gersten et al. (2007) outlined five instructional practices that improved reading achievement for ELLs. These included formative assessments in phonological awareness, letter knowledge, word reading, frequent monitoring of individual student progress, and explicit small-group instruction on phonological awareness. In addition, they recommended that instruction take place in 90-minute blocks of time and that students of varying language proficiency participate in literacy discussions. Their recommendations were supported by the findings of other researchers as well (August et al., 2009; Pollard-Durodaola & Simmons, 2009). For example, in a study of first-grade ELLs, Kamps et al. (2007) found that, when students struggled with learning to read, they needed specific intervention based on a systematic curriculum of essential skills taught in an explicit manner. These highly effective instructional strategies that predicted ELL student growth were the explicit teaching of English development and phonological awareness followed with targeted instruction for low performers. Furthermore, they found the teaching of reading and writing through the similar sounds and patterns that the languages shared allowed for the natural transfer of phonological awareness from one language to the other.

Although the empirical research was limited, some research studies were significant in showing effective strategies in the field of literacy instruction for ELLs. Most of the studies on reading readiness noted that explicit and systematic phonemic awareness strategies produced positive effects when compared to no explicit and systematic phonemic awareness instruction (Linan-Thompson & Vaughn, 2007; National Reading Panel, 2000). Linan-Thompson and Vaughn (2007) noted that explicit and systematic phonemic awareness instruction encompasses an instructional delivery model

that overtly demonstrates how to complete a task including articulating the learning goals, modeling the task, and assessing student understanding. They also reported that explicit and systematic phonemic awareness instruction has been effective for increasing phonemic awareness of ELLs.

### **Phonological Awareness Skills of ELLs**

The development of foundational reading skills may be similar for students even though they come from different cultures. A large body of research supported the findings that ELLs and native English speakers both learned phonological awareness and phonics in similar developmental stages (August et al., 2009; Gersten et al., 2007). By understanding the stages, researchers proposed educators could develop effective practices to improve reading achievement. Empirical studies with ELLs supported the practice of understanding the stages of phonological awareness, and they revealed that first language and second language word reading were positively related to phonological awareness and word recognition (Durgunoglu, Nagy, & Hancin-Bhatt, 1993). Therefore, understanding how phonemes come together to form words can support reading achievement.

ELLs were particularly at risk for reading failure because they could not depend on the natural transfer of skills, such as phonemic awareness, from their Spanish native language to the new English language. Therefore, teacher scaffolding of instructional tasks was vital in helping students transfer these skills. According to Herrera, Perez, and Escamilla (2015), teachers should deliver instruction in an organized way, provide visual input of key concepts, and give opportunities for students to learn how to learn by applying their knowledge in meaningful ways. They proposed that, when these

recommendations were followed, ELL literacy achievement improved. However, Herrera et al. cautioned that, as children applied their knowledge of skills, linguistic differences between Spanish and English could cause confusion for ELLs when learning to read. Therefore, researchers recommended that teachers provide different levels of instructional support during explicit instruction for successful reading development (Gersten & Baker, 2000; Gersten et al., 2007). In addition, other methods should be employed as well, such as explicitly teaching the linguistic similarities between Spanish and English to accelerate the learning and transfer of skills (Kamps et al., 2007; Pollard-Durodola & Simmons, 2009). The practice of explicitly teaching how the languages are similar and different help increase reading achievement through transfer of reading skills from the first language to the second.

### **Effective Teaching Practices for ELLs**

ELLs who are learning rigorous content, such as learning to read in a language they have not mastered completely, required specific teaching techniques to make the information understandable. Therefore, it is important that all teachers of ELLs must be able to scaffold these skills to make the content comprehensible (Echevarria, Vogt, & Short, 2013; Linan-Thompson & Vaughn, 2007). In their study, Linan-Thompson and Vaughn (2007) noted that scaffolding instruction involved providing temporary supports during initial lessons. As students gained proficiency, the teacher introduced increasingly difficult tasks until the overall skill was mastered. Scaffolds included changing the difficulty level of the text while the student applied the newly learned reading skills. How teachers should scaffold the skills was not clearly defined in the research. Therefore, Linan-Thompson and Vaughn found that educators needed specific professional

development in foundational reading instruction to improve literacy performance of ELLs. Understanding of phonological awareness was a critical foundational reading skill identified in many research studies for English-speaking and Spanish-speaking students (Pollard-Durodola & Simmons, 2009). Phonological awareness has been defined as the ability to hear, identify, and manipulate individual sounds (phonemes, onsets, and rimes) by moving, combining, and deleting sounds (Adams, 1990). Adams (1990) found that children who were not aware of phonemes were at serious risk for reading failure because the level of phonemic awareness upon entering school has been widely held to be the single strongest predictor of reading achievement.

Lesaux et al. (2014) found that English speaking and Spanish-speaking children followed the same developmental paths when learning to read. This finding was important because researchers identified that effective literacy practices were also effective for ELLs, as well as their English-speaking classmates. In addition, Lesaux et al. (2014) advised that, as teachers developed lessons, they should take into consideration other aspects of literacy development specific to ELLs, such as understanding English acquisition levels, understanding similarities and differences between English and Spanish, scaffolding instruction, delivering explicit and systematic instruction in small groups, and providing specific feedback.

### **Literacy Development of ELLs**

Many ELLs come from homes or cultures where literacy activities, such as reading stories, are not typical (Lesaux et al., 2014). According to Fisher, Frey, and Rothenberg (2011), in Arkansas, when the child enrolls in school, the parent or guardian completes a home language survey. If they state that any language, other than English, is

spoken in the home, the child will be scheduled to take a language assessment to determine their reading, writing, speaking and listening levels. Each district in Arkansas can determine what assessment they choose to give their students upon enrollment. In this northwest school district, the Language Assessment Scale (LAS) or the Maculaitis Assessment of Competencies II (MAC II) is given to all students who designate that another language aside from English is spoken in the home (Maculaitis, 2001). In addition to the language acquisition levels determined by the tests, other factors determine instructional needs. ELLs can be classified loosely into four main categories. The first two include recent arrivals with high Spanish native language literacy skills and little to no English and new arrivals with low native language literacy skills and little to no English. The second two include students who have lived in the U.S. for 2 to 5 years and are making adequate progress in English literacy proficiency and long-term U.S. residents who have little literacy in their native Spanish language, average oral language skills in English, and low literacy achievement in both languages. Fisher et al. (2011) concluded that this last group is the largest and the most at risk for school failure. Due to these diverse needs of ELL students, August et al. (2009) stated that the role of the teacher in developing literacy becomes even more important. These researchers reviewed many empirical studies and found teachers needed to understand pedagogy for teaching ELLs, in order to plan effective lessons. This finding is especially true for male ELLs. According to a long-term study of the National Assessment of Educational Progress (2015), girls historically scored higher than boys on reading achievement tests (Loveless, 2015). Loveless' (2015) analysis included children of many nationalities and found

gender differences in reading were not confined to the United States, although the gap had decreased since 1970.

The research on phonological awareness and phonological transfer suggests that bilingual children might have more highly developed metalinguistic skills compared to children who speak one language (Bialystok, 2007). Therefore, August et al. (2009) recommended that phonological awareness literacy programs take advantage of this strength by using explicit instruction in phonological awareness and phonics. Other researchers support this belief as well. Kelly et al. (2015) found the more effective instructional strategies that predict ELL student growth are explicit teaching of English development and phonological awareness. Then, these strategies can be followed with targeted instruction for low performers. Furthermore, they found the teaching of reading and writing through the similar sounds and patterns that the languages shared allowed for the direct transfer of phonological awareness from one language to the other.

Some researchers have found just implementing evidenced-based reading practices has been enough to increase the achievement for this population of students. Oh et al. (2007) found ongoing teacher monitoring of progress data were an essential component. Kamps et al. (2007) found the largest gains in reading achievement were attributed to the intensity of the intervention and instruction conducted in small group settings. August et al. (2009) pointed out that many studies have shown there is an association between reading comprehension and oral language skill development for ELL students. Empirical studies with ELLs have revealed that first language and second language word reading was positively related to the first language phonological awareness and word recognition (Durgunoglu et al., 1993). However, educators must

consider how the sounds of English and other languages differ and how these differences could cause reading difficulties for beginning readers (Kamps et al., 2007). Planning reading lessons with this knowledge in mind could improve reading achievement for ELLs.

Other researchers looked at the impact of children's home experiences on literacy achievement. Fisher et al. (2011) found that, although a child's first language was highly correlated with the development of the second language, not all ELLs came to school with a solid literacy foundation in their native, Spanish language. They also varied considerably based on their languages, cultures, background experiences, and academic history.

Teachers have reduced the gaps and increased the rate of second language acquisition by teaching students to apply a variety of learning strategies during classroom tasks (Fisher, Frey, & Rothenberg, 2008). These practices, known as explicit or direct instruction, involved demonstrating, prompting, and practicing skills (Gyovai, Cartledge, Lourea, Yurick, & Lenwood, 2009). When teaching reading, explicit instruction included teacher-led tasks in which the teacher demonstrated how to complete the task and facilitated learning during both foundational and higher-order reading lessons. When teachers provided explicit instruction, they taught children how to "think about their thinking" or, how to develop their metacognition (Linan-Thompson & Vaughn, 2007, p. 3). Fisher et al. (2008) expanded this model to include the gradual release of responsibility across all content areas. Although students were learning a new skill, the teacher provided for explicit instruction and shifted the cognitive load to the students during the independent practice phase of the model.

## **Challenges to Providing Effective Literacy and Language Acquisition Instruction**

Arkansas has had a significant increase in the ELL student population. The authors of the Arkansas Department of Education Demographics Report revealed that the number of ELLs in Arkansas grew from 2% in 2003 to 8% in 2014, with the majority of children being Hispanic (Arkansas Department of Education, 2015a). The percentage of English as a Second Language certified teachers and administrators nationwide has not grown to accommodate the needs of this Spanish-speaking student population. The gap in achievement between Caucasian students and ELLs has increased because teachers are unprepared to make the content comprehensible for this growing population of students (Echavarria & Short, 2010). As a result, many middle and high school students become long-term ELLs.

The U.S. schools may not be adequately preparing ELLs. The majority of ELLs in U.S. schools today are first, second, and third generation U.S. born and are products of the current school system (Capps, Fix, Murray, Ost, & Herwanto, 2005). Izquierdo (2012) claimed that, regardless of the number of years in U.S. schools, ELLs were still not proficient in English. Izquierdo proposed to change this trend and noted that schools must provide optimal conditions for ELLs to achieve. These optimal conditions included working with ELLs in literacy, in content areas, and in their first and second language. Izquierdo (2012) and Minaya-Rowe (2012) added that ELLs needed continuous and sustained instructional support from highly qualified, trained professionals to overcome the trend of weak literacy performance of ELLs over time.

As students transition from elementary to secondary schools, the challenges become greater. As a result, trends in the U.S. showed that ELLs feeding into secondary

years entered at various levels, were not able to graduate, were not proficient in English, and had incurred many academic deficits over the years (Olsen, 2010). In part, these issues were caused by teachers and administrators who did not have the pedagogy needed to provide high-quality instruction to students who did not yet have command of the second language (Izquierdo, 2012). Ballantyne et al. (2008) supported this claim. They found that 29.5% of teachers had the training to work effectively with ELLs. Furthermore, they discovered that only 20 states required teachers to have training in working with ELLs, and less than one-sixth of colleges provided classes to pre-service teachers.

### **Hypotheses**

This study was conducted to find effective phonological instruction for improving reading comprehension and oral language proficiency of ELLs. In addition, this study was conducted to inform school administrators without ESL certification about best practices in ELL education so they could make informed, school-wide decisions for better serving ELLs before entry into secondary schools. Based on the literature, the following hypotheses were formed from the two main purpose statements.

1. No significant difference will exist by gender between students who are exposed to explicit and systematic phonemic awareness instruction versus those not exposed to explicit and systematic instruction on rhyme recognition measured by the ESRI for first-grade ELLs in a Northwest Arkansas school district.
2. No significant difference will exist by gender between students who are exposed to explicit and systematic phonemic awareness instruction versus

those not exposed to explicit and systematic instruction on rhyme production measured by the ESRI for first-grade ELLs in a Northwest Arkansas school district.

3. No significant difference will exist by gender between students who are exposed to explicit and systematic phonemic awareness instruction versus those not exposed to explicit and systematic instruction on phoneme segmentation measured by the ESRI for first-grade ELLs in a Northwest Arkansas school district.
4. No significant difference will exist by gender between students who are exposed to explicit and systematic phonemic awareness instruction versus those not exposed to explicit and systematic instruction on phoneme blending measured by the ESRI for first-grade ELLs in a Northwest Arkansas school district.
5. No significant difference will exist by gender between students who are exposed to explicit and systematic phonemic awareness instruction versus those not exposed to explicit and systematic instruction on rhyme recognition measured by the ESRI for second-grade ELLs in a Northwest Arkansas school district.
6. No significant difference will exist by gender between students who are exposed to explicit and systematic phonemic awareness instruction versus those not exposed to explicit and systematic instruction on rhyme production measured by the ESRI for second-grade ELLs in a Northwest Arkansas school district.

7. No significant difference will exist by gender between students who are exposed to explicit and systematic phonemic awareness instruction versus those not exposed to explicit and systematic instruction on phoneme segmentation measured by the ESRI for second-grade ELLs in a Northwest Arkansas school district.
8. No significant difference will exist by gender between students who are exposed to explicit and systematic phonemic awareness instruction versus those not exposed to explicit and systematic instruction on phoneme blending measured by the ESRI for second-grade ELLs in a Northwest Arkansas school district.

### **Description of Terms**

**Alphabetic principle.** Linan-Thompson and Vaughn (2007) defined the alphabetic principle as the letters in written words represent the sounds of the spoken words.

**English language learner.** Oh et al. (2007) defined ELLs as students whose primary language is other than English and are learning English as a second language in American schools. In Arkansas, an English language learner is identified by the Home Language Survey. If the parents note that they speak any other language in the home, the child takes a language test to determine the child's English level and the ELL services needed.

**English language proficiency levels.** The Arkansas Department of Education (2015b) reported that there are 10 English language proficiency standards organized according to how the language skills correspond with the English language acquisition

levels and literacy. The standards encompass six grades in grade-level bands. These are kindergarten, 1, 2–3, 4–5, 6–8, and 9–12. Students are assessed yearly on their progress of moving from one grade level band to the next level until they meet full English proficiency.

**Explicit and systematic phonological awareness instruction.** Gyovai et al. (2009) defined explicit and systematic instruction as skills that are introduced sequentially in isolation with student practice. These redundant phonological awareness skills are embedded in guided and independent practice. Students are engaged in these practices in self-directed activities.

**Gradual release of responsibility.** Frey and Fisher (2006) defined the gradual release of responsibility as a guided instructional delivery model which involves four phases in which the teacher gradually releases the responsibility for learning to students. They are the focus lesson, guided instruction, collaborative lesson, and the independent lesson.

**Phonemes.** Chapman (2003) defined phonemes as the smallest units of speech in words.

**Phonemic awareness.** Chapman (2003) defined phonemic awareness as an aspect of phonological awareness. Phonemic awareness is the ability to detect, segment, and blend

**Phoneme blending.** Linan-Thompson and Vaughn (2007) defined phoneme blending as combining individual sounds or word parts to form whole words. The word parts were done both orally and in print.

**Phoneme segmentation.** Linan-Thompson and Vaughn (2007) defined phoneme segmentation as breaking whole words into individual sounds.

**Phonological awareness.** Chapman (2003) defined phonological awareness as the awareness of a variety of sounds that are divided into smaller components such as the ability to hear alliteration, rhyming words, word boundaries, and parts of words.

**Rhyme recognition.** Linan-Thompson and Vaughn (2007) defined rhyme recognition as being able to identify two spoken rhyming words.

**Rhyme production.** Linan-Thompson and Vaughn (2007) defined rhyme production as the ability to speak a word that rhymes with a given word.

## **Significance**

### **Research Gaps**

Recent studies support principles of explicit, systematic instruction as an effective method for students who speak multiple languages (Gyoval et al., 2009). However, reviews of research on reading instruction for ELLs have resulted in few studies and very little empirical evidence on best practices for reading instruction (August et al., 2009). Some studies found ELLs needed phonemic awareness, letter knowledge, alphabetic decoding, decodable text practice, and comprehension strategies as components of their reading intervention programs (Vaughn et al., 2006). However, other researchers did not study the language level of the student correlated to reading development progress. Because research is limited, further study on the development of reading foundational skills in English for ELLs is critical to developing appropriate reading intervention programs for ELLs having reading difficulties (Oh et al., 2007). Reading interventions

targeted specifically for this group of learners could reduce the number of ELLs who lag behind their native English speaking peers on reading achievement.

Reading interventions which could inform reading teachers on how to intervene for ELLs are not commonly known in U.S. classrooms. There is a need for sustained, theory-driven research that builds and tests models of effective teaching and learning for ELLs (Genesse, Lindholm-Leary, Saunders, & Christian, 2005). Most of the research Genesse et al. (2005) reviewed involved learners in a single grade level or different learners across grade levels. Also, very little is known about the developmental changes that ELLs go through in oral language acquisition and the reading instructional strategies that are most effective at each language level from beginning ELL to fully English proficient (Genesse et al., 2005). To complicate this issue, ELLs enter the classroom with different levels of competence in English, different experiences in formal education, and varied cultural backgrounds (Cloud, Genessee, & Hamayan, 2008). Therefore, these factors support the need for additional research in effective literacy practices for ELLs.

This study investigates the specific phonemic awareness skills and instructional methods that improve reading achievement for ELLs. The results of this study add to the understanding of teaching practices that yield better results for ELLs, who show signs of being at risk for reading failure in first and second-grade. By identifying the most effective foundational reading strategies, teachers can provide intervention to fill the learning gaps of ELLs before they fall behind monolingual learners in the elementary grades.

## **Possible Implications for Practice**

The Report of the National Literacy Panel on Language-Minority Children and Youth found that literacy instruction focused on phonemic awareness had a beneficial impact on language minority students (August et al., 2009). To have maximum benefit for reading, Ramirez Boatright (2013) suggested that oral English development must be incorporated into reading instruction. The result of the present study will inform the practice of elementary school teachers who teach Hispanic ELLs.

## **Process to Accomplish**

### **Design**

A quantitative causal-comparative strategy was used in this study. The eight hypotheses were between-groups designs. The two independent variables for all eight hypotheses were the type of instructional strategy (explicit and systematic phonological awareness instruction versus no explicit and systematic phonological awareness instruction) and gender (female versus male). The dependent variables for Hypotheses 1-4 and 5-8 were the measured reading achievement in rhyme recognition, rhyme production, phoneme segmentation, and phoneme blending, respectively. One sample of first graders was used for Hypotheses 1-4, and one sample of second graders was used for Hypotheses 5-8.

### **Sample**

The sample for this study included first- and second-grade students identified as ELLs in two Northwest Arkansas elementary schools. These two schools were chosen based on their similar student demographics of grade configuration, ethnicity, and poverty rate. All students selected for the study were identified as ELLs using a home

language survey that indicated the primary language spoken in the home was a language other than English. The majority of the students spoke Spanish as their native language. Classes consisted of approximately 25 students each. The population of both schools consisted of 65%-75% of the participants as ELLs. Both schools averaged at least 90% of their students qualifying for free or reduced-cost lunches. Sixteen intact classrooms in the two schools were identified to take part in the study, eight per school. A convenience sample of first and second-grade Hispanic students was selected from two schools to participate in this study. The sample consisted of two groups of participants. In each grade, one group of students received systematic and explicit phonological reading instruction and the other group of students received no systematic and explicit phonological reading instruction. Hispanic students who were new to the country (less than 1 year in attendance in school in the United States) or a Level 1 (beginning English) ELL students were excluded from the study. Scores were examined for students based on grade level, teaching method, and gender.

The teachers in School 1 used an explicit and systematic phonological awareness approach when teaching phonemic awareness skills during guided reading. This continuum of phonological awareness tasks was taught in a particular order depending upon the grade level, guided reading level, and the differences in the Spanish and English languages that could cause confusion for ELLs were discussed during grade level planning meetings (August et al., 2009; Gersten & Baker, 2000; Pollard-Durodaola & Simmons, 2009; Vaughn et al., 2006). The recommended order allowed ELLs to apply their native Spanish language strengths in phonological awareness to the second language and minimized misunderstandings caused by the differences in the two languages.

Teachers in School 2 received no systematic and explicit phonological reading instruction professional development. Students in School 2 were taught phonological awareness skills integrated as part of the daily guided reading program outlined in the school district's reading program.

Both schools followed the district's reading curriculum units aligned to the Common Core State Standards. The school district's reading program included whole group phonetics lessons and guided reading. Both schools used leveled guided reading texts during reading instruction. In the Fall 2015, the district implemented Phonetic Connections by Benchmark Education. Both schools used the materials during large group phonics and phonemic awareness lessons. However, School 1 used the materials within the current systematic and explicit phonological awareness scope and sequence when they were appropriate. If the lessons did not fit the recommended scope and sequence of skills for the grade level studied, they were omitted. School 2 implemented the curriculum outlined by Benchmark Education (2012).

### **Instrumentation**

The ESRI (Shanker & Cockrum, 2013) is a set of test instruments designed to assess and diagnose individual students' reading abilities. The ESRI (Shanker & Cockrum, 2013) consists of 39 different tests in 10 different areas. The Emergent Literacy series consisting of four subtests tests was selected as the instrument for this study. This part of the reading inventory assesses the prereading skills of emergent readers. The concepts and skills measured on the Phonemic Awareness Tests have been found to correlate highly with later success in reading. These phonemic awareness subtests were Rhyme Production, Rhyme Recognition, Phoneme Blending, and Phoneme

Segmentation. There were eight questions for each subtest. A certified teacher trained on how to administer the assessment gave the test individually to each participant. The responses were scored as right or wrong. One point was given for each correct answer for a possible eight points per section. All test administrators followed a scripted set of directions, and they followed the same scoring directions for reliability.

At the end of the spring semester of 2016, a team of eight certified teachers was trained to administer the ESRI (Shanker & Cockrum, 2013) for emergent literacy, the Ekwall/Shanker Emergent Literacy Reading Inventory. For reliability purposes, each test administrator practiced giving the test and comparing scores with another certified teacher for calibration. The team of trained teachers administered the ESRI in English to Spanish-speaking ELLs in all 16 classes. The publishing company measured reliability and validity of this assessment. However, the results of the validity and reliability were not reported in the manual. In addition, Ramirez Boatright (2013) measured six reading inventory tools and found only two assessments that provided a more in-depth measurement of phonological awareness. The ESRI was one of the two assessments studied that met this qualification.

### **Data Analysis**

To address Hypotheses 1-8, eight 2 x 2 factorial analyses of variance (ANOVAs) were performed. Type of instruction (explicit and systematic phonemic awareness instruction versus no explicit and systematic instruction) and gender served as the independent variables for all the hypotheses. Rhyme recognition, rhyme production, phoneme segmentation, and phoneme blending measured by the ESRI (Shanker & Cockrum, 2013) served as the dependent variables for the two sets of four hypotheses (1-

4 and 5-8), respectively. Hypotheses 1-4 included first-grade ELL participants from two Northwest Arkansas schools; Hypotheses 5-8 included second-grade ELL participants from the same two schools. The null hypotheses were tested with a two-tailed test at a .05 level of significance. A Bonferroni correction was used to adjust the probability value because of the increased risk of type I errors when performing multiple statistical tests.

## **CHAPTER II**

### **REVIEW OF THE RELATED LITERATURE**

Students entering schools in the U.S. come from many cultures. The fastest growing population of students in the nation's schools today is English language learners (ELLs). Arkansas' enrollment of ELLs has increased 95% since 2005. During the 2013-2014 school year, 86% of ELLs students enrolled in Arkansas' schools spoke Spanish as their native language (Arkansas Department of Education, 2014). In desiring to help all children learn, teachers' quality of instruction plays a major role in determining if students achieve or fall behind their monolingual peers. Calderón, Slavin, and Sanchez (2011) reviewed studies about ELL instructional methods and found that school structures, leadership, and literacy instruction were important components necessary for the achievement of ELLs. Izquierdo (2012) supported their findings and added that administrators who lacked foundations of second-language acquisition and who did not have the understanding and skills to deliver content were common in schools with high populations of ELLs. Therefore, this literature review was conducted to find effective literacy instruction for ELLs to inform practicing administrators and school teachers. The components researched were balanced literacy approach, phonological awareness, and phonemic awareness methods for ELLs, which constitute language acquisition practices and factors that may hinder or help reading achievement of ELLs. Other topics reviewed included the theories of language acquisition and effective methods of ELL instructional

methods. Foundational reading skills have been shown to be a predictor of reading achievement for all students, regardless of their nationality (Lesaux et al., 2014). Therefore, the research reviewed informed practitioners about the differences in phonology for teaching reading to ELLs. The culmination of this review was meant to better inform administrators and teachers in schools serving ELL students in Arkansas.

### **Critical Need to Improve Instructional Delivery**

U.S. classrooms are becoming more diverse. Many ELLs come from homes or cultures where literacy activities, such as reading stories, are not common (Lesaux et al., 2014). As a result, preschool children living in homes in which the parents' first language is not English are at risk for anything from reading failure upon entering kindergarten in the United States or limited oral language development in their native language to little exposure to reading activities before school. In addition, once ELLs enter school, little has been done to reduce the gap in reading achievement between language minority students and their native English language peers (Lesaux et al., 2014). This is due in part to a limited research base of best literacy instruction practices for ELLs. However, some studies have found promising results in reducing the achievement gap between ELLs and their language peers.

Receptive and expressive language are important components in reading development. Kelly et al. (2015) found children who entered kindergarten with strong receptive Spanish language developed strong English phonemic awareness skills. This was because children could transfer their knowledge from Spanish phonemic awareness to English phonemic awareness. However, there was not a strong relationship between Spanish language receptive skills and English vocabulary and comprehension, unless

instruction was also paired with Spanish receptive language, vocabulary, and comprehension. Since 2002, the number of students participating in ELL programs in Arkansas has grown from 15,146 to 32,671 (National Center for Education Statistics, 2015). Because vocabulary and reading comprehension skills are also important to reading development, dual language instruction is an area of research for further studies. This issue has ramifications for Arkansas because it is an English-only state, and teachers must give all instruction and assessments in English.

Empirical studies with ELLs have revealed that first language and second language word reading was positively related to phonological awareness and word recognition (Durgunoglu et al., 1993). Researchers have found ELLs were particularly at risk for reading failure because they could not depend on the natural transfer skills, such as phonemic awareness, from their native language to the new language; therefore, teacher instruction was vital in helping students make this transfer of skills. In their longitudinal study, Keiffer and Lesaux (2008) investigated the English reading achievement of over 17,000 language minority students compared to native English language speakers from kindergarten to the end of fifth-grade. They found that language minority students proficient in English upon entering kindergarten and native English language speakers followed the same reading achievement trajectories. However, language-minority students who entered kindergarten with limited English proficiency consistently performed below both fully English proficient language minority students and native English language speakers, even when controlling for factors such as poverty.

An ELL's English language acquisition level may impact reading development. Limited English proficiency has been directly correlated with low literacy achievement

over time. Oh et al. (2007) studied the reading achievement of 316 Kindergarten ELLs from three different high minority, high poverty schools. The children's reading achievement was followed for 2 years. The researchers found limited English proficiency was directly related to low reading achievement. In addition, phonemic awareness was a strong predictor of reading achievement.

Sound teaching practices of early foundational skills, such as phonemic awareness, have been shown to reverse the trajectory for ELLs entering kindergarten. Historically, however, early reading difficulties have caused ELLs to fall behind their native speaking and English proficient minority students. As a result, many ELLs have been disproportionately placed in special education programs (Artiles, Rueda, Salazar, & Higareda, 2005). The civil rights of many ELLs in American Schools may have been violated if the children did not receive research-based, effective instruction in foundational literacy skills. In *Lau v. Nichols* in 1974, the Supreme Court decided that, "for public schools to comply with their legal obligations under Title VI of the Civil Rights Act of 1964, schools had to ensure that students with limited English proficiency could participate meaningfully in educational programs" (p.563). Some might feel that this is in jeopardy now that the federal government's role in the education of ELLs has been reduced. Even though ESSA (2015) placed more accountability on states to meet the needs of ELLs, states could interpret the law differently because there is no longer a single federal accountability system. Prior to ESSA, the federal role in education had been critical to safeguarding the civil and educational rights of ELLs. Because ESSA placed the responsibility back with the states, there will need to be broader and deeper

dissemination of what research has found about the most effective classroom practices for ELLs (Pompa, 2015).

### **School Literacy Achievement of ELLs**

ELLs have historically not scored as high in reading achievement as their English-language speaking peers. Lesaux et al. (2014) argued this was because the needs of language minority students were not being met in current elementary schools. In their study, they found students' English reading performance was three grade levels below the national average. For example, the average reading level for fifth-grade students was at second grade. They argued that, without targeted instruction, ELLs did not catch up to the national average. The National Assessment of Educational Progress has supported these findings from 2003 to 2009 (National Center for Educational Statistics, 2009). In 2003, 72% of ELLs scored below the fourth-grade reading level, and 71% of eighth-grade students scored below grade level, as well. By 2009, the scores had not improved with 94% of the fourth-grade and 97% of eighth-grade ELLs scoring below grade level in reading comprehension (National Center for Educational Statistics, 2009). Since 2009, improvement has been made. However, the majority of ELLs have still lagged behind monolingual students with 69% scoring at the Below Basic level compared to 29% of monolingual students (National Center for Educational Statistics, 2013). To compound this issue, the ELL student population has become the fastest growing minority group in the United States. According to the National Center for Educational Statistics (2013), the percentage of ELLs in 26 states showed a 0.1 to 3.4% increase from 2009 to 2012, which presents the challenge for educators to learn best practices in teaching a growing population of ELLs in America's classrooms today.

Based on a review of the literature, targeted, foundational literacy instruction using best practices has improved the reading achievement of language minority students. However, this has not been enough to close the achievement gap between English language students and language minority students who enter school without a foundation in the English language. According to Herrera et al. (2015), teachers should deliver instruction in an organized way, provide visual input of key concepts, and give opportunities for students to learn how to learn by applying their knowledge in meaningful ways. Learning to read and write in English is critical to the academic success of ELLs, not only in school but beyond as well (National Literacy Panel on Language-Minority Children and Youth, 2006). Recognizing the low literacy achievement in a growing minority population with special language acquisition needs, educators are challenged to use the most effective techniques to educate ELLs. However, the educational needs of this diverse population vary.

ELLs have been loosely classified into four main categories. According to Fisher et al. (2011), these are:

- Recent arrivals with high native language literacy skills and little to no English
- New arrivals with low native language literacy skills and little to no English
- Students who have lived in the U.S. for two to five years and are making adequate progress in English literacy proficiency
- Long-term U.S. residents who have little literacy in their native language, average oral language skills in English, and low literacy achievement in both languages. (p. 6)

This last group is the largest and the most at risk for school failure (Fisher et al., 2011).

Teachers can reverse the trajectory of low reading achievement of ELLs.

Researchers have found that teachers reduced the achievement gaps and increased the rate of second language acquisition by teaching students in the fourth group to apply a variety of learning strategies during classroom tasks that moved from a focus lesson to guided practice, to independent practice with teacher support (Fisher et al., 2008). This practice, called the gradual release of responsibility, has been recommended as beneficial when teaching ELLs. In addition, the same methods can be applied in explicit phonemic awareness tasks supported by the teacher in guided reading lessons (Linan-Thompson & Vaughn, 2007). Due to the diverse needs of ELL students, the role of the teacher in developing literacy becomes even more important. As ELLs continue to grow in population, it is imperative that educators respond by using sound research practices to improve the reading achievement of ELLs in United States schools.

### **Historical Background**

To address the issue of a history of weak literacy achievement of ELLs in American schools, the Institute of Education Sciences (2002) selected a panel of 13 experts in second language development, cognitive development, curriculum, assessment, and reading pedagogy to review the quantitative and qualitative research on the development of literacy in language-minority students. These experts formed the National Literacy Panel on Language-Minority Children and Youth. The task before the panel was to do a meta-analysis of the research on the education of language-minority youth and write a report of the findings. Only studies that involved empirical data were included. In addition, language-minority students had to make up at least 50% of the

sample population. The research included for review dated back to 1980. Only peer-reviewed studies in the five domains below were selected.

1. Literacy in language-minority children
2. Cross-linguistic relationships between native languages and English
3. Sociocultural contexts and literacy development
4. Instruction and Professional Development
5. Student Assessment

The purpose of the report was to guide researchers studying literacy in language-minority students and teachers who wanted to learn the best practices for teaching literacy to language-minority students. The document this committee developed went through two rounds of external review by anonymous reviewers and seven drafts before publication.

The committee found the research base in all selected areas was extremely limited (Institute of Education Sciences, 2002). Of the original 1,800 studies, only 293 were included in the final report (August et al., 2009). Although limited, this research was significant in showing effective strategies in the field of literacy instruction for ELLs. Most of the studies on reading readiness noted that explicit and systematic phonemic awareness strategies produced positive effects when compared to no explicit and systematic phonemic awareness instruction (National Reading Panel, 2000; Linan-Thompson & Vaughn, 2007). However, few of the studies examined were longitudinal in nature. Given the lack of longitudinal designs, findings were reported based on concurrently examining the skills. In addition, it was not possible to conclude how bilingualism related to phonological awareness. Although most of the studies indicated that second-language learners performed as well or better than monolingual peers on

phonological awareness tasks, the findings varied depending upon factors such as the child's native language proficiency, early language experiences, and the stage of second language development.

Even though children in U.S. schools differ in nationalities and languages spoken, they may learn skills in similar ways. A large body of research supported the findings that ELLs and native English speakers both learned phonological awareness and phonics in similar developmental stages (August et al., 2009; Gersten & Baker, 2000). However, researchers cautioned that linguistic differences between Spanish and English could cause confusion for ELLs when learning to read. Therefore, levels of instructional support required explicit instruction for successful reading development (Gersten & Baker, 2000; Gersten et al., 2007). Other methods should be employed as well, such as using the linguistic similarities in Spanish and English to accelerate the learning and transfer of skills through explicit and systematic instruction (Kamps et al., 2007; Pollard-Durodola & Simmons, 2009). August et al. (2009) argued that a systematic reading intervention program should include the following components. A systematic reading intervention program should provide explicit instruction on how the languages are the same and different, integrate phonemic and alphabetic/orthographic tasks, and scaffold the task complexity. Systematic reading instruction involves teaching skills in a specific manner. By explicitly modeling and explaining how Spanish and English are the same and different, teachers can help students develop understanding. The sounds that are the same should be taught first, followed by the sounds that are different. When teachers provide scaffolding of tasks from easiest to hardest and integrate phonemic awareness and

phonics tasks during reading and writing guided lessons, the students can apply the skills in meaningful ways.

## **Essential Literacy Instruction**

### **A Balanced Approach to Teaching Reading**

A balanced approach consisting of five literacy elements should be implemented in all kindergarten through third-grade classrooms in the United States (National Literacy Panel, 2000). These elements are phonemic awareness, phonics, vocabulary, comprehension, and fluency. Following a balanced approach to reading, explicit skill instruction, applied practice, and ongoing formative assessments have been recommended as effective practices for improving these five literacy elements in ELLs (Gersten et al., 2007). These effective practices can be applied in meaningful, engaging ways during literacy instruction to yield strong reading achievement results.

The existence of phonological awareness is an important component of learning to read for both Native English language students and ELLs. Although all elements of reading have been shown to be equally important in reading development, phonological awareness continues to have an impact on early reading development in later grades. Kelly et al. (2015) conducted a 3-year longitudinal study that followed 120 Spanish-speaking students from kindergarten through the end of second-grade. They found that children who entered kindergarten with low receptive language abilities and low phonological awareness in students' native language influenced later English reading development difficulties. This finding meant that teachers of ELLs should focus on early language foundational reading skills to ensure the success of ELLs.

The phonological awareness skills most highly related to reading should be taught in the following order, from easiest to hardest:

1. Onset-rime blending and segmentation
2. Blending individual phonemes
3. Segmenting of individual phonemes
4. Phoneme deletion and manipulation

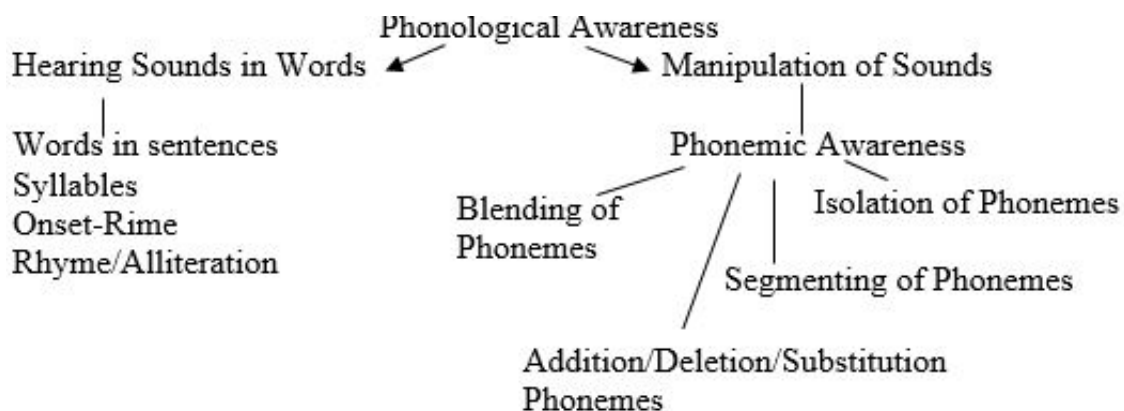
This method of systematic instruction has been effective over time (Pollard-Durodaola & Simmons, 2009). In addition to a systematic approach to teaching phonological awareness, these researchers noted that the most effective strategies for teaching ELLs have included explicit skill instruction, developing meaning by building understanding, opportunities to practice the skills, ongoing assessment and feedback, and a balanced literacy curriculum.

### **Phonological Awareness and Phonemic Awareness Methods for ELL**

Phonological awareness is the ability to hear, identify, and manipulate individual sounds (phonemes, onsets, and rimes) by moving, combining, and deleting sounds (Wagner & Torgesen, 1987). Children who are not aware of phonemes are at serious risk because the level of phonological awareness upon entering school is widely held to be the single strongest predictor of reading achievement (Adams, 1990). This finding is true of not only English-speaking students but of Spanish-speaking students as well (Lesaux et al., 2014). Children learning English as a second language must be able to comprehend and produce the sounds of English to develop control of English phonology. The research on phonological awareness and phonological transfer suggests that bilingual children may have more highly developed metalinguistic skills compared to children who speak one

language (Bialystok, 2007). Therefore, it is recommended that phonological awareness literacy programs take advantage of this strength by using explicit instruction in phonological awareness and phonics (August et al., 2009). Other researchers support this belief, as well. Kamps et al. (2007) found that explicit teaching of English development and phonological awareness is the most effective instructional strategy that predicts ELL student growth, followed by targeted instruction for low performers. Furthermore, they found the teaching of reading and writing through the similar sounds and patterns that the languages shared allowed for the natural transfer of phonological awareness from one language to the other.

Phonemic awareness is not the same as phonological awareness. Phonemic awareness is a subset of phonological awareness. Phonemic awareness is the ability to segment words into phonemes (the smallest unit of speech) and the ability to blend phonemes into words (Adams, 1990). Hempenstall (2011) described the relationship between phonological awareness and phonemic awareness. This relationship is outlined in the diagram below (Figure 1).



*Figure 1.* The relationship between phonological awareness and phonemic awareness.

Although all components of reading achievement are important, some may have a greater impact on reading achievement. Ehri et al. (2001) noted that segmenting and blending phonemes have been found to have the greatest impact on reading development. In their quantitative meta-analysis of 52 studies evaluating the effects of phonemic awareness instruction on learning to read, they found that improved phonemic awareness resulted in improved reading instruction. They also noted that it was more effective when taught using letters and that segmenting and blending phonemes had the greatest impact on the ability to read. A study completed by Gersten et al. (2007) supported these findings. Researchers found preschool-age children's awareness of phonemes had historically been shown to account for as much as 50% of the variance in reading proficiency at the end of first-grade.

## **Language Acquisition and Reading Practices**

### **Language Acquisition**

Some experts have given guidance on the best methods for teaching reading to ELLs. The National Panel on Language-Minority Children and Youth (2006) proposed that the key elements of reading instruction, outlined by The 2000 National Reading Panel Report, were not sufficient to develop proficiency (Lesaux, Koda, Siegel, & Shanahan, 2006). Their review of research supported the development of oral language in English as a predictor of reading and writing proficiency (August et al., 2009). Saunders et al. (2006) also supported this finding. They studied the language acquisition of ELLs who received explicit language instruction during a protected daily block of time compared to the language acquisition of ELLs who received language instruction embedded throughout the day. Students who received the protected block of time were

divided into groups by their beginning language proficiency levels. Students who received instruction embedded throughout the day were mixed with monolingual peers for instruction. The researchers found that ELLs who received explicit daily instruction in English language instruction during a protected block of instructional time outperformed ELLs that had English instruction embedded within the literacy instruction block.

### **Learned Theory and Applied Theory**

There are two differing theories of reading instruction that have been identified. According to Freeman and Freeman (2014), the two theories are learned theory and applied theory. These researchers described the learned method of reading as beginning with small parts and building up to an understanding of whole texts. Beginning reading includes developing phonological and phonemic awareness through rote drill, practice, and learning of the phonetic rules (Freeman & Freeman, 2014). This sequence involves learning letters, connecting letters with sounds, and then combining letters to make words. Words are then combined into sentences and longer texts. In the learned theory, emphasis is placed on sounds and the association of sounds and letters, but not necessarily making meaning. The assumption is that meaning develops as students put together a series of words. Each part of this process is taught in a drill and practice format in isolation and then tested. Small, decodable texts with simple vocabulary are used to practice reading.

Research practices, studied by the National Literacy Panel on Language-Minority Children and Youth, did not support using small, decodable texts to teach ELLs to read (August et al., 2009). In contrast, the applied theory begins by reading and writing with children. In describing the applied theory, Freeman and Freeman (2014) noted that, as

teachers read to and with children, beginning readers acquire phonological and phonemic awareness because of the process, not because of drill and practice methods. Phonology is an important component in methods of reading instruction. It is defined by explicitly teaching the tasks in systematic, meaningful ways. With this theory, students learn how to apply skills using three cueing systems to make meaning while reading authentic texts. By interacting with the text, students gradually acquire graphophone knowledge and use graphophone cues, along with syntactic and semantic cues, to construct meaning. The progression moves from reading aloud to shared reading, guided reading, and independent reading with good children's literature (Fountas & Pinnell, 2010). Recent research on teaching reading to ELLs has supported the applied theory of teaching reading (August et al., 2009). This approach focuses on making the content understandable to the student by repeating readings of familiar texts, emphasizing phonemic awareness and phonics application, and participating in structured language discussions about the content.

### **Gradual Release of Responsibility**

Educators who make informed, purposeful decisions when planning reading instruction for ELLs can make the difference between students becoming literate in the second language or not. Teachers have reduced gaps and increased the rate of second language acquisition by giving students the opportunity to apply a variety of learning strategies during classroom tasks (Fisher et al., 2008). This practice, the gradual release of responsibility model, has been recommended as beneficial to ELLs. However, even though teachers have employed the gradual release of responsibility model, Foster and Ohta in their 2005 study noted that ELLs have remained passive observers in many high

poverty, high ELL classrooms. When ELLs did speak, they responded with simple sentences or short phrases (Foster & Ohta, 2005). These findings identified a gap between best practices suggested by the National Minority Language Panel and actual classroom application of the best teaching methods. If students were to understand reading and writing, they needed opportunities to practice speaking it. In 2000, Norris and Ortega and, more recently, Freeman and Freeman (2014) argued that a component of explicit and systematic instruction was to provide meaningful opportunities for using newly taught language features and foundational reading skills with high accountability for application. Interactive speaking, reading, and writing activities had to follow a carefully structured system in which students used the language correctly.

### **Linguistic Development and Literacy Achievement**

#### **Phonology for Teaching Reading to English Language Learners**

Phonological awareness skills in English may be more difficult to learn if students' second language differs greatly compared to the first language. Goswami (2008) explained that, because the English language was characterized by onset-rime segmentations and syllables that end in obstruents (e.g. stops such as /d/, /t/, /p/), transfer of phonological awareness from Spanish to English might be difficult. Therefore, ELLs should be explicitly taught the phonemes, phoneme combinations, and language structures (August et al., 2009). Within both alphabets, 22 letters are the same in both English and Spanish. Therefore, these letters should be taught first, followed by the letters which exist in English, but not in Spanish (Pollard-Druodola & Simmons, 2009). Their study suggested that Spanish-speaking students naturally develop their understanding of syllables, onsets, and rimes before paying attention to individual

phonemes. Other researchers recommend that early reading instruction for ELLs should include a focus on similar phonological units that could transfer between languages and the linguistic differences that exist between the languages (Cardenas-Hagan, Carlson, Pollard-Durodola, 2007; Durgunoglu, 2002; Leafstedt & Gerber, 2005). In addition, Pollard-Druodola and Simmons (2009) found Spanish-speaking students may have difficulty with pronouncing and writing certain sounds because either they do not exist in their native language, or they may represent different sounds in their native language. For example, the /y/ in English and the /ll/ in Spanish make the same sound.

### **Language Transfer Issues**

The National Literacy Panel on Language-Minority Children and Youth (2006) reviewed research studies on the relationship between language-minority children's first language and second language oral development and reading development. They also reviewed studies that examined how children's literacy skills acquired in the first language could be used to acquire skills in the second language. This is known as cross-linguistic relationships. They found children's first-language knowledge could positively affect the reading acquisition skills of the second language. In respect to phonological awareness, they found three studies with strong evidence that showed a significant relationship between children's phonological processing in the native language and cross-language effects for phonological awareness. ELL children with high levels of phonological awareness in the first language also had high levels of phonological awareness in the second language. Genesee, Lindholm-Leary, Saunders, and Christian (2005) supported this finding, as well. Their view of effective research-based practices for ELLs established that the first language should be used to make generalizations in the

second language. This allows for transfer of skills to aid reading development in the second language. Because Spanish and English are both alphabetic languages, learning to read in both languages is dependent on mastering prerequisite phonological skills. However, Spanish phonological awareness differs from English phonological awareness. Spanish-speaking children attend to vowel discrimination before consonants (Pollard-Durodola & Simmons, 2009). Most Spanish-speaking students develop sensitivity first to syllables, then onset and rime, and lastly to individual phonemes (Goswami, 2008; Pollard-Durodola & Simmons, 2009). Therefore, explicit or direct instruction should follow this sequence.

### **Gender Literacy Achievement Gap**

Girls have historically scored higher compared to boys on reading achievement tests (Loveless, 2015). This includes children of many nationalities, as gender differences in reading are not confined to the United States. In children as young as nine, girls consistently outscore boys on international assessments (Mullis, Martin, Foy, & Drucker, 2012). The Program in International Reading Literacy Study (Mullis et al., 2012) was conducted in 49 nations. The main findings showed that reading scores for girls exceeded those for boys on eight recent assessments of U.S. reading achievement. The National Assessment of Educational Progress (2015) also supported these findings. Specifically, the gender gap was larger for middle and high school students compared to elementary school students. However, it is important to note that the gap has decreased since the early 1970s (Loveless, 2015). However, the gap reduction change has been small.

A factor contributing to this disparity in the United States might be the differential treatment of racial minority students based on gender early in children's education

(Presidential Task Force on Educational Disparities, 2012). Whitmire (2010) argued that there were several reasons for boys' low reading scores, which included poor reading instruction (particularly a lack of focus on phonics) and too few books appealing to boys' interests. Whitmire proposed that schools should do more to address the reading achievement gap between boys and girls. In addition, research indicates that teacher expertise matters more than which reading program a district chooses to use in classrooms (Allington, 2001). Padron (2002) supported this suggestion and argued that the most serious educational failure of Hispanic students was due to a shortage of adequately qualified teachers and a lack of appropriate preparation among credentialed teachers. How prevalent is this issue? Nearly 56% of all teachers have at least one Latino, ELL student in their classrooms, yet only 20% of those teachers are certified to teach this population of students (Alexander, Heaviside, & Ferris 1999). Since 1999, the need for qualified English as Second Language teachers has increased. By 2004, the increase of Hispanic students in Arkansas had grown by 508% (Brozo, 2011). Yet he/she found that teacher professional development programs had not kept pace with the large influx of ELL students nationwide.

### **Conclusion**

ELLs' first language has an impact on the reading development in their second language. Therefore, effective literacy practices for ELLs, including specific strategies, should be used when teaching reading to ELLs. These include an explicit and systematic phonological awareness instruction through meaning-making activities, an explicit explanation about how the first language phonological awareness skills relate to the second language skills during reading lessons, and a systematic order in which the skills

should be taught. Teaching the sounds that are the same should be taught first, followed by the sounds that differ between the two languages.

By understanding how the reading methods differ, a teacher can better plan to scaffold ELLs as they are completing phonemic awareness tasks. Explicit or direct instruction involves demonstrating, prompting, and practice of skills (Gyovai et al., 2009). Explicit instruction is a systematic instructional approach that includes explicitly articulating the goals, modeling how to do the task, assessing student understanding of the steps, and monitoring students applying the skill (Vaughn et al., 2006). Systematic instruction is a logical sequence or logical order that should be used when teaching foundational reading skills. Prerequisite skills should be taught before skills that are more complex. Research reviewed about the best practices for teaching ELLs phonemic awareness have advocated for a systematic, explicit approach to teaching these foundational skills.

## **CHAPTER III**

### **METHODOLOGY**

The review of literature presented evidence that systematic and explicit phonemic awareness instruction had an effect on reading achievement. Specific student groups, such as ELLs, have consistently lagged behind their monolingual peers on reading achievement (Calderón, 2012; Hemphill & Vanneman, 2011; Lesaux et al., 2014). Researchers proposed that ELLs needed specific reading instructional methods to make content comprehensible and to transfer knowledge from their native language to the second language (Durgunoglu, 2002; Herrera et al., 2015). However, the research regarding teaching literacy to ELLs was extremely limited. In addition, Izquierdo (2012) argued that many teachers and administrators nationwide, who lacked knowledge in ELL pedagogy, were common in schools with high populations of this student group. The Hispanic student group has been the fastest growing group in Arkansas, as cited in the Arkansas State Aid Notice (Arkansas Department of Education, 2014). Therefore, this study was developed to examine best practices for teaching phonemic awareness literacy skills to this student population.

This study included two main questions, with each having four parts. First, what effect does gender and type of instruction, explicit and systematic phonemic awareness instruction versus no explicit and systematic instruction, have on rhyme recognition, rhyme reproduction, phoneme segmentation, and phoneme blending measured by the

ESRI (Shanker & Cockrum, 2013) for first-grade ELLs in a Northwest Arkansas school district? Second, what effect does gender and type of instruction, explicit and systematic phonemic awareness instruction versus no explicit and systematic instruction, have on rhyme recognition, rhyme reproduction, phoneme segmentation, and phoneme blending measured by the ESRI for second-grade ELLs in a Northwest Arkansas school district? From these questions, the following hypotheses were generated:

1. No significant difference will exist by gender between students who are exposed to explicit and systematic phonemic awareness instruction versus those not exposed to explicit and systematic instruction on rhyme recognition measured by the ESRI for first-grade ELLs in a Northwest Arkansas school district.
2. No significant difference will exist by gender between students who are exposed to explicit and systematic phonemic awareness instruction versus those not exposed to explicit and systematic instruction on rhyme production measured by the ESRI for first-grade ELLs in a Northwest Arkansas school district.
3. No significant difference will exist by gender between students who are exposed to explicit and systematic phonemic awareness instruction versus those not exposed to explicit and systematic instruction on phoneme segmentation measured by the ESRI for first-grade ELLs in a Northwest Arkansas school district.
4. No significant difference will exist by gender between students who are exposed to explicit and systematic phonemic awareness instruction versus

those not exposed to explicit and systematic instruction on phoneme blending measured by the ESRI for first-grade ELLs in a Northwest Arkansas school district.

5. No significant difference will exist by gender between students who are exposed to explicit and systematic phonemic awareness instruction versus those not exposed to explicit and systematic instruction on rhyme recognition measured by the ESRI for second-grade ELLs in a Northwest Arkansas school district.
6. No significant difference will exist by gender between students who are exposed to explicit and systematic phonemic awareness instruction versus those not exposed to explicit and systematic instruction on rhyme production measured by the ESRI for second-grade ELLs in a Northwest Arkansas school district.
7. No significant difference will exist by gender between students who are exposed to explicit and systematic phonemic awareness instruction versus those not exposed to explicit and systematic instruction on phoneme segmentation measured by the ESRI for second-grade ELLs in a Northwest Arkansas school district.
8. No significant difference will exist by gender between students who are exposed to explicit and systematic phonemic awareness instruction versus those not exposed to explicit and systematic instruction on phoneme blending measured by the ESRI for second-grade ELLs in a Northwest Arkansas school district.

The six goals of this chapter are to (a) explain the research design of this study, (b) describe the subject and explain the sample selection process, (c) identify and describe the instrumentation, (d) explain the data collection process, (e) provide a justification for the analytical methods used, and (f) note any limitations of this study.

### **Research Design**

A quantitative, causal-comparative strategy was used in this study. The eight hypotheses were factorial between-groups designs. The two independent variables for all eight hypotheses were the type of instructional strategy (explicit and systematic phonological awareness instruction versus no explicit and systematic phonological awareness instruction) and gender (female versus male). The dependent variables for Hypotheses 1-4 and 5-8 were the measured reading achievement in rhyme recognition, rhyme production, phoneme segmentation, and phoneme blending, respectively. One sample of first graders was used for Hypotheses 1-4, and one sample of second graders was used for Hypotheses 5-8.

### **Sample**

The researcher used first and second-grade students identified as ELLs in two Northwest Arkansas elementary schools. The researcher chose the two schools based on their similar student demographics of grade configuration, ethnicity, and poverty rate. All students selected for the study were identified as ELLs using a home language survey that indicated the primary language spoken in the home was a language other than English, with the majority of the students speaking Spanish as their native language. Classes, in the schools, consisted of approximately 25 students each, and the population of both schools consisted of 65%-75% of the participants being ELLs. Both schools averaged at

least 90% of their students qualifying for free or reduced-cost lunches. Sixteen classrooms were identified to take part in the study—eight per school. A convenience sample of first and second-grade Hispanic ELL students was selected from two schools to participate in this study.

The sample consisted of two groups of participants. In each grade, one group of students received systematic and explicit phonological reading instruction and the other group of students received no systematic and explicit phonological reading instruction. Hispanic ELL students who were new to the country (less than 1 year in attendance in school in the United States) and a Level 1 (beginning English) were excluded from the study. This is due to the possibility that this student group did not have enough English language knowledge for valid results. Students classified as highly mobile (enrolling in school 1 or school 2 after October 1) were also excluded from the study. Scores were examined for students based on grade level, teaching method, and gender.

Using a stratified random sampling technique from the two accessible populations (the two schools using the different instructional methods), the first-grade students who met the ELL designation in School 1 and School 2 were divided into males and females; males and females for the two samples were then randomly selected. This method was repeated for the second-grade students. School 1 served as the school implementing systematic and explicit phonemic awareness instruction, and School 2 served as the school having no systematic and explicit phonemic awareness instruction. The 2 x 2 factorial design for each hypothesis included students in each cell, equaling 142 students for each analysis for Hypotheses 1-4 and 25 students in each cell, equaling 50 students for Hypotheses 5-8.

The teachers in School 1 used an explicit and systematic phonological awareness approach when teaching phonemic awareness skills during guided reading. Teachers taught lessons daily for 20 minutes per group and used the same guided reading lesson-planning template for each group in first and second grades. Teachers participated in ongoing, job-embedded professional development. They met for 40 minutes twice a week; 1 day was used for lesson planning, and the other day was used as a Professional Learning Community work session (Dufour & Eaker, 1999). The lead teachers for each grade and the instructional coaches for each grade had ESL certification and used their background knowledge during planning and Professional Learning Community work sessions to facilitate discussions. Both the principal and assistant principal had ESL certification and participated in most Professional Learning Community sessions for both grades, but the sessions were led by the lead teachers. During the Professional Learning Community, teachers analyzed phonemic awareness on student mastery progress; read research on teaching foundational literacy skills to all students, including ELLs; and sorted students into small groups for additional reading intervention based on the skills addressed during guided reading that students had not yet mastered. Resources used when planning included *Phonemic Awareness: The Skills that They Need to Help Them Succeed!* (Heggerty, 2003); *The Continuum of Literacy Learning* (Fountas & Pinnell, 2010); and the empirical studies and materials on foundational reading for ELLs (August et al., 2009; Freeman & Freeman, 2014; Gersten et al., 2007; Herrera et al., 2015; Pollard-Durodaola & Simmons, 2009; Vaughn et al., 2006). These resources were used during Professional Learning Community meetings and lesson planning sessions.

Each guided lesson consisted of the five components of literacy instruction: (a) phonemic awareness, (b) phonics, (c) fluency, (d) vocabulary, and (e) comprehension (National Literacy Panel, 2000). Specific phonemic awareness tasks during the word work section of the lesson included differences in the Spanish and English languages that could cause confusion for ELLs. The teachers compared these tasks with a continuum of phonological awareness tasks from the Common Core State Standards for planning purposes. To ensure implementation of systematic and explicit phonemic awareness instruction, the principal observed guided reading lessons using the Arkansas Teacher Excellence Support System and gave teachers specific feedback on the rubric domains and on implementation of systematic and explicit instruction pedagogy for ELLs. In addition, the principal or the assistant principal met bi-monthly with first- and second-grade level instructional facilitators during which phonemic awareness instructional implementation was discussed. Teachers needing support were provided coaching by the instructional facilitators.

Teachers in School 2 received no systematic and explicit phonological reading instruction professional development. In School 2, teachers taught phonological awareness skills integrated as part of the daily guided reading program outlined in the school district's reading program in four units of study. School 2 did not have ESL-certified lead teachers. The instructional facilitators, however, for first and second grades were ESL certified. The principal was not ESL certified, but the assistant principal was certified. The principal and assistant principal participated in Professional Learning Communities for both grade levels. To ensure implementation of guided reading instruction, the principal observed guided reading lessons and gave teachers specific

feedback on using the Arkansas Teacher Excellence Support System Rubrics. In addition, the principal met bi-monthly with first and second-grade level instructional facilitators during which phonemic awareness instructional implementation was discussed. Teachers needing support were provided coaching by the instructional facilitators.

The school district's reading program included whole group phonetics lessons and guided reading. Both schools used leveled guided reading texts during reading instruction. In addition, in the Fall 2015, the district implemented Phonetic Connections by Benchmark Education (2012). Both schools used the materials during large group phonics and phonemic awareness lessons. However, School 1 also used the materials within the current systematic and explicit phonological awareness scope and sequence when they were appropriate, as determined during Professional Learning Community work sessions. If the lessons did not fit the recommended scope and sequence of skills for the grade level according to the Common Core State Standards, they were omitted. School 2 implemented the curriculum outlined by Benchmark Education (2012) regardless of the alignment to standards

### **Instrumentation**

From the Emergent Literacy series, the ESRI (Shanker & Cockrum, 2013) consisting of four subtests tests was selected as the instrument for this study. This part of the reading inventory assesses the pre-reading skills of emergent readers. The phonemic awareness subtests given were Rhyme Production, Rhyme Recognition, Phoneme Blending, and Phoneme Segmentation. Each subtest consisted of eight questions. A certified instructional facilitator trained in administration of the assessment provided professional development on how to administer the assessment. The responses were

scored as right or wrong. One point was given for each correct answer for a possible eight points per section. All test administrators followed a scripted set of directions, and they followed the same scoring directions for reliability. The publishing company measured reliability and validity of this assessment. However, the results of the validity and reliability were not reported in the manual. In addition, Ramirez Boatright (2013) measured six reading inventory tools and found only two assessments that provided a more in-depth measurement of phonological awareness. The Ekwall/Shaker Reading Inventory was one of the two assessments examined that met this qualification.

The four Phonemic Awareness Assessment tests follow a similar format. For each subtest, the examiner models the skill being tested and provides one or two practice items before the student is given the eight test items. The Rhyme Recognition subtest measures the student's ability to recognize two rhyming words. The Rhyme Production subtest measures the student's ability to say a word that rhymes with two rhyming words given by the examiner. The Phoneme Blending subtest measures the ability of the student to produce a whole word after the examiner says the word slowly, separating each of the phonemes. The Phoneme Segmenting subtest requires the student to segment a whole word into phonemes after the examiner says the word.

### **Data Collection Procedures**

At the end of the Spring 2016 semester, a team of eight certified teachers was trained to administer the ESRI for emergent literacy (Shanker & Cockrum, 2013). For reliability purposes, each test administrator practiced giving the test and comparing scores with another certified teacher for calibration prior to giving the assessments to the students at both schools. The team of trained teachers then administered the ESRI in

English to Spanish-speaking ELLs in all 16 classes. The same test administrator gave the same subtest to all participants using a rotation system for increased validity. When a student finished one test, the student went to another teacher for the second test. The students were introduced to the test administrators prior to the testing sessions, and at least two teachers in each testing group were familiar to the students prior to testing. An instructional facilitator served as an observer during the test administrations to monitor for consistency in testing and answer questions that arose during administration. All students wrote responses on a paper copy of the test with a summary sheet stapled to the top. For data collection after testing, the students were assigned a number from 1-200 starting with first-grade and ending with second-grade. The Spanish-speaking students were coded as 1 if they participated in ELL classes and 2 if they did not. The male students were coded as 1; the female students were coded as 2. After testing, all numbers were coded. A codebook was developed without student identification information. Student identification numbers and phonemic awareness scores were entered into an EXCEL spreadsheet after the creation of the codebook. Data were uploaded from the EXCEL spreadsheet into IBM SPSS for analysis after completion of the codebook.

Data were stored on a password-protected, secure computer, and only I had access to the data collected and used for this study. Identities of participating schools and individual students were kept confidential. Data were coded, and no personal identifiers were used. All data collected during this study were kept confidential and were only used in an aggregate form to address the goals of this research. No risk was involved for subjects. Identifiable data were not recorded, published, or made public in any way.

### **Analytical Methods**

To address Hypotheses 1-8, eight 2 x 2 factorial ANOVAs were performed. Type of instruction (explicit and systematic phonemic awareness instruction versus no explicit and systematic instruction) and gender served as the independent variables for all the hypotheses. Rhyme recognition, rhyme production, phoneme segmentation, and phoneme blending measured by the ESRI (Shanker & Cockrum, 2013) served as the dependent variables for the two sets of four hypotheses (1-4 and 5-8), respectively. Hypotheses 1-4 included first-grade ELL participants from two Northwest Arkansas schools; Hypotheses 5-8 included second-grade ELL participants from the same two schools. The null hypotheses were tested using a two-tailed test with a .05 level of significance. A Bonferroni correction was used to adjust the probability value because of the increased risk of type I errors that are likely when performing multiple statistical tests.

### **Limitations**

In research studies, limitations need to be addressed to help readers interpret the results of the studies. The following limitations were associated with this study. First, there was a direct association with one of the schools used in this study: I worked at School 1. This exposure could have created a bias; however, I was aware of this potential bias from the beginning of the study and took steps to reduce bias by not administering the test to any of the participants at each school. In addition, I continuously referred to the purpose of the study, which was to determine the most effective method of teaching a large, growing population of students in the district in this study. Therefore, the purpose of the study, a quest for knowledge, was greater than the issue of one school achieving better than another school.

Second, because a convenience sample was used, this could affect the generalizability of the study's results to the larger population. I only used two schools within one school district, which has less than 100 students for each grade level. However, as reading achievement for students who were Hispanic ELLs were examined, the population from which the sample was taken was even smaller. In addition, a convenience sample was used for this study by selecting two grade levels at the two schools. Again, this could limit generalizations to the whole population of Hispanic ELLs in Arkansas.

Third, due to limited demographics within School 1 and School 2, only a small gender sample could be selected for this study. Therefore, the results might not be directly generalizable to the larger population of Hispanic males and females in first and second grades.

Fourth, this study was a causal-comparative posttest-only design. Therefore, the limited snapshot approach did not allow for a longitudinal study and was limited in scope, which could affect the study's validity. In addition, the levels of the independent variable were not manipulated, making the design vulnerable to pretreatment differences. Thus, the results of such a study need to be interpreted with caution.

## **CHAPTER IV**

### **RESULTS**

The study was a quantitative, causal-comparative strategy. The eight hypotheses were between-groups designs. The two independent variables for all eight hypotheses were the type of instructional strategy (explicit and systematic phonemic awareness instruction versus no explicit and systematic phonemic awareness instruction) and gender (male versus female). The dependent variables for Hypotheses 1-4 and 5-8 were the measured reading achievement in rhyme recognition, rhyme production, phoneme segmentation, and phoneme blending, respectively. One sample of ELL first graders was used for Hypotheses 1-4, and one sample of ELL second graders was used for Hypotheses 5-8.

#### **Analytical Methods**

*IBM Statistical Packages for the Social Sciences (SPSS) Version 22* was used for data analysis. Additional information as to the proper tests to conduct was obtained from *IBM SPSS for intermediate statistics* (Morgan, Leech, & Barrett, 2013). Data collected for the eight hypotheses were coded according to instructional strategy and gender. The following codes were used for each participant: instructional method (1 = explicit and systematic phonemic awareness instruction, 2 = no explicit and systematic phonemic awareness instruction) and gender (1 = male, 2 = female).

Next, the eight hypotheses were analyzed using the following statistical analyses. To address Hypotheses 1-4, four 2 x 2 factorial ANOVAs were conducted using instructional strategy by gender as the independent variables. Rhyme recognition, rhyme production, phoneme segmentation, and phoneme blending measured by the ESRI assessment were used as the dependent variables for first-grade ELL students, respectively. To address Hypotheses 5-8, four 2 x 2 factorial ANOVAs were conducted using instructional strategy by gender as the independent variables. Rhyme recognition, rhyme production, phoneme segmentation, and phoneme blending measured by the ESRI assessment were used as the dependent variables for second-grade ELL students, respectively. To test the null hypotheses, a two-tailed test with a .05 level of significance was employed. The statistical assumptions of normality and homogeneity of variances were checked prior to running the statistical analyses. The histograms were observed for a normal distribution. This inspection revealed a positive skew with only a few outliers on each of the ends of the distribution. Extreme outliers were omitted from the study (Morgan et al., 2013).

### **Demographics**

For this study, student demographics and scores from two schools in one school district in northwestern Arkansas were used. The two schools were chosen based on their similar student demographic of grade configuration, ethnicity, poverty rate, and reading instructional methods employed. In the two schools, the classrooms consisted of heterogeneous grouping of students. All first-grade and second-grade, Spanish-speaking ELL students who were enrolled before October 1, 2015 were selected for the study. Hispanic ELL students who were new to the country (less than 1 year in attendance in

school in the United States) and a Level 1 (beginning English) were excluded from the study. This was due to the possibility that this student group did not have enough English language knowledge for valid results. Students classified as highly mobile (enrolling in School 1 or School 2 after October 1st) were also excluded from the study.

The population of both schools consisted of 65%-75% of the participants being ELLs. Both schools had similar numbers of Spanish-speaking ELLs in first grade. However, the comparison school (School 2) had a larger population of Marshallese students in second grade, which made the sample size at School 1 much larger compared to School 2, after the Marshallese students were taken out of the sample. To adjust for this difference, 25 second-grade students were randomly selected from School 1.

### **Hypothesis 1**

Hypothesis 1 stated that no significant difference will exist by gender between students who are exposed to explicit and systematic phonemic awareness instruction versus those not exposed to explicit and systematic instruction on rhyme recognition measured by the ESRI for first-grade ELLs in a Northwest Arkansas school district. The population from which the sample was selected was not normally distributed. Skewness and kurtosis were both greater than 1. Table 1 displays the group means and standard deviations.

Table 1

*Descriptive Statistics for Gender by Instruction for First-Grade Rhyme Recognition Scores*

Gender	Reading Program	<i>M</i>	<i>SD</i>	<i>N</i>
Male	Explicit and Systematic Instruction	7.38	1.02	39
	No Explicit and Systematic Instruction	6.23	1.97	35
	Total	6.84	1.64	74
Female	Explicit and Systematic Instruction	7.56	1.13	34
	No Explicit and Systematic Instruction	6.09	2.23	34
	Total	6.82	1.91	68
Total	Explicit and Systematic Instruction	7.47	1.07	73
	No Explicit and Systematic Instruction	6.16	2.09	69
	Total	6.83	1.77	142

Screening for extreme outliers was conducted, and those cases were removed from the sample. The Shapiro-Wilk test was used to test for normality with  $p < .05$  for each group, indicating that the data were not normally distributed across all groups. Levene's test of equality of variances was conducted within ANOVA and indicated there was not homogeneity of variance across groups,  $F(1, 138) = 9.12, p < .05$ . Therefore, the assumption was not met. However, because ANOVA was a robust test, it could still be used for this statistical analysis (Morgan et al., 2013). A line plot did not indicate an interaction between gender and type of instruction. To test this Hypothesis, a 2 x 2 factorial ANOVA was conducted to evaluate the effects of instruction (explicit and systematic phonemic awareness instruction versus no explicit and systematic phonemic

awareness instruction) by gender (male versus female) on reading achievement in rhyme recognition. The results of the ANOVA are displayed in Table 2.

Table 2

*Factorial ANOVA Results from First-Grade Reading Achievement in Rhyme Recognition*

Source	<i>SS</i>	<i>df</i>	<i>MS</i>	<i>F</i>	<i>p</i>	<i>ES</i>
Gender	0.01	1	0.01	0.00	.952	0.00
Program	61.03	1	61.04	22.25	.000	0.14
Gender*Program	0.88	1	0.88	0.32	.573	0.00
Error	378.52	138	2.74			
Total	7066.00	142				

Insufficient evidence existed based on the interaction of the variables to reject the null hypothesis,  $F(1, 142) = 0.32$ ,  $p = .573$ ,  $ES = 0.00$ . Given there was no significant interaction between the variables of explicit and systematic phonemic awareness instructional method in rhyme recognition and gender, the main effect of each variable was examined separately. The main effect of instructional method on reading achievement for rhyme recognition was significant with a large effect size,  $F(1, 142) = 22.25$ ,  $p = .000$ ,  $ES = 0.14$ . Figure 1 shows the means for first-grade reading achievement rhyme recognition tests as a function of instructional method and gender.

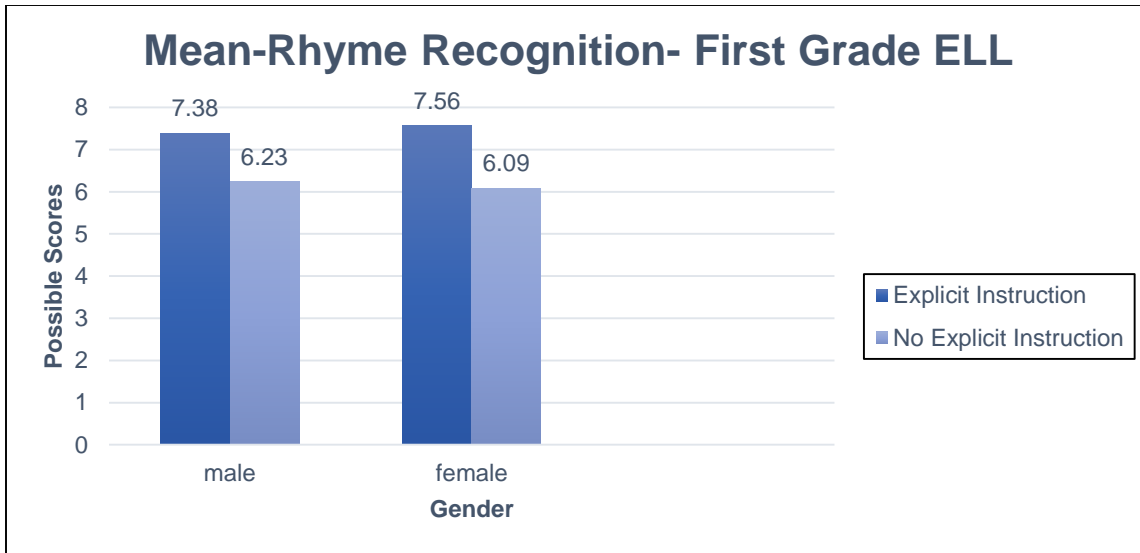


Figure 1. Means for first-grade literacy achievement as a function of instructional method by gender.

The mean of the literacy scores for the explicit and systematic instruction group ( $M = 7.47$ ,  $SD = 1.07$ ) was significantly higher compared to the mean of the no explicit and systematic instruction group ( $M = 6.16$ ,  $SD = 2.09$ ). In addition, the main effect for gender on reading achievement was not significant,  $F(1, 142) = 0.00$ ,  $p = .952$ ,  $ES = 0.00$ . The mean of the literacy scores for the females ( $M = 6.82$ ,  $SD = 1.91$ ) was not significantly different compared to the mean of the males ( $M = 6.84$ ,  $SD = 1.64$ ). Overall, the results indicate no combined effect of instructional method and gender, nor was there a significant difference with the main effect of gender. However, instructional method, when considered independently, appeared to exert a strong influence on students' literacy achievement regardless of gender.

## Hypothesis 2

Hypothesis 2 stated that no significant difference will exist by gender between students who are exposed to explicit and systematic phonemic awareness instruction versus those not exposed to explicit and systematic instruction on rhyme production measured by the ESRI for first-grade ELLs in a Northwest Arkansas school district. The population for which the sample was selected was not normally distributed. Skewness and kurtosis were both greater than 1. Table 3 displays the group means and standard deviations.

Table 3

*Descriptive Statistics for Gender by Instruction for First-Grade Rhyme Production Scores*

Gender	Reading Program	<i>M</i>	<i>SD</i>	<i>N</i>
Male	Explicit and Systematic Instruction	6.59	2.41	39
	No Explicit and Systematic Instruction	2.83	3.27	35
	Total	4.81	3.40	74
Female	Explicit and Systematic Instruction	6.50	2.69	34
	No Explicit and Systematic Instruction	3.06	3.37	34
	Total	4.78	3.49	68
Total	Explicit and Systematic Instruction	6.55	2.53	73
	No Explicit and Systematic Instruction	2.94	3.29	69
	Total	4.80	3.43	142

Screening for extreme outliers was conducted, and those cases were removed from the sample. The Shapiro-Wilk test was used to test for normality with  $p < .05$  for

each group, indicating that the data were not normally distributed across all groups. Levene's test of equality of variances was conducted within ANOVA and indicated there was not homogeneity of variance across groups,  $F(3, 138) = 7.37, p > .05$ . Therefore, the assumption was not met. However, because ANOVA was a robust test, it could still be used for this statistical analysis (Morgan et al., 2013). A line plot did not indicate an interaction between gender and type of instruction. To test this Hypothesis, a 2 x 2 factorial ANOVA was conducted to evaluate the effects of instruction (explicit and systematic phonemic awareness instruction versus no explicit and systematic phonemic awareness instruction) by gender (male versus female) on reading achievement in rhyme production. The results of the ANOVA are displayed in Table 4.

Table 4

<i>Factorial ANOVA Results from First-Grade Reading Achievement in Rhyme Production</i>						
Source	<i>SS</i>	<i>df</i>	<i>MS</i>	<i>F</i>	<i>p</i>	<i>ES</i>
Gender	0.18	1	0.18	0.02	.887	0.00
Program	458.91	1	458.91	52.92	.000	0.28
Gender*Program	0.91	1	0.91	0.10	.747	0.00
Error	1196.79	138	8.67			
Total	4925.00	142				

Insufficient evidence existed based on the interaction of the variables to reject the null hypothesis,  $F(1, 138) = 0.10, p = .747, ES = 0.00$ . Given there was no significant

interaction between the variables of explicit and systematic phonemic awareness instructional method in rhyme production and gender, the main effect of each variable was examined separately. The main effect of instructional method on reading achievement for rhyme production was significant with a large effect size,  $F(1, 138) = 52.92, p = .000, ES = 0.28$ . Figure 2 shows the means for first-grade reading achievement rhyme production tests as a function of instructional method and gender.

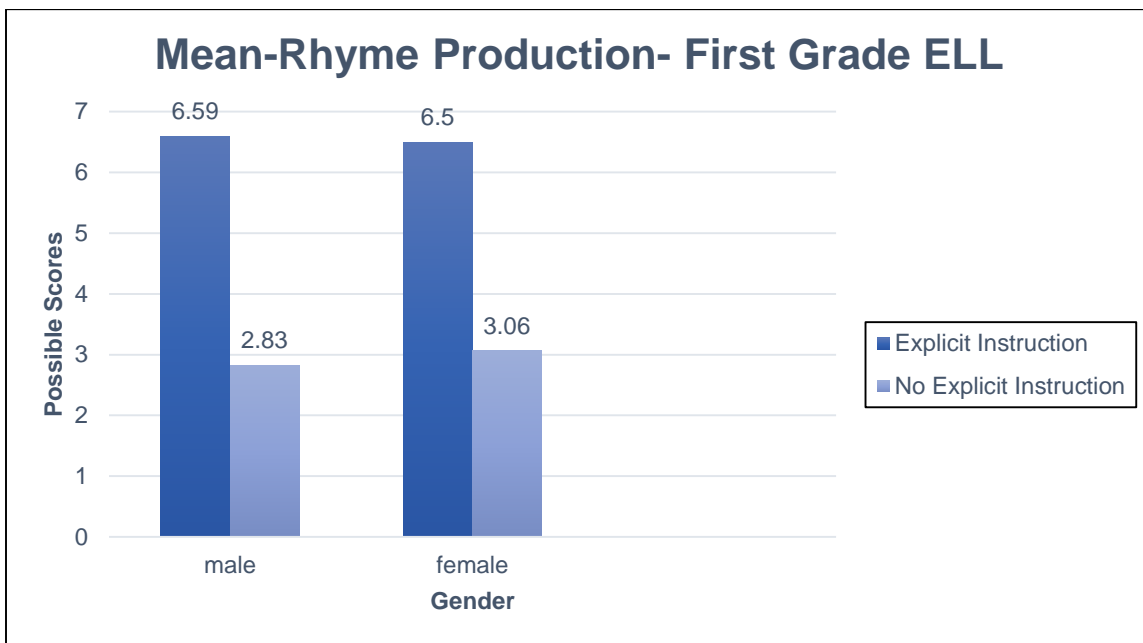


Figure 2. Means for first-grade literacy achievement as a function of instructional method by gender.

The mean of the literacy scores for the explicit and systematic instruction group ( $M = 6.55, SD = 2.53$ ) was significantly higher compared to the mean of the no explicit and systematic instruction group ( $M = 2.94, SD = 3.29$ ). In addition, the main effect for gender on reading achievement was not significant,  $F(1, 142) = 0.02, p = .887, ES = 0.00$ .

The mean of the literacy scores for the females ( $M = 4.78$ ,  $SD = 3.49$ ) was not significantly different compared to the mean of the males ( $M = 4.81$ ,  $SD = 3.40$ ). Overall, the results indicate no combined effect of instructional method and gender, nor was there a significant difference with the main effect of gender. However, instructional method, when considered independently, appeared to exert a strong influence on students' literacy achievement regardless of gender.

### **Hypothesis 3**

Hypothesis 3 stated that no significant difference will exist by gender between students who are exposed to explicit and systematic phonemic awareness instruction versus those not exposed to explicit and systematic instruction on phoneme segmentation measured by the ESRI for first-grade ELLs in a Northwest Arkansas school district. The population for which the sample was selected was not normally distributed. Skewness and kurtosis were greater than 1. Table 5 displays the group means and standard deviations.

Table 5

*Descriptive Statistics for Gender by Instruction for First-Grade Phoneme Segmentation Scores*

Gender	Reading Program	<i>M</i>	<i>SD</i>	<i>N</i>
Male	Explicit and Systematic Instruction	7.31	0.83	39
	No Explicit and Systematic Instruction	5.63	2.39	35
	Total	6.51	1.93	74
Female	Explicit and Systematic Instruction	7.53	0.62	34
	No Explicit and Systematic Instruction	6.18	1.36	34
	Total	6.85	1.25	68
Total	Explicit and Systematic Instruction	7.41	0.74	73
	No Explicit and Systematic Instruction	5.90	1.96	69
	Total	6.68	1.64	142

Screening for extreme outliers was conducted, and those cases were removed from the sample. The Shapiro-Wilk test was used to test for normality with  $p < .05$  for each group, indicating that the data were not normally distributed across all groups. Levene's test of equality of variances was conducted within ANOVA and indicated homogeneity of variance across groups,  $F(3, 138) = 15.74, p < .01$ . Therefore, the assumption was not met. However, because ANOVA was a robust test, it could still be used for this statistical analysis (Morgan et al., 2013). A line plot did not indicate an interaction between gender and type of instruction. To test this Hypothesis, a 2 x 2 factorial ANOVA was conducted to evaluate the effects of instruction (explicit and systematic phonemic awareness instruction versus no explicit and systematic phonemic

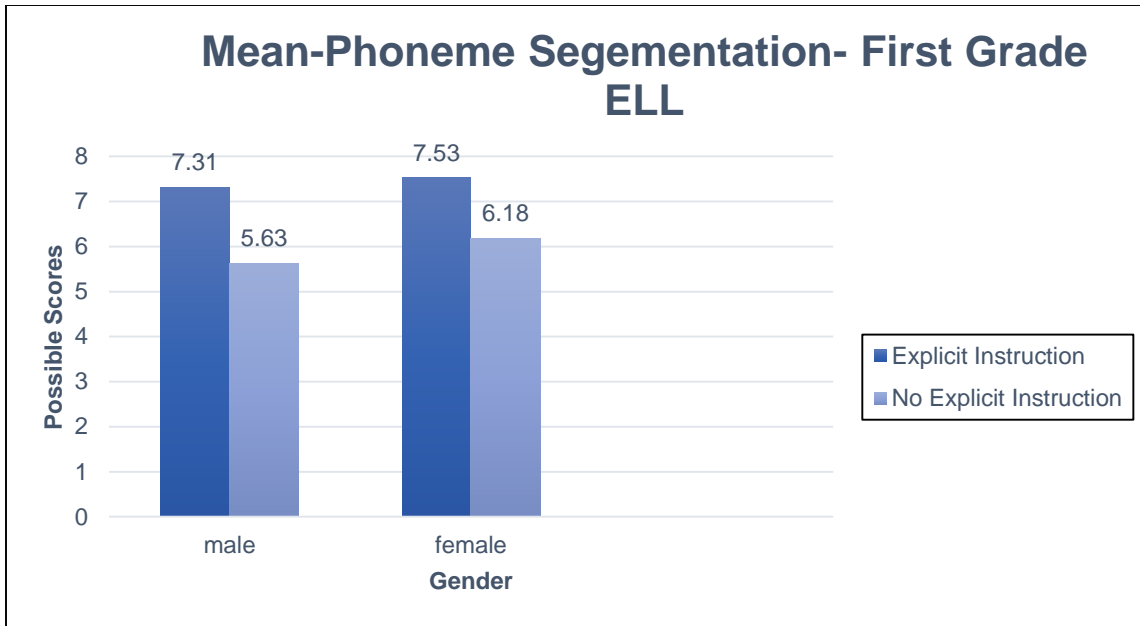
awareness instruction) by gender (male versus female) on reading achievement in phoneme segmentation. The results of the ANOVA are displayed in Table 6.

Table 6

*Factorial ANOVA Results from First-Grade Reading Achievement in Phoneme Segmentation*

Source	<i>SS</i>	<i>df</i>	<i>MS</i>	<i>F</i>	<i>p</i>	<i>ES</i>
Gender	5.24	1	5.24	2.46	.119	0.18
Program	81.33	1	81.33	38.19	.000	0.22
Gender*Program	0.94	1	0.94	0.44	.507	0.00
Error	293.89	138	2.13			
Total	381.10	142				

Insufficient evidence existed based on the interaction of the variables to reject the null hypothesis,  $F(3, 138) = 0.44$ ,  $p = .507$ ,  $ES = 0.00$ . Given there was no significant interaction between the variables of explicit and systematic phonemic awareness instructional method in phoneme segmentation and gender, the main effect of each variable was examined separately. The main effect of instructional method on reading achievement for phoneme segmentation was significant with a large effect size,  $F(1, 138) = 38.19$ ,  $p = .000$ ,  $ES = 0.22$ . Figure 3 shows the means for first-grade reading achievement phoneme segmentation tests as a function of instructional method and gender.



*Figure 3.* Means for first-grade literacy achievement as a function of instructional method by gender.

The mean of the literacy scores for the explicit and systematic instruction group ( $M = 7.41$ ,  $SD = 0.74$ ) was significantly higher compared to the mean of the no explicit and systematic instruction group ( $M = 5.90$ ,  $SD = 1.96$ ). In addition, the main effect for gender on reading achievement was not significant,  $F(1, 138) = 2.46$ ,  $p = .119$ ,  $ES = 0.18$ . The mean of the literacy scores for the females ( $M = 6.85$ ,  $SD = 1.25$ ) was not significantly different compared to the mean of the males ( $M = 6.51$ ,  $SD = 1.93$ ). Overall, the results indicate no combined effect of instructional method and gender, nor was there a significant difference with the main effect of gender. However, instructional method, when considered independently, appeared to exert a strong influence on students' literacy achievement regardless of gender.

#### Hypothesis 4

Hypothesis 4 stated that no significant difference will exist by gender between students who are exposed to explicit and systematic phonemic awareness instruction versus those not exposed to explicit and systematic instruction on phoneme blending measured by the ESRI for first-grade ELLs in a Northwest Arkansas school district. The population for which the sample was selected was not normally distributed. Skewness and kurtosis were greater than 1. Table 7 displays the group means and standard deviations.

Table 7

*Descriptive Statistics for Gender by Instruction for First-Grade Phoneme Blending Scores*

Gender	Reading Program	<i>M</i>	<i>SD</i>	<i>N</i>
Male	Explicit and Systematic Instruction	7.85	0.43	39
	No Explicit and Systematic Instruction	6.83	2.22	35
	Total	7.36	1.63	74
Female	Explicit and Systematic Instruction	7.97	0.17	34
	No Explicit and Systematic Instruction	7.68	0.68	34
	Total	7.82	0.52	68
Total	Explicit and Systematic Instruction	7.90	0.34	73
	No Explicit and Systematic Instruction	7.25	1.69	69
	Total	7.58	1.25	142

Screening for extreme outliers was conducted, and those cases were removed from the sample. The Shapiro-Wilk test was used to test for normality with  $p > .05$  for

each group, indicating that the data were not normally distributed across all groups. Levene's test of equality of variances was conducted within ANOVA and indicated homogeneity of variance across groups,  $F(3, 138) = 20.79, p > .05$ . Therefore, the assumption was not met. However, because ANOVA was a robust test, it could still be used for this statistical analysis (Morgan et al. 2013). A line plot did not indicate an interaction between gender and type of instruction. To test this Hypothesis, a 2 x 2 factorial ANOVA was conducted to evaluate the effects of instruction (explicit and systematic phonemic awareness instruction versus no explicit and systematic phonemic awareness instruction) by gender (male versus female) on reading achievement in phoneme blending. The results of the ANOVA are displayed in Table 8.

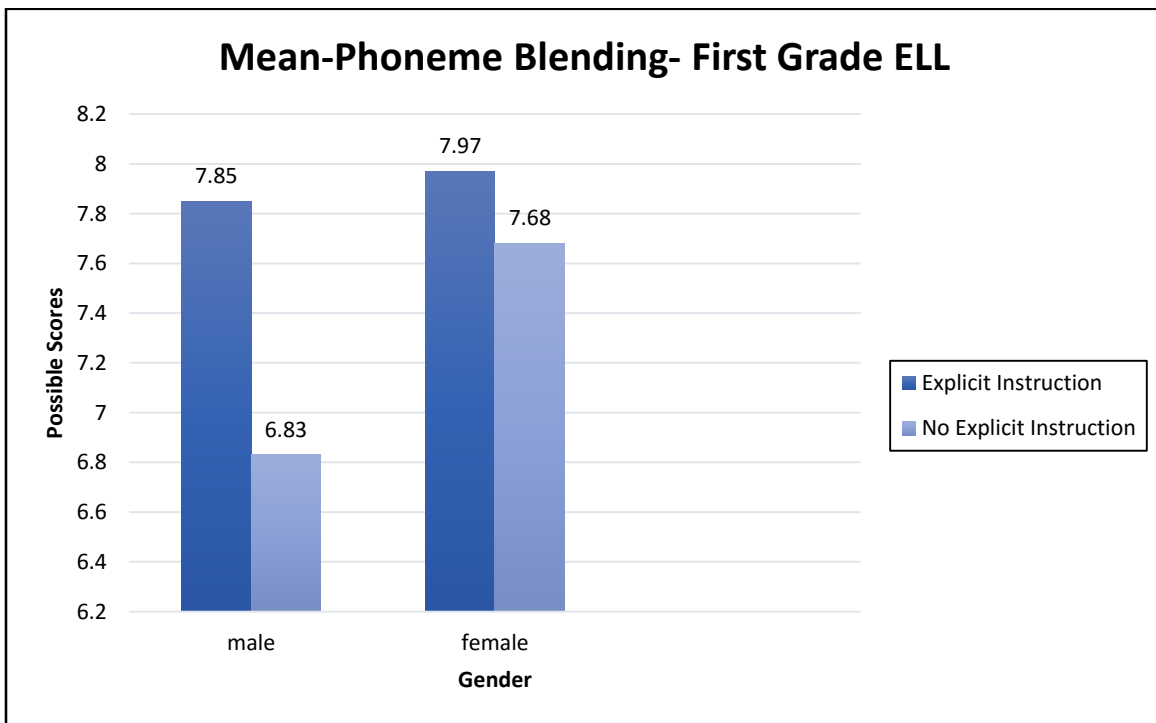
Table 8

*Factorial ANOVA Results from First-Grade Reading Achievement in Phoneme Blending*

Source	SS	df	MS	F	p	ES
Gender	8.36	1	8.36	6.06	.015	0.04
Program	15.22	1	15.22	11.03	.001	0.07
Gender*Program	4.63	1	4.63	3.36	.069	0.02
Error	190.46	138	1.38			
Total	8387.00	142				

Insufficient evidence existed based on the interaction of the variables to reject the null hypothesis,  $F(1, 138) = 3.36, p = .069, ES = 0.02$ . Given there was no significant interaction between the variables of explicit and systematic phonemic awareness

instructional method in phoneme blending and gender, the main effect of each variable was examined separately. The main effect of instructional method on reading achievement for phoneme blending was significant with a medium effect size,  $F(1, 138) = 11.03, p = .001, ES = 0.07$ . In addition, the main effect for gender on reading achievement was significant with a small effect size,  $F(1, 138) = 6.06, p = .015, ES = 0.04$ . Figure 4 shows the means for first-grade reading achievement phoneme blending tests as a function of instructional method and gender.



*Figure 4.* Means for first-grade literacy achievement as a function of instructional method by gender.

The mean of the literacy scores for the explicit and systematic instruction group ( $M = 7.90, SD = 0.34$ ) was significantly higher compared to the mean of the no explicit

and systematic instruction group ( $M = 7.25$ ,  $SD = 1.69$ ). In addition, the mean of the literacy scores for the females ( $M = 7.82$ ,  $SD = 0.52$ ) was significantly higher compared to the mean of the males ( $M = 7.36$ ,  $SD = 1.63$ ). Overall, the results indicate no combined effect of instructional method and gender. However, instructional method, when considered independently, appeared to exert a strong influence on students' literacy achievement regardless of gender, and gender, when considered independently, appeared to exert a strong influence on students' literacy achievement regardless of instructional method.

### **Hypothesis 5**

Hypothesis 5 stated that no significant difference will exist by gender between students who are exposed to explicit and systematic phonemic awareness instruction versus those not exposed to explicit and systematic instruction on rhyme recognition measured by the ESRI for second-grade ELLs in a Northwest Arkansas school district. The population for which the sample was selected was normally distributed. Skewness and kurtosis were both greater than 1. Table 9 displays the group means and standard deviations.

Table 9

*Descriptive Statistics for Gender by Instruction for Second-Grade Rhyme Recognition Scores*

Gender	Reading Program	<i>M</i>	<i>SD</i>	<i>N</i>
Male	Explicit and Systematic Instruction	7.69	0.63	13
	No Explicit and Systematic Instruction	7.40	1.24	15
	Total	7.54	1.00	28
Female	Explicit and Systematic Instruction	8.00	0.00	12
	No Explicit and Systematic Instruction	7.80	0.42	10
	Total	7.91	0.29	22
Total	Explicit and Systematic Instruction	7.84	0.47	25
	No Explicit and Systematic Instruction	7.56	1.00	25
	Total	7.70	0.79	50

Screening for extreme outliers was conducted, and those cases were removed from the sample. The Shapiro-Wilk test was used to test for normality with  $p < .05$  for each group, indicating that the data were not normally distributed across all groups. Levene's test of equality of variances was conducted within ANOVA and indicated there was not homogeneity of variance across groups,  $F(3, 46) = 6.64, p < .05$ . Therefore, the assumption was not met. However, because ANOVA was a robust test, it could still be used for this statistical analysis (Morgan et al., 2013). A line plot did not indicate an interaction between gender and type of instruction. To test this Hypothesis, a 2 x 2 factorial ANOVA was conducted to evaluate the effects of instruction (explicit and systematic phonemic awareness instruction versus no explicit and systematic phonemic

awareness instruction) by gender (male versus female) on reading achievement in rhyme recognition. The results of the ANOVA are displayed in Table 10.

Table 10

*Factorial ANOVA Results from Second-Grade Reading Achievement in Rhyme Recognition*

Source	<i>SS</i>	<i>df</i>	<i>MS</i>	<i>F</i>	<i>p</i>	<i>ES</i>
Gender	1.53	1	1.53	2.52	.119	0.05
Program	0.74	1	0.74	1.22	.275	0.03
Gender*Program	0.03	1	0.03	0.04	.837	0.00
Error	27.97	46	0.61			
Total	2995.00	50				

Insufficient evidence existed based on the interaction of the variables to reject the null hypothesis,  $F(1, 46) = 0.04$ ,  $p = .837$ ,  $ES = 0.00$ . Given there was no significant interaction between the variables of explicit and systematic phonemic awareness instructional method in rhyme recognition and gender, the main effect of each variable was examined separately. The main effect of instructional method on reading achievement for rhyme recognition was not significant,  $F(1, 46) = 1.22$ ,  $p = .275$ ,  $ES = 0.03$ . Similarly, the main effect for gender on reading achievement was not significant  $F(1, 46) = 2.52$ ,  $p = .119$ ,  $ES = 0.05$ . Figure 5 shows the means for second-grade reading achievement rhyme recognition tests as a function of instructional method and gender.

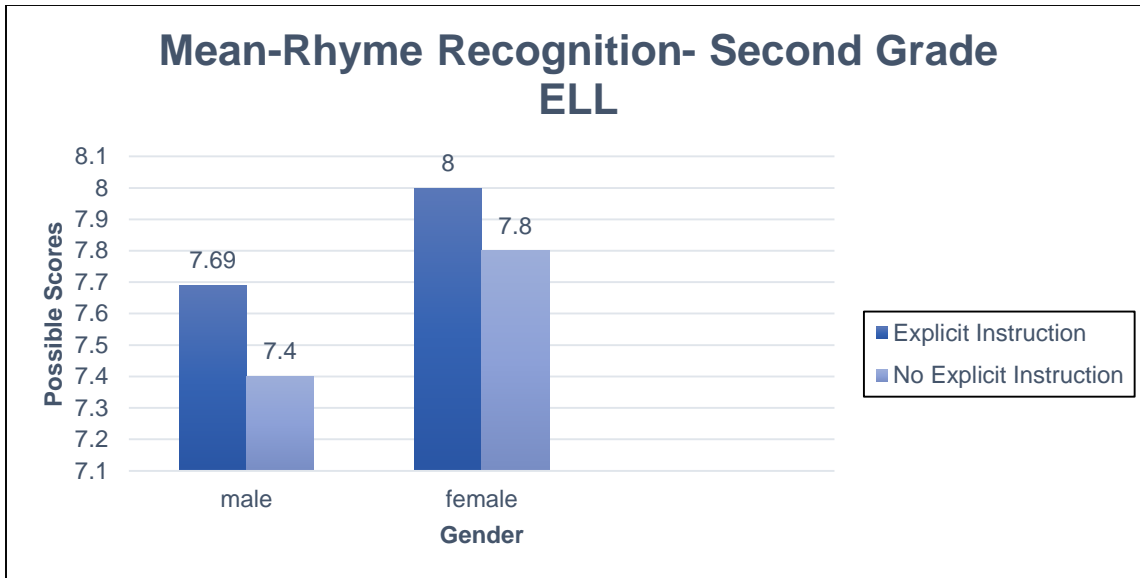


Figure 5. Means for second-grade literacy achievement as a function of instructional method by gender.

The mean of the literacy scores for the explicit and systematic instruction group ( $M = 7.84$ ,  $SD = 0.47$ ) was not significantly different compared to the mean of the no explicit and systematic instruction group ( $M = 7.56$ ,  $SD = 1.00$ ). The mean of the literacy scores for the females ( $M = 7.91$ ,  $SD = 0.29$ ) was not significantly different compared to the mean of the males ( $M = 7.54$ ,  $SD = 1.00$ ). Overall, the results indicate no combined effect of instructional method and gender. Furthermore, there was no significant difference with the main effect for instructional method or gender.

### Hypothesis 6

Hypothesis 6 stated that no significant difference will exist by gender between students who are exposed to explicit and systematic phonemic awareness instruction versus those not exposed to explicit and systematic instruction on rhyme production measured by the ESRI for second-grade ELLs in a Northwest Arkansas school district. The population for which the sample was selected was not normally distributed.

Skewness and kurtosis were both greater than 1. Table 11 displays the group means and standard deviations.

Table 11

*Descriptive Statistics for Gender by Instruction for Second-Grade Rhyme Production Scores*

Gender	Reading Program	<i>M</i>	<i>SD</i>	<i>N</i>
Male	Explicit and Systematic Instruction	7.54	0.88	13
	No Explicit and Systematic Instruction	5.20	3.57	15
	Total	6.29	2.89	28
Female	Explicit and Systematic Instruction	7.75	0.62	12
	No Explicit and Systematic Instruction	6.20	1.32	10
	Total	7.05	1.25	22
Total	Explicit and Systematic Instruction	7.64	0.76	25
	No Explicit and Systematic Instruction	5.60	2.89	25
	Total	6.62	2.33	50

Screening for extreme outliers was conducted, and those cases were removed from the sample. The Shapiro-Wilk test was used to test for normality with  $p > .05$  for each group, indicating that the data were not normally distributed across all groups. Levene's test of equality of variances was conducted within ANOVA and indicated there was not homogeneity of variance across groups,  $F(3, 46) = 29.12, p < .05$ . Therefore, the assumption was not met. However, because ANOVA was a robust test, it could still be used for this statistical analysis (Morgan et al., 2013). A line plot did not indicate an interaction between gender and type of instruction. A 2 x 2 factorial ANOVA was

conducted to evaluate the effects of instruction (explicit and systematic phonemic awareness instruction versus no explicit and systematic phonemic awareness instruction) by gender (male versus female) on reading achievement in rhyme production. The results of the ANOVA are displayed in Table 12.

Table 12

*Factorial ANOVA Results from Second-Grade Reading Achievement in Rhyme Production*

Source	<i>SS</i>	<i>df</i>	<i>MS</i>	<i>F</i>	<i>p</i>	<i>ES</i>
Gender	4.49	1	4.49	1.00	.324	0.02
Program	46.25	1	46.25	10.25	.002	0.18
Gender*Program	1.90	1	1.90	0.42	.519	0.01
Error	207.48	46	4.51			
Total	2457.00	50				

Insufficient evidence existed based on the interaction of the variables to reject the null hypothesis,  $F(1, 46) = 0.42$ ,  $p = .519$ ,  $ES = 0.01$ . Given there was no significant interaction between the variables of explicit and systematic phonemic awareness instructional method in rhyme production and gender, the main effect of each variable was examined separately. The main effect of instructional method on reading achievement for rhyme production was significant with a large effect size,  $F(1, 46) = 10.25$ ,  $p = .002$ ,  $ES = 0.18$ . Figure 6 shows the means for second-grade reading achievement rhyme production tests as a function of instructional method and gender.

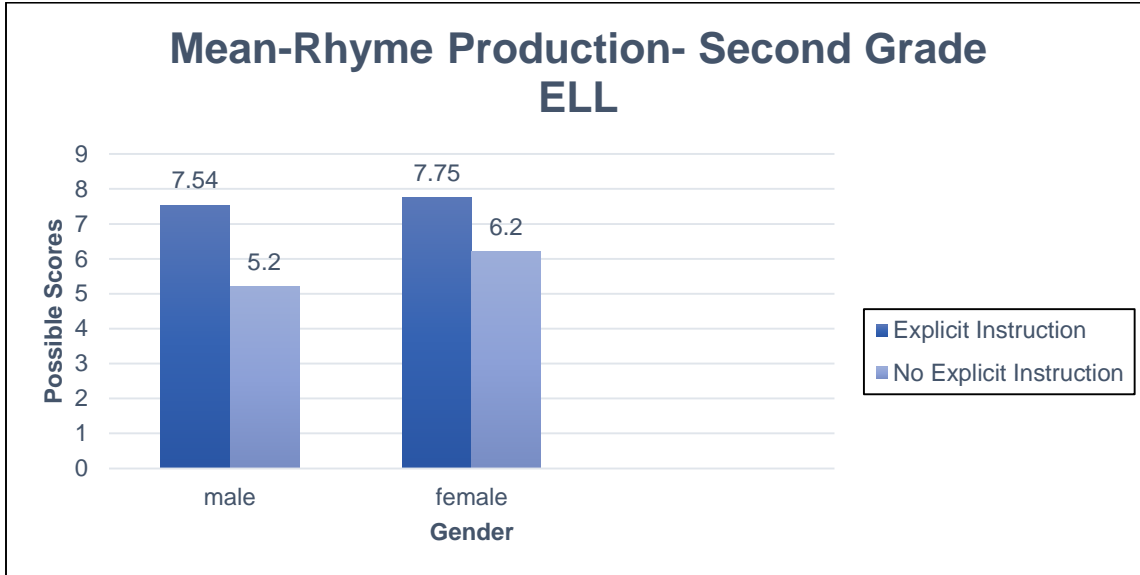


Figure 6. Means for second-grade literacy achievement as a function of instructional method by gender.

The mean of the literacy scores for the explicit and systematic instruction group ( $M = 7.64$ ,  $SD = 0.76$ ) was significantly higher compared to the mean of the no explicit and systematic instruction group ( $M = 5.60$ ,  $SD = 2.89$ ). However, the main effect for gender on reading achievement was not significant,  $F(1, 46) = 1.00$ ,  $p = .324$ ,  $ES = 0.02$ . The mean of the literacy scores for the females ( $M = 7.05$ ,  $SD = 1.25$ ) was not significantly different compared to the mean of the males ( $M = 6.29$ ,  $SD = 2.89$ ). Overall, the results indicate no combined effect of instructional method and gender, nor was there a significant difference with the main effect of gender. However, instructional method, when considered independently, appeared to exert a strong influence on students' literacy achievement regardless of gender.

### Hypothesis 7

Hypothesis 7 stated that no significant difference will exist by gender between students who are exposed to explicit and systematic phonemic awareness instruction versus those not exposed to explicit and systematic instruction on phoneme segmentation measured by the ESRI for second-grade ELLs in a Northwest Arkansas school district. The population for which the sample was selected was not normally distributed. Skewness and kurtosis were greater than 1. Table 13 displays the group means and standard deviations.

Table 13

*Descriptive Statistics for Gender by Instruction for Second-Grade Phoneme Segmentation Scores*

Gender	Reading Program	<i>M</i>	<i>SD</i>	<i>N</i>
Male	Explicit and Systematic Instruction	7.62	0.51	13
	No Explicit and Systematic Instruction	4.73	2.89	15
	Total	6.07	2.57	28
Female	Explicit and Systematic Instruction	7.67	0.65	12
	No Explicit and Systematic Instruction	6.50	1.08	10
	Total	7.14	1.04	22
Total	Explicit and Systematic Instruction	7.64	0.57	25
	No Explicit and Systematic Instruction	5.44	2.47	25
	Total	6.54	2.09	50

Screening for extreme outliers was conducted, and those cases were removed from the sample. The Shapiro-Wilk test was used to test for normality with  $p < .05$  for

each group, indicating that the data were not normally distributed across all groups. Levene's test of equality of variances was conducted within ANOVA and indicated homogeneity of variance across groups,  $F(3, 46) = 20.91, p < .05$ . Therefore, the assumption was not met. However, because ANOVA was a robust test, it could still be used for this statistical analysis (Morgan et al., 2013). A line plot did not indicate an interaction between gender and type of instruction. To test this Hypothesis, a 2 x 2 Factorial ANOVA was conducted to evaluate the effects of instruction (explicit and systematic phonemic awareness instruction versus no explicit and systematic phonemic awareness instruction) by gender (male versus female) on reading achievement in phoneme segmentation. The results of the ANOVA are displayed in Table 14.

Table 14

*Factorial ANOVA Results from Second-Grade Reading Achievement in Phoneme Segmentation*

Source	<i>SS</i>	<i>df</i>	<i>MS</i>	<i>F</i>	<i>p</i>	<i>ES</i>
Gender	10.11	1	10.11	3.44	.070	0.07
Program	50.14	1	50.14	17.06	.000	0.27
Gender*Program	9.00	1	9.00	3.06	.087	0.06
Error	135.18	46	2.94			
Total	2353.00	50				

Insufficient evidence existed based on the interaction of the variables to reject the null hypothesis,  $F(1, 46) = 3.06, p = .087, ES = 0.06$ . Given there was no significant interaction between the variables of explicit and systematic phonemic awareness

instructional method in phoneme segmentation and gender, the main effect of each variable was examined separately. The main effect of instructional method on reading achievement for phoneme segmentation was significant with a large effect size,  $F(1, 46) = 17.06, p = .000, ES = 0.27$ . Figure 7 shows the means for second-grade reading achievement phoneme segmentation tests as a function of instructional method and gender.

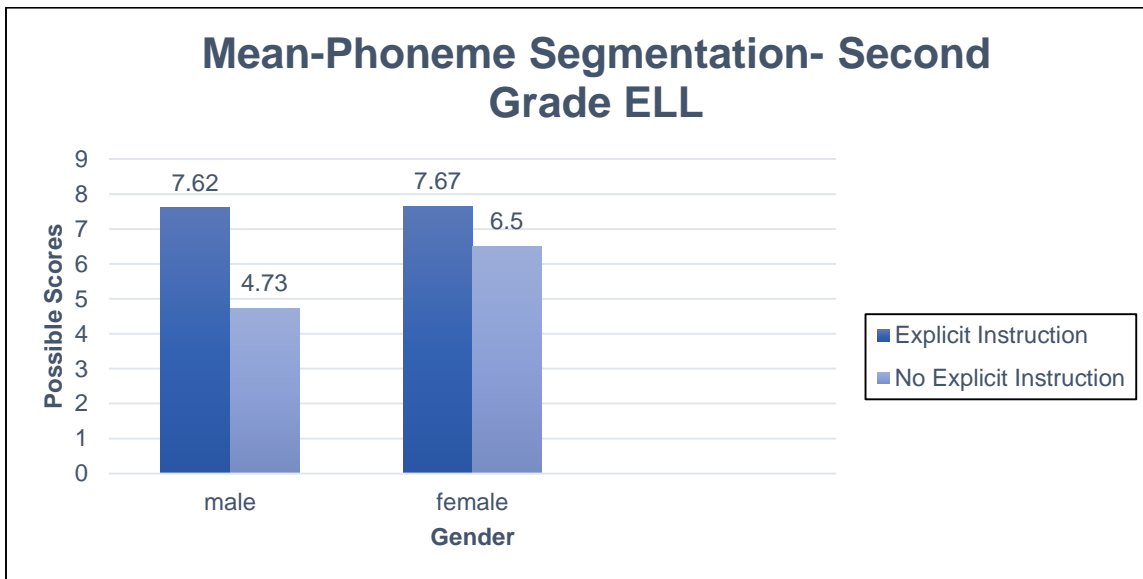


Figure 7. Means for second-grade literacy achievement as a function of instructional method by gender.

The mean of the literacy scores for the explicit and systematic instruction group ( $M = 7.64, SD = 0.57$ ) was significantly higher compared to the mean of the no explicit and systematic instruction group ( $M = 5.44, SD = 2.47$ ). However, the main effect for gender on reading achievement was not significant,  $F(1, 46) = 3.44, p = .070, ES = 0.07$ . The mean of the literacy scores for the females ( $M = 7.14, SD = 1.04$ ) was not significantly different compared to the mean of the males ( $M = 6.07, SD = 2.57$ ). Overall,

the results indicate no combined effect of instructional method and gender, nor was there a significant difference with the main effect of gender. However, instructional method, when considered independently, appeared to exert a strong influence on students' literacy achievement regardless of gender.

### **Hypothesis 8**

Hypothesis 8 stated that no significant difference will exist by gender between students who are exposed to explicit and systematic phonemic awareness instruction versus those not exposed to explicit and systematic instruction on phoneme blending measured by the ESRI for second-grade ELLs in a Northwest Arkansas school district. The population for which the sample was selected was not normally distributed. Skewness and kurtosis were greater than 1. Table 15 displays the group means and standard deviations.

Table 15

*Descriptive Statistics for Gender by Instruction for Second-Grade Phoneme Blending Scores*

Gender	Reading Program	<i>M</i>	<i>SD</i>	<i>N</i>
Male	Explicit and Systematic Instruction	8.00	0.00	13
	No Explicit and Systematic Instruction	7.33	1.59	15
	Total	7.64	1.19	28
Female	Explicit and Systematic Instruction	7.92	0.29	12
	No Explicit and Systematic Instruction	7.80	0.42	10
	Total	7.86	0.35	22
Total	Explicit and Systematic Instruction	7.96	0.20	25
	No Explicit and Systematic Instruction	7.52	1.26	25
	Total	7.74	0.92	50

Screening for extreme outliers was conducted, and those cases were removed from the sample. The Shapiro-Wilk test was used to test for normality with  $p > .05$  for each group, indicating that the data were not normally distributed across all groups. Levene's test of equality of variances was conducted within ANOVA and indicated homogeneity of variance across groups,  $F(3, 46) = 5.44, p < .05$ . Therefore, the assumption was not met. However, because ANOVA was a robust test, it could still be used for this statistical analysis (Morgan et al., 2013). A line plot did not indicate an interaction between gender and type of instruction. To test this Hypothesis, a 2 x 2 factorial ANOVA was conducted to evaluate the effects of instruction (explicit and systematic phonemic awareness instruction versus no explicit and systematic phonemic

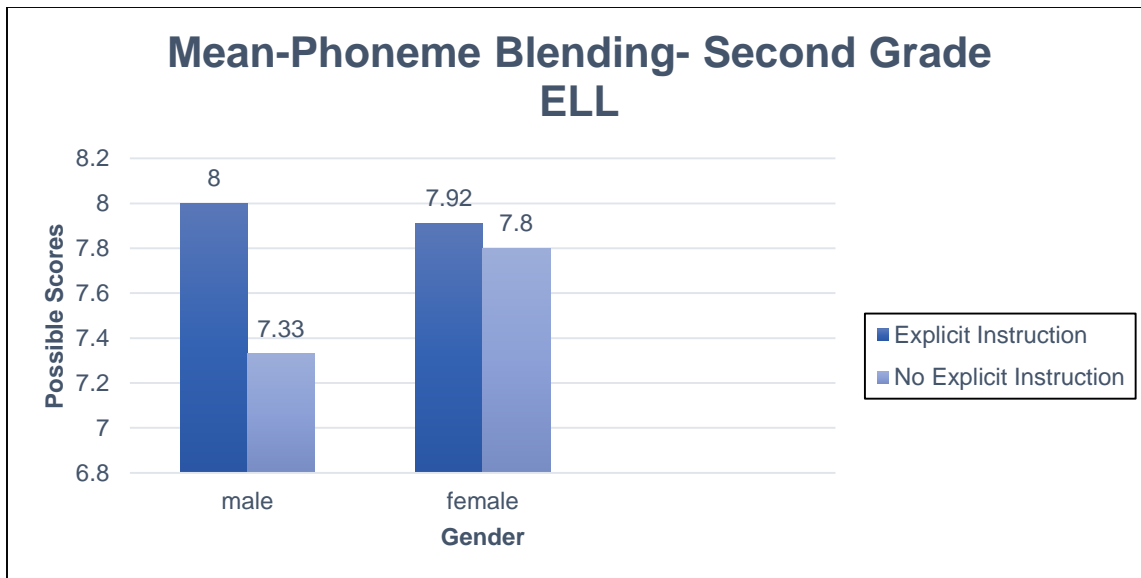
awareness instruction) by gender (male versus female) on reading achievement in phoneme blending. The results of the ANOVA are displayed in Table 16.

Table 16

*Factorial ANOVA Results from Second-Grade Reading Achievement in Phoneme Blending*

Source	<i>SS</i>	<i>df</i>	<i>MS</i>	<i>F</i>	<i>p</i>	<i>ES</i>
Gender	0.45	1	0.45	0.55	.464	0.01
Program	1.88	1	1.88	2.28	.138	0.05
Gender*Program	0.93	1	0.93	1.13	.294	0.02
Error	37.85	46	0.82			
Total	3037.00	50				

Insufficient evidence existed based on the interaction of the variables to reject the null hypothesis,  $F(1, 46) = 1.13$ ,  $p = .294$ ,  $ES = 0.02$ . Given there was no significant interaction between the variables of explicit and systematic phonemic awareness instructional method in phoneme blending and gender, the main effect of each variable was examined separately. The main effect of instructional method on reading achievement for phoneme segmentation was not significant,  $F(1, 46) = 2.28$ ,  $p = .138$ ,  $ES = 0.05$ . Similarly, the main effect for gender on reading achievement was not significant,  $F(1, 46) = 0.55$ ,  $p = .464$ ,  $ES = 0.01$ . Figure 8 shows the means for second-grade reading achievement phoneme blending tests as a function of instructional method and gender.



*Figure 8.* Means for second-grade literacy achievement as a function of instructional method by gender.

The mean of the literacy scores for the explicit and systematic instruction group ( $M = 7.96$ ,  $SD = 0.20$ ) was not significantly different compared to the mean of the no explicit and systematic instruction group ( $M = 7.52$ ,  $SD = 1.26$ ). In addition, the mean of the literacy scores for the females ( $M = 7.86$ ,  $SD = 0.35$ ) was not significantly different compared to the mean of the males ( $M = 7.64$ ,  $SD = 1.19$ ). Overall, the results indicate no combined effect of instructional method and gender. Furthermore, there was no significant difference with the main effect for instructional method or gender.

### Summary

This study consisted of eight hypotheses, each using a 2 x 2 factorial design. The two independent variables for all eight hypotheses were the type of instructional strategy and gender. The dependent variables for Hypotheses 1-4 and 5-8 were the measured reading achievement in rhyme recognition, rhyme production, phoneme segmentation, and phoneme blending, respectively. One sample of ELL first-graders was used for

Hypotheses 1-4, and one sample of ELL second graders was used for Hypotheses 5-8.

Table 17 shows a summary of the statistical results.

Table 17

*Summary of Statistically Significant Results for Hypotheses 1-8*

Hypothesis	Significant Result	<i>p</i>	<i>ES</i>
1	Main Effect of Type of Instructional Method	.000	0.14
2	Main Effect of Type of Instructional Method	.000	0.28
3	Main Effect of Type of Instructional Method	.000	0.22
4	Main Effect of Type of Instructional Method	.001	0.07
	Main Effect of Gender	.015	0.04
5	None	-----	-----
6	Main Effect of Type of Instructional Method	.002	0.18
7	Main Effect of Type of Instructional Method	.000	0.27
8	None	-----	-----

For the first four hypotheses, no significant interaction effects were found between type of instructional strategy and gender for the first-grade sample. However, significance was found for the main effect of type of instructional strategy for Hypotheses 1-4, which included rhyme recognition, rhyme production, phoneme segmentation, and phoneme blending, respectively. Effect sizes ranged from a medium size of 0.07 to a large effect size of 0.28. In addition, the main effect of gender was only significant in Hypothesis 4, which included phoneme blending only. The effect size for this result was a small effect size of 0.04.

For Hypotheses 5-8, no significant interaction effects were found between type of instructional strategy and gender for the second-grade sample. However, significance was found for the main effect of type of instructional strategy for Hypotheses 6 and 7, which included rhyme production and phoneme segmentation, respectively. Effect sizes ranged from a large effect size of 0.18 to 0.27. In addition, the main effect of gender was not significant in the last four hypotheses.

## **CHAPTER V**

### **DISCUSSION**

One goal of this study was to contribute to the limited amount of empirical studies on the literacy achievement of Spanish-speaking ELL first and second-grade students. A second goal was to advise practitioners on effective literacy instruction for this growing population in Arkansas, as 86% of ELLs enrolled in Arkansas' schools in 2014 spoke Spanish as their native language (Arkansas Department of Education, 2015a).

The research findings of The National Literacy Panel on Language-Minority Children Youth (August et al., 2009) supported the goals of this study. This panel reviewed the existing research on effective teaching reading practices for ELLs and found empirical research studies on these literacy instructional practices were limited. Although the empirical research was limited, some research studies found that explicit and systematic phonemic awareness strategies during protected literacy blocks of time showed promise in significantly improving literacy instruction for ELLs (Linan-Thompson & Vaughn, 2007; National Reading Panel, 2000).

This chapter provides conclusions and interpretation of the findings. First, conclusions were based on the findings of the research. Second, implications of the findings were discussed in the context of the literature review. Third, recommendations were made that affect potential practices and policies. Finally, this chapter contains recommendations for consideration of future research.

## **Conclusions**

### **Hypothesis 1**

Hypothesis 1 stated that no significant difference will exist by gender between students who are exposed to explicit and systematic phonemic awareness instruction versus those not exposed to explicit and systematic instruction on rhyme recognition measured by the ESRI for first-grade ELLs in a Northwest Arkansas school district. After running a 2 x 2 factorial ANOVA, insufficient evidence existed based on the interaction of the variables to reject the null hypothesis. Instructional method and gender did not work together to affect rhyme recognition. Given there was no significant interaction between instructional method and gender on rhyme recognition, the main effect of each variable was examined separately. The main effect for gender was not significant; both sexes scored equally well. Therefore, the null hypothesis was not rejected for the main effect of gender. However, the main effect of instructional method was significant with a large effect size. On average, participants in the explicit and systematic instructional group performed significantly better on the rhyme recognition test compared to the non-explicit and systematic instructional group. Therefore, the null hypothesis was rejected for the main effect on instructional method.

### **Hypothesis 2**

Hypothesis 2 stated that no significant difference will exist by gender between students who are exposed to explicit and systematic phonemic awareness instruction versus those not exposed to explicit and systematic instruction on rhyme production measured by the ESRI for first-grade ELLs in a Northwest Arkansas school district. After running a 2 x 2 factorial ANOVA, insufficient evidence existed based on the interaction

of the variables to reject the null hypothesis. Instructional method and gender did not work together to affect rhyme production. Given there was no significant interaction between instructional method and gender on rhyme production, the main effect of each variable was examined separately. The main effect for gender was not significant; both sexes scored equally well. Therefore, the null hypothesis was not rejected for the main effect of gender. The main effect of instructional method was significant with a large effect size. Participants in the explicit and systematic instructional group performed significantly better on the rhyme recognition test compared to the non-explicit and systematic instructional group. Therefore, the null hypothesis was rejected for the main effect on instructional method.

### **Hypothesis 3**

Hypothesis 3 stated that no significant difference will exist by gender between students who are exposed to explicit and systematic phonemic awareness instruction versus those not exposed to explicit and systematic instruction on phoneme segmentation measured by the ESRI for first-grade ELLs in a Northwest Arkansas school district. After running a 2 x 2 factorial ANOVA, insufficient evidence existed based on the interaction of the variables to reject the null hypothesis. Instructional method and gender did not work together to affect phoneme segmentation. Given there was no significant interaction between instructional method and gender, the main effect of each variable was examined separately. The main effect for gender was not significant; both sexes scored equally well. Therefore, the null hypothesis was not rejected for the main effect of gender. The main effect of instructional method was significant with a large effect size. On average, participants in the explicit and systematic instructional group performed significantly

better on the phoneme segmentation test compared to the non-explicit and systematic instructional group. Therefore, the null hypothesis was rejected for the main effect on instructional method

#### **Hypothesis 4**

Hypothesis 4 stated that no significant difference will exist by gender between students who are exposed to explicit and systematic phonemic awareness instruction versus those not exposed to explicit and systematic instruction on phoneme blending measured by the ESRI for first-grade ELLs in a Northwest Arkansas school district. After running a 2 x 2 factorial ANOVA, insufficient evidence existed based on the interaction of the variables to reject the null hypothesis. Instructional method and gender did not work together to affect phoneme blending. Given there was no significant interaction between instructional method and gender, the main effect of each variable was examined separately. The main effect for gender was significant with a small effect size; females scored higher than males. Therefore, the null hypothesis was rejected for the main effect of gender. The main effect of instructional method was significant with a medium effect size. On average, participants in the explicit and systematic instructional group performed significantly better on the phoneme blending test compared to the non-explicit and systematic instructional group. Therefore, the null hypothesis was rejected for the main effect on instructional method.

#### **Hypothesis 5**

Hypothesis 5 stated that no significant difference will exist by gender between students who are exposed to explicit and systematic phonemic awareness instruction versus those not exposed to explicit and systematic instruction on rhyme recognition

measured by the ESRI for second-grade ELLs in a Northwest Arkansas school district. After running a 2 x 2 factorial ANOVA, insufficient evidence existed based on the interaction of the variables to reject the null hypothesis. Instructional method and gender did not work together to affect rhyme recognition. Given there was no significant interaction between instructional method and gender, the main effect of each variable was examined separately. The main effect for gender was not significant; both sexes scored equally well. Therefore, the null hypothesis was not rejected for the main effect of gender. Similarly, the main effect of instructional method was not significant; both groups scored equally well. Therefore, the null hypothesis was not rejected for the main effect of instructional method.

### **Hypothesis 6**

Hypothesis 6 stated that no significant difference will exist by gender between students who are exposed to explicit and systematic phonemic awareness instruction versus those not exposed to explicit and systematic instruction on rhyme production measured by the ESRI for second-grade ELLs in a Northwest Arkansas school district. After running a 2 x 2 factorial ANOVA, insufficient evidence existed based on the interaction of the variables to reject the null hypothesis. Instructional method and gender did not work together to affect rhyme production. Given there was no significant interaction between instructional method and gender, the main effect of each variable was examined separately. The main effect for gender was not significant; both sexes scored equally well. Therefore, the null hypothesis was not rejected for the main effect of gender. The main effect of instructional method was significant with a large effect size. On average, participants in the explicit and systematic instructional group performed

significantly better on the rhyme production test compared to the non-explicit and systematic instructional group. Therefore, the null hypothesis was rejected for the main effect on instructional method.

### **Hypothesis 7**

Hypothesis 7 stated that no significant difference will exist by gender between students who are exposed to explicit and systematic phonemic awareness instruction versus those not exposed to explicit and systematic instruction on phoneme segmentation measured by the ESRI for second-grade ELLs in a Northwest Arkansas school district. After running a 2 x 2 factorial ANOVA, insufficient evidence existed based on the interaction of the variables to reject the null hypothesis. Instructional method and gender did not work together to affect phoneme segmentation. Given there was no significant interaction between instructional method and gender, the main effect of each variable was examined separately. The main effect for gender was not significant; both sexes scored equally well. Therefore, the null hypothesis was not rejected for the main effect of gender. The main effect of instructional method was significant with a large effect size. On average, participants in the explicit and systematic instructional group performed significantly better on the phoneme segmentation test compared to the non-explicit and systematic instructional group. Therefore, the null hypothesis was rejected for the main effect on instructional method.

### **Hypothesis 8**

Hypothesis 8 stated that no significant difference will exist by gender between students who are exposed to explicit and systematic phonemic awareness instruction versus those not exposed to explicit and systematic instruction on phoneme blending

measured by the ESRI for second-grade ELLs in a Northwest Arkansas school district. After running a 2 x 2 factorial ANOVA, insufficient evidence existed based on the interaction of the variables to reject the null hypothesis. Instructional method and gender did not work together to affect phoneme blending. Given there was no significant interaction between instructional method and gender, the main effect of each variable was examined separately. The main effect for gender was not significant; both sexes scored equally well. Therefore, the null hypothesis was not rejected for the main effect of gender. The main effect of instructional method was not significant. Participants in the explicit and systematic instructional group and the non-explicit and systematic instructional group performed equally well on the rhyme recognition test. Therefore, the null hypothesis was not rejected for the main effect on instructional method.

### **Implications**

To understand the present study, the results must be interpreted in the larger context of the literature. Regarding the interaction between the two independent variables (instructional method and gender), there were no significant interaction effects for the first-grade sample. This finding is in agreement with the literature. Although some evidence shows that some populations of students, regardless of their ethnicity, benefit from systematic and explicit instruction, few studies have examined the interaction by gender with ELLs to form a definitive conclusion about the effectiveness (Leseax et al., 2006). As a result of their work, the National Literacy Panel for Language and Minority Youth concluded that the number of effective literacy studies for improving reading achievement for ELLs was limited. Therefore, the topic of reading achievement by gender should be addressed in further studies. Some studies on explicit instruction for all

students, not specifically ELL, were not significant by gender. Johnston and Watson found there were no significant differences in gender and reading program on reading comprehension for third- and eighth-grade students (Johnston, McGeown, Watson, 2011). Similarly, Prado and Plourde (2011) studied the effects of explicit instruction on reading comprehension by gender. In their study, both boys and girls showed gains from the pretest to the posttest, but no statistical significance existed by gender.

Regarding instructional method, significance was found in six of the eight hypotheses. For the first-grade participants, the main effect of instructional method was significant for each dependent variable including rhyme recognition, rhyme production, phoneme segmentation, and phoneme blending. For the second-grade participants, the main effect of instructional method was significant for rhyme production and phoneme segmentation. It was not significant for rhyme recognition and phoneme blending. According to Fountas and Pinnell (2011), rhyme recognition and phoneme blending should already be mastered by the end of the first grade. The findings may be a result of skills students mastered through first-grade reading instruction, regardless of the instructional method used. The research literature supported the findings for rhyme production and phoneme segmentation. Although they are expected to be mastered by the end of first grade as well, these skills are more complex according to the continuum of literacy learning (Fountas & Pinnell, 2011). Also, ELLs may take longer to master reading foundational skills due to learning to read in a language other than their native language (Freeman & Freeman, 2014). Also, according to Gersten et al. (2007), ELLs receiving explicit and systematic daily instruction in small-group instruction showed improvement in reading achievement. Their recommendation to implement explicit and

systematic phonemic awareness instruction was supported by the findings of other researchers, as well (August et al., 2009; Kamps et al, 2007; Pollard-Durodaola & Simmons, 2009). All of these researchers claimed that students who had difficulty learning to read needed specific intervention based on a systematic curriculum of essential skills taught in an explicit manner. Furthermore, the teaching of reading and writing through the similar sounds and patterns that the languages shared, improved reading achievement. Also, Linan-Thompson and Vaughn (2007) noted that explicit and systematic phonemic awareness instruction was effective for increasing phonemic awareness of ELLs. Because the effect sizes in this study ranged from a medium size of 0.07 to a large effect size of 0.28, there was practical support for this reading instructional program for ELLs.

Significance found for the main effect of type of instructional strategy for the second-grade ELLs was supported by the findings of the National Reading Panel (2000). Members of the Panel noted that phoneme segmentation was one of the most powerful phonemic awareness skills for improving reading achievement. Effect sizes ranged from a large effect size of 0.18 to 0.27. Ehri et al. (2001) agreed. In their meta-analysis of 52 studies, they found that phoneme blending and segmenting had the greatest impact on reading development.

Because 86% of Hispanic ELLs in Arkansas speak Spanish as their native language, this instructional method has implications for reading achievement of second-grade Hispanic ELLs (Arkansas Department of Education, 2015a).

In general, the main effect of gender was not significant for the first and second-grade participants over the four dependent variables (rhyme recognition, rhyme

production, phoneme blending and phoneme segmentation). The only significant finding was on phoneme blending for the first-grade participants. Even though the means for the females on all subtests (rhyme recognition, rhyme production, phoneme blending and phoneme segmentation) were slightly higher compared to the males, the differences did not rise to significant levels with the one exception. These findings stood in contrast with the research literature. Loveless (2015) found that girls have historically scored higher than boys on reading achievement tests. Mullis et al. (2012) found girls consistently outscored boys on international assessments. This finding was true for 49 nations. The National Assessment of Educational Progress (2015) supported these findings as well, as reading scores for girls exceeded those for boys on eight recent assessments of U.S. reading achievement. The Presidential Task Force on Educational Disparities (2012) cited factors, such as differential treatment based on gender, as contributing to this disparity in the United States. Other researchers, such as Whitmire (2010) and Padron (2002), disagreed. Whitmire cited a lack of focus on phonics and curriculum which appealed to males, and Padron claimed the reason for poorer performance of males was inadequately qualified teachers of Hispanic students.

## **Recommendations**

### **Potential for Practice/Policy**

According to Izquierdo (2012), administrators must become more informed about best practices for reading instruction for Hispanic ELLs. Along with Izquierdo, Minaya-Rowe (2012) added that ELLs needed continuous and sustained instructional support from highly qualified, trained professionals to overcome the trend of weak literacy performance of ELLs over time. They argued that this instructional support should

include explicit literacy instruction that includes how sounds (phonemic awareness and phonics) in the students' native and second language are similar and different. Because ESSA (2015) placed the responsibility back with the states to research best classroom practices, a need exists for a larger database of strategies that can help all students, including ELLs (Pompa, 2015). Therefore, the following recommendations for policy and practice are offered.

First, all kindergarten through second-grade students, including ELLs, should receive targeted instruction that includes pre-test and post-test assessments in phonemic awareness skills and systematic mastery of skills tracking over time. The findings of this study and the recommendations of other researchers support this recommendation. Because children from non-English-speaking families are more likely to enter school with a low level of English proficiency, which correlates with low literacy achievement (Oh et al., 2007), targeted instruction should be implemented to help ELLs catch up to the national reading achievement average by third grade (Lesaux et al., 2014). Lesaux et al. (2014) argued that, without targeted instruction, ELLs would not catch up to the national reading achievement goal. Also, Oh et al. (2007) found that ongoing teacher monitoring of progress data were an essential component of literacy instruction. Therefore, implementing pre-test and post-test assessments in phonemic awareness skills and systematic mastery of skills tracking over time will allow districts to identify students at risk for reading difficulties and intervene with appropriate instructional methods.

Second, districts should develop comprehensive, district-wide explicit and systematic phonemic awareness instruction for all students in kindergarten through second grade. Teachers should receive professional development to build their

understanding about how to teach foundational literacy skills. In addition, interventions will be delivered with fidelity so all students receive the opportunity to learn the curriculum. Linan-Thompson and Vaughn (2007) noted that explicit and systematic phonemic awareness instruction that encompasses an instructional delivery model that explicitly demonstrates how to complete a task through modeling has can have a positive impact on phonemic awareness achievement for all students, including ELLs. Also, Linan-Thompson and Vaughn stressed the importance of assessing for student understanding to make informed instructional decisions. The findings of this study support both explicit and systematic phonemic awareness instruction and checking for understanding after instruction has been delivered. The 2000 National Reading Panel Report recommended that a balanced approach consisting of five literacy elements should be implemented in all kindergarten through third-grade classrooms in the U.S. (National Reading Panel, 2000). These elements were phonemic awareness, phonics, vocabulary, comprehension, and fluency. The findings of this study on phonemic awareness support the recommendations of the National Reading Panel Report.

Third, teachers should have a working knowledge of language similarities and differences for the ELL students they serve to help them apply this knowledge during explicit, small-group reading instruction. However, this does not happen without a strong, informed, instructional leader. Izquierdo (2012) argued that administrators who lacked foundations of second-language acquisition and who did not have the understanding and skills to deliver content were common in schools with high populations of ELLs. This lack of understanding could cause Spanish-speaking ELLs to fall behind their English-speaking peers. Also, teachers need to explicitly teach the linguistic similarities between

Spanish and English to accelerate the learning and transfer of skills (Kamps et al., 2007; Pollard-Durodola & Simmons, 2009). Therefore, teachers and administrators should have a working knowledge of how the Spanish language is the same and different when providing explicit and systematic phonemic awareness instruction. School districts should have a systemic professional development program to serve ELLs to better inform teachers serving this population of students.

Fourth, districts should monitor gender differences in the achievement rates of females and males in their districts. Although the results of this study indicated no significant differences between the means of males and females by type of instructional program, females generally had higher mean scores in reading compared to males. Also, the Program in International Reading Literacy Study (Mullis et al., 2012) found reading scores for girls exceeded those for boys on eight recent assessments of U.S. reading achievement. The National Assessment of Educational Progress (2015) also supported these findings. Because the gender gap was larger for middle and high school students compared to elementary school students based on the report, it would be wise for administrators in elementary grades to examine the literacy achievement rates of males and determine if male literacy achievement is falling behind female literacy achievement so that the gap does not widen by middle and high school.

### **Future Research Considerations**

The findings from this study support the use of explicit and systematic phonemic awareness instruction to improve reading achievement of Hispanic ELLs, regardless of gender. To evaluate the impact of the type of instructional strategy used in this study and other research-based instructional programs in closing the achievement gap between

ELLs and their Native English-speaking peers, the following studies are recommended for consideration:

1. More longitudinal studies of phonemic awareness with pre-testing and post-testing at the end of kindergarten to third grade should be conducted. Most of the research Genesse et al. (2005) reviewed involved learners in a single grade level or different learners across grade levels. Also, very few of the studies reviewed on ELL literacy achievement were longitudinal in nature (August et al., 2009).
2. Because little is known about how language proficiency affects reading achievement over time, this topic should be further developed (Lesaux et al., 2006).
3. Because very little is known about the developmental changes that ELLs go through in oral language acquisition, studies should help to determine the reading instructional strategies that are most effective at each language level from beginning ELL to fully English proficient (Genesse et al., 2005).
4. The Northwest Arkansas region has the highest population of Marshallese outside of Hawaii. Northwest Arkansas is home to 10% of the world's population of Marshallese students (The Encyclopedia of Arkansas, 2016). Further studies on explicit and systematic instruction should be done with this population of students, as well.
5. Because phonemic awareness instruction is most effective when children are taught to manipulate phonemes with letters (National Reading Panel, 2000), explicit phonics and phonemic instruction involving the application of

phonemic awareness skills during reading should be considered for further study.

This research does not conclusively indicate that explicit and systematic phonemic awareness instruction is the only intervention method for all the reading problems in schools, especially for ELLs. The large standard deviations in some of the results demonstrate that non-explicit and systematic phonemic awareness instruction can provide some students with the skills needed to succeed in reading. However, the results do demonstrate that, on average, explicit and systematic phonemic awareness instruction helps both female and male Spanish speaking ELLs in their pursuit of reading improvement, thus reducing the gap between this student population and their Native English language peers. In other words, explicit and systematic phonemic awareness instruction should be highly considered when choosing best classroom practices in helping students improve their reading skills. Also, teachers in schools should be taught how to properly implement reading instruction strategies' strong professional development programs. The resources used in the professional development should be based on sound research and/or evidence-based practices.

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## Appendix A



### Status of Request for Exemption from IRB Review (For Board Use Only)

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Date: 3/21/16

Proposal Number: 2016-033

Title of Project: The Effects of Explicit and Systematic Phonemic Awareness Instruction on Reading for English Language Learners

Principal Investigator(s) and Co-Investigator(s): Annette Freeman    afreeman@harding.edu

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- ☒ Research exempted from IRB review.
- ☐ Research requires IRB review.
- ☐ More information is needed before a determination can be made. (See attachment.)
- 

I have reviewed the proposal referenced above and have rendered the decision noted above. This study has been found to fall under the following exemption(s):

☒ 1      ☐ 2      ☐ 3      ☒ 4      ☐ 5      ☐ 6

In the event that, after this exemption is granted, this research proposal is changed, it may require a review by the full IRB. In such case, a **Request for Amendment to Approved Research** form must be completed and submitted.

This exemption is granted for one year from the date of this letter. Renewals will need to be reviewed and granted before expiration.

The IRB reserves the right to observe, review and evaluate this study and its procedures during the course of the study.

*Rebecca O. Weaver*

Chair

Harding University Institutional Review Board