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The Effect of Systematic Phonics on Reading Scores of First-Grade English Language Learners

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This is to certify that the doctoral dissertation by

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Abstract

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Learners

by

Christine Bassett

M.Ed., Florida Southern College, 2015

B.S., Florida Southern College, 2007

Dissertation Submitted in Partial Fulfillment

of the Requirements for the Degree of

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Abstract

On average, English language learners (ELLs) do not demonstrate the same academic achievement as their native English-speaking peers. The number of ELLs in U.S. schools has increased over the last several decades, as has the scholarly debate on how to best support ELLs in building foundational reading skills. The purpose of this study was to determine how two groups, a treatment group of 156 ELLs who participated in systematic phonics instruction as part of their 2021–2022 reading instruction and a control group of 218 ELLs who did not receive systematic phonics instruction, differed in terms of end-of-first-grade reading scores while controlling for oral language scores. The simple view of reading was used as a theoretical lens to form the research question and guide the study's design. A quantitative, quasi-experimental, nonequivalent groups, ex post facto design was used to examine the 2022 reading scores of 374 first-grade ELLs who attended elementary school in a large suburban school district in the southeastern United States. An analysis of covariance was used to compare the mean reading scores of the treatment and control groups while controlling for the oral language scores of each group. Results from this study did not indicate a statistically significant difference in reading scores between the ELLs who did and did not receive phonics instruction, $F(1, 371) = .192$, $p = .662$. After reviewing the literature, the conclusions from this study extend the scholarly debate about when and how it is best to implement phonemic instruction in the language acquisition process. Positive social change can result from educators and researchers using this study's findings to continue dedicating effort and analysis to supporting ELLs' language acquisition and reading ability.

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Table of Contents

List of Tables

List of Figures

Chapter 1: Introduction to the Study

While many early English language learners (ELLs) have versatile language knowledge from their multilingual life experiences, they often need the English language skills that will allow them to succeed academically (Auslander, 2022; Chaparro et al., 2022). Compounding the challenge of catching up to their native English-speaking peers, ELLs are working on learning a new language while English-speaking peers are progressively increasing their literacy skills (Lou, 2020). When working through the challenge of acquiring academic English language literacy, ELLs need the support of effective instruction. To efficiently support ELLs, teachers need to employ research-based instructional strategies that can be easily implemented (Chaparro et al., 2022). A growing body of research has suggested that the first step towards literacy for ELLs is phonological instruction (Dussling, 2018, 2020; Kung, 2019; McMillen et al., 2020; Teng, 2020), but little research exists that examines the extent of phonics instruction and ELLs literacy levels when controlling for oral language proficiency level. If educators are to narrow the achievement gap between ELLs and their native-English-speaking peers, scholars and researchers must keep dedicating effort and analysis to studies like the current one. This study contributes to the scholarly conversation of the literacy acquisition of ELLs and phonological instruction while considering students' level of oral language proficiency.

In this chapter, I present background information on ELL academic statistics, second language instruction, and the achievement gap between ELLs and native-English speakers. In this chapter, the problem this study sought to address is defined as the

presence of a gap in the current literature because research has not detailed the extent to which systematic phonics instruction delivered to primary ELLs at varying oral proficiency levels affects ELLs' literacy skills. The purpose of this study was to determine how two groups, a treatment group of ELLs who received systematic phonics instruction as part of their reading instruction and a control group of ELLs who did not receive systematic phonics instruction, differ in terms of end-of-first-grade reading scores while controlling for oral language scores. Additionally, the research question, hypothesis, and null hypothesis are introduced in this chapter. The theoretical framework, the simple view of reading, and the nature of the study are also discussed in this chapter. I define key terms that were important to the study and describe the assumptions, limitations, and the significance of the study.

Background

With increased ELL enrollment, many educators, researchers, and policymakers have focused on dedicating resources to improving ELLs' academic performance; however, despite these efforts, an achievement gap still exists between ELLs and their native English-speaking peers. The National Assessment of Educational Progress (NAEP; 2022) reported that ELLs, on average, score significantly lower than native speakers. In 2022, the gap between these two groups did narrow slightly, but in many grades and subject areas, the smaller gap resulted from a decrease in average scores of native-English speakers and not an increase in ELL scores (NAEP, 2022). With a fourth-grade ELL reading score average of 190 and an eighth-grade ELL average reading score of 225, both out of a total of 500 points, NAEP reported ELLs' average reading scores were 33

points lower in fourth grade and 39 points lower in eighth grade than their native-English-speaking peers. The number of ELLs in U.S. schools has steadily increased over the last decade (National Center for Education Statistics, 2023). In 2019, 10.4% of students in U.S. schools were classified as ELLs (National Center for Education Statistics, 2023). While the 5.1 million ELL students receive language support, they are learning the same academic content and are held to the same academic standards as their native-English-speaking peers (National Center for Education Statistics, 2023).

ELLs do not demonstrate the same academic outcomes as their native English-speaking peers (Chaparro et al., 2022; Goldenberg, 2020). Contributing to the problem of inequality of educational outcomes for ELLs, a substantial percentage of ELL students could not be considered English language proficient after several years in U.S. elementary schools (Goldenberg, 2020). Many ELLs enter middle school with conversational English skills; however, they do not possess the academic literacy skills needed to be academically successful (Chaparro et al., 2022). ELLs are not receiving adequate literacy support during their elementary years to be academically literate later in their education (Chaparro et al., 2022; Goldenberg, 2020).

A factor in the literacy gap between ELLs and native-English-speaking students is the need for systematicity around ELL instruction (Artigliere, 2019). Educators need more direction in the effective support of ELLs due to a lack of curriculum guidance and conflicting research about when in the language acquisition process students should participate in these supports (Artigliere, 2019; Dussling, 2020). Dussling (2020) found that including ELLs in intensive reading interventions could positively affect ELLs and

native English-speaking students; however, some educators do not include ELL students in intensive reading support. Dussling (2018) explained that not including ELL students in core classroom phonics instruction could affect their long-term English language development and concluded that some teachers believe ELLs should have developed an everyday use of English before they are included in literacy support programs like phonics. Some teachers' beliefs that literacy instruction in phonics should be delayed are supported by Cho et al. (2021) who concluded that it is best to delay phonemic instruction until ELLs acquire a higher proficiency level in English. However, like Dussling (2018, 2020), other researchers have contradicted the idea that it is best to delay phonemic instruction until ELLs are verbally proficient in English. Ludwig et al. (2019) shared that ELL students with little to no English proficiency can benefit from a variety of interventions and should be immediately included in targeted instruction in the English language classroom. In a study by Kung (2019), first-grade ELL students' long-term language growth surpassed struggling native English speakers' growth when both groups received the same sound and letter instruction. Langille and Green (2021) found that multisensory phonics programs created engaging learning experiences that resulted in language development and improved reading skills in ELLs. A study of phonics instruction with ELL first graders yielded promising literacy acquisition results and encouraged future research on phonemic interventions (Robinson, 2018).

Little research exists examining the extent of phonics instruction and ELLs' literacy levels when controlling for oral language proficiency. Researchers have debated whether an ELL needs to have acquired oral language proficiency before receiving

phonemic support in reading instruction (Cho et al., 2021; Dussling, 2018, 2020). To examine and add to the scholarly discourse around phonemic support and ELLs, in this study I considered oral language proficiency as a control covariate when examining the reading scores of ELLs who received systematic phonics instruction within their 90-minute reading block compared to a group who did not receive systematic phonics instruction during their 90-minute reading block. This study is unique because the treatment, the systematic phonics program, has not previously been examined concerning the level of language proficiency and reading scores. This study built upon previous research that discussed ELLs receiving phonics instruction during their language acquisition process.

Problem Statement

It is debated in the literature to what extent systematic phonics instruction delivered to first-grade ELLs at varying oral proficiency levels affects ELLs' literacy skills. Vadasy and Sanders (2021a) wrote that an examination of literacy outcomes and found that phonological instruction could improve reading practices for students with limited English exposure. In a subsequent study, Vadasy and Sanders (2021b) asked for additional exploration of phonological interventions to further examine the benefit to students who need intensive language support. Goldenberg (2020) explained that continuing research on the effect of phonemic interventions and reading comprehension could be used to make improvements in the instructional strategies used with ELLs. However, in scholarly literature, researchers's findings have differed as to when ELLs should receive phonemic instructional support in the language acquisition process. Some

researchers, like Cho et al. (2021), have stated that ELLs must acquire language proficiency in English before they can benefit from phonics instruction. Other researchers, like Dussling (2018, 2020) and Ludwig et al. (2019), concluded that ELL students with little to no English proficiency can benefit from a variety of interventions and should be immediately included in targeted instruction in the English language classroom. While educational researchers have indicated phonics instruction increases ELLs' literacy skills (Dussling, 2018; Kung, 2019; Langille & Green, 2021; Ludwig et al., 2019), there is a gap in the literature regarding the extent to which systematic phonics instruction delivered to primary ELLs who are at varying oral proficiency levels affects the ELLs' literacy skills.

This study contributes to scholarly research by providing a quantitative analysis of a comparison of reading scores on the ACCESS assessment (ACCESS is the collective name for the World-Class Instructional Design and Assessment Consortium's [WIDA] suite of summative English language proficiency assessments) between two groups: a treatment group of ELLs who participated in systematic phonics instruction as part of their reading instruction and a control group of ELLs who did not receive systematic phonics instruction while controlling for oral language scores. The ACCESS assessment reports scaled scores in multiple language domains (WIDA, 2023). In this study, I used scaled scores in the reading domain as the dependent variable and scaled scores in the oral language domain as a covariate. The oral language score is composed of a student's performance on the speaking and listening sections of the assessment (WIDA, 2023).

Purpose of the Study

ELL students do not have the same reading skills as their native English-speaking peers; therefore, further research should explore phonemic instructional strategies and reading comprehension skills of ELL students (Hall et al., 2019). In this quantitative, quasi-experimental, nonequivalent group, ex post facto study, I examined the difference in reading scores between two groups of first graders, ELLs who received systematic phonics instruction within their reading block and ELLs who did not, while controlling for oral language scores. Both control and treatment groups participated in a daily 90-minute reading block in which they received reading instruction using a district-adopted curriculum titled *Wonders*. In addition to instruction from the *Wonders* curriculum, the treatment group received instruction in systematic phonics within the 90-minute reading block. The suburban school district that served as the study site is in the southeastern United States and had approximately 110,000 students enrolled in its 150 schools during the 2021–2022 school year. This school district had an ELL population of 10,632 students, which comprised 9.6% of the district's student population.

I used archival data from ACCESS, a summative English language proficiency assessment, to monitor ELLs' social, institutional, and academic English proficiency across four language domains for the treatment and control groups data set. I used 2021 ACCESS oral language scores as a covariate to control for oral language proficiency level. The 2022 end-of-year reading scores from the ACCESS assessment of the treatment group, students who received systematic phonics instruction during their 90-minute reading block were compared with the 2022 reading scores from the control

group, a group of ELL students who did not receive systematic phonics instruction during their 90-minute reading block. Means were compared from both groups. The phonics program in this study provided a structured literacy approach where instructors follow a systematic scope and sequence through explicit routines to build phonological decoding skills (see Center for the Collaborative Classroom, 2022). It is important to note that the scope and sequence of this program were provided to instructors in a scripted format that provided uniform instruction to the ELLs who received systematic phonics instruction. The purpose of this study was to determine how two groups, a treatment group of ELLs who participated in systematic phonics instruction as part of their reading instruction and a control group of ELLs who did not receive systematic phonics instruction, differed in terms of end-of-first-grade reading scores while controlling for oral language scores.

Research Question and Hypotheses

RQ: How did the end-of-first-grade reading scores of the treatment group of first-grade ELLs that participated in systematic phonics instruction as part of their reading block differ from the scores of the control group of first-grade ELLs that did not receive systematic phonics instruction as part of their reading block?

H_0: There is no difference in reading scores of ELLs who have and have not participated in systematic phonics instruction while controlling for oral language proficiency level.

H_a: There is a difference in reading scores of ELLs who have and have not participated in systematic phonics instruction while controlling for oral language proficiency level.

Theoretical Framework for the Study

I used Gough and Tunmer's (1986) simple view of reading as the theoretical framework for this study. In the simple view of reading, Gough and Tunmer contended that reading comprises decoding and linguistic comprehension. Gough and Tunmer defined the skill of decoding as using letter-sound correspondence rules to read words and further explained that learning the rules of letter-sound correspondence is the key to word recognition, language literacy acquisition, and reading comprehension. Linguistic comprehension was defined by Gough and Tunmer as the process by which words and sentences are interpreted. Gough and Tunmer clarified that decoding and comprehension must be improved to increase reading skills.

In this study, I examined the use of systematic phonics instruction, which builds the decoding skills Gough and Tunmer (1986) explained are necessary for reading. In their theory, the simple view of reading, Gough and Tunmer asserted that reading comprehension is proportional to phonemic decoding skills; therefore, as decoding skills increase, in the simple view of reading, they predicted that reading skills will also increase (Hoover & Gough, 1990). Gough and Tunmer theorized that linguistic comprehension and decoding skills interact to improve literacy skills. Using the simple view's proportional relationship between decoding skills and reading, in this study I examined the influence of systematic phonics instruction on ELLs' reading scores when controlling for English language proficiency level. Additionally, Gough and Tunmer's theory was used as a lens to analyze and discuss the statistical outcomes of this study

regarding how ELLs develop reading skills regarding oral language skills and systematic phonics instruction.

Nature of the Study

In this study, I used archival data and a quantitative, quasi-experimental, nonequivalent groups, ex post facto design (NEGD). When assessing the effectiveness of an educational intervention, researchers often use a NEGD because the design is practical, replicable, and produces generalized results (Shek & Wu, 2018). Any study that uses existing data instead of gathering new data for said study is ex post facto. In an ex post facto study, a researcher examines an independent variable that has already been applied and does not manipulate variables or facilitate treatment to a group (Elyas & Alghofaili, 2019). The independent variable or variables are controlled through statistical analysis in ex post facto studies. In this study, I compared the mean reading scores of a treatment group of first-grade ELLs who received phonics instruction with mean scores from a control group of first-grade ELLs that did not receive phonics instruction to determine if phonics instruction correlated to higher reading scores.

It was impossible to randomly assign control and treatment groups because the instruction that was examined in this study, systematic phonics, had already occurred; therefore, a quasi-experimental design was the appropriate design selection. I used archival data from multiple schools within the study site school district, some of which implemented systematic phonics instruction and others that did not use a systematic phonics program. There are many advantages and strengths to using archival data and ex post facto analysis in research (Thomas, 2020). In some cases, the phenomenon being

researched was a natural occurrence not created by designed experimentation and, therefore, must be examined ex post facto (Elyas & Alghofaili, 2019). Other times, it is not ethically acceptable to manipulate two groups, and it is only acceptable to analyze subjects after an event or fact has occurred. Additionally, it may be more practical to begin an inquiry into a phenomenon using variables that have already occurred, which might lead to further investigation of cause-and-effect relationships.

Teachers who instructed at schools with systematic phonics programs received training and a curriculum with a scope and sequence based on phonological research. Oral language scores from the 2021 ACCESS assessment were used to examine the control and treatment groups before they received systemic phonics instruction during the 2021–2022 school year. Researchers can be more confident in the intervention results when using control and treatment groups (Shek & Wu, 2018). Use of a quantitative NEGD in this study enabled the examination of ELL students' 2022 reading scores while accounting for previous oral language proficiency. I used an analysis of covariance (ANCOVA) to control oral language proficiency. The covariate in this study was ELLs' 2021 ACCESS oral language scaled scores from the end of their kindergarten school year. The oral language score was computed within the ACCESS test using 50% of student's performance in the speaking section of the assessment and 50% in the listening section (WIDA, 2023)

Definitions

The following terms have been defined for their use in the study:

ACCESS: A tool to assess a student's English language proficiency. Administered annually, the tests help educators monitor the English language development of students identified as ELL in the four language domains of listening, reading, writing, and speaking (WIDA, 2022b).

ELL: A national-origin-minority student who is limited-English proficient (U.S. Department of Education, 2020). The National Center for Education Statistics (2022) defined ELLs as individuals with difficulty speaking, reading, writing, or understanding English.

Decoding: Using knowledge of letter sounds and blends, also referred to as graphemes and phonemes, to pronounce words (Ehri, 2022).

Graphemes: One or more letters that symbolize sounds that compose words (Ehri, 2022).

Phonemic awareness: The ability to distinguish and manipulate letter sounds when pronouncing words (Ehri, 2022).

Phonemes: Units of pronunciation in a word, identified by articulatory and acoustic elements (Ehri, 2022).

Systematic phonics: The teaching of letter-sounds correspondence and how that correspondence connects to the spoken and written word by using sequential instruction based on research on the letter-sound pathways in the brain (Buckingham, 2020; Castles et al., 2018; Ehri, 2022).

Reading score: The ACCESS reading score helps to convey the student's reading ability in an academic setting. Reading scaled scores reflect differences in item difficulty,

placing students on a continuum from kindergarten academic reading level to Grade 12 (WIDA, 2023).

Oral language score: Oral language scaled scores of ELLs are calculated by combining the individual students' speaking scores and the listening scores from the ACCESS assessment. The speaking and listening scaled scores are equally averaged to create the oral language score. The oral language proficiency score indicates what the student can understand and communicate in an academic setting (WIDA, 2023).

Assumptions

I made several assumptions about the variables and the study site when conducting this study. It was assumed that students who did not receive systematic phonics instruction during class time did not receive phonics support outside of class (e.g., in an afterschool tutoring program or from a caregiver) because it was impossible to control for instruction that has occurred outside of the school setting. Furthermore, students' oral language scores on the 2020–2021 ACCESS assessment were assumed to represent their oral language proficiency level at the beginning of the 2021–2022 school year. The study was also conducted under the assumption that the educational leaders within the study site checked the fidelity and monitored the correct implementation of the systematic phonics program with the students attending the systematic phonics schools. All schools at the study site observed instructors and collected progress monitoring data as the students advanced through the systematic phonics curriculum; however, accessing this implementation and progress monitoring data from schools within the study site was impossible. Some of that information was teacher collected, part of a school record for

that year only, or not formally submitted to the district administration. Teachers'

instructional observations were not available to me for this study; therefore, I relied on

the professional responsibility of educators and school leadership and assumed that

instruction was conducted effectively for both the nonsystematic phonics and systematic

phonics groups. Another assumption was that teachers received the proper training that

followed the study site's English language arts (ELA) and ELL learning support plans.

All districts in the state where the study site is located must create and follow learning

plans that the state's Department of Education has approved. It was necessary to make

these assumptions so that the study focused on the relationship between the students'

assessment scores and the type of curriculum used in instruction, not teachers'

instructional delivery or external instructional factors.

Scope and Delimitations

The research problem in this study focused on the gap in scholarly research

regarding analysis of systematic phonics and ELLs' reading scores while controlling for

oral language proficiency. In this study, I examined the Spring 2021 and Spring 2022

ACCESS data of ELLs in first grade during the 2021–2022 school year at multiple

schools within the study site district. The study was further delimited to students who

received oral language scores from the ACCESS assessment conducted during the 2020–

2021 school year. The 2020–2021 ACCESS oral language score was used as a control

within the variables to help create validity in the study results. Schools within the study

site that had students who met these criteria were grouped based on the schools' use of

systematic phonics, Group 1, or nonuse of systematic phonics instruction, Group 2, with

15

their ELL population. Drawing data from multiple schools within the study site furthered the potential generalizability of the study.

Limitations

I requested and received permission to conduct this study from the research department of the study site. Their approval was contingent on Walden University Institutional Review Board's (IRB) approval, which I received in July 2023. The study site welcomed research requests that have the potential to improve education, require minimal use of district resources, do not unethically interfere with student instruction, and align with the district's research agenda. The district has an in-depth research request process that culminated in a research review committee approving this study. The study site's Assessment, Accountability, and Evaluation department provided the data points needed for this study. The senior coordinator of Research and Evaluation oversaw the organization, scrubbing, and releasing of the archival data used in this study.

In addition to the approval process, a challenge in this study was determining which schools within the study site district supported student reading instruction with systematic phonics intervention and which did not in 2021–2022. To overcome this challenge, the assistant superintendent of elementary schools at the study site provided me with a list of schools that could be confirmed as having used or having not used a systematic phonics program during 2021–2022. In this study, I analyzed the ACCESS scores of 374 ELLs who were enrolled in the participating schools.

A limitation of using a NEGD is that the control and treatment group participants cannot be exactly alike because the participants' data might be affected by influences

other than the treatment variable (Shek & Wu, 2018). This influence can result from an event during the intervention's progress, maturation, testing, and instrumentation (Shek & Wu, 2018). In this study, I used a scripted systematic phonics program as the treatment within the independent variable. However, a limitation of the study was that even with a scripted program, instructional delivery likely varied because the study included student data from different classrooms with different instructors. Additionally, it could not be guaranteed that phonics instruction did not occur in schools without systematic phonics programs. Teachers in schools that did not have a systematic phonics program could have delivered some form of nonsystematic phonics instruction to students. Still, I defined phonics instruction in this study as using a district-approved, systematic, scripted phonics program that followed a research-based scope and sequence. Resources utilized by teachers that were nonsequential, nonsystematic, or not district-approved materials were not considered as systematic phonics instruction in this study.

Significance

The findings of this study provide insight into systematic phonics instruction, English proficiency level, and reading scores of ELL students. The results of this study can be used by elementary educators in the study site district to determine if systematic phonics instructional practices may be used to help increase ELL reading scores. Additionally, schools and educators already using systematic phonics may use the findings of this study to determine if systematic phonics should continue to be a part of their curriculum and instruction. Educational leaders, like principals, curriculum specialists, and district superintendents, might use the information in this study to

determine professional development plans for teachers in systematic phonics instruction and the adoption of systematic phonics curriculum. More specifically, the findings of this study may help educational leaders to support ELLs academically.

This study can result in positive social change through providing information that can help educators narrow the academic achievement gap between native English speakers and ELLs. Improving instructional methods for ELLs, supporting second language instruction research-based professional development, and adopting a curriculum that has been shown to improve learning outcomes of ELLs contribute to developing students' literacy skills, increasing graduation rates, and improving the academic outcomes of ELLs.

Summary

An achievement gap exists between ELLs and their native English-speaking peers (NAEP; 2022. In scholarly literature, it is not known if a relationship exists between systematic phonics instruction and ELLs' reading scores when controlling for oral language proficiency level. In this study, I used the simple view of reading theory to compare reading scores between two groups to examine what relationship, if any, existed between ELL literacy scores and systematic phonics instruction. Educators and educational leaders at the study site may use the findings from this study to determine best practices for ELL literacy development. The generalizability of the study allows for the results to be considered when making decisions in other educational environments. In the next chapter, I will synthesizes the literature and scholarly conversation about the educational categories that support this study's variables.

Chapter 2: Literature Review

This chapter will be focused on the scholarly conversation and research on literacy and ELLs, assessment of language proficiency, and systematic phonics. In this chapter, I describe the theoretical foundation of the study, including its history, scholarly implementation, relevance to the study, and my rationale for selecting the simple view of reading as the theoretical foundation. Chapter 2 also includes a discussion of the literature search strategy by listing databases used to gather information, the key terms used to search within those databases, and the scope of the literature search.

Literature Search Strategy

To locate literature for this study, I searched several databases accessible through the Walden University Library, including Education Source, ERIC, and SAGE publications. The Google Scholar search engine was also used. When searching each database, the following key terms were used: *phonics, systematic phonics, literacy of ELLs, ELL instruction, whole language learning, second language learning, language acquisition, English language assessment,* and *the simple view of reading*. Results from these searches were filtered to only include those published between 2018 to 2023, except for sources regarding the theoretical foundation.

Theoretical Foundation

I used the simple view of reading theory as the theoretical foundation of this study. The theory was created by Gough and Tunmer (1986) to expound on and defend the importance of decoding skills in the reading process. The authors theorized that decoding plays a central role in the reading process; therefore, it should play a significant

role in instruction. Gough and Tunmer explained that in its simplest form, "reading

equals the product of decoding and comprehension, or R = D x C" (p. 7). Gough and

Tunmer further clarified that in their equation, reading was not reading comprehension

but linguistic comprehension. Framing their view, Gough and Tunmer contended that to

be able to read linguistically, students must acquire verbal comprehension and decoding

skills, and without one of the components of that equation, reading will not occur. To

describe their ideas, Gough and Tunmer coined the phrase, the simple view of reading,

and created a theory that has allowed subsequent scholars to explore this approach in

classrooms and empirical data.

     Apel (2022) explained that hundreds of studies have been conducted to analyze

the simple view of reading and found that the theory adequately represents the process of

reading. Lonigan et al. (2018) noted that almost all the variance in reading

comprehension data was explained by the two components of the simple view of reading:

decoding and linguistic comprehension. Furthering the scholarly support of the simple

view of reading, Nation (2019) stated that the interacting components of decoding and

linguistic comprehension in the theory are a reminder to scholars that reading

comprehension requires readers to have the skills to identify individual words and the

ability to build meaning from text. In a study of 757 fifth, seventh, and ninth graders'

language, decoding, and reading comprehension skills, Foorman et al. (2020) evaluated

the functional form of the simple view of reading and found that the interaction of

decoding and language could predict reading comprehension. However, other scholars

have contended that the simple view of reading cannot fully explain the complexities of

reading (Taboada Barber et al., 2021; Wagner et al., 2021). Some scholars have used the simple view of reading to examine and analyze reading deficiencies with limited success (Wagner et al., 2021). Wagner et al. (2021) stated that the simple view of reading could not fully account for the complex aspects of the reading deficiency they studied. While some scholars do not support the simple view of reading with empirical evidence, Apel defended that the simple view of reading purposely does not account for the complex aspects of deep reading comprehension; instead, it aims to show how phonological skills are essential in early literacy.

The simple view of reading was applied in a similar method when Kang (2021) used it to examine the influence of English oral language comprehension and decoding skills on the reading comprehension of fifth-grade Korean ELLs. Kang found the simple view of reading to be an effective application to second language learners, citing that both decoding skills and oral language comprehension abilities were significant indicators of reading comprehension within their study. Cho et al. (2019) used the simple view of reading to examine the differences in reading comprehension factors between ELLs and native-English speakers. Through using the simple view of reading, Cho et al. isolated the differences between the two groups, finding that verbal listening comprehension significantly contributed to the reading ability of ELLs much more so than vocabulary.

The simple view of reading aligned with the research question asked in this study: How did the end-of-first-grade reading scores of the treatment group of first-grade ELLs that participated in systematic phonics instruction as part of their reading block differ

from the scores of the control group of first-grade ELLs that did not receive systematic phonics instruction as part of their reading block? This research question reflected Gough and Tunmer's (1986) equation of decoding skills multiplied by language comprehension equaling linguistic comprehension. Gough and Tunmer's assertion that reading is proportional to decoding skills combined with the level of language proficiency aligned with the alternative hypothesis of this study that there is a difference in reading scores of ELLs who have and have not participated in systematic phonics instruction. In this study, reading was represented by students' reading scores, systematic phonics was the decoding skill, and oral language score was the verbal comprehension skill.

Literature Review Related to Key Concepts

Literacy and ELLs

ELLs are an important part of U.S. classrooms because they bring different perspectives, cultural backgrounds, and languages into the academic environment. Successful classrooms embrace the multicultural aspects ELLs bring to U.S. schools and ensure that all students continue to celebrate their identity, home language, and cultural values (Yol & Yoon, 2020). However, for ELLs to succeed academically, they must become literate in English (Yol & Yoon, 2020). Cho et al. (2021) indicated that educators must use literacy strategies that address the heterogeneous needs of all ELLs and that those strategies must prepare them to use English in various academic content areas.

While ELLs enter U.S. schools with various language backgrounds, Hammer et al. (2020) found no empirical evidence that indicated that using a language other than English at home limited ELLs' ability to learn English. However, ELLs, especially those

from low-income homes, struggle to reach the same academic milestones as their

monolingual peers (Cho et al., 2021; Hammer et al., 2020; Venketsamy & Sibanda,

2021). Cho et al. (2021) explained that while legislation, research, teacher training, and

educational support have been dedicated to second-language learning, ELLs still struggle

academically compared to their native English-speaking peers. Scholars have noted that

the number of years ELLs are attached to the ELL classification has not been shown to

affect academic literacy scores positively. Grisso (2018) found no strong relationship

between content area reading scores and the number of years ELLs participated in

English language development instruction. However, scholars have noted that research-

based instructional strategies and curriculum have been shown to contribute to ELLs'

academic literacy interventions (Cho et al., 2021; Dussling, 2018, 2020; Teng, 2020). All

students, including ELLs, who are emerging readers, should be exposed to text that builds

knowledge and research-based instructional practices (Cervetti & Hiebert, 2019; Grisso,

2018). For ELLs to have the opportunity to be successful throughout their education and

later in their vocational life, they must acquire academic literacy skills (Cho et al., 2021).

ELLs' literacy can be developed through effective instruction, creating a foundation for

reading and continually developing academic language (Cho et al., 2021).

Academic literacy is more than reading words; academically literate students must

be able to read, understand, and effectively communicate using language from academic

content areas. Lachance et al. (2019) wrote that most teachers defined academic language

as the oral and written communication skills needed to be successful in school. Lachance

et al. elaborated on this idea by explaining that educators within their study described

these skills as a conceptual understanding of content-specific academic vocabulary. Lachance et al. outlined the importance of ELLs developing their academic literacy by detailing how many teacher respondents viewed academic literacy as the threshold ELLs needed to have equal access to scholarly opportunities in the classroom and their future careers. ELLs needing to cross the threshold of academic literacy to be academically successful is further stressed by Murphy and Torff's (2019) finding that teachers who felt ELLs lacked the skills necessary to participate in rigorous, critical-thinking tasks assigned ELLs less rigorous activities. By assigning ELLs a less rigorous curriculum that does not challenge their critical thinking, ELLs will continually experience diminished academic performance, thus widening the achievement gap (Murphy & Torff, 2019). Lachance et al. explained that the acquisition of academic literacy must be a focus in ELL instructional strategies because, outside of school, academic language is not as easily accessed or encountered as often as conversational English is. Lachance et al. concluded that teachers' understanding of ELLs acquiring academic literacy and appreciation for their metalinguistic experiences helped to encourage educators to extend beyond stagnant vocabulary instruction and into scholarly interaction within content areas.

Literacy Acquisition Instructional Strategies With ELLs

States, districts, and schools have varying policies and practices supporting ELLs. Most schools work to meet the learning needs of ELLs using one of two methods, either utilizing what is commonly referred to as push-in or pull-out instructional support (Bauler & Kang, 2020). In a pull-out model, ELL students are removed from the mainstream classroom to receive targeted language acquisition support from an English for speakers

of other languages (ESOL) teacher or a paraprofessional, while in a push-in model, the

ESOL educator works with ELLs in the mainstream classroom and delivers learning

support in a collaborative setting (Bauler & Kang, 2020). Bauler and Kang (2020) stated

that beyond the traditional push-in model, the ESOL policy of their study site advocated

for equal instructional responsibility between the classroom and ESOL teacher. Bauler

and Kang noted that when ELLs learned collaboratively in the mainstream classroom

without being removed for ESOL support, students were as engaged and participated in

academic language at the same level as their native-English-speaking peers. The authors

further outlined the benefits of the push-in model by explaining that teachers perceived

increased language development, peer collaboration, oral discourse, and written

communication skills in both ELLs and native-English speakers; however, they also

detailed the barriers faced when using the push-in model, sharing that finding

collaborative planning time was a challenge as well as some teachers felt like their

pairing with a coteacher resulted in unsuccessful coteaching practices and a lack of

clarity for the distribution of curriculum responsibilities within the coteaching pair.

Bauler and Kang concluded that clarity must be present with all instructional stakeholders

to improve instructional practices with ELLs. For ESOL instruction to be effective in

academic fields, including literacy, educators must clearly understand their role and

responsibility for delivering instruction, including learning interventions.

      To acquire academic literacy skills, researchers have indicated that, like native

English-speaking emerging readers, ELLs can benefit from reading interventions (Cho et

al., 2021; Dussling, 2018, 2020; Teng, 2020). However, scholars have disagreed about

when an ELL can best benefit from literacy support through reading interventions. Cho et al. (2021) noted that ELLs who struggled to acquire English literacy skills in early grades often had academic difficulties in later grades. However, Cho et al. defined early interventions as upper elementary grades or the last year of elementary school, reasoning that language learners would acquire literacy skills best after spending several years in an English academic environment and have developed verbal language skills. Other scholars recommended that these interventions occur earlier in elementary school (Dussling, 2018; Rojas et al., 2019). Cho et al.'s findings contrasted with Dussling's (2018) research that found that early literacy support, like phonics interventions, in the primary grades greatly benefited ELLs. The views that Cho et al. expressed about later elementary support also contradicted Rojas et al.'s (2019) finding that intervention should occur before third grade for ELLs. Rojas et al. explained that early intervention prevents reading difficulties in later academics and is more likely to close the achievement gap that begins to widen in third grade between ELLs and their native-speaking peers.

While scholars have highlighted the need for early implementation of effective interventions and research-based instruction of ELLs, researchers have also found that some teachers have not been adequately trained to deliver instruction or curriculum based on research. A lack of training and adequate instructional support in research-based curricula leaves some teachers potentially delivering ineffective instruction to ELLs (Olds et al., 2021). Murphy et al. (2019) noted that there is a lack of educators who are qualified to support ELLs. In their study of an ESOL certification program, Murphy et al. documented that some participants had been assigned ELL instructional roles before

starting the certification program, and many more were assigned similar responsibilities once administrators learned they were enrolled in the program. In a qualitative study of teachers' perceptions of how their instructional practices influence ELLs' academic experiences, Olds et al. (2021) concluded that teachers need more support to adequately deliver instruction that results in ELLs making the same academic gains as their native-English-speaker peers. This finding is underscored by Babinski et al. (2018) concluding that teachers need continuous professional development in ELL support strategies, implementation fidelity, and coaching in research-based instructional strategies if they are to improve literacy instruction for ELLs. Scholars who have researched ELLs' literacy acquisition suggested that the basis for literacy support could come from systematic phonics (Buckingham, 2020; Vadasy & Sanders, 2021a).

Systematic Phonics

To maximize effectiveness, phonological instruction is best implemented with a structured and systematic approach based on linguistic skills and English orthography (Buckingham, 2020; Vadasy & Sanders, 2021a). Phonological instruction is teaching students to read by focusing on graphemes, letters, and letter blends, in conjunction with phonemes and speech sounds, to build decoding skills(Buckingham, 2020). Systematic phonics instruction occurs when grapheme-phonemes are taught in a research-based, planned sequence (Buckingham, 2020). When emerging readers are first building literacy skills, researchers indicated that the ability to decode words is the strongest predictor of reading comprehension (Buckingham, 2020). The early importance of decoding

highlighted the significance of teaching phonological skills that allow students to practice the connection between graphemes and phonemes.

When studying instruction of grapheme-phoneme correspondences, also known as sounds-symbol correspondence, Vadasy and Sanders (2021a) found that young learners in kindergarten and first grade best learned how to use sets of graphemes when introduced to three new grapheme-phoneme correspondences a week. Vadasy and Sanders explained that instruction should be paced not to overwhelm beginning learners and found that students learned multiletter grapheme-phoneme correspondences better than single-letter grapheme-phoneme correspondences and could apply their learning to decoding, word reading, and spelling tasks. Likewise, Buckingham (2020) explained that phoneme segmentation helps to build students' phonological processing skills and memory for spoken words. Buckingham supported Vadasy and Sanders' findings by noting that there are essential steps and benchmarks emerging readers should be instructed in to make their reading instruction most effective. The work of Vadasy and Sanders, along with Buckingham, demonstrate the importance of a systematic approach to phonological instruction.

Systematic phonics instruction aims to create fluent readers who can easily decode words as they work to build their reading comprehension skills (Robinson, 2018). Comprehension is the process of extracting meaning from visual or oral information, like written words or verbal communication (Aryadoust, 2019). In addition to developing reading comprehension by building word fluency, phonological instruction has been shown to improve listening comprehension (Wolf et al., 2019).

Systematic Phonics Instruction Versus Whole Language Learning

Two methods dominate educators' instructional approaches in reading instruction: phonics-based instruction and whole-language instruction (Robinson, 2018). These teaching methods are vastly different and have been debated in the field of education for over 200 years (Castles et al., 2018). Before educational leaders like Horace Mann advised against teaching grapheme-phoneme correspondence, phonological reading skills were considered the standard instructional practice for reading (Castles et al., 2018). Since then, scholars have debated, attacked, promoted, or tried blending phonics-based and whole-language instruction (Castles et al., 2018; Robinson, 2018; Venketsamy & Sibanda, 2021). Whole language requires students to memorize whole words by sight and figure out non-memorized words by immersing students in texts. In contrast, phonics-based instruction requires teachers to instruct grapheme-phoneme correspondences systematically (Robinson, 2018). The combination of these two methods has been described as balanced literacy, where both skills-based and whole-language teaching are used to support literacy (Venketsamy & Sibanda, 2021)

Robinson (2018) explained that two learning theories create the foundation for the various methods of reading instruction. Using the behaviorist theory, systematic phonics relies on the instructor to utilize or create a curriculum that sequentially develops sound-symbol correspondence skills that help students transition from learning individual sounds to decoding words and comprehending texts (Robinson, 2018). Likewise, Ehri (2022) noted that systematic knowledge of the written word was vital in securing the word in memory and that visual representations of letter–sound connections helped

students bond letter sounds to pronunciations. Kung's (2019) work is consistent with the findings of Robinson and Ehri. Kung explained that phonics helps students develop the skills to decode words within the text, leading to reading comprehension. In contrast to phonics, whole language, using the constructivist theory, views reading as a natural element of language development that occurs when children are repeatedly exposed to text and given reading opportunities (Robinson, 2018).

Systematic Phonics Compared to Teacher-Created Phonics Instruction

Systematic phonics is the teaching of grapheme-phoneme correspondence and how that correspondence connects to the spoken and written word using sequential instruction based on research on the phonological pathways in the brain (Buckingham, 2020; Castles et al., 2018). Systematic phonics differs from teacher-created phonemic lessons, which may or may not be supported by research-based literacy acquisition and scientific evaluation of instructional sequence. Some scholars debate that systematic phonics has not been proven more effective than other instructional strategies for early literacy (Bowers, 2021), yet many have diligently supported its use through recent scholarly literature and study (Buckingham, 2020; Castles et al., 2018; Loewus, 2019; Manten et al., 2020).

Most ELLs need explicit phonological instruction to develop their English literacy skills (Manten et al., 2020). However, an Education Week Research Center survey of 670 kindergarten through second-grade teachers and 530 professors who teach reading instruction courses reported that 75% of teacher participants use three-cueing, a reading strategy that encourages young readers to guess unknown words using clues like

pictures or context to determine the unknown word, instead of phonological decoding (Loewus, 2019). Over 25% of educators surveyed reported encouraging students to look at pictures before sounding out unknown words; only 22% describe their reading instructional practice as based on systematic phonics (Loewus, 2019). While many teachers actively choose other instructional strategies than systematic phonics, some reported devoting 20 to 30 minutes daily to phonological instruction (Loewus, 2019). Unfortunately, many teachers are confused about how to give phonological-based reading instruction or incorrectly use strategies not part of research-based, systematic phonics instruction (Loewus, 2019). The lack of understanding of phonics could begin before teachers enter the profession since over 50 % of the professors who participated in the survey reported that their classes are centered around balanced literacy (Loewus, 2019). One in five could not correctly identify components of phonological decoding (Loewus, 2019). Given the importance of systematic reading instruction and the necessity for teachers to understand phonological strategies, scholars who support phonics instruction asserted that educators need to employ systematic phonics-based research created by phonological experts (Buckingham, 2020; Castles et al., 2018; Loewus, 2019).

Phonics With ELLs

For ELLs to become literate in English, teachers must use strategies to support language acquisition (Cho et al., 2021; Venketsamy & Sibanda, 2021). ELLs can benefit from phonological language support early in their English language acquisition and academic education (Rojas et al., 2019). Like native English speakers, ELLs must be able to recognize sounds that form words and connect those sounds to letters that symbolize

that sound in the written word (Dussling, 2020). Using systematic reading supports, teachers can help ELLs build their English literacy skills (Cho et al., 2021; Dussling, 2018, 2020; Rojas et al., 2019; Teng, 2020). While Cho et al. (2021) contended that these systematic supports should occur in later elementary years, after ELLs have sufficiently developed their English language skills, Dussling (2018) and Rojas et al. (2019) stressed that intensive reading supports, like systematic phonics, should not be delayed until ELLs have acquired English language proficiency.

Other scholars have also indicated that early literacy support should occur in primary grades, traditionally considered kindergarten through second grade. When studying kindergarten students, 40 ELLs and 21 native English-speaking students, McMillen et al. (2020) found that ELLs demonstrated a shift in language processing efficiency in English, which, by the end of kindergarten, was proportionate to their native English-speaking peers' lexical processing. The findings of McMillen et al. underscore the idea that beginning language learners acquire language skills quickly. Early literacy support of ELLs as a factor in closing the achievement gap between native and non-native English speakers is also reinforced by McMillen et al. Likewise, Kung (2019), who analyzed the relationship between first-grade reading instruction and first through eighth-grade reading ability growth for ELLs in comparison with native English speakers in a longitudinal quantitative study, found ELLs that received more sound/letter instruction early in elementary school decelerated less through middle school and performed at the level of native English speakers. Researchers have pointed to the need to implement early literacy supports, like phonics, as soon as ELLs enter the English

language academic environment (Dussling, 2018, 2020; Kung, 2019; McMillen et al., 2020).

ELLs must participate in systematic phonics instruction to acquire the same language skills as their native English-speaking peers. Dussling (2018, 2020) reported that ELLs benefitted from phonics instruction in small-group, homogeneous settings and larger-group settings with native-English-speaking peers. In a multiple-baseline-across-participants-designed quantitative study, Dussling (2020) examined the effectiveness of phonological reading intervention in a small group setting with 13 first-grade ELLs and native English speakers. Dussling (2020) found that both groups of students, native English speakers and ELLs, benefited from the supplemental reading instruction. Dussling's (2020) findings are consistent with Kung's (2019) work, which indicated that native and nonnative speakers benefit from intensive phonological support.

Phonemic instruction taught explicitly in the classroom helps give ELLs cognitive tools to improve their literacy skills. Dussling (2018) investigated the effects of a supplemental reading program on five first-grade ELLs and found that participants' pretest to posttest performance indicated targeted phonological instruction was an effective instructional support of ELLs' literacy skills. This mirrors Teng's (2020) explanation that when ELLs actively use metacognitive reading strategies, like phonics, it is more likely that ELLs will be able to employ reading comprehension strategies that improve their literacy skills. Students who have been explicitly taught metacognitive reading strategies like phonics view reading and literacy acquisition as a thoughtful process (Teng, 2020). Systematic phonics instruction that encourages students to employ

metacognitive skills to decode words actively promotes student empowerment in language acquisition. Teacher modeling is a critical instructional strategy for a comprehensive reading program (Teng, 2020). Effective, teacher-led instruction in phonological awareness and decoding in early elementary reading interventions contributes to improved oral language skills (Morita et al., 2023)

ELLs' Oral Language Skills

Oral language proficiency in English as a second language (ESL) instruction is the ability to use the English language for communication, academic work, and application of content knowledge at the level required for the individual learner's academic success. Oral language skills are critical if ELLs are to be able to successfully access grade-level English academic content and develop English reading and writing skills (Edelman et al., 2022). The ability to communicate effectively is an essential part of the language acquisition process for ELLs (Robert & Meenakshi, 2022). Phonological, morphological, syllabic, semantic, and syntactic aspects of language are all part of the oral language development process and contribute to student oral language skills (Robert & Meenakshi, 2022). Environments that encourage vocabulary development with interactions through writing, drawing, or speaking help students construct meaning and develop oral language skills (O'Keeffe, 2020). Building strong oral language skills is especially important in young ELLs' language acquisition process because it provides the foundation to successfully access English academic content, which becomes more rigorous and language-heavy in later grades (Edelman et al., 2022). When decoding a text, one of the tools ELLs employ is oral language skills, which are developed from

listening and speaking (Morita et al., 2023). Because of the importance of oral language ability, scholars have insisted that an early focus on oral language creates positive outcomes in reading comprehension (Morita, 2023). However, many factors contribute to ELLs' second language proficiency beyond ESL classroom instruction (Artigliere, 2019; Faulkner-Bond et al., 2018). Research has shown that these factors include language proficiency and literacy level in their native language, prior education, age when entering the English language learning environment, and home environment (Artigliere, 2019; Faulkner-Bond et al., 2018). While outside factors influence oral language skills, ELL students need effective ESL instruction that connects academic content with developing English language skills to succeed academically.

ELLs' language skills and content knowledge as components of language proficiency standards have been federally legislated since 2001's No Child Left Behind Act (Faulkner-Bond et al., 2018; Lee, 2019). With the adoption of the Every Student Succeeds Act (ESSA) in 2015, federal mandates to align ESL standards of proficiency with the state's academic standards were reinforced and more distinctly defined (Faulkner-Bond et al., 2018; Lee, 2019). The ESSA language ensured that ESL proficiency standards were defined by levels that outlined ELLs' language abilities with grade-level content (Faulkner-Bond et al., 2018; Lee, 2019). Reinforcing this correspondence was important because ESSA also considers each state's updated and more challenging academic standards (Lee, 2019). By federally mandating and developing standards for ESL instruction and language proficiency with the collaboration of a multistate consortium, ESL instruction and language proficiency levels have become

a more effective tool for supporting language learners, thus enabling more applicable language proficiency assessments.

Since 2002, federal law has required all kindergarten through 12th-grade ELLs to participate in an annual, standards-based English language proficiency assessment (Faulkner-Bond et al., 2018). These proficiency assessments examine four language domains, reading, writing, listening, and speaking, and are used to make instructional decisions and monitor language development progress (Faulkner-Bond et al., 2018). ELL annual assessments, like the ACCESS test from WIDA, use composite and scale scores from these multiple domains to create proficiency levels (WIDA, 2023). Recently, the examinations of these domains have shifted to meet the needs of the more cognitively complex and academically demanding standards adopted by multiple states after 2010 (Faulkner-Bond et al., 2018; Lee, 2019). The shift in domains has led to assessment results that give a more detailed and systematic understanding of how ELLs' language skills develop to help them comprehend, communicate, and collaborate in their academic learning environment (Faulkner-Bond et al., 2018; WIDA, 2023). However, Lee (2019) contended that while aligning language proficiency levels with content learning is helpful and has created more collaboration between states and educational organizations to support ESL instruction, there is still a need to more precisely define necessary language skills for all states to come to a consensus on how ELLs acquire those language skills. Without this agreement, states and educational agencies do not share the same perspective when viewing oral language proficiency (Lee, 2019).

Assessment of ELLs' Levels of Proficiency

Assessment is used at the beginning of a language learner's education to identify and classify them as an ELL (Soland & Sandilos, 2021). Throughout an ELL's educational trajectory, school leaders, teachers, and parents use data generated from these assessments to make educational decisions for the ELL based on the student's language proficiency level (Faulkner-Bond et al., 2018). There are currently six different sets of ESL proficiency standards used by various states' departments of education (Lee, 2019). Most states use ESL proficiency standards from WIDA, used by 35 states and four U.S. territories, or the English Language Proficiency Assessment for the 21st Century, used by 10 states (Lee, 2019). In the state where this study is to take place, ELLs are considered language proficient when they have acquired English language skills and academic skills that allow them to exit ESL support programs (Shneyderman, 2020). The state uses the ACCESS assessment to evaluate if an ELL's language and academic proficiency level is at the threshold that will no longer classify them as an ELL.

Summary and Conclusions

Through the exploration of literature, the gap in scholarly knowledge comparing systematic phonics instruction and an absence of systematic phonics instruction regarding ELLs' literacy levels emphasized the need to analyze systematic phonics effect on ELLs' reading scores. With little research that examined the extent of phonics instruction and ELLs literacy levels when controlling for oral language proficiency level, this study contributes to scholarly research by providing a quantitative analysis of a comparison of reading scores on the ACCESS assessment between two groups of first graders, ELLs

who received systematic phonics instruction within their reading block and ELLs who did not, while controlling for oral language scores. The data collection and scholarly analysis of this comparison can extend educators' knowledge about using systematic phonics and ELLs' literacy levels. To create a valid and generalizable foundation for this study, this study followed a quantitative, quasi-experimental, ex post facto NEGD using archival data. The methodology for this study is outlined in the following chapter.

Chapter 3: Research Method

I conducted this study to determine how the end-of-first-grade reading scores of a treatment group of ELLs who received systematic phonics instruction during their reading block differed from the scores of a control group of ELLs who did not receive systematic phonics instruction during their reading block while controlling for oral language scores. In this chapter, I describe the study's quantitative, quasi-experimental, ex post facto NEGD and the target population. The methodological decisions made to answer the research question are explained in this chapter. In this chapter, I also discuss the archival data permission requests and accessibility. The instrumentation and operationalization of ACCESS for ELLs as an assessment of reading and oral language proficiency is described in this chapter as are the data analysis plan, threats to validity, and ethical procedures.

Research Design and Rationale

In this study, I employed a quantitative, quasi-experimental, ex post facto, NEGD with a one-way ANCOVA. Archival data were used to answer the following research question: How did the end-of-first-grade reading scores of the treatment group of first-grade ELLs that participated in systematic phonics instruction as part of their reading block differ from the scores of the control group of first-grade ELLs that did not receive systematic phonics instruction as part of their reading block?. The dependent variable was the 2022 ACCESS reading scores of ELLs within the study site. The independent variable, reading instruction, had two levels: systematic phonics instruction and no systematic phonics instruction. To control for oral language skill level, the covariate was

the 2021 end-of-kindergarten oral language scores from the ACCESS assessment of ELLs.

In ex post facto analysis, a researcher does not manipulate variables or facilitate treatment to a group, and the control of the independent variable(s) is made through statistical analysis (Elyas & Alghofaili, 2019). Any study that uses existing data instead of gathering new data for the said study and examines an independent variable that has already been applied is ex post facto in design (Thomas, 2020). Since the research question in the current study was centered around a factor containing an instructional intervention that had already occurred, systematic phonics, the study's design was ex post facto and experimental. The study design was a NEGD because it was impossible to ensure that the treatment and control groups were equivalent because the treatment was previously implemented at various schools at the discretion of educational leaders within the study site. The lack of randomization in forming the treatment and control groups made this a quasi-experimental study. I employed the covariate to help abate the variance in nonequivalent groups.

Using an ANCOVA can help mitigate the variance in nonequivalent groups if the covariate is well selected (Pallant, 2020). A covariate also helps to moderate the threat to a study's internal validity and can increase the power of an ANCOVA test (Pallant, 2020). All data points used in the current study had 2021 oral language and 2022 reading scores. The covariate, oral language score, is a continuous scale between 100–600. The covariate selection stemmed directly from the purpose of this study, comparing reading scores of first-grade ELLs who participated in systematic phonics instruction to those

who did not while controlling for English language proficiency. Using this covariate was anticipated to allow for a better evaluation of the independent variable because it controlled for any influence oral language proficiency had on students' reading scores. I designed this study to help educational leaders and teachers decide on systematic phonics use with ELLs.

Methodology

Population

The target population in this study was ELLs in kindergarten during the 2020–2021 school year and first grade during the 2021–2022 school year within the study site district. All data came from schools classified as Title 1 during the 2021–2022 school year. I used two groups from the study site as the independent variable, a treatment group of ELLs who received systematic phonics instruction and a control group of ELL students who did not receive systematic phonics instruction. The dependent variable was the 2022 ACCESS reading scores of ELLs in the two groups. The 2021 ACCESS oral language scores were the covariate in this study. Both control and treatment groups were enrolled in the study site, a suburban school district in the southeastern United States that had approximately 110,000 students enrolled in its 150 schools during the 2021–2022 school year. This school district had an ELL population of 10,632 students, which comprised 9.6% of the district's student population.

I conducted a power analysis using G*Power 3.1.9.7 (Faul et al., 2007), detailed in the following subsection, that indicated that a sample size of at least 158 student scores would be needed for this study (see Faul et al., 2007). First-grade students classified as

ELL for two school years served as participants in this study. Students who had been

classified as ELL for less than 2 years, possibly because they did not attend kindergarten

or transferred into the district, or students who had been classified as ELL for more than

2 years, possibly due to retention or transferring schools, were excluded from the data set.

During the 2020–2021 school year, there were 1,052 students in kindergarten with an

ELL classification in the study site district. During the 2021–2022 school year, 1,221

students enrolled in first grade at the study site were classified as ELL. Within the study

site, 91 schools teach both kindergarten and first grade. Of those 91 schools, 74 are

noncharter, and in those 74 schools, 1,013 ELLs recorded a 2021 oral scale score and a

2022 reading score. I assumed that at least 158 students' scores would be available

because the study site had over 1,000 ELL first graders enrolled in 2021–2022. These

1,000+ data points were requested from the study site to provide statistical information to

examine the influence of systematic phonics instruction on ELLs' reading scores when

controlling for English language proficiency level.

Sampling and Sampling Procedures

A power analysis using G*Power 3.1.9.7 indicated that the scores of at least 158

ELL students were needed for this study to have an 80% chance of detecting a difference

(see Faul et al., 2007). I calculated this number with the G*Power 3.1.9.7 software using

a power of .80, a medium effect size of $f = .25$, and an error rate of .05 (see Pallant,

2020). The study scores comprising the sample were requested from the study site.

Acting as the independent variable, I separated those scores into two levels: the treatment

group of schools that delivered systematic phonics and the control group of schools that did not.

Archival Data

As a preliminary step in conducting research, I requested and received written permission from the research department of the study site to conduct research at the study site (see Appendix). This approved request was contingent upon receiving approval from the Walden University IRB. The study site welcomes research requests that have the potential to improve education, require minimal use of district resources, do not unethically interfere with student instruction, and align with the district's research agenda. The district has a research request process that culminated in a research review committee approving this study based on my application to conduct research there.

During the research planning process, I engaged in discussions with the district's Assessment, Accountability, and Evaluation department about the data source availability needed for this study. The senior coordinator of Research and Evaluation was encouraging while discussing the feasibility of this study and was enthusiastic about detailing the procedural steps to acquiring data. After being granted IRB approval from Walden University, approval number 07-14-23-0638456, I worked further with the study site to acquire the archival information needed to complete this study.

In addition to the approval process, a challenge in this study was determining which schools within the study site supported student reading instruction with systematic phonics intervention and which did not. Another challenge was accessing and studying secondary data from the ACCESS assessment. I discussed these potential barriers with

the assistant superintendent of primary schools at the study site, and they supported the research and helped ensure the reliability of this study's ex post facto design. The assistant superintendent had documented the schools that use systematic phonics instruction and multiple schools that do not, and these schools were used to group the independent variable within the study.

Instrumentation

In this study, I used ACCESS for ELLs to measure the construct of reading and oral language development. Developed by the WIDA (2022b), ACCESS is an assessment that helps educational leaders and educators make decisions about ELLs' English language proficiency in academic contexts. WIDA was established in 2003 due to a federal grant to develop a standards and assessment system for ELLs (Wisconsin Idea Database, 2023). The ACCESS assessment was developed to help states meet accountability objectives for increasing the English-language proficiency of ELLs and is administered each spring to ELLs in kindergarten through Grade 12 in WIDA member states. The current iteration of the ACCESS assessment was published in 2020 and is administered annually to ELLs in 41 states, U.S. territories, and federal agencies (WIDA, 2022a). The study site has used ACCESS to assess ELLs since 2016 to comply with Titles I and III of the ESSA of 2015 (Florida Department of Education, 2023). The study site granted me permission to use ACCESS data as a measurement instrument in this study (see Appendix).

The ACCESS assessment has been evaluated for reliability by the Center for Applied Linguistics (2022) Language Assessment Division Psychometrics and

Quantitative Research Team in compliance with the peer review requirements of the

ESSA and following the guidelines of the *Standards for Educational and Psychological*

Testing. The Center for Applied Linguistics used Cronbach's coefficient alpha as an

internal consistency reliability statistic, ranging from 0 to 1, to evaluate the reliability of

ACCESS test items. In a reliable assessment, Cronbach's coefficient alpha internal

consistency coefficient will be closer to 1 than to 0 (Center for Applied Linguistics,

2022). The dependent variable in the current study was ACCESS assessment reading

scores, which were reported with a Cronbach's coefficient alpha ranging from 0.76 to

0.82 (Center for Applied Linguistics, 2022). To report the reliabilities of the ACCESS

composite scale scores, the Center for Applied Linguistics utilized a stratified Cronbach's

coefficient alpha, also ranging between 0 and 1, to indicate the consistency of the

composite scores. The stratified Cronbach's alpha of the ACCESS assessment's oral

composite score ranged from 0.88 to 0.96 (Center for Applied Linguistics, 2022). In this

study, I used oral language scores as a covariate.

Operationalization of Variables

To examine the influence of systematic phonics instruction on ELLs' literacy

scores when controlling for English language proficiency, I used an ANCOVA to

examine data using multiple variables. Two categories comprised the independent

variable: ELLs who received systematic phonics instruction during their daily 90-minute

reading block and those who did not receive systematic phonics instruction during their

daily 90-minute reading block. Both the dependent variable and the covariate were

domains of the ACCESS assessment. The dependent variable was participating ELLs'

reading scores on the 2022 ACCESS assessment. The covariate was 2021 oral language

scores from the ACCESS assessment to control for oral language proficiency level as an

influence on reading scores. The oral language score is equally composed of a student's

performance on the speaking and listening sections of the assessment (WIDA, 2023). The

reading scores and oral language scores were measured with scaled scores of 100-600

(see WIDA, 2023).

Materials Used With Treatment Group

At the study site, all students received reading instruction during a daily 90-

minute block of time. Each school had to use the district-adopted ELA curriculum titled

Wonders during their reading block. *Wonders* is an ELA curriculum designed to give

teachers instructional support in teaching the ELA standards within their grades. Through

the provided texts and assignments in *Wonders,* students are given opportunities to

acquire and practice standards-based ELA skills as readers, writers, speakers, and active

listeners (McGraw Hill, 2023). In addition to *Wonders*, school administrators within the

study site could choose to have systematic phonics instruction as a supplemental part of

their 90-minute reading block. Administrators selected between two approved district

programs, *From Phonics to Reading* (*FPR*) by Wiley Blevins and *Systematic Instruction*

in Phonological Awareness, Phonics and Sight Words (*SIPPS*) by the Center for the

Collaborative Classroom. Both programs were based on reading research that indicates

that students need decoding skills and phonemic support to develop early literacy skills

(Duke & Mesmer, 2019). *SIPPS* and *FPR* follow a sequence that allows students to build

phonological skills with text to develop their understanding of the alphabetic principle

(Duke & Mesmer, 2019). Educator training, administrative oversight, and progress monitoring were elements in implementing these phonics programs within the study site. The creators of *SIPPS* and *FPR* did not sponsor the current study.

SIPPS was developed by the Center for the Collaborative Classroom and was created to provide teachers with a daily program focusing on explicit and systematic decoding instruction (Ramirez Stukey et al., 2023). Built on research that connects research and classroom practice, researchers have found a convergence of evidence that indicates *SIPPS* is an effective tool in early literacy development (SEG Measurement, 2022). A study conducted in the fall of 2021 with 626 first- and second-grade students in a Florida school district indicated more significant growth in reading skills for students who received *SIPPS* instruction than those who did not receive *SIPPS* instruction (SEG Measurement, 2022). All students who participated in the study by SEG Measurement (2022) were identified as needing additional reading intervention in word recognition and fluency. Using Dynamic Indicators of Basic Early Literacy Skills, a standard measure of reading skills, students who participated in *SIPPS* instruction had a mean posttest score of 4.84 points higher than the non-*SIPPS* group, with an effect size of .25 (SEG Measurement, 2022).

FPR is authored by Blevins (2019) and published by Sadlier. *FPR* is a daily phonics program that follows an instructional sequence that uses blending, dictation, word building, word sorts, and reading of texts to build reading skills (Sadlier, 2023). *FPR* is research-based and was created as the result of a study conducted in 2000 by Blevins titled, "A Research Study on the Effects of Using Decodable Texts with

Systematic Phonics Instruction." The sample group for the study was composed of 101

first-grade students enrolled in either an experimental classroom using decodable text or a

control classroom receiving business as usual (BAU) instruction (Blevins, 2019).

Reporting an effect size of .16, the results included increased decoding skills within the

treatment group, with 75% of students achieving mastery compared to only 54% in the

BAU group (Blevins, 2019). Blevins also found that 92% of the treatment group showed

increased phonemic awareness compared to 66% of the BAU students.

Data Analysis Plan

This study used Statistical Package for Social Sciences (SPSS) software to

analyze ELLs' ACCESS scores to answer the research question. Data received from the

study site were scrubbed of all identifiers. Since the data came from the study site's

digital archives of ACCESS assessments, a centralized, nationally recognized assessment

that analyzes data annually, formatting inconsistencies or errors were not present. Data

were transferred from a Microsoft Excel document to SPSS formatting.

RQ: How did the treatment group of first-grade ELLs that participated in

systematic phonics instruction as part of their reading block differ in terms of end-

of-first-grade reading scores from the control group of first-grade ELLs that did

not receive systematic phonics instruction as part of their reading block?

H_0: There is no difference in reading scores of ELLs who have and have

not participated in systematic phonics instruction while controlling for oral

language proficiency level.

H_a: There is a difference in reading scores of ELLs who have and have not

participated in systematic phonics instruction while controlling for oral

language proficiency level.

The hypothesis was tested using a one-way ANCOVA. An extension of the

analysis of variance, ANCOVA allows researchers to examine the difference between

groups while controlling for an added variable (Pallant, 2020). The covariate in this

study, oral language scores, was carefully selected after reviewing the literature on

reading instruction with ELLs. In that literature, researchers debated whether an ELL

needs to have acquired oral language proficiency before receiving phonemic support in

reading instruction. It was anticipated that the covariate, oral language score, would allow

for a better evaluation of the independent variable by helping to mitigate the variance in

nonequivalent groups. This study examined the influence of systematic phonics

instruction on ELLs' literacy scores when controlling for English language proficiency.

Several statistical assumptions must be made when using an ANCOVA technique

to analyze data. When using a parametric approach like ANCOVA to analyze data, the

dependent variable is assumed to be measured at the interval or ratio level using a

continuous scale (Pallant, 2020). The dependent variable in this study re the reading

scores of ELLs, which have a continuous range of 100-600. Also, in parametric

approaches, it is assumed that the populations from which the data has been sampled

have normally distributed scores on the continuous, dependent, and independent variables

(Pallant, 2020). However, it is rare to use archival data where scores on the dependent

variable are normally distributed (Pallant, 2020). Pallant (2020) explained that with a

large sample size, violation of this assumption should not cause a problem. Larger sample sizes of 100 or more also alleviate the issue of a non-significant result due to insufficient power (Pallant, 2020). The power of a test is the ability of a test to correctly identify a difference between groups that compose the independent variable (Pallant, 2020). This study planned to have a sample size of over 158, which helped to mitigate the assumption of normal distribution and the possibility of insufficient power. In addition to assumptions that must be made with all parametric approaches, ANCOVA has specific assumptions that must be accounted for. When using a covariate, the measure should occur before the treatment, which is the independent variable, has been implemented so that the independent variable, or treatment, does not influence the covariate measurement (Pallant, 2020). This study used the oral language score from the end of the 2020-2021 school year as the covariate, ensuring that the covariate was not influenced by the independent variable as the instruction subsequently occurred during the 2021-2022 school year. When researchers use an ANCOVA, it is assumed that the covariate is measured without error, which is difficult with most scaled variables (Pallant, 2020). One way to mitigate this and improve the reliability of a covariate is to check the internal consistency of the scale used in the measurement tool and ensure it is above .7 (Center for Applied Linguistics, 2022; Pallant, 2020). The stratified Cronbach's alpha of the ACCESS assessment's oral composite score, which is the covariate for this study, ranged from 0.88 to 0.96 (Center for Applied Linguistics, 2022).

The results from the SPSS output from the one-way ANCOVA were interpreted in a multistep process. The descriptive statistics table, which did include any adjustments

from the covariate (Lund Research, 2018), was checked for accuracy. The SPSS table,

including the mean, standard deviation, and number of participants, was analyzed

regarding the dependent variable for the different levels of the independent variable

(Lund Research, 2018). Then, Levene's Test of Equality of Error Variance was used to

ensure the assumption of the equality of variance has not been violated by displaying a *p*

value greater than .05 (Pallant, 2020). Then, the *p* value under the independent variable

within the Tests of Between-Subjects Effects table was examined. If the value were less

than .05, it would have indicated that the independent variable, reading instructional

groups, differed significantly (Pallant, 2020). The Tests of Between-Subjects Effects

table was used to interpret the covariate's influence. If the *p* value for the covariate were

less than .05, it would indicate that the covariate had a significant relationship with the

dependent variable (Pallant, 2020). To determine if there is a statistically significant

difference between the ELLs' reading scores of the group that received systematic

phonics instruction and the group that did not receive systematic phonics instruction

when controlling for oral language scores, the Estimated Marginal Means table was

examined. The Estimated Marginal Means table displays adjusted means, where the

covariate's effect has been statistically removed, for the dependent variable of each group

(Pallant, 2020).

Threats to Validity

While ex post facto analysis and quasi-experimental designs can benefit

researchers, they have weaknesses. Internal validity, the satisfaction of the conditions for

causal inferences (Warner, 2013), is threatened by the nonrandom selection of subjects

and the lack of researcher control of independent variables. The quasi-experimental ex post facto design of this study caused a threat to the study's internal validity. The assumption of equivalence of participant characteristics across treatment conditions could not be satisfied by being unable to form this study's treatment and control groups at random (Warner, 2013). In ex post facto analysis, researchers cannot satisfactorily assess confounding errors like social interaction, maturation, instrumentation, selection bias, etc. Also, there is no proper control group in ex post facto research, which creates a question as to whether the difference(s) between the control and treatment groups can be correctly attributed to a cause (Ogunyemi, 2022; Thomas, 2020). The intervention within this study could not be controlled because it had already occurred, and I was not involved in any instructional decisions within the study site. This lack of control over the intervention threatened internal validity (Warner, 2013). However, the study site has qualified educators and effective educational leaders who supervised the independent variable instruction students who made up this study's control and treatment groups. Instrumentation is also a threat to internal validity (Campbell et al., 2013). Using an instrument nationally recognized as a valid and reliable assessment tool for ELLs helped mitigate instrumentation threats.

Construct validity is when an assessment measures what the test developer has intended it to measure (Campbell et al., 2013; Warner, 2013). Using ACCESS assessment data, a research-based test aligned with the academic development needs of ELLs, as the dependent variable and a covariate mitigated the threat to construct validity. Furthermore,

the use of research-based phonics programs that required teacher training in uniform instructional delivery contributed to the construct validity of this study.

Furthermore, Warner (2013) explained that quasi-experimental designs within school settings, like this study, may have stronger external validity. External validity is whether the effect found within a study can be generalized to other populations. This study's quasi-experimental ex post facto design also mitigated the threat of selection bias when considering external validity. Researcher bias was not expected to represent a significant threat to validity due to using archival data. Using a covariate was anticipated to help strengthen the examination of the dependent variable because it removed the interaction of oral language proficiency on reading scores of ELLs within the study.

Ethical Procedures

Archival data from the study site was used in this study. The assessment information that served as the data source for this study is part of the state-mandated accountability and progress monitoring policies for ELLs. Systematic phonics, which acts as a treatment in the study, was implemented at some schools within the study site as part of the individual school's literacy initiatives. The implementation of systematic phonics was independent of this study and was a decision previously made by the educational leaders at individual schools within the study site.

Per the study site's data-sharing policy, a data-sharing agreement was executed with the study site. The study site also required that all outside researchers complete human subjects research training. I participated in the Collaborative Training Initiatives Basic Course for doctoral student researchers (Record ID 5083316). The Collaborative

Training Initiatives's program follows the human subjects research training standards of Walden University.

The data for this study were housed within the databases of the Assessment, Accountability, and Evaluation department. All study data were requested and disseminated through the study site's Assessment, Accountability, and Evaluation department. At no point was the data collected directly from schools or administrators. The Assessment, Accountability, and Evaluation department took all steps required by the study site's privacy policies to remove identifying factors. Once data were received, I ensured the information within the data met Walden University's requirements for preanalysis. SPSS was used to organize and analyze data. This data has been scrubbed of all student identifiers, school names, and the location of the study. Confidentiality and anonymity risks have been managed by removing all identifiers from the data set before publication. Data procedures have been reviewed and approved by the IRB committee at Walden University, where university staff are bound to confidentiality standards. No other party has had access to this study's unpublished data or information besides the study sites' Assessment, Accountability, and Evaluation department, Walden University staff, and me.

I have an ethical responsibility to disclose that I was employed at the study site as an educator from 2007-2018. I am no longer employed, affiliated, or reside in the state where the study site is located. I do have professional connections to the study site. However, I have not worked with or been introduced to anyone in the department that released the information needed for this study. As a scholar and researcher, I do not think

my past employment influenced data collection, the quantitative analysis processes, or the overall research process.

Summary

This study was carefully designed to examine the influence of systematic phonics instruction on ELLs' literacy scores when controlling for English language proficiency. The variables were selected to determine if there is a difference in first-grade ELL students' end-of-the-year reading scores when comparing ELLs who have participated in systematic phonics instruction to ELLs who have not participated when controlling for oral language scores. The construct of the dependent variable and the covariate, ACCESS assessment scores, were selected as a valid and reliable data source from a nationally recognized assessment of ELLs' academic language abilities. The treatment for the group of students within the independent variable that received systematic phonics instruction was evidence-based curriculum programs implemented with instructional fidelity. The data analysis plan was developed to employ SPSS to examine the data sets from the independent variable's two groups. The quantitative, quasi-experimental ex post facto ANCOVA NEGD provided results that were analyzed and used to determine the study's findings, documented in Chapter 4.

Chapter 4: Results

In this quantitative, quasi-experimental, ex post NEGD, I examined the difference in 2022 reading scores between two groups of first-grade ELLs. The purpose of this study was to determine how the end-of-first-grade reading scores of two groups, a treatment group of ELLs who received systematic phonics instruction as part of their reading instruction and a control group of ELLs who did not receive systematic phonics instruction, differ while controlling for oral language scores. I used an ANCOVA model in SPSS to analyze the data and answer the research question: How do the end-of-first-grade reading scores of the treatment group of first-grade ELLs that participated in systematic phonics instruction as part of their reading block differ from the scores of the control group of first-grade ELLs that did not receive systematic phonics instruction as part of their reading block? The corresponding hypotheses were:

H_0: There is no difference in reading scores of ELLs who have and have not participated in systematic phonics instruction while controlling for oral language proficiency level.

H_a: There is a difference in reading scores of ELLs who have and have not participated in systematic phonics instruction while controlling for oral language proficiency level.

In this chapter, I provide details regarding the data collection process for the data set of 374 first-grade ELLs ACCESS scores that were used in this quantitative analysis.

This chapter will also include insights into the intervention received by the treatment group during the 2021–2022 school year. I also present the results of this study.

Data Collection

Educational leaders within the study site, a suburban school district in the southeastern United States, provided me with lists of district schools that did and did not implement systematics phonics instructions during the 2021–2022 school year. Since these were secondary data, they were already recorded in raw data form by the study site's Department of Research, Accountability, and Assessment. Once the data of district, school, and student identifiers were scrubbed, I entered them into SPSS.

Every elementary school within the study site is a Title I school; therefore, every participant attended a school considered a high-poverty school. In the study's planning phase, I excluded all nontraditional schools, like charter schools or schools designed to serve special populations, from the list of potential schools to participate. The district does not supervise the charter school curriculum; therefore, the implementation of phonics could not be confirmed. Other schools that were immediately omitted were schools that served students with extreme physical or mental disabilities since, within these special needs schools, reading skills are usually taught in later grades after more foundational academic and life skills have been supported. These exclusions left 74 schools with the potential to provide data to compose the two groups of the independent variable. Of those 74 elementary schools within the study site, 35 schools could be confirmed as having, or having not, implemented systematic phonics. The rest of the schools had either changed leadership since 2021–2022 or had leadership who could not

confirm whether the school had implemented systematic phonics with first-grade students in 2021–2022. Any schools where systematic phonics instruction participation or nonparticipation could not be confirmed were not included as part of the final data set. This resulted in 22 schools comprising the nonsystematic phonics group, coded as zero for use in SPSS analysis, and 13 schools composing the systematic phonics group, coded as one for SPSS.

During the 2021–2022 school year, the study site district had approximately 110,000 students enrolled in its 150 schools. During the same school year, the school district had an ELL population of 10,632 students, which comprised 9.6% of the district's student population. Of those 10,632 ELLs, 908 were in first grade during the 2021–2022 school year. Within the 35 schools confirmed as systematic phonics or nonsystematic phonics schools, there were 416 first-grade ELLs. Of those 416, 17 students had previously been retained and had spent more than 2 years in school as an ELL, so these 17 were removed from the data set. Students who had not spent an entire year in kindergarten or first grade were also removed, subtracting 25 students from the original data set. This left 374 first-grade ELLs as the contributors to the final data set imported into SPSS for qualitative analysis.

Intervention Fidelity

Two groups of students composed the independent variable of this study: ELLs receiving systematic phonics instruction during their 90-minute reading block and ELLs not receiving systematic phonics instruction during their 90-minute reading block. All students received reading instruction within the study site during a daily 90-minute block

using the district-adopted ELA curriculum titled *Wonders*. For the treatment group, 13

schools could be confirmed as having adopted and implemented a systematic phonics

program in addition to *Wonders*. Administrators used one of two district-approved

phonics programs, *FPR* by Blevins and *SIPPS* by the Center for the Collaborative

Classroom. These programs provide teachers with daily scripts and materials to facilitate

systematic phonics instruction. Educational leaders within the study site confirmed that

educator training, administrative oversight, and progress monitoring were elements of

implementing these phonics programs within the study site.

While 35 schools were able to confirm whether they had implemented systematic

phonics instruction during the 2021–2022 school year, I had anticipated that almost all

schools within the study site would be able to. However, for instrumentation fidelity, it

was essential to exclude schools that could not be sure if a systematic phonics

instructional program had been used in 2021–2022. I also anticipated that more schools

would have implemented systematic phonics. However, again, for the reliability and

validity of the study, only schools that could confirm that phonics had been implemented

with fidelity needed to be included. The 35 schools that provided the 374 data points

were sufficient to have a chance of detecting a difference in the independent variable

factors.

Results

I used SPSS to analyze the collected secondary data to answer the research

question. Within SPSS, an ANCOVA was conducted to examine the data set of ACCESS

scores from 374 ELLs. To begin the analysis process, I first tested the assumptions of an

ANCOVA. The first assumption of ANCOVA is that the dependent variable is measured

at a continuous level (Lund Research. 2018). This study met that assumption by using the

2022 ACCESS reading scores, measured with a range of 100–600 scaled score. The

second assumption was met using an independent variable with two categorical,

independent groups. The groups, 35 elementary schools from the study site, were placed

together by use or nonuse of a systematic phonics program. Of the 35 schools included,

22 did not use systematic phonics, and 13 did use systematic phonics. After excluding

first graders who had repeated kindergarten or first grade and students had not spent a

complete 2 years in elementary school, 156 first-grade ELLs in the systematic phonics

instruction group and 218 in the no systematic phonics instruction group were left

comprising the data set used in the study (see Table 1). Grouping the independent

variable factors by schools also met Assumption 4 ensuring that the participating students

could not be a member of both groups because they attended the school that belonged to

one of the groups. The third assumption that the covariate variable is measured at the

continuous level was met using 2021 ACCESS oral language scores, measured on the

continuous level from 100–600. ANCOVA Assumptions 5–10 were tested using SPSS.

Table 1

*Test of Between Subjects Effects With the Dependent Variable of Reading Score*

Source	df	F	Sig.
Phonics instruction 2022	1	.192	.662
Error	371		

I tested the fifth assumption of linearity through determining if there was a linear

relationship between the covariate of oral language score and the dependent variable of

reading score for each group. Using SPSS to test the assumption showed that there was a

linear relationship between oral scale scores and reading scale scores for each group. This

was assessed by visually examining a scatterplot with both phonics instruction, coded as

one, and no phonics instruction, coded as zero (see Figure 1).

Figure 1

Scatter Plot of Reading Scale Score 2022 by Oral Scale Score 2021 by Phonics

Instruction 2022
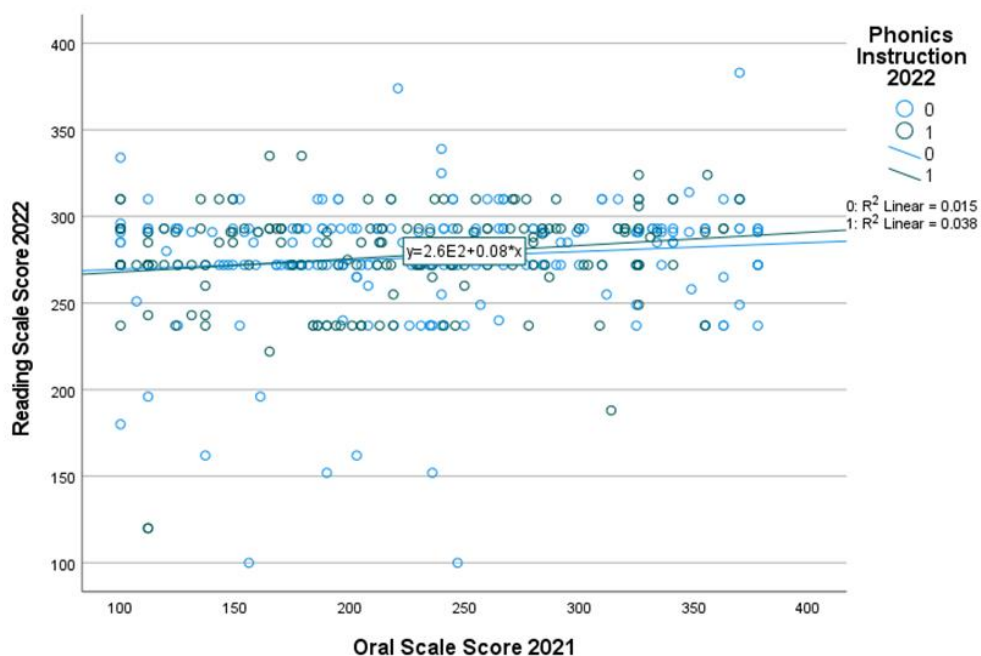
I tested the assumption of homogeneity using SPSS to determine if there was an

interaction between the covariate and the treatment. There was homogeneity of regression

slopes because the interaction term was not statistically significant, $F(1, 371) = .192$, $p =$

.662.

The Shapiro-Wilk test for normality was used to ensure the seventh assumption of normality was met, which is that the dependent variable should be approximately normally distributed for each group of the independent variable level (see Lund Research. 2018). I ran this test to determine if the reading scores were approximately normally distributed for the two groups within the independent variable. The Shapiro-Wilk test indicated that the data violated the normality assumption with $p < .001$, showing that the standard residuals for the groups were not normally distributed. While the assumption of normality was violated in the current study, it is common in social science research to have dependent variables that are not normally distributed (see Pallant, 2020). Additionally, the robust characteristics of ANCOVA can tolerate this violation of this assumption, and the large sample size of this data set helped to prevent this violation from being a significant problem (see Pallant, 2020). It was also important to note that the groups are similarly skewed, with .165 for no phonics compared to .194 for phonics. A Shapiro-Wilk's test of the standardized residuals for the overall model was also not normally distributed, $p < .001$. I continued the data set analysis because nonnormality does not affect the Type I error rate substantially, and the one-way ANCOVA could be considered robust.

I assessed the eighth assumption that there should be homoscedasticity of error variances within each group level by visual inspection of the standardized residuals plotted against the predicted values (see Lund Research. 2018). The inspection of the scatter plot indicated homoscedasticity (see Figure 2).

Figure 2

Scatter Plot of Standardized Residual of Independent Variable Groups for Reading Scale
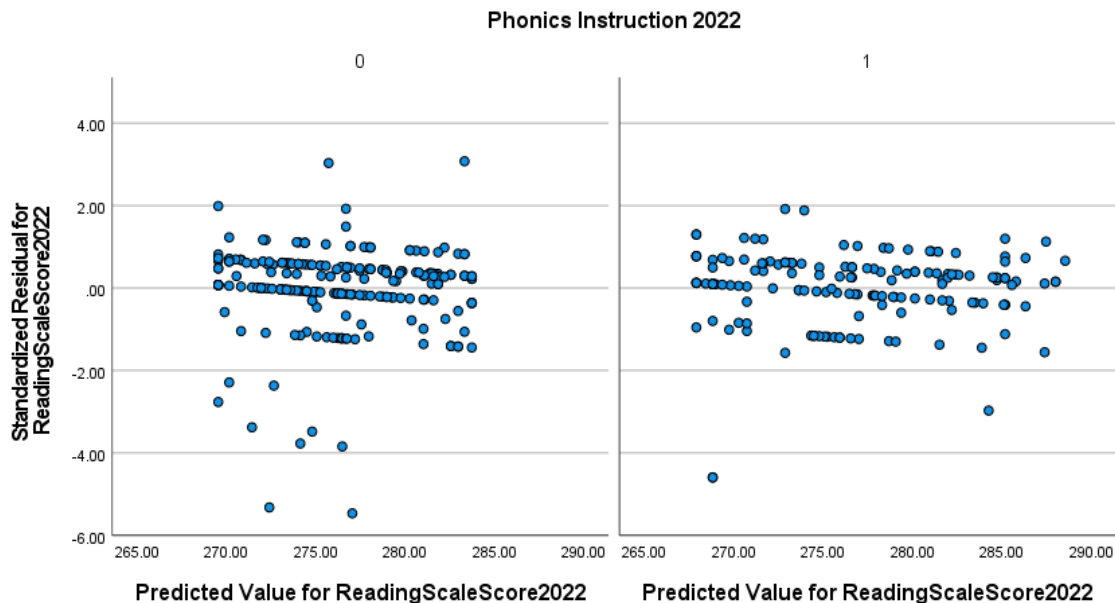
According to the ninth assumption, there should be a homogeneity of variances, and since the one-way ANCOVA assumes that the variance of the residuals is equal for all groups, if the variances are unequal, this could affect the Type I error rate (Lund Research, 2018). Testing showed that the variances were homogeneous, as assessed by Levene's test of homogeneity of variance, $p = .485$.

The tenth and final assumption of the ANCOVA model was that there should be no significant outliers in the groups of ELLs in terms of reading scores. This assumption was violated in the data. There were eight greater than three standard deviations away from the mean in the negative direction and two in the positive direction. I conducted an ANCOVA both with and without the outliers to determine if removing or retaining the outliers changed the statistical significance of the findings. The statistical outcome of the

ANCOVA was not significantly altered; therefore, the outliers remained in the data. I did not view the outliers as an error in assessment or data collection. There will be some positive and negative outliers in a large data set composed of students exposed to variables outside of the study's control. Lund Research (2018) explained that outliers are a more important consideration with smaller sample sizes since the effect of each outlier will be greater. However, the sample in the current study was 41.2% of the study site's first-grade ELL population, and with 374 data points, I decided that the 10 outliers would remain.

After all assumptions had been tested to examine the oral language scores of the two groups within the independent variable, I conducted an ANOVA in SPSS to determine the means of both groups' 2021 oral scale scores. The treatment group ($n = 156$) that went on to receive phonics instruction entered first grade with an average 216.15 scale score for oral language, and the control group ($n = 218$) entered first grade with an average 233.78 scale score for oral language. The mean difference between the two groups' oral language scores was 17.63 points. On average, nonsystematic phonics students entered first grade with higher oral language skills than the systematic phonics group.

Unadjusted means are presented unless otherwise stated. The reading score mean was greater in the phonics group (i.e., treatment; $M = 276.79$, $SD = 30.025$) compared to the no-phonics group ($M = 276.37$, $SD = 34.461$), respectively.

Adjusted means are presented unless otherwise stated. The reading score mean was less in the control group (i.e., no phonics; $M = 275.996$, $SE = 2.203$) compared to the phonics group ($M = 277.581$, $SE = 2.617$), respectively.

After adjustment for oral scale scores, there was no statistically significant difference in reading scores between the control and systematic phonics groups, $F(1, 371) = .192$, $p = .662$, partial η2 $= .001$. This analysis indicated that phonics instruction did not have a statistically significant effect on reading scores and there was no significant difference in reading scores of ELLs who had and had not participated in systematic phonics instruction while controlling for oral language proficiency level. However, it is important to note that the covariate of oral language did indicate statistical significance and is an important predictor of the dependent variable of reading score.

Through statistical analysis, a wide gap in end-of-kindergarten oral language score, the covariate, was noted between the two groups of ELLs. The control group scored, on average, 17.63 points higher in oral language ability. The oral language score is closely related to the dependent variable of reading scores, especially given that the covariate and the dependent variables are domains within the same assessment. The difference in 2021 oral language scores likely contributed to more of an inequality of groups than was anticipated in the planning of this research. While the inequality was unanticipated, it was leveled using oral language as a covariate in SPSS. In the research planning, it was expected that drawing from multiple schools within the study site and attaining a robust data set would create groups with similar mean oral language scores.

Future researchers should work to use data from ELLs with closer oral language abilities to help align the characteristics of each group's population.

Summary

An ANCOVA analysis was conducted to determine if a treatment group of first-grade ELLs that participated in systematic phonics instruction as part of their reading block differed regarding end-of-first-grade reading scores from the control group of first-grade ELLs that did not receive systematic phonics instruction as part of their reading block. The mean reading scores of the control group that did receive phonics instruction scored slightly higher ($n=156$, $M = 277.581$) than the group that did not receive phonics instruction ($n=218$, $M = 275.996$). However, the between-subjects effects of phonics instruction were insignificant at the .05 level ($p = .662$). This indicates that there is no difference in reading scores of ELLs who have and have not participated in systematic phonics instruction while controlling for oral language scores.

Chapter 5 will provide conclusions to this study. In the next chapter, I will interpret the quantitative analysis of the data set used to answer the research question and provide insight into the analysis results. I will also outline the limitations of this research. In response to the results of this study, recommendations and implications of the significance of this work will be discussed in the final chapter.

Chapter 5: Discussion, Conclusions, and Recommendations

ELL students do not have the same reading skills as their native English-speaking peers; therefore, further research should explore phonemic instructional strategies and reading comprehension skills of ELL students (Hall et al., 2019). The purpose of this study was to determine how two groups, a treatment group of ELLs who participated in systematic phonics instruction as part of their reading instruction and a control group of ELLs who did not receive systematic phonics instruction, differed in terms of end-of-first-grade reading scores while controlling for oral language scores. I employed a quantitative, quasi-experimental, ex post facto NEGD to examine the difference in reading scores between two groups of first graders, 156 ELLs who received systematic phonics instruction within their reading block and 218 ELLs who did not while controlling for oral language scores. Both control and treatment groups were enrolled in a suburban school district in the southeastern United States, participated in a daily 90-minute reading block, and received reading instruction during this reading block using a district-adopted curriculum titled *Wonders*. In addition to instruction from the *Wonders* curriculum, the treatment group received instruction in systematic phonics within the 90-minute reading block. I used archival data from ACCESS to run an ANCOVA to examine the two groups of ELLs' 2022 reading scores while controlling for previous oral language proficiency and found that phonics instruction was not statistically significant in the model. The results of this study indicate a need for further investigation of the effects of phonics interventions on the reading scores of ELLs.

Interpretation of the Findings

The framework that guided this study, the simple view of reading, Gough and Tunmer (1986) theorized that linguistic comprehension and decoding skills interact to improve literacy skills. Using the theory's proportional relationship between decoding skills and reading in this study, I examined the influence of systematic phonics instruction on ELLs' reading scores when controlling for English language proficiency level. In this study, reading was represented by students' reading scores, the decoding skill was systematic phonics, and the verbal comprehension skill was the oral language score.

Apel (2022) explained that hundreds of studies have analyzed the simple view of reading and found that the theory adequately represents the reading process. This study contributes to this theoretical conversation by using the simple view of reading to examine reading scores with phonics instruction as an independent variable and oral language score as a covariate. In addition to contributing to studies using the simple view of reading, the current study results add to the body of literature that discusses ELLs, phonics instruction, and at what point in the language acquisition process to provide foundational literacy support.

Based on the literature review for this study, I expected that first-grade ELLs who received systematic phonics instruction would outperform ELLs who did not receive systematic phonics instruction when controlling for oral language scores; however, a statistically significant difference in reading scores of the two groups who did and did not receive phonics instruction while controlling for oral language scores was not found.

While the research question and hypotheses for this study were formed by reviewing

previous literature, there are multiple reasons why the results of the current study did not

indicate that phonics had the statistical difference in ELLs' reading scores that was noted

in the results of some of the previous studies. One reason could be that the difference

phonics makes on reading has more of a long-term effect than the year of instruction

measured in the current study. Kung (2019) measured ELLs' reading scores from first to

eighth grades. Since I only examined the results after a year of phonics intervention in the

current study, a more extended period of intervention might indicate different results.

Another reason could be that the use of multiple school sites and archival data influenced

the results of this study. In Dussling's (2018, 2020) studies, much smaller sample sizes of

16 ELLs (in the 2018 study) and five (in the 2020 study) from one school were used. In

both of Dussling's studies, the implementation of a phonics intervention was conducted

by Dussling, and the data were researcher collected, which may have allowed for more

control over the phonics intervention and data collection than the current study that

included an ex post facto analysis of 374 students within a school district. None of the

studies cited in the literature review also controlled for ELLs' oral language scores. These

previous studies either used time as a variable or employed a pre-/posttest model. In the

current study, using the covariate of oral language score removed the influence that oral

language proficiency has on students' reading abilities. Moreover, the previous studies

did not compare two groups of ELLs; instead, they compared groups of ELLs to native-

English speakers. The design of the current study allowed for the phonics intervention to

be examined by comparing the means of ELLs' reading scores, not comparing ELLs'

reading scores to those of native-English speakers. After reviewing recent literature, I determined that this is the first study to compare two groups of ELLs while using oral language scores as a covariate.

Using archival data allowed for this study to have a large sample size; however, the ex post facto design did not allow for oversight of the tested intervention. A lack of oversight and fidelity can cause issues with the effective implementation of an intervention. Olds et al. (2021) explained that a lack of training and adequate instructional support in research-based curricula leaves some teachers potentially delivering ineffective instruction to ELLs. Additionally, Murphy et al. (2019) noted that there is a lack of educators who are qualified to support ELLs. I did not examine the qualifications of the educators within the study site. Furthermore, this study did not include training for teachers who were delivering the intervention. While I assumed that the study site district had qualified teachers who had received training in research-based instructional strategies, this could not be guaranteed when using an ex post facto design. The lack of such a guarantee could contribute to the absence of significance found in this study.

In the literature review of this study, it was noted that researchers differed on the best point in an ELL's language acquisition process to provide phonics instruction. Some researchers, like Cho et al. (2021), have contended that it is best to delay phonemic instruction until ELLs acquire a higher proficiency level in English. Other researchers, like Dussling (2018, 2020) and Ludwig et al. (2019), concluded that ELL students with little to no English proficiency can benefit from a variety of interventions and should be

immediately included in targeted instruction in the English language classroom. The current study results indicated that the group who received phonics instruction performed as well on the reading assessment as the control group, yet they did not perform well enough to reject the null hypothesis. The results of this study do not necessarily support the conclusions of Cho et al. because there was no indication that systematic phonics should be delayed for students with lower levels of language proficiency. These results provide further information to the continued discussion about phonics and when in the language acquisition process to provide phonemic support. It should be noted that even though the treatment group of ELLs had a lower oral language mean score in 2021, their 2022 mean reading scores were very close, slightly higher, than the control group that entered first grade with a higher mean oral language score. This outcome indicates that further research should be conducted to explore if phonemic instruction can be effectively used on ELLs who are not yet verbally proficient in English (see Dussling, 2018, 2020; Kung, 2019; Ludwig et al., 2019).

In this study, I used oral language proficiency as a control covariate when examining the reading scores of a group of ELLs who received systematic phonics instruction within their 90-minute reading block and comparing them to the reading scores of a group of ELLs who did not receive systematic phonics instruction during their 90-minute reading block. Using Gough and Tunmer's (1986) simple view of reading theory to examine the quantitative results of this study, the findings did not indicate that phonics instruction had a statistically significant effect on ELLs' reading scores. In the literature reviewed for this study, it was unclear whether phonics instruction should be

used as a reading intervention in the early language aquation process of ELLs. The results

of the current study are inconclusive as to whether phonics should or should not be

delayed until an ELL has reached a high level of English language proficiency. While the

ELLs who received phonics had slightly higher mean reading scores than the control

group, without statistical significance, I could not conclude that early phonics instruction

positively affected the participants' reading scores. The findings of this study extend the

scholarly debate about when it is best in the language acquisition process to implement

phonemic instruction and indicate a need for further research.

Limitations of the Study

In this study, I utilized secondary data and instructional interventions that had

previously occurred, which helped to prevent researcher bias or unintended influence.

The archival data were requested and compiled assuming that educational leaders had

implemented the intervention with fidelity and well-trained educators carried out the

intervention. However, the use of an ex post facto design in the study meant that the

proper implementation of systematic phonics, or a lack thereof, could not be confirmed.

The use of nonequivalent groups also limited the study. A limitation of using a

NEGD is that the control and treatment group participants cannot be exactly alike

because the participants' data might be affected by influences other than the treatment

variable (Shek & Wu, 2018). To help level the groups, I used oral language score to

remove the influence of oral language proficiency on the tested means.

In this study, I used a scripted systematic phonics program as the treatment within

the independent variable. Yet, even with a scripted program, instructional delivery will

vary between instructors. Additionally, it could not be guaranteed that phonics instruction did not occur in schools without a formally adopted systematic phonics program. Teachers in schools that do not have a systematic phonics program could have delivered some form of nonsystematic phonics instruction to students. Still, I defined phonics instruction in this study as using a district-approved, systematic, scripted phonics program that follows a research-based scope and sequence. For this study, resources utilized by teachers that were nonsequential, nonsystematic, or not district-approved materials were not considered to be systematic phonics instruction.

While it is impossible to control many limitations of an ex post facto design, I developed this study to gather enough data points to minimize variations in systematic phonics instruction. Before this study was conducted, a power analysis using G*Power 3.1.9.7 indicated that a sample size of at least 158 student scores was needed for this study to have an 80% chance of detecting a difference in the independent variable factors (see Faul et al., 2007). By using 364 data points, the generalizability of the study was increased. Drawing data from multiple schools within the study site also furthered the potential generalizability of the study, allowing for the results of this study to be considered when making decisions in other educational environments.

Study Recommendations

The results of this study showed that within this study site and with these ELLs, a year of systematic phonics instruction was not a strong enough intervention to improve the reading scores of ELLs to a level of statistical significance. This finding indicates that future research should be conducted into what foundational literacy supports can be

implemented to improve reading scores with students, like ELLs, who have oral language deficits. The results of this study create additional questions that can be explored regarding the data set, oral language proficiency, and systematic phonics instruction.

Future researchers should note that the outcomes of this study did not show that systematic phonics was ineffective. While the phonics group's mean score was not different to a level of statistical significance, it was slightly higher than the group that did not receive systematic phonics but that entered first grade with much higher oral language skills. This outcome prompts further examination of whether systematic phonics instruction is needed for ELL students with lower oral language proficiency to achieve the same reading skills as ELLs with higher language proficiency. The results of this study makes a case for research around the amount of daily time devoted to phonics is adequate or if more than 30 minutes would result in improved outcomes. this study Future research must include a reading assessment as a pre- and postphonics intervention measurement to answer this question. Conducting research with the same study site and groups might include a mixed-design ANOVA, using an independent variable of the two ELL groups, phonics and no phonics, and a second independent variable of time with 2021 and 2022 reading scores. Moreover, future research could extend beyond examining 1 year of systematic phonics support and explore the reading scores of these same groups after 2 or more years. The same data set could be used to analyze ELLs' 2023 ACCESS reading scores to research if systematic phonics has a longer-term effect on reading scores.

The disparity between the oral language proficiency of the two groups within this study was surprising and unanticipated. However, the purpose of the covariate of oral language was to help even out nonequivalence within the two groups, which it did. Future research with additional covariates could provide essential insights into the effect of phonics instruction on ELLs. Overall, the results of this study indicate that future research must be conducted to determine if systematic phonics or other forms of foundational literacy support are the key to closing the achievement gap between ELLs and their native-English-speaking peers.

Implications

The findings of this study provide insight into systematic phonics instruction, English proficiency level, and ELL students' reading scores. Educators within the study site can use this study's results in the study site district to determine if systematic phonics instructional practices have been effectively implemented when used to increase ELL reading scores. Educational leaders, like principals, curriculum specialists, and district superintendents, can also use this study to determine if further professional development for teachers in systematic phonics instruction is needed. Additionally, educational leaders could use the result of this study to question and clarify the fidelity of systematic phonics program implementation. Most importantly, the findings of this research may help educational leaders to support ELLs academically.

Researchers and educators have debated whether ELLs need to have acquired oral language proficiency before receiving phonemic support in reading instruction if ELLs' reading skills are to benefit from the support (Dussling, 2018). The outcomes of this

study do not support the idea that ELLs cannot benefit from phonological support early in the language acquisition process. The results of this study show that ELLs who entered first grade with lower levels of language proficiency but received daily systematic phonics instruction performed as well as ELLs who entered first grade with higher levels of language proficiency but did not receive daily systematic phonics instruction. These findings are encouraging to educators who are working to develop reading skills in ELLs in the early phase of oral language acquisition.

This study will result positive social change through providing an analysis of interventions to help educators narrow the academic achievement gap between native English speakers and ELLs. The results from this study also contribute to social change by adding to the scholarly conversation about effective instruction for ELLs. Improving instructional methods for ELLs, supporting second language instruction research-based professional development, and adopting a curriculum that has been shown to improve learning outcomes of ELLs will contribute to developing their literacy skills, increasing their graduation rates, and improving their academic outcomes.

Conclusion

The number of ELLs in U.S. schools has increased over the last decade. In 2019, 10.4% of students in U.S. schools were classified as ELLs, whereas in 2010, 9.2% of students in U.S. schools were classified as ELL (National Center for Education Statistics, 2023). While this subgroup of learners has increased steadily in population, positive academic outcomes of ELLs have not increased at the same rate. ELLs, on average, score significantly lower than native speakers (NAEP, 2022). These 5.1 million ELLs must

learn the same academic content and meet the same academic standards as their native English-speaking peers while simultaneously learning the English language (National Center for Education Statistics, 2023). With increased ELL enrollment, many educators, researchers, and policymakers have focused on dedicating resources to improving ELLs' academic performance. Despite these efforts, an achievement gap still exists between ELLs and their native English-speaking peers.

The purpose of this study was to determine how the end-of-first-grade reading scores of two groups, a treatment group of ELLs who participated in systematic phonics instruction as part of their reading instruction and a control group of ELLs who did not receive systematic phonics instruction, differed while controlling for oral language scores. While the results of this study did not indicate a statistically significant difference between the two groups within the study site, the findings did show a need for further research into the interaction of decoding skill instructional strategies and oral language proficiency on reading skills. The results indicate that future research should be conducted into what foundational literacy supports can be implemented to improve reading scores with students, like ELLs, who have oral language deficits. If educators are to narrow the achievement gap between ELLs and their native-English-speaking peers, scholars and researchers must keep dedicating effort and analysis to studies like this one that examine ELLs, language acquisition, and reading ability.

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