

THE EFFECTS OF SUPPLEMENTAL PHONEMIC AWARENESS AND PHONICS  
INSTRUCTION ON KINDERGARTEN STUDENTS' WRITING PERFORMANCE

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by

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## ABSTRACT

The 2021 U.S. National Assessment of Educational Progress for Writing reveals that up to 75% of students struggle to write at a basic level (Dunn, 2021). This deficiency in writing ability may be linked to a disconnect between phonemic awareness and phonics instruction in primary classrooms. (Cuffari, 2015). Many classrooms focus on teaching these skills for decoding words in reading, neglecting the crucial connection to writing. Balanced literacy, incorporating phonics instruction, is fundamental in primary classrooms to establish a robust foundation for reading and writing skills (Sohn, 2020). Transferring knowledge gained in phonemic awareness and phonics instruction to subsequent reading and writing sessions is crucial. In kindergarten, where students use invented spelling, phonemic awareness and phonics skills become essential for successfully spelling words phonetically in their writing endeavors.

The purpose of this study was to determine how supplemental phonemic awareness and phonics instruction in small groups can impact kindergarten struggling writers' writing performance and examine how struggling writers' knowledge of phonemes and graphemes connects to their writing performance.

Data collection and analysis resulted in the following conclusions: (1) Supplemental phonemic awareness and phonics instruction leads to an increase in students' grapheme and phoneme knowledge. (2) Supplemental phonemic awareness and phonics instruction improves struggling writers' encoding skills. (3) Supplemental phonemic awareness and phonics instruction improves students' writing.

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To my parents, thank you for believing in me and supporting me through this journey.

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## CHAPTER I

### Statement of the Problem

#### Introduction

According to the 2021 U.S. National Assessment of Educational Progress for Writing, as many as 75% of students cannot write at a basic level. (Dunn, 2021). There is a large deficit in students' writing ability that could have a correlation to a lack of connection between phonemic awareness and phonics instruction to writing in the primary classroom. Cuffari (2015) explains how many classrooms that teach phonemic awareness and phonics skills are teaching these skills with a goal of teaching students to decode words when reading, but not emphasizing the clear connection between these same skills and writing. “The problem in most classes is that the phonics instruction is not being used to dually affect both reading and writing and these skills are mainly being applied to reading.” (p.2).

Literacy instruction consists of teaching students to read and write. In a primary classroom, reading and writing are often taught using balanced literacy, which incorporates phonics instruction. It is essential to incorporate phonics instruction into the classroom in order to create a strong foundation of reading and writing skills in young learners. Sohn (2020) explains that a systematic phonics approach aids children in translating the “secret code” of written language into the spoken language that they already know. This refers to reading. However, it is additionally important for students to learn how to translate what they would typically communicate in spoken language into writing. With a clear understanding of phonemes and graphemes, students are able to successfully encode words using phonics-based spelling.

In my current position as a kindergarten teacher, as per the district, I am required to provide thirty minutes of phonemic awareness and phonics instruction using Foundations and Heggarty and ninety minutes of reading and writing instruction (which alternates) using Schoolwide, which follows a workshop approach. It is important for students to be able to transfer the knowledge that they acquire during phonemic awareness and phonics instruction into the later instructional blocks of reading and writing. In order to write words in kindergarten, students must use invented spelling, which requires them to spell words based on the sounds they hear. Phonemic awareness and phonics skills are a necessity in order for students to be able to successfully spell words phonetically in their writing.

### **Research Questions**

The primary research question is identified based on the problem indicated above. The problem calls attention to the deficit in students' writing ability and emphasizes the lack of phonemic awareness and phonics instruction in the primary classroom. The research question is: How can supplemental phonemic awareness and phonics instruction in small groups impact kindergarten struggling writers' writing performance?

In addition to this primary question stated above, this study will also examine the related question:

How can struggling writers' knowledge of phonemes and graphemes connect to their writing performance?

### **Definition of Terms**

This research study is designed to answer the question: how can supplemental phonemic awareness and phonics instruction in small groups impact kindergarten struggling writers'

writing performance? The terms listed below are defined as they will be used throughout this research study.

*Phoneme*: The term phoneme refers to a sound.

*Grapheme*: The term grapheme refers to the letter or letters that represent a sound.

*Grapheme awareness*: The term grapheme awareness refers to the knowledge of which grapheme represents each sound.

*Graphophonics*: The term graphophonics refers to the understanding that each sound has a symbol (letter or letters) that represent the sound in reading and writing.

*Phonemic awareness*: The term phonemic awareness refers to the understanding that words are made up of a blend of phonemes and the ability to manipulate sounds of oral language.

*Phonological awareness*: The term phonological awareness refers to the understanding of patterns within words.

*Phonics*: The term phonics refers to the relationship between spoken sounds and the letters they are represented by in writing.

*Small group instruction*: In this study, small group instruction will consist of five or less kindergarten students who struggle with writing and receive additional instruction in phonics and phonemic awareness.

*Struggling writers*: Struggling writers refers to students who have writing performances that are below grade level.

*Writing performance*: Writing performance is referred to in this study as a student's ability to label their drawings by spelling words or portions of words phonetically.

*Phonetic spelling*: Phonetic spelling is the spelling of a word by how it sounds. For example, spelling "because" as "bekuz."

*Word awareness:* Word awareness refers to the students' understanding that a sentence is made up of individual words that are separated by spaces.

### **Theoretical Framework**

This section presents the theoretical framework selected based upon the research question. The research question is: how can supplemental phonemic awareness and phonics instruction in small groups impact kindergarten struggling writers' writing performance? This question was used to identify the theoretical framework. This framework includes the following theory: *Reading and Writing Relations Theory*.

Fitzgerald and Shanahan (2000) describe the shared knowledge approach, which highlights the commonalities between reading and writing. Within this approach, one category of shared knowledge between reading and writing is referred to as "knowledge about universal text attributes." Some attributes that fall under this category include phonological awareness and grapheme awareness. This theory directly relates to my study, in which my goal is to use phonemic awareness and phonics instruction to enhance the writing performance of my students.

The authors state that reading and writing "depend on identical or similar knowledge representations, cognitive processes, and contexts and contextual constraints." (Fitzgerald & Shanahan, 2000, p. 40). The ability to read effectively relies on recognizing and interpreting symbols, words, and sentences, a skill mirrored in writing where individuals must produce these linguistic elements. Both activities demand cognitive functions such as memory, attention, and comprehension, as readers decode written text and writers generate meaningful content. The authors go on to explain that because of this, a student's reading and writing development should closely align with one another, and that "some type of pedagogical combination may be useful in making learning more efficient." (Fitzgerald & Shanahan, 2000, p. 40). Students' reading skills

enhance their writing abilities, and vice versa. By integrating reading and writing tasks related to the same topic, students benefit from a pedagogical combination that reinforces their learning, making the process more efficient and comprehensive.

Fitzgerald and Shanahan (2000) categorize the knowledge that is used by both readers and writers. These categories include but are not limited to graphophonics, phonological awareness, and grapheme awareness. The authors state, “Readers, to read words, must learn to deal with letters and phonemes and how they combine. Writers, likewise, must learn about letters and sounds if they are to spell accurately.” (p.40). Readers and writers must have phonological awareness and grapheme awareness in order to know graphophonics. (2000).

Fitzgerald and Shanahan include a table within their research titled “Critical Knowledge at Various Stages of Reading and Writing” (2000). Stage 1, which is referred to as “Literacy Roots,” describes the criteria of proficient readers and writers from birth to age 6. Within this category, it is shown that children should know about functions and purposes of reading and writing, have phonological awareness and grapheme awareness, and have the concept of books. (Fitzgerald & Shanahan, 2000).

The *Reading and Writing Relations Theory* supports the concept that there is an abundance of shared knowledge among reading and writing. This includes graphophonics, phonological awareness, and grapheme awareness.

### **Educational Significance**

The purpose of this study is to examine the research question: how can supplemental phonemic awareness and phonics instruction in small groups impact kindergarten struggling writers’ writing performance? This question is significant because the research results will allow

other teachers to learn more about how to support their struggling writers. SUREducation (2013) discusses how teachers can do action research by reflecting on a classroom problem, collecting and analyzing data to solve it, and implementing changes based on the results. Teachers will obtain new information about how incorporating supplemental phonemic awareness and phonics instruction in small groups can aid struggling writers to become stronger writers. This will allow teachers to plan productive small group sessions and enhance their students' writing performance.

Due to the nature of this research, teachers will also gain additional information about the relationship between reading and writing. Having this knowledge will, in turn, also aid teachers in improving their pedagogy in both reading and writing. Therefore, this research could benefit students' reading and writing performance.

## CHAPTER II

### Review of the Literature

#### Overview

This chapter reviews the literature that is relevant to the primary question identified in this study. This research question is: How can supplemental phonemic awareness and phonics instruction in small groups impact kindergarten struggling writers' writing performance? This review of the literature examines research studies that looked at phonemic awareness and phonics instruction, kindergarten writing, and invented spelling.

#### Phonemic Awareness and Phonics Instruction

Phonemic awareness and phonics instruction provide students with skills to manipulate sounds and understand letter-sound relationships, which are used when students read and write words. These instructional areas were commonly researched in the various studies that were reviewed. In their study, Vadasy and Sanders (2021 a) investigate the effectiveness of two different approaches to teaching phonics to kindergarteners with limited early literacy learning. The study focused on children who scored low on a literacy screening test at the beginning of the school year. The two instructional conditions were referred to as "Plain" and "Flex." The participants were 68 children from a kindergarten school located in the Pacific Northwest, USA, and were selected based on their initial literacy screening scores, which indicated limited alphabet knowledge. The study included students from 22 classrooms, with 33 in the Flex condition and 35 in the Plain condition. The average age of the children participating in this study was 5.65 years old.

The instructional interventions involved teaching phoneme-grapheme correspondences (GPCs), including single and high-frequency two-letter GPCs. Both conditions included similar

teaching activities, such as explicit instruction of letter sounds, phoneme segmenting, and blending. However, the Flex condition incorporated brief cognitive flexibility practice within the phonics instruction. The findings showed that both instructional conditions led to gains in knowledge of taught GPCs over the six-week intervention. However, the Plain condition resulted in significantly greater improvements in letter sound writing and spelling. Despite the added cognitive flexibility element of the Flex condition, the results of the research did not show any significant advantages in using the Flex condition.

The results of this study suggested that explicit phonics instruction focusing on accurate learning of GPCs, especially high-frequency ones, is crucial for kindergarteners with limited early literacy skills. The Flex practice activities, designed to enhance cognitive flexibility, did not appear to provide significant benefits to this young and struggling group of learners. It is suggested that further research is needed to explore the most effective approaches to teach phonics to students who face challenges in early literacy learning. In summary, this study examined different approaches to phonics instruction for kindergarteners with limited early literacy skills and found that a focus on accuracy in learning letter-sound correspondences was more beneficial than including cognitive flexibility practice in the initial stages of phonics instruction.

In another study, Vadasy and Sanders (2021) also investigated the effectiveness of introducing highly frequent grapheme-phoneme correspondences (GPCs) to kindergarten and first-grade children with limited literacy skills. The researchers aimed to determine how introducing these GPCs might impact the children's decoding and encoding (spelling) abilities. The study involved 65 children from two elementary schools located in the Northwest U.S., specifically kindergarteners with minimal alphabet knowledge and first-grade students identified



as at-risk in literacy. The children were randomly assigned to two experimental conditions: a fast-paced group and a slow-paced group. Instructors provided GPC instruction over a brief 5-week intervention period.

Results showed that both groups of children made significant gains from the pretest to post-test in letter names and letter sounds. Kindergarteners made less progress in word reading and spelling compared to first graders. The fast-paced group had an advantage in letter sound learning, letter sound writing, and word reading over the slow-paced group. Overall, the findings suggested that introducing GPCs at a faster rate (three correspondences per week) was effective for lower-skilled kindergarteners and first graders with limited alphabet knowledge.

The research raised questions for future studies, including the exploration of high to low-frequency GPCs and the effects of teaching multi-letter units on reading-related cognitive flexibility and comprehension. Longer interventions and follow-up assessments were recommended to assess the impact of early orthographic orientation on literacy outcomes, specifically for children at risk of reading difficulties. Overall, the study aimed to inform more effective phonics-based reading instruction methods for children struggling with early literacy skills.

In another study, Thompson (2021) sought out to investigate the impact of differentiating phonics instruction on the letter name and sound knowledge, decoding, and encoding skills of English Language Learners (ELLs) in a kindergarten classroom. The research took place in an urban area in New Jersey, involving 487 students, with 72 in kindergarten. Among the student population, 22.2% were English Learners, primarily Hispanic, and 60% had Spanish as their home language. The study focused on four 5-year-old ELL kindergarten students in a general

education setting and employed qualitative research methods, spanning eight weeks of daily classroom instruction.

The research identified three key themes: letter name and sound knowledge, decoding, and encoding, all of which were influenced by differentiated and scaffolded phonics instruction. While one student exhibited consistent progress throughout the study, the remaining three showed limited progress until the study's conclusion. The majority of students struggled with decoding and encoding independently, underscoring the need for teacher support. As a result of students' varying academic needs and initial progress, the study prompted adjustments in phonics goals, affecting their letter name and sound knowledge, decoding, and encoding abilities.

In conclusion, the findings suggest that scaffolded and individualized phonics instruction can foster phonics development among kindergarten ELLs, while supplemental phonics instruction enhances their learning. The study recommends further research to determine the optimal duration for daily phonics instruction, as varying time frames have been observed in different studies. Understanding the appropriate time for phonics instruction can have a significant impact on students' phonics, decoding, and encoding skills, ultimately benefiting their literacy development.

Hauck (2021) investigates the impact of small group, supplemental interventions in phonics and phonemic awareness on second-grade struggling readers' foundational reading skills. Conducted in a suburban elementary school in Central New Jersey, the study involved three participants with similar weaknesses, meeting virtually one to three times a week for eight weeks. The intervention focused on explicit, systematic, multisensory instruction.

The study found that the intervention significantly improved students' abilities to connect graphemes to corresponding phonemes, enhancing their decoding skills. Students struggled with

short vowels and letter reversals initially, but interventions such as grapheme-phoneme drills and specific strategies (like using hairbands on one hand to differentiate 'b' and 'd') proved helpful. Additionally, the intervention positively impacted students' oral reading fluency by making them more automatic in letter-sound relationships and providing repeated exposure to texts.

However, the study highlighted several limitations and made recommendations for further research. The virtual setting had distractions and limited interactive opportunities compared to in-person instruction. The study also pointed out the need for assessing phonemic awareness manipulation and encoding capabilities, which were not covered in the research. Moreover, the duration and frequency of intervention sessions might need to be extended, especially for students who have been struggling for an extended period.

In conclusion, the study demonstrated the positive impact of small group, supplemental interventions in phonics and phonemic awareness on struggling second-grade readers' foundational literacy skills. Despite its successes, the study calls for more in-depth research addressing the limitations and suggests longer and more frequent interventions for students with persistent reading difficulties.

Jordan (2016) investigated the impact of explicit instruction in phonemic awareness on kindergarten students' ability to manipulate sounds and decode words. Conducted in a small suburban town in northern New Jersey, the research focused on nine kindergarten students over an eight-week period. The study employed qualitative methods and aimed to enhance the understanding of how explicit phonemic awareness instruction affected students' decoding skills. The findings indicated that students benefited from additional exposure to word identification strategies at their instructional reading levels, especially during guided reading sessions. The use of multisensory techniques and differentiated instruction positively influenced most students'

decoding and writing skills. However, it was noted that students still struggled with medial vowel sounds and needed more exposure to short/long vowel patterns, blends, and digraphs.

The study emphasized the positive impact of explicit phonemic awareness instruction on kindergarteners' ability to decode text and manipulate sounds. Additionally, the enhanced decoding abilities of students positively correlated with their spelling skills. The research highlighted the necessity of small group interventions due to increasing classroom sizes, diverse student populations, and varied developmental needs. However, the study acknowledged the challenges teachers faced, such as time constraints and limited classroom support. The researcher also noted the need for further exploration, suggesting potential research areas including comparing the effects of teaching phonemic awareness in isolation versus integrating it into the curriculum, focusing on specific phonemic awareness skills, and studying the impact of varying instructional time dedicated to phonemic awareness on skill acquisition.

### **Kindergarten Writing**

Writing is one of the main language arts instructional areas in a kindergarten classroom. Kindergarten writing and the various methods of teaching it was commonly discussed throughout the literature that was reviewed. Cuffari (2015) investigates the impact of systematic instruction in phonological awareness and instructional scaffolding on writing in a kindergarten classroom. It was conducted in a private school in North Jersey with mostly upper-middle-class students. Eight students, representing a range of proficiency levels, participated in the study, which spanned eight weeks and employed qualitative research methods. The research focused on how explicit phonological awareness skills, such as word patterns, blends, digraphs, and silent vowel markers, influenced students' writing during independent activities and teacher scaffolding.

The study revealed several key findings. First, word study, which involved hands-on sound manipulation, was a crucial component of the writing process, enhancing spelling and overall literacy development. Second, explicit instruction in phonological awareness, particularly during small group instruction, strengthened invented spelling (phonetic spelling). This explicit teaching of phonemic and phonological awareness was deemed essential for emergent readers. Third, scaffolding played a pivotal role in guiding students' writing. It enabled teachers to understand each student's independent level and provide support to help them progress. Lastly, frequent opportunities and diverse contexts for writing were essential for students to apply newly acquired strategies effectively. The study underscored the importance of systematic phonological awareness instruction in kindergarten classrooms to support students' literacy development, emphasizing phonetic spelling and authentic writing.

In conclusion, this research highlighted the positive impact of systematic phonological awareness instruction, explicit teaching, scaffolding, and ample writing opportunities on kindergarten students' writing skills. These findings contribute to the understanding of effective early literacy practices and underscore the importance of phonological awareness in the foundation of literacy development.

Mackenzie and Hemmings (2014) conducted a study to examine the language and cognitive development of kindergarten students and investigate the predictive ability of these skills on the children's ability to hear and record sounds in words and develop writing vocabulary during their first year of school. The research was conducted in a regional center in New South Wales (NSW), Australia, involving 60 children from six state-run schools, including some from schools with low socioeconomic status. The children's ages ranged from 4 to 6 years old at the start of school, with a balanced gender distribution.

Various measures were used to assess the children's language and cognitive development. The Peabody Picture Vocabulary Test (PPVT-III) measured oral vocabulary, the Record of Oral Language (ROL) assessed linguistic and morphological rules, and the Who Am I? Developmental Test (WAI) evaluated cognitive processing. These assessments were conducted in the first two weeks of the school year. Subsequent assessments took place in June and December of the same school year to measure phonemic awareness, spelling skills, and writing vocabulary. The Hearing and Recording Sounds in Words (HRSW) task evaluated the students' ability to translate phonemic awareness to spelling, and the Writing Vocabulary (WtgV) task assessed their writing vocabulary.

It was found that oral language and cognitive processing skills were crucial for the development of phonemic awareness, spelling, and writing vocabulary in children. The findings highlighted the importance of talking, reading, writing, and drawing activities for children's early literacy development, even before formal schooling begins. Interestingly, the study observed that the age of entry into school had a diminishing effect on children's phonemic awareness and writing vocabulary development during their first year of formal schooling. Younger children progressed at a similar rate to their older peers in the first half of the school year, emphasizing the potential impact of effective early instruction.

Some limitations were acknowledged, such as the relatively small sample size, which could limit the generalizability of the findings. Additionally, the occurrence of a ceiling effect in the follow-up testing raised questions about the timing of assessments. In conclusion, this research shed light on the relationships between language skills, cognitive processing, and early literacy development in children entering school. It underscored the importance of fostering

these skills through various activities and suggested that younger children can catch up with their older peers in the primary grades.

Jones (2015) investigated the influence of different methods of writing instruction on kindergarten students' development of foundational and compositional writing skills. Participants included six kindergarten teachers and 45 students from two demographically similar elementary schools in a midsize western city. The study used a pretest, posttest control group design with three instructional groups: whole-word (WW) group, interactive writing (IW) group, and a control writing (CW) group. Students and teachers were randomly assigned to these groups. The study focused on the impact of these instructional methods over an entire year, analyzing results using regression analysis with clustering to account for grouping variables.

The findings revealed that all instructional groups (WW, IW, and CW) demonstrated similar growth in foundational writing skills, including principles of directionality, alphabet letter writing, sentence construction, and punctuation usage. However, significant differences emerged in compositional writing skills. Students in the WW and IW groups exhibited statistically significant growth in more complex compositional skills, such as understanding various writing purposes, forms, and functions, as well as using theme, topic sentences, and organizational structures in narrative text creation. In contrast, the CW group primarily focused on basic skills, like correctly forming simple sentences. The study highlights the importance of instructional approaches that enhance compositional writing skills in young learners.

The study's results offer crucial insights into writing instruction methods. While all groups developed foundational skills, the compositional skills growth varied significantly. WW and IW approaches led to substantial improvements in more sophisticated writing abilities. The study emphasizes the need for empirical research on writing instructional methods, especially as

educators aim to increase writing time. It also recommends ongoing research with larger and more diverse samples, incorporating various assessments to provide a comprehensive understanding of how different writing instructional methods influence students' writing skills.

### **Invented Spelling**

Invented spelling refers to when words are spelt phonetically based on the sounds in a word. Invented spelling is another topic that was discussed within the literature that was reviewed. Albuquerque and Martins (2020) investigated the impact of invented spelling activities on the spelling performance of kindergarten children. The study took place in three kindergarten classrooms within two different schools in Lisbon and involved 52 five-year-old Portuguese children from diverse socioeconomic backgrounds. Students were divided into experimental and control groups, and both groups underwent pre/post-test assessments, which measured their spelling skills.

The research portion of this study took place over the course of roughly five weeks, in which ten twenty-minute invented spelling sessions took place twice a week. Each session was taught in a small-group with four students at a time. The research measured students' cognitive ability, letter knowledge, syllable/phoneme awareness, and included a spelling test that involved word dictation. The results showed that children who engaged in invented spelling activities with adult guidance demonstrated improved understanding of the alphabetic coding system and enhanced literacy acquisition. The interaction with written stimuli was found to be valuable in kindergarten environments.

The study highlighted the importance of instructional scaffolding and collaborative learning in literacy development, suggesting that invented spelling activities should be prioritized in kindergarten curricula. However, the study's limitations included a small sample size, which



restricted generalization. It is implied in the conclusion that future research should involve larger and more diverse groups to provide clearer insights into these learning processes.

In another study, Ouellette and Sénéchal (2017) investigate the role of invented spelling in early literacy development by analyzing the paths of influence from kindergarten to Grade 1. The research involved 171 English-speaking kindergarten children from two school districts in eastern Canada. Participants were selected based on their eligibility, excluding those with speech-language or learning disabilities. The study aimed to understand the impact of invented spelling on subsequent reading and spelling skills. Findings revealed that allowing children to engage in invented spelling, followed by appropriate feedback, facilitates learning to read and spell. Contrary to concerns that invented spelling might hinder conventional spelling learning, the study showed that it enhances literacy acquisition.

The research has significant implications for literacy instruction, suggesting that the fear of allowing children to invent their own spellings can be alleviated. Invented spelling serves as a developmentally appropriate instructional method within a child's zone of proximal development. The study highlighted the analytical and engaging nature of invented spelling, which actively integrates phonological and orthographic representations. The longitudinal analysis demonstrated the influential role of invented spelling in explaining both reading and spelling skills in Grade 1, even when considering other predictors. This research contributes to the understanding of the process, emphasizing the importance of integrating invented spelling into early literacy instruction for improved literacy outcomes.

### **Summary of the Literature Review**

This section provides a summary of the studies used in this literature review. The research studies looked at phonemic awareness and phonics instruction, kindergarten writing,

and invented spelling. Studies were selected for this literature review based on the research question. The research question is: How can supplemental phonemic awareness and phonics instruction in small groups impact kindergarten struggling writers' writing performance?

Several common threads emerge from the studies. First and foremost, the studies collectively emphasize the importance of explicit and systematic phonics instruction in early literacy development. Whether it's focusing on accurate learning of phoneme-grapheme correspondences (GPCs) in kindergarteners with limited early literacy skills (Vadasy & Sanders, 2021 a) or introducing highly frequent GPCs to at-risk kindergarteners and first graders (Vadasy & Sanders, 2021 a) or implementing phonics interventions for struggling second-grade readers (Hauck, 2021), the studies consistently underscore the significance of structured phonics education. Vadasy and Sanders (2021) found that focusing on accuracy in learning letter-sound correspondences was beneficial in phonics instruction. In another study, Vadasy and Sanders (2021 b) found that teaching GPCs at a faster rate was most effective. Hauck (2021) used grapheme-phoneme drills in a small group setting to enhance her students' reading abilities.

Furthermore, the studies highlight the effectiveness of differentiated and scaffolded phonics instruction, particularly for diverse student populations such as English Language Learners (Thompson, 2021) and struggling readers (Hauck, 2021). In Huack's research, it was found that students significantly benefited from differentiated instruction, as students made improvements in decoding skills and oral reading fluency after receiving the targeted intervention. Thompson's research emphasizes the impact differentiated instruction had on the phonics skills of ELLs. Personalized and targeted instruction was found to be crucial in addressing the varying needs of students, emphasizing the importance of individualized learning paths.

Additionally, the studies collectively emphasize the crucial role of foundational skills like phonemic awareness and letter-sound correspondence in later literacy development. Several studies highlighted the positive impact of phonological awareness instruction on students' ability to decode text and manipulate sounds (Jordan, 2016; Cuffari, 2015). Moreover, the significance of invented spelling in early literacy development was explored in multiple studies (Albuquerque & Martins, 2020; Ouellette & Sénéchal, 2017). Contrary to concerns, invented spelling was found to be a valuable and developmentally appropriate instructional method, actively integrating phonological and orthographic representations and facilitating literacy acquisition.

While there are these commonalities, the studies also exhibit differences in their methodologies and focus. For instance, Vadasy and Sanders (2021 a) compared different instructional conditions, while Hauck (2021) focused on small group interventions. Thompson (2021) examined the impact of differentiated phonics instruction specifically on English Language Learners. Furthermore, studies like Jones (2015) delved into the realm of writing instruction, showcasing how different instructional approaches led to varied outcomes in compositional writing skills. Additionally, the studies were conducted in diverse settings, including urban areas (Thompson, 2021), suburban schools (Hauck, 2021), and private schools (Cuffari, 2015), indicating the applicability of these findings across different educational contexts. These differences highlight the multifaceted nature of literacy instruction, requiring tailored approaches based on specific student needs and contextual factors.

## CHAPTER III

### Research Design

#### Introduction

There is a large deficit in students' writing ability that could have a correlation to a lack of connection between phonemic awareness and phonics instruction to writing in the primary classroom (Cuffari, 2015). This study is meant to answer the research question: How can supplemental phonemic awareness and phonics instruction in small groups impact kindergarten struggling writers' writing performance? This chapter will describe various aspects of planning and implementing this research study.

In this study, I was both the teacher-researcher and the participant-observer. Effron and Ravid (2019) explain that the goal of teachers researching within their own classrooms is to understand students in order to improve their practice as well as the practice of others. This study is a mixed methods research study, which pulls elements from both qualitative and quantitative research. I collected data in a quantitative manner using numbers and statistics as well as in a qualitative manner by comparing student work from past to present. Research was based on the research question: How can supplemental phonemic awareness and phonics instruction in small groups impact kindergarten struggling writers' writing performance?

#### Research Setting

This section presents the setting of the research study. This study is based on the research question: How can supplemental phonemic awareness and phonics instruction in small groups impact kindergarten struggling writers' writing performance? This research study took place in an elementary school in a suburban-rural township. The township consists of 8,278 residents. The population consists of 86.8% Caucasian individuals, 7.0% Black or African American

individuals, 0.9% Asian individuals, 5.2% individuals of two or more races, and 8.7% Hispanic or Latino individuals. The median household income in this township is \$110,074, and 5.7% of the population is considered to be persons in poverty.

The school in which this study was conducted is one of two in its district. The district consists of an elementary school and a middle school. The grade span of this district ranges from preschool to grade 8. The district houses a total of 595 students and has an 11:1 student to teacher ratio. This study takes place in an elementary school, which consists of preschool through fourth grade. The school holds 320 students, has 37 classroom teachers, with a student to teacher ratio of 9:1. Of the students, 196 are male and 134 are female. There were 60 kindergarten students in the school at the time of this study. In terms of language at home, 92.2% of students speak only English at home, 7.1% speak multiple languages at home but speak English very well, and 0.7% are considered to speak English less than well. The school offers special education services, ELL services, occupational and physical therapy, intervention services, and a variety of after-school clubs including STEM Club, Jewelry-Making Club, and SEL Club.

The research study took place in my classroom, which is a general education kindergarten classroom. There are 15 students in this classroom, 8 female and 7 male. In the classroom, resources are displayed all around for students to utilize. The alphabet hung in the classroom aligns with the Foundations letter-keyword-sound cards. There are posters hung in the classroom provided by the Foundations curriculum that support students in proper letter formation and grapheme-phoneme correspondence. Anchor charts are displayed in the classroom and are switched out frequently to align with current concepts that are being learned. A sound wall is also displayed and referred to often by the students.

The classroom is set up to allow students to receive content in various settings throughout the day. Desks are pushed into four groups of four, and students choose where they would like to sit each day. For Foundations, students grab a carpet square and sit in the front of the room with the Smartboard in front of them. When we sky-write letters, students stand up and refer to the Foundations lines that are displayed on the Smartboard. When it is time to practice letter formation on their dry-erase tablets, students sit at their desks in the proper writing position. For Heggerty, students come to the meeting area. The meeting area includes a bench, a large carpet, and a rocking chair, which I sit in. Any small group instruction takes place at the kidney table. Between three and five students join me at the kidney table for small group lessons.

### **Research Participants**

This section presents information on the participants in this research study. This study is designed to answer the research question: How can supplemental phonemic awareness and phonics instruction in small groups impact kindergarten struggling writers' writing performance? As the teacher-researcher, I am currently in my second year as a kindergarten teacher. I conducted this research in my general education kindergarten classroom. I received my undergraduate degree in Elementary Education from William Paterson University and am currently pursuing a Masters of Education from William Paterson University.

The participants in this research study are a group of three kindergarten students. The students in this study were selected based on their scores on the Foundations Unit 1 Mid Unit Check assessment, which is an assessment provided by the school's phonics program, Foundations. These students received supplemental phonemic awareness and phonics instruction in a small group with their kindergarten teacher. Students received this small group supplemental instruction during the class's language arts block, particularly during literacy centers.

Student A is a five year old boy. He is caucasian. On our district's benchmark early literacy assessment that was administered in the beginning of the school year, Student A is considered to be at/above the benchmark. However, Student A is inconsistent. At times, he is able to identify all letter names and sounds. Other times, he makes errors when identifying letter names and sounds. He also has difficulty with letter formation and writing letters from memory. When it comes to writing, Student A enjoys illustrating stories about things that interest him. He does not attempt to write sentences and often requires prompting to label his illustrations. Student A is a caring student who follows directions but sometimes struggles to put forth effort. Outside of school, Student A enjoys doing crafts with his mom and brother and playing outside.

Student B is a five year old girl. She is caucasian. On our district's benchmark early literacy assessment that was administered in the beginning of the school year, Student B is considered to be below benchmark and needing intervention. Student B sometimes struggles to identify letter names and sounds. She also has difficulty with letter formation and writing letters from memory. Student B rushes through her writing and struggles to apply her knowledge of letter names and sounds to her writing. Student B attempts to write sentences, but there is often no evidence of sentence structure or word awareness in what she writes. There are often no words or sounds correct in her writing. Additionally, Student B adds labels to her illustration, however, they often do not show evidence of letter sound knowledge. Student B is a happy girl who loves school, but she often struggles to maintain focus and take her time on her schoolwork. Outside of school, Student B loves to dance and play with her brother.

Student C is a five year old boy. He is caucasian. On our district's benchmark early literacy assessment that was administered in the beginning of the school year, Student C is considered to be slightly below benchmark and on watch for intervention. Student C can identify

letter names and sounds, however, Student C has difficulty with proper letter formation and writing letters from memory. Oftentimes, Student C says he does not know what a letter looks like and therefore he cannot write it. In his writing, Student C does attempt to write sentences but lacks word awareness. Student C's sentences and labels do sometimes show evidence of letter sound knowledge. Student C is a hard working student but he often struggles maintaining his focus. Outside of school, Student C loves to play with trucks and dinosaurs and go swimming.

### **Procedures**

This section outlines the procedures that were used during each supplemental phonemic awareness and phonics instructional session. Each session lasted for a span of approximately fifteen to twenty minutes. Every session begins with the Standard Sound Cards Drill as a warm-up. For this warm-up, we did the vowels daily in addition to three to five consonant sounds that I selected based on student needs determined by teacher observation. After the warm-up, each lesson consisted of two additional activities from the list below. The letters that are used for each activity are based on student needs determined by teacher observation.

#### *Standard Sound Cards Drill*

Standard sound cards are cards with a lowercase letter on them. They are used as a warm up drill. In Foundations, each letter is associated with a letter-keyword-sound, for example, a-apple-/a/. For the standard sound cards letter warm up drill, I hold up a card and say letter-keyword-sound and students echo.

#### *Skywrite Letter Formation*

For this activity, the Foundations lines are displayed. I dictate a sound and students echo the sound and then state the letter that makes that sound. I ask students where the letter starts



Students hold out their arms, pointing with two fingers, and I dictate the letter formation verbalizations. Students echo the verbalizations and sky write the letter.

### *Student Notebook*

Each student has a Foundations Student Notebook. For this activity, I tell students to turn to a certain letter. I ask students what is the name of the letter, what sound does it make, and what word helps us remember. Then I ask students where the letter starts. I dictate the letter formation verbalizations, and students echo the verbalizations and use their fingers to trace the letter on the page.

### *Write from Memory*

Students use their dry erase tablets for this activity. I say a letter and students write the letter from memory.

### *Echo/Find Letters (Matching)*

Each student has a Letter Tile Board. The board is magnetic and has magnetic letter tiles with each letter of the alphabet. It also has letters that are printed on. I dictate a sound. Students echo the sound and move the corresponding letter tile up to the letter that is printed on. Then I ask what letter it was.

### *Echo/Letter Formation*

Students have their dry erase tablets. I dictate a sound. Students echo the sound and then say the letter. I dictate the letter formation verbalizations and students echo while writing the letter on their dry erase tablet.

### *Keyword Puzzle*

Puzzle pieces have a letter on one piece and the corresponding keyword on the other. Each student is given a puzzle piece and we take turns matching the letters with the keywords. Once two pieces are matched, the student says letter-keyword-sound and the other students echo.

#### *Make It Fun Activity 1*

Students take turns being “it” for this activity. I show the student a letter. The student uses their finger on their dry erase board to form the letter. The other students guess what the letter was. The student who was “it” says the letter-keyword-sound. The other students echo.

#### *Make It Fun Activity 2*

I put out standard sound cards. I dictate a word. Students echo the word and identify what sound they hear at the end of the word. One student selects the card with the correct letter on it. I ask the student where the letter starts. Then I dictate the letter formation verbalizations and students echo while sky writing the letter.

### **Data Sources**

This section presents the data sources for this research study. This study is designed to answer the research question: How can supplemental phonemic awareness and phonics instruction in small groups impact kindergarten struggling writers’ writing performance? Data will be collected in various ways throughout the research study. Teacher observation notes will be taken in addition to qualitative and quantitative data sources, including assessments and writing samples.

#### *Foundations Unit 1 Mid Unit Check*

Foundations is the phonics program that is used in the classroom. Following 6 weeks of phonics instruction, students are given the Foundations Unit 1 Mid Unit Check. The assessment is administered one-on-one with me. This assessment has three sections, which assess four skills.

First, students will be shown a letter and must say the letter, keyword, and sound. This section is used to assess students' ability to name each letter and identify the sound each letter makes. If a student is unable to say the letter, keyword, and sound, I will prompt the student to find the letter and will note if students can find letters but not yet name them. Next, students will use their Letter Board and Letter Tiles, which are provided as a part of the Foundations curriculum. I will say a sound and the student will point to the corresponding letters. For example, "What says /s/?" Last, I will dictate a letter and students will write the letter on the Foundations lines. This assessment will be given at the beginning of the research and will be used to select research participants. Students that score below 80% will receive supplemental phonemic awareness and phonics instruction for two weeks, and are reassessed using this assessment after two weeks.

#### *Weekly Grapheme-Phoneme Correspondence Assessment*

This assessment was given weekly starting on the second week of phonics instruction using the Foundations curriculum. This assessment is administered one-on-one with me. Based on the letters that have been learned at the time, students are shown a letter card and are asked the letter name and letter sound. Students are only asked about the letter that they have learned thus far each week. This assessment scores the students ability to name each grapheme and their ability to correspond the phoneme to its grapheme.

#### *Spelling Inventory Assessment*

The spelling inventory assessment is given three times throughout the research. The assessment is given before supplemental instruction begins, after one week of supplemental instruction, and after two weeks of supplemental instruction. This assessment is administered in a small group with me. The assessment has 5 consonant-vowel-consonant (CVC) words on it. The words are dog, cat, pig, hen, and bug. Students are told that each word consists of three

letters, and that a line is provided for each letter. Students will be told to listen to the word and write each letter on the lines provided. I will say the word, and students will write the word on the lines provided.

#### *Pre and Post Writing Sample*

Students are given the same writing prompt two times throughout the research study. The Pre Writing Sample is collected before receiving supplemental phonemic awareness and phonics instruction. The Post Writing Sample is collected after receiving two weeks of supplemental phonemic awareness and phonics instruction. The writing prompt will be read to students in a small group setting and students will complete their writing sample independently in a small group setting.

#### *Teacher Observation Notes*

Daily notes are taken on each student throughout the two weeks of supplemental instruction. These notes are taken during the supplemental phonemic awareness and phonics instruction and while administering any assessments used in this research study. Notes may also be taken during other times of instruction based on teacher discretion of what may be relevant or related to the study in any way. My notes focused on student behaviors and their responses, both oral and written, to my prompts and questions during instruction. I focused my observations on students' correct and incorrect responses and oral participation in instruction.

#### **Data Analysis Procedures**

This section explains how data will be analyzed throughout the research study. This study is designed to answer the research question: How can supplemental phonemic awareness and phonics instruction in small groups impact kindergarten struggling writers' writing performance?

A variety of data was analyzed within this study, including both qualitative and quantitative data sources and teacher observation notes.

The first assessment that students were given is the Foundations Unit 1 Mid Unit Check. This data is analyzed in four ways: grapheme identification, phoneme identification, grapheme identification corresponding to the phoneme, and letter formation when given the letter. Each section of this assessment is scored out of 10. For example, one wrong is a 9 out of 10. This will transfer into a percentage out of 100 for each section. The percentages of the four sections will then be averaged, and if the overall average percentage is below 80%, students receive supplemental phonemic awareness and phonics instruction. After two weeks of supplemental instruction, students are given the Foundations Unit 1 Mid Unit Check again. Within this data, I compared each individual student's scores from pre and post assessment. I also analyzed patterns and inconsistencies in student achievement in each section.

The Weekly Grapheme-Phoneme Correspondence Assessment was administered weekly. This data is analyzed in two ways: letter name identification and letter sound identification. This assessment builds up each week as it correlates with which letters students have learned as per the Foundations curriculum. For instance, the first week of the assessment, students are assessed on letters b, f, and t because these are the letters they learned in weeks one and two of Foundations. Within this data, I compared each individual student's scores from week to week and analyzed their speed of growth from pre to post supplemental instruction. I also analyzed patterns and inconsistencies in student achievement in each section. This data drove my instruction for subsequent lessons.

The Spelling Inventory Assessment was administered three times throughout the research study. Students were given this once prior to supplemental instruction, after one week of

supplemental instruction, and after two weeks of supplemental instruction. I analyzed the students' spelling of each CVC word in three parts: initial, middle, and final sound. I compared each individual student's assessments from week to week, noticing patterns and inconsistencies in their spelling of each word. This data drove my instruction for subsequent lessons.

Students were given the same writing prompt before and after receiving supplemental instruction, which acts as a pre and post assessment. For each writing sample, students sat at the table with me. I read and explained the writing prompt. The prompt is: "Write a story about anything you want. Label as much as you can in your picture and write your story on the lines." Students were provided with Foundations lined paper that has a box at the top to draw their illustration in. I analyzed the number of words and sounds correct in students' writing samples. I also analyzed their word awareness. For instance, if they had the right amount of word representation in a sentence. I compared each individual student's writing samples from pre and post supplemental phonemic awareness and phonics instruction. I also analyzed patterns and inconsistencies in student achievement in the writing samples.

I took daily notes to record my observations as the teacher-researcher. During each of the ten supplemental phonemic awareness and phonics instruction sessions, I took anecdotal notes. I recorded these notes on paper and later type them into a Google Doc. These notes focused on student behaviors, including their oral and written responses to questions and prompts within the instruction. During each session, students provided choral and individual responses to various questions and prompts, including phonics sound drills and phonemic awareness prompts. Other phonics tasks required students to form letters on their Dry Erase Tablets or use Letter Boards and Letter Tiles. In my notes, I included the sounds I dictated followed by the student responses.

I analyzed patterns and inconsistencies in student behavior and achievement during sessions. This data drove my instruction for subsequent lessons.

### **Validity and Reliability**

This section presents the validity and reliability of the research study. This study is designed to answer the research question: How can supplemental phonemic awareness and phonics instruction in small groups impact kindergarten struggling writers' writing performance? In order to ensure the research study findings are reliable, I will be collecting data from multiple sources. I will follow the Foundations protocol and guidelines when administering the Foundations Unit 1 Mid Unit Check to ensure that the results are reliable. On all assessments, I will administer them the same way throughout the study to ensure uniformity. Assessments that are administered one-on-one will remain one-on-one throughout the study. Assessments that are given in a small group will be given to the three students at the same time in a small group to ensure uniformity. The study took place during daily literacy centers each day and students received the supplementary phonemic awareness and phonics instruction that they were required to receive as a form of intervention resulting in their scores on the Foundations Unit 1 Mid Unit Check.

Along with their reliability, the findings in this research study are also valid. The supplemental phonemic awareness and phonics instruction was given to students following the structure of the Level K Intervention Weekly Planner Unit 1 which is provided by Wilson Language Training Corporation through the Foundations phonics curriculum. This phonics instruction program is "research-validated," according to Wilson 40 Language Training Corporation (2020). Teacher observation notes were recorded with accuracy based on students' oral and written responses during the small group instruction.

## **Limitations**

This section presents the limitations of the research study. This study is designed to answer the research question: How can supplemental phonemic awareness and phonics instruction in small groups impact kindergarten struggling writers' writing performance?

One limitation of this research study is the time constraint. As per my district's guidelines, students that score below 80% on the Foundations Unit 1 Mid Unit Check are double dosed by their classroom teacher for ten days before being reassessed. After this, students either score above 80% and no longer require double dosing, or they do not score above 80% and they receive pull-out intervention, which is not administered by the classroom teacher. Because of this, I will only be meeting with the students in this study for ten days. The supplemental phonemic awareness and phonics instruction that students receive will take place for fifteen to twenty minutes a day for ten days. I would prefer to continuously provide these students with the supplemental phonemic awareness and phonics instruction, and I believe if the students received this intervention over a longer period of time, their growth would likely be more substantial.

Another limitation of this study is the generalization of the results. The findings may not be universally applicable to all educational settings or student populations. For instance, because this study looked at struggling kindergarten writers, the results may not be applicable to older students or students with different writing proficiency levels. Additionally, variations in instructional methods, classroom environments, and teacher expertise across different educational contexts may influence the transferability of the study's outcomes.



## **Chapter IV**

### **Findings**

This chapter will reveal the findings based on the previously discussed data that was analyzed. Data was collected using both qualitative and quantitative methods, including the Foundations Unit 1 Mid Unit Check, Weekly, Grapheme Phoneme Correspondence (GPC) Assessment, Spelling Inventory Assessment, Pre and Post Writing Sample, and Teacher Observation Notes. Supplemental phonemic awareness and phonics instruction was given to three students over the course of ten days. This chapter outlines themes and patterns that occurred within the data. This research study was designed to answer the question: How can supplemental phonemic awareness and phonics instruction in small groups impact kindergarten struggling writers' writing performance? This research study addresses the related question: How can struggling writers' knowledge of phonemes and graphemes connect to their writing performance?

The themes and patterns that occurred within the data are organized into the following categories: impacts of supplemental instruction on grapheme/phoneme knowledge, impacts of supplemental instruction on encoding ability, and impacts of supplemental instruction on words and sounds in writing.

#### **Impacts of Supplemental Instruction on Grapheme/Phoneme Knowledge**

In this study, students received ten days of supplemental phonemic awareness and phonics instruction in a small group setting. The data was analyzed to find patterns and themes. One predominant theme was an increase in students' grapheme and phoneme knowledge after receiving supplemental instruction.

Students were assessed using the Foundations Unit 1 Mid Unit Check twice throughout the research study. They took it before receiving supplemental instruction as a pre assessment and after receiving ten days supplemental instruction as a post assessment. Figures 1, 2, and 3 depict the increase in students' grapheme and phoneme knowledge on the Foundations Unit 1 Mid Unit Check from the pre assessment to the post assessment. The Foundations Unit 1 Mid Unit Check assessed grapheme and phoneme knowledge in multiple ways. Students were assessed on grapheme identification, phoneme identification, grapheme identification corresponding to the phoneme, and grapheme formation.

**Grapheme Identification:** Students were shown ten letter cards. Students were told to say letter-keyword-sound for each card. For example, if I held up the "m" card, students would say "m, man /m/." The students' ability to identify the letter name "m" is scored under the grapheme identification sections of Figures 1, 2, and 3. Students A and B showed growth in terms of grapheme identification. Student C maintained his score of 10 out of 10 in terms of grapheme identification on the Foundations Unit 1 Mid Unit Check.

**Phoneme Identification:** Students were shown ten letter cards. Students were told to say letter-keyword-sound for each card. For example, if I held up the "m" card, students would say "m, man /m/." The students' ability to identify the sound "/m/" is scored under the phoneme identification sections of Figures 1, 2, and 3. Students A and B showed growth in terms of phoneme identification. Student C maintained his score of 10 out of 10 in terms of phoneme identification on the Foundations Unit 1 Mid Unit Check.

**Grapheme Identification Corresponding to the Phoneme:** For this portion of the assessment, students used their Letter Board and Letter Tiles. I dictated ten phonemes and students pointed to the corresponding graphemes. For example, if I said, "What says /s/?,"

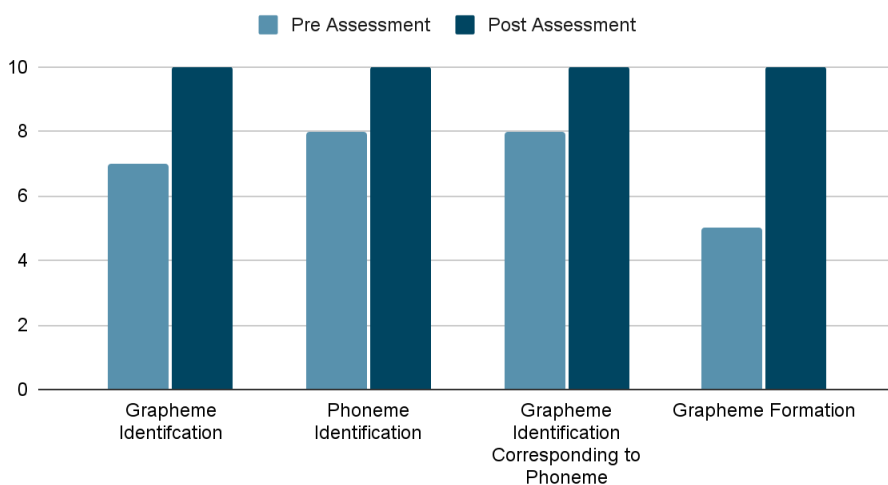
students would point to the letter “s.” The students’ ability to identify a grapheme corresponding to a given phoneme is scored under the grapheme identification corresponding to the phoneme sections of Figures 1, 2, and 3. Students A and B showed growth in terms of grapheme identification corresponding to a given phoneme. Student C maintained his score of 10 out of 10 in terms of grapheme identification corresponding to a given phoneme on the Foundations Unit 1 Mid Unit Check.

**Grapheme Formation:** For this portion of the assessment, I dictated ten letters and students wrote the lowercase letter. Students’ ability to correctly form each grapheme is scored under the grapheme formation sections of Figures 1, 2, and 3. Students A, B, and C showed growth in terms of grapheme formation on the Foundations Unit 1 Mid Unit Check.

## Figure 1

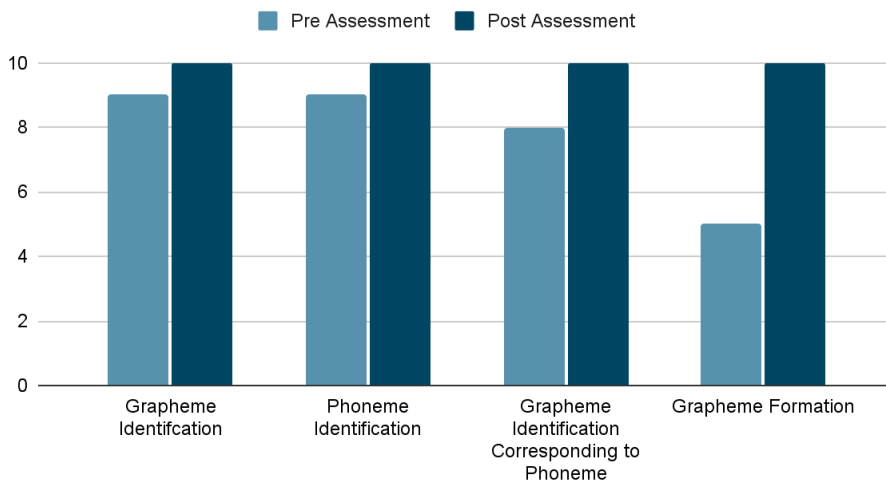
### *Student A’s Foundations Unit 1 Mid Unit Check Scores*

Student A Foundations Unit 1 Mid Unit Check

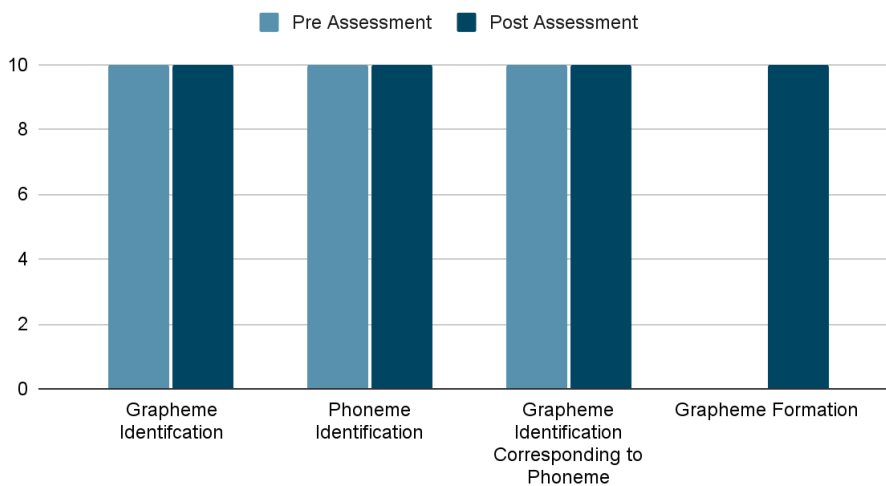


**Figure 2***Student B's Foundations Unit 1 Mid Unit Check Scores*

Student B Foundations Unit 1 Mid Unit Check

**Figure 3***Student C's Foundations Unit 1 Mid Unit Check Scores*

Student C Foundations Unit 1 Mid Unit Check



Students' knowledge of graphemes and phonemes was also assessed using the Weekly Grapheme Phoneme Correspondence Assessment. Students took this assessment three times throughout the research study. Students took this before receiving supplemental instruction as a pre assessment, after five days of receiving supplemental instruction as a mid assessment, and

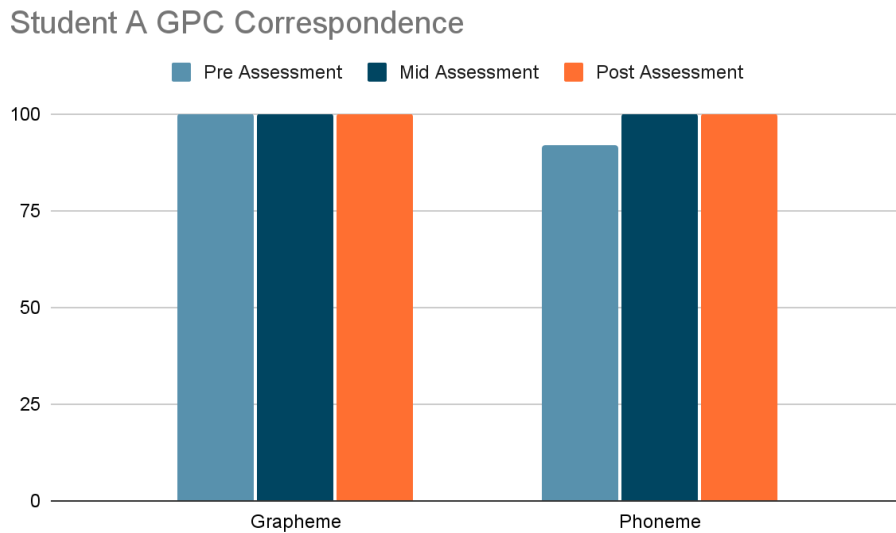
after receiving ten days of supplemental instruction as a post assessment. The data collected using this assessment follows the theme that there was an increase in students' grapheme and phoneme knowledge after receiving supplemental instruction. Figures 4, 5, and 6 show the students' increased knowledge in graphemes and phonemes on the Grapheme Phoneme Correspondence (GPC) Assessment after receiving supplemental instruction.

**Grapheme Identification:** For this assessment, students are assessed based on the letters that have been learned at the time. Students are shown a letter card and are asked the letter name. Students are only asked about the letter that they have learned thus far each week. Students' ability to identify the name of the letter is scored under the grapheme section of Figures 4, 5, and 6. Student A's grapheme identification score was maintained on all three assessments at 100%. Student B's grapheme identification score increased from 92% to 93% from the pre to mid assessment, and then increased from 93% to 100% from the mid to post assessment. Student C's grapheme identification score was maintained at 100% on all three assessments.

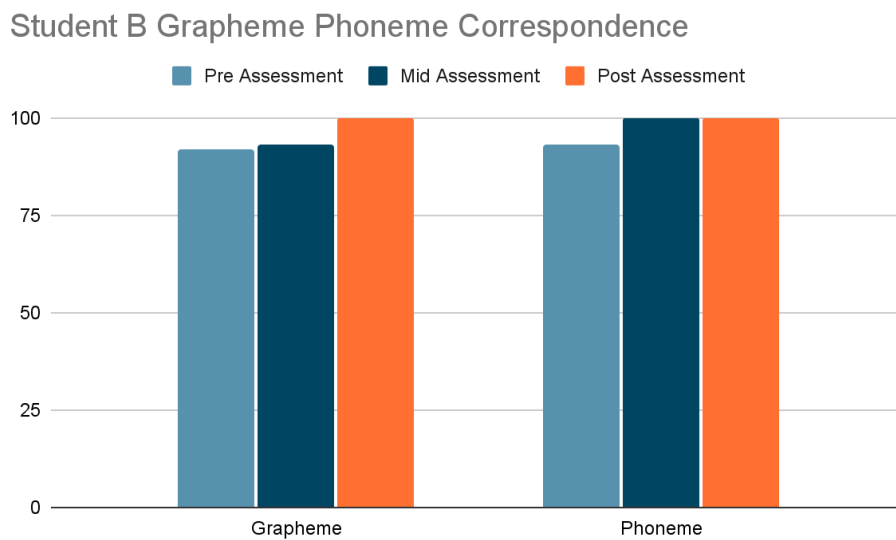
**Phoneme Identification:** For this assessment, students are assessed based on the letters that have been learned at the time. Students are shown a letter card and are asked the letter sound. Students are only asked about the letter that they have learned thus far each week. Students' ability to name the letter sound is scored under the phoneme section of Figures 4, 5, and 6. Student A's phoneme identification score increased from 92% to 100% from the pre to mid assessment, and then was maintained at 100% from the mid to post assessment. Student B's phoneme identification score increased from 92% to 100% from the pre to mid assessment, and then was maintained at 100% from the mid to post assessment. Student C's phoneme identification score was maintained at 100% on all three assessments.

**Figure 4**

*Student A's Weekly Grapheme Phoneme Correspondence Scores*

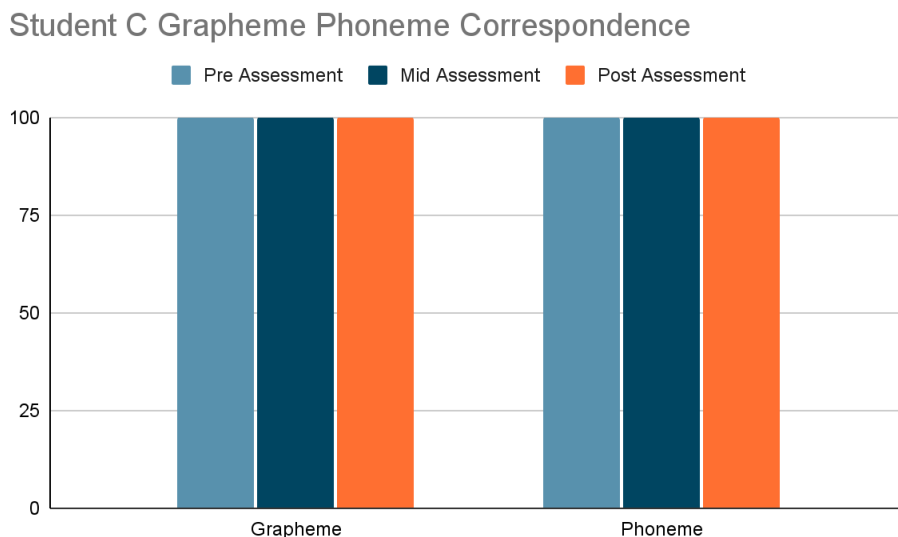
**Figure 5**

*Student B's Weekly Grapheme Phoneme Correspondence Scores*



**Figure 6**

*Student C's Weekly Grapheme Phoneme Correspondence Scores*



### **Impacts of Supplemental Instruction on Encoding Ability**

In this study, students received ten days of supplemental phonemic awareness and phonics instruction in a small group setting. The data was analyzed to find patterns and themes. One theme that emerged was growth in students' encoding ability.

This is shown within the data from the Spelling Inventory Assessment. The data collected and analyzed from the Spelling Inventory Assessment is depicted in Figures 7, 8, and 9. This assessment was given three times throughout the research study. Students took the Spelling Inventory before receiving supplemental instruction as a pre assessment, after five days of receiving supplemental instruction as a mid assessment, and after receiving ten days of supplemental instruction as a post assessment. The data collected using this assessment shows the growth in encoding ability within students after receiving supplemental instruction. For this assessment, I dictated five consonant-vowel-consonant (CVC) words. Students were provided with three lines for each word, representing the initial, middle, and final sound. Students were told to listen to each word and spell the word using their knowledge of graphemes and

phonemes. It was explained to students that it is okay if they do not know all three letters, but they must ensure they are putting each letter in the correct spot. The assessment was analyzed in four parts. The spelling of each CVC word was broken down into students' ability to produce the initial sound, middle sound, and final sound. Students' ability to produce the whole CVC word is also noted.

**Initial Grapheme/Phoneme:** This portion of the assessment is shown in the initial grapheme/phoneme sections of Figures 7, 8, and 9. Students received credit for a correct initial grapheme/phoneme in a word if they wrote the correct letter on the first line. In Figure 7, it is shown that Student A's ability to identify and produce initial grapheme/phonemes increased from three to four from the pre to mid assessment and was maintained from the mid to post assessment. Figure 8 shows Student B's ability to identify and produce initial grapheme/phonemes was maintained from the pre to mid assessment and increased from three to five from the mid to post assessment. In Figure 9, Student C's scores depict his ability to identify and produce initial grapheme/phonemes increased from two to four from the pre to mid assessment and increased further from four to five from the mid to post assessment.

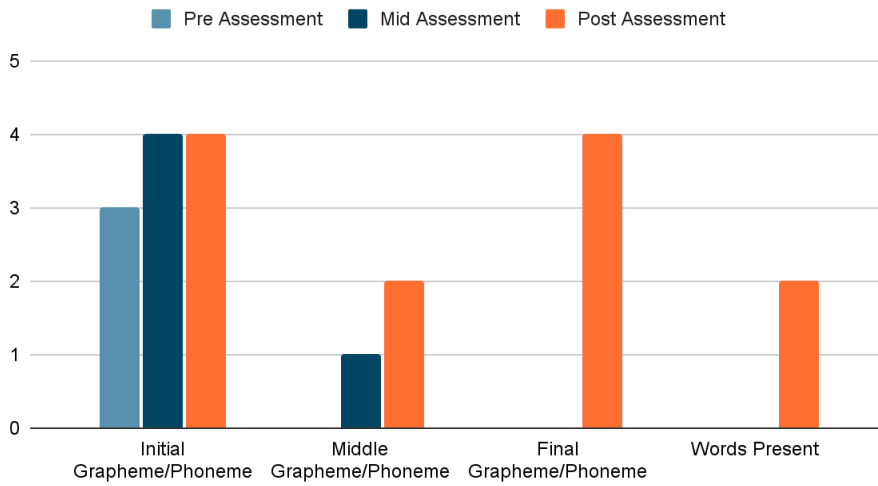
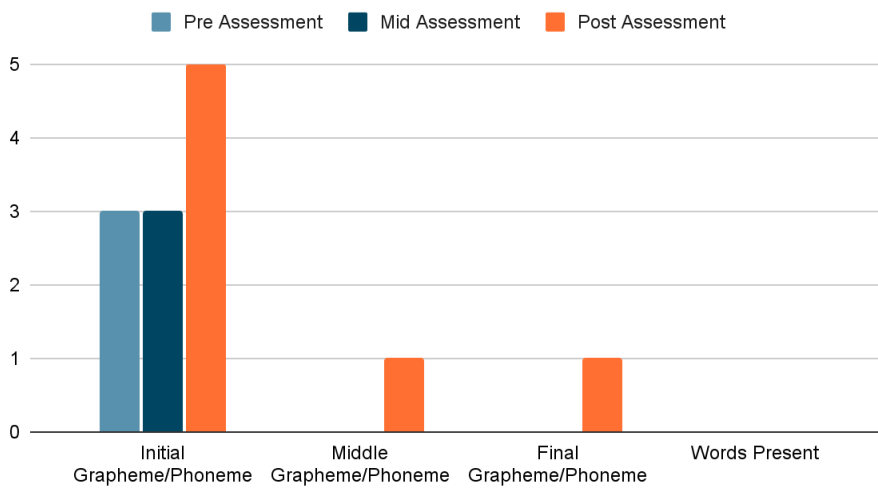
**Middle Grapheme/Phoneme:** This portion of the assessment is shown in the middle grapheme/phoneme sections of Figures 7, 8, and 9. Students received credit for a correct middle grapheme/phoneme in a word if they wrote the correct letter on the second line. Figure 7 shows an increase in Student A's ability to identify and produce middle grapheme/phonemes from the pre to mid assessment as well as from the mid to post assessment. In Figure 8, Student B did not grapheme/phonemes on the pre and mid assessments, however, she was able to identify and produce one middle grapheme/phoneme on the post assessment, showing an increase in her ability overall. Figure 9 shows that Student C was also unable to produce middle

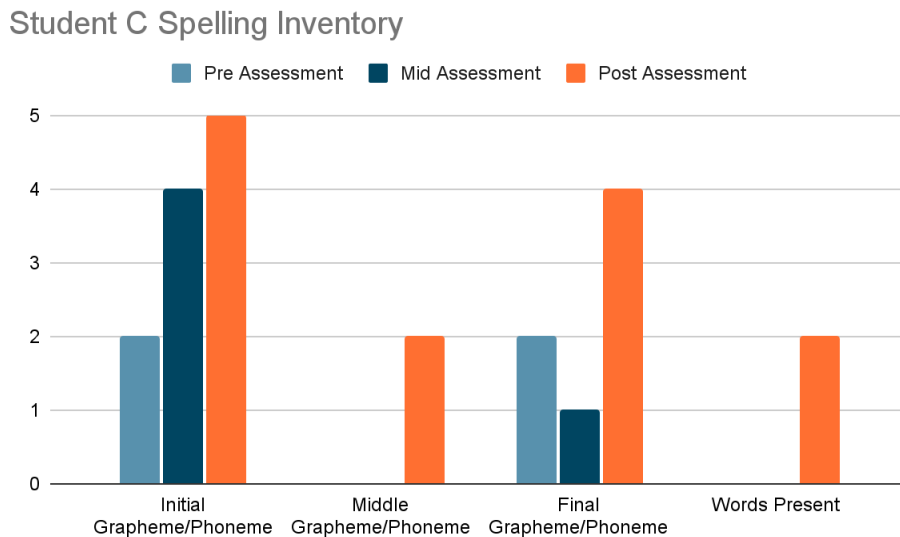


grapheme/phonemes on the pre and mid assessments, however, he identified and produced two middle grapheme/phoneme on the post assessment, showing an increase in his ability overall.

**Final Grapheme/Phoneme:** This portion of the assessment is shown in the final grapheme/phoneme sections of Figures 7, 8, and 9. Students received credit for a correct final grapheme/phoneme in a word if they wrote the correct letter on the third and final line. Figure 7 grapheme/phonemes on the pre or mid assessment, however, he was able to identify and produce four final sounds on the post assessment, which shows an increase in his ability overall. In Figure 8, Student B did not produce final grapheme/phonemes on the pre and mid assessments, however, she was able to identify and produce one final sound on the post assessment, showing an increase in her ability overall. In Figure 9, Student C's ability to identify and produce final grapheme/phoneme is shown. From the pre to mid assessment, Student C decreased from identifying and producing two final grapheme/phonemes to identifying and producing one final grapheme/phoneme. However, on the post assessment, Student C was able to identify and grapheme/phonemes, showing an overall increase in his ability.

**Words Present:** This portion of the assessment counted the number of correctly spelled CVC words that were present within the data and is shown in the words present sections of Figures 7, 8, and 9. In Figure 7, it shows that Student A had zero words present on the pre and mid assessments and had two words present on the post assessment, which depicts an overall increase in Student A's ability. Figure 8 shows that Student B's assessments consistently had zero words present. Figure 9 shows that Student C had zero words present on the pre and mid assessments and had two words present on the post assessment, which depicts an overall increase in Student A's ability.

**Figure 7***Student A's Spelling Inventory Scores***Student A Spelling Inventory****Figure 8***Student B's Spelling Inventory Scores***Student B Spelling Inventory**

**Figure 9***Student C's Spelling Inventory Scores***Impacts of Supplemental Instruction on Words and Sounds in Writing**

In this study, students received ten days of supplemental phonemic awareness and phonics instruction in a small group setting. The data was analyzed to find patterns and themes. One theme that emerged was an impact on words and sounds in students' writing.

Before receiving supplemental instruction, a pre writing sample was collected from the students. After receiving ten days of supplemental phonemic awareness and phonics instruction, students were given the same writing prompt and a post writing sample was collected. Figures 10, 11, 12, 13, 14, and 15 are Students A, B, and C's pre and post writing samples. Within these writing samples, I was able to compare each students' writing samples from pre to post and find patterns and themes.

**Words Present:** One aspect of the student writing that I analyzed was the amount of words present. A word was counted as present if it was spelled correctly.

Figure 10 shows Student A's pre writing sample. In this writing sample, zero words were present. Figure 11 shows Student A's post writing sample. In this writing sample, Student A wrote the sentence, "I lv the p." Student A verbalized to me that the sentence says, "I love the park." Within this sentence, two words, "I" and "the," are present. Student A's word count increased from having zero words present in the pre writing sample to having two words present in the post writing sample.

Figure 12 shows Student B's pre writing sample. Zero words are present in this writing sample. In Figure 13, Student B's post writing sample, Student B wrote, "I lv r nu s." Student B stated that this sentence reads, "I love rainbows and unicorns." Within this sentence, one word, the word "I" is present. Student B's word count increased, as the pre writing sample had zero words present and her post writing sample had one word present.

Figure 14 shows Student C's pre writing sample. Within his illustration, Student C labeled his dad as "dad" and himself as his name (covered in Figure 14 for privacy purposes). Student C wrote, "gtthet t" and stated that his sentence read, "Going to the library." Although the sentence has a lack of spacing, I was able to identify that Student C correctly spelled the word "the." This counted as three words present in Student C's pre writing sample. Figure 15 shows Student C's post writing sample. The sentence reads, "It is a o." Student C stated that he wrote, "It is a octopus." Within this sentence, "It," "is," and "a" are counted as three words present. Student C used three words in his pre writing sample and three words in his post writing sample.

**Correct Sounds Present:** Within the students' pre and post writing samples, I analyzed the amount of correct sounds present. When writing words, students may write just the beginning sound that they hear, the beginning sound and the ending sound, or the beginning, middle, and ending sound. In this section, I am not necessarily looking for correct spelling of words, I am

more so looking for the graphemes on the page to match the phonemes that are heard in the spoken word.

In Student A's pre writing sample, shown in Figure 10, there are three correct sounds present. Student A labeled the sun with "s," the sky with "s," and the rocketship with "r." In all three cases, Student A identified the correct initial sound and wrote the correct corresponding letter. In Student A's post writing sample, shown in Figure 11, there are eight correct sounds present. Student A labeled the steps with "s," the rocketship with "r," the tree with "t," and the window with "w." All of these indicate that Student A identified the correct initial sound and wrote the correct corresponding letter. Student A also wrote "p" for "park" in his sentence, which counts as another correct initial sound. Additionally, Student A wrote "lv" for "love" in his sentence, which displays a correct initial and final sound. Student A's use of correct sounds increased from three correct sounds in the pre writing sample to eight correct sounds present in the post writing sample.

Student B's pre writing sample is shown in Figure 12. In this writing sample, there was one correct sound present. Student B labeled the sun with "st," which indicates that Student B identified the correct initial sound and wrote the correct corresponding letter. In Student B's post writing sample, shown in Figure 13, there were twelve correct sounds present. Student B labeled the sun with "s," the unicorn with "u," the sad face with "s," the legs with "l," and the baby with "b." These labels indicate that Student B was able to identify the correct sound and write the correct corresponding letter. She also labeled the rainbow with "rbo," which counted as three correct sounds present: one initial sound, one middle sound, and one final sound. In the sentence she wrote, Student B wrote "r" for "rainbow," which counted as a correct initial sound. She wrote "lv" for "love," which counted as a correct initial and final sound. Student B's use of

correct sounds increased from one correct sound in the pre writing sample to twelve correct sounds in the post writing sample.

Figure 14 shows Student C's pre writing sample. In this writing sample, there were four correct sounds present. Student C labeled the sun with "sn," which counted as a correct initial and final sound. Within his sentence, Student C wrote "g" for "going" and "t" for "to," which both counted as correct initial sounds. Figure 15 shows Student C's post writing sample. There were five correct sounds present. Student C labeled the tentacles with "t," the octopus with "o," and the water with "w." These labels indicate that Student C was able to correctly identify the initial sounds of these words and label them with the correct corresponding letter. Student C also labeled the eye with "i." Although this is not a correct letter in the word "eye," it is a correct sound that is heard, so it counts as a correct sound present. Within the sentence he wrote, Student C wrote "o" for "octopus," which counted as a correct initial sound. Student C's use of correct sounds in his writing increased from four correct sounds present to five correct sounds present.

**Word Awareness:** Word awareness refers to the students' understanding that a sentence is made up of individual words that are separated by spaces. If a student's writing included a sentence on the lined portion of the paper, word awareness was measured by whether or not the words were separated by spaces. Word awareness was also measured by analyzing the sentence on the paper in comparison to what the students orally told me the sentence said.

Figure 10 shows Student A's pre writing sample. Student A's pre writing sample did not include a written sentence. In Figure 11, Student A's post writing sample, the sentence reads, "I lv the p." Student A orally told me that the sentence reads, "I love the park." Student A's post writing sample does display word awareness. He included four words or sounds to represent words, separated by spaces, which corresponded with the words in the sentence that he orally

told me. Therefore, Student A went from displaying no word awareness in his pre writing sample to displaying word awareness in his post writing sample.

Student B's pre writing sample, shown in Figure 12, indicates that word awareness is not present. The sentence written reads, "PmroogtoPOAiNNOOPPOAAO" with no spaces. Student B stated that the sentence says, "I am happy when I go in the sea with my mom and dad." The lack of spaces or sounds corresponding to the words that the student orally stated shows that there is a lack of word awareness. Figure 13 shows Student B' post writing sample. In this writing sample, Student B wrote the sentence, "I lv r nu s." Student B orally stated that the sentence reads, "I love rainbows and unicorns." This sentence does reflect word awareness. The sentence includes the correct amount of words or sounds representing words, separated by spaces, which correspond to the sentence that was orally stated by the student. Student B went from displaying no word awareness in her pre writing sample to displaying word awareness in her post writing sample.

Figure 14 shows Student C's pre writing sample. In this writing sample, Student C wrote the sentence, "gtthet t" and stated that is said, "Going to the library." This sentence displays a lack of word awareness. Although some sounds and words correspond to the words stated, the lack of spaces reflect a lack of word awareness. In Figure 15, Student C's post writing sample is shown. Student C wrote, "It is a o." and stated that the sentence reads, "It is a octopus." Word awareness is present based on this sentence. Student C used words or sounds representing words, separated by spaces, that corresponded to the sentence that he orally stated. Student C's pre writing sample reflected a lack of word awareness, while his post writing sample reflected word awareness.

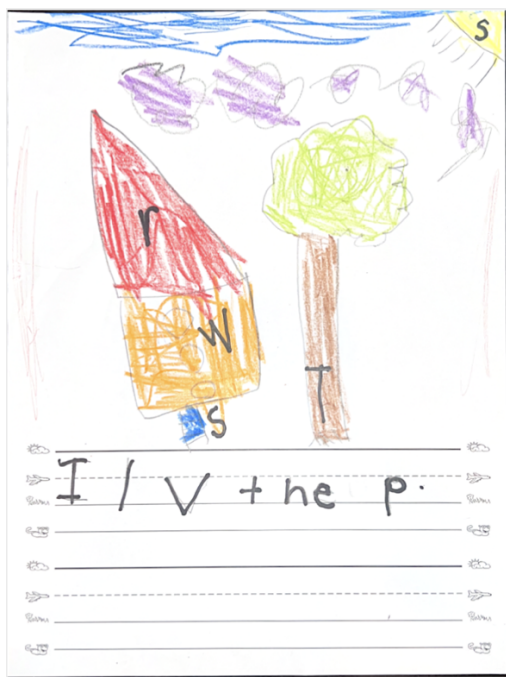
**Figure 10**

*Student A's Pre Writing Sample*



**Figure 11**

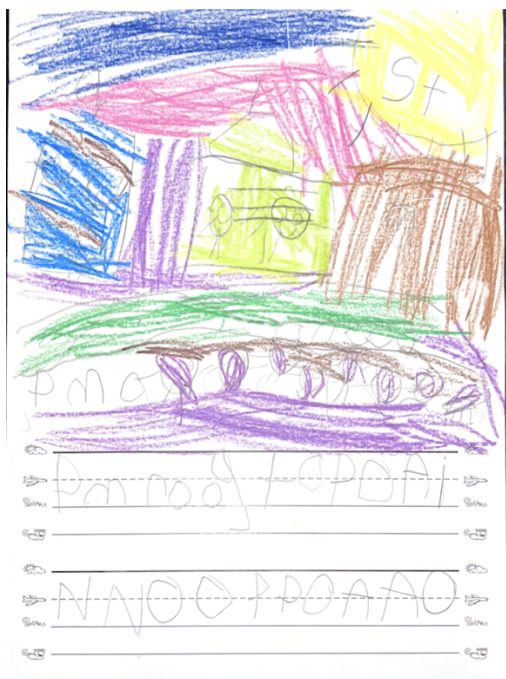
*Student A's Post Writing Sample*





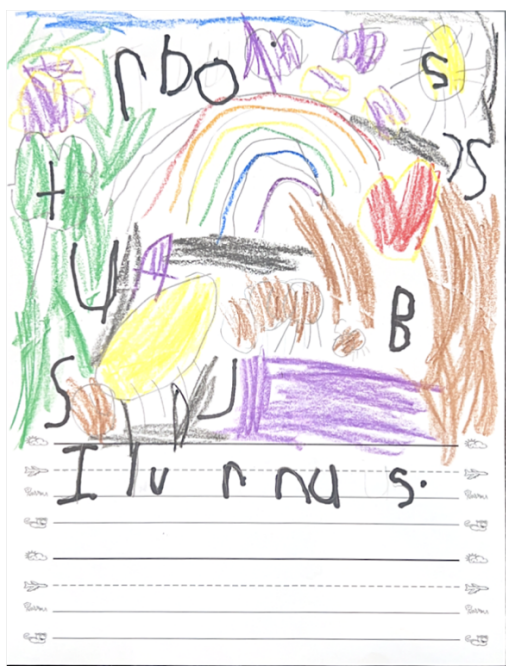
**Figure 12**

*Student B's Pre Writing Sample*



**Figure 13**

*Student B's Post Writing Sample*



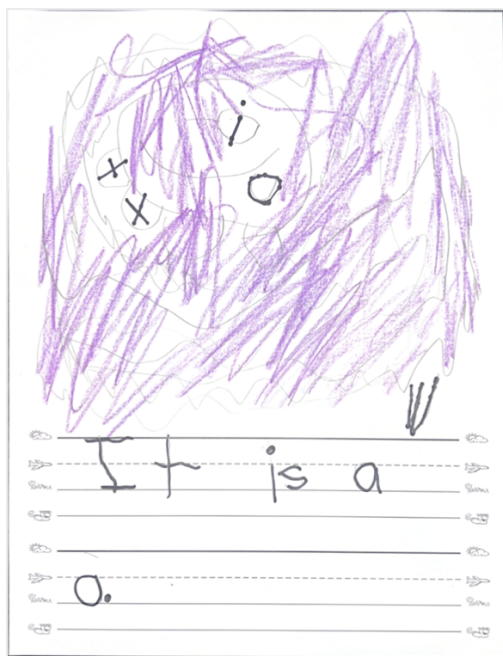
**Figure 14**

*Student C's Pre Writing Sample*



**Figure 15**

*Student C's Post Writing Sample*



## Summary

The data that was collected and analyzed throughout this study indicates struggling writers can improve their grapheme and phoneme knowledge, phonemic awareness, and word and sound presence in writing through supplemental phonemic awareness and phonics instruction. Students improved in these skills after receiving ten days of supplemental instruction.

After receiving supplemental instruction, students increased their knowledge of graphemes and phonemes. This was evident in the data collected using the Foundations Unit 1 Mid Unit Check as well as the Weekly Grapheme Phoneme Correspondence (GPC) Assessment. On both of these assessments, all students either maintained or increased their grapheme and phoneme knowledge.

The supplemental phonemic awareness and phonics instruction also had a positive impact on students' phonemic awareness. This was displayed within the data collected on the Spelling Inventory Assessment as well as within the instruction sessions. On the Spelling Inventory Assessment, all students either maintained or improved in their ability to identify and write initial, middle, and final sounds in consonant-vowel-consonant (CVC) words. Students' performance within the instruction sessions also indicated an increase in phonemic awareness.

Students' writing samples also indicated a positive impact from supplemental phonemic awareness and phonics instruction. After analyzing students' pre and post writing samples, each student's writing samples showed an increase in the amount of words present and correct sounds present. Additionally, word awareness was analyzed within the writing sample and it was found that all students' writing samples displayed an increase in word awareness from pre to post assessment.

Overall, the data collected and analyzed in this chapter unveiled that struggling writers can improve their grapheme and phoneme knowledge, phonemic awareness, and word and sound presence in writing through supplemental phonemic awareness and phonics instruction.

## Chapter V

### Conclusions, Discussions, and Recommendations

This research study was designed to answer the question: How can supplemental phonemic awareness and phonics instruction in small groups impact kindergarten struggling writers' writing performance? This research study also addresses the related question: How can struggling writers' knowledge of phonemes and graphemes connect to their writing performance? The research consisted of three struggling writers receiving ten days of supplemental phonemic awareness and phonics instruction. Data was collected and analyzed, which resulted in the following conclusions: (1) Supplemental phonemic awareness and phonics instruction leads to an increase in students' grapheme and phoneme knowledge. (2) Supplemental phonemic awareness and phonics instruction improves struggling writers' encoding skills. (3) Supplemental phonemic awareness and phonics instruction improves students' writing.

#### **Conclusion I**

Supplemental phonemic awareness and phonics instruction leads to an increase in students' grapheme and phoneme knowledge.

#### ***Discussion***

The data analysis, specifically that of the Foundations Unit 1 Mid Unit Check, found that students demonstrated improvement in grapheme identification, phoneme identification, grapheme identification corresponding to the phoneme, and grapheme formation. Within the data, all three students either increased or maintained their scores in these categories throughout the study. In the cases of students maintaining their scores, they were maintaining scores of 10 out of 10.

Other studies also reported an increase in students' grapheme and phoneme knowledge through supplemental phonemic awareness and phonics instruction. Hauck (2021) investigated the impact of small group, supplemental interventions in phonics and phonemic awareness on second-grade struggling readers' foundational reading skills. The study found that the intervention significantly improved students' abilities to connect graphemes to corresponding phonemes.

Vadasy and Sanders (2021) investigated the effectiveness of two different approaches to teaching phonics to kindergarteners with limited early literacy learning. In this study, students that received phonics instruction showed significant improvements in letter sound writing and spelling. The study findings indicated that providing explicit phonics instruction that emphasizes accurate learning of phoneme-grapheme correspondences, particularly high-frequency ones, is essential for kindergarten children with limited early literacy skills.

The conclusion drawn in this section relates to the *Reading and Writing Relations Theory*. Fitzgerald and Shanahan (2000) mention grapheme awareness when classifying the information utilized by readers and writers. The authors state that to decode words, readers need to navigate the interplay of graphemes and phonemes. Similarly, writers must grasp the relationship between letters and sounds to achieve accurate spelling. Both readers and writers require grapheme awareness, which relates to the conclusion that supplemental phonemic awareness and phonics instruction leads to an increase in students' grapheme and phoneme knowledge.

## **Conclusion II**

Supplemental phonemic awareness and phonics instruction improves struggling writers' encoding skills.

## ***Discussion***

This conclusion is supported by the data provided by the Spelling Inventory Assessment. The data analysis found that students demonstrated improvement in their ability to identify and encode initial sounds, middle sounds, and final sounds in consonant-vowel-consonant (CVC) words. The three participating students were able to produce an increased amount of initial, middle, and final sounds from pre to post assessment. Two out of three students showed an increase in their ability to encode CVC words from pre to post assessment.

Other studies also reported an increase in students' encoding skills through supplemental phonemic awareness and phonics instruction. Jordan (2016) investigated the impact of explicit instruction in phonemic awareness on kindergarten students' ability to manipulate sounds and decode words. The researcher noted a positive impact on kindergarteners' ability to manipulate phonemes. The enhanced decoding abilities of students also positively correlated with their spelling skills. The use of multisensory techniques and differentiated instruction positively influenced most students' writing skills.

Albuquerque and Martins (2020) investigated the impact of invented spelling activities on the spelling performance of kindergarten children. The evaluation covered students' cognitive ability, letter knowledge, syllable/phoneme awareness, and included a spelling test with word dictation. Results revealed that children who engaged in invented spelling under adult guidance demonstrated a better grasp of the alphabetic coding system and improved literacy skills, including students' encoding abilities.

The conclusion that supplemental phonemic awareness and phonics instruction improves struggling writers' encoding skills directly relates to the *Reading and Writing Relations Theory*. This theory discusses the similarities and interconnections between reading and writing. One of

these interconnections is the shared skills needed to encode and decode words, specifically CVC words in the case of this conclusion. In order to encode CVC words, students must be able to identify the sounds in the spoken word, then relate the sounds to the correct letters, and be able to form the correct letters in order to write the word. To decode CVC words, students must be able to identify each letter, identify the corresponding sounds, and blend the sounds to read the word. These skills all go hand-in-hand and relate to Fitzgerald and Shanahan's theory (2000).

### **Conclusion III**

Supplemental phonemic awareness and phonics instruction improves students' writing.

### ***Discussion***

This conclusion is supported by the data collected in students' pre and post writing samples. Within these writing samples, I analyzed the amount of correct words present and correct sounds present from pre to post assessment for each student. In the case of correct words present, two students showed an increase in the amount of words present in their writing from pre to post assessment. The third student wrote three words in the pre assessment and three words in the post assessment. In terms of correct sounds present, all three of the students showed growth in this area. Student A's use of correct sounds increased from three correct sounds in the pre writing sample to eight correct sounds present in the post writing sample. Student B's use of correct sounds increased from one correct sound in the pre writing sample to twelve correct sounds in the post writing sample. Student C's use of correct sounds in his writing increased from four correct sounds present to five correct sounds present.

Word awareness was also measured and analyzed from pre to post assessment and all three students improved in this area. Student A went from displaying no word awareness in his pre writing sample to displaying word awareness in his post writing sample. Student B went



from displaying no word awareness in her pre writing sample to displaying word awareness in her post writing sample. Student C's pre writing sample reflected a lack of word awareness, while his post writing sample reflected word awareness.

A study conducted by Cuffari (2015) relates to the conclusion that supplemental phonemic awareness and phonics instruction improves students' writing. This study investigated the impact of systematic instruction in phonological awareness and instructional scaffolding on writing in a kindergarten classroom. The research emphasized the significance of implementing systematic phonological awareness instruction in kindergarten classrooms. This approach was found to be crucial in supporting students' literacy development, particularly in fostering phonetic spelling and encouraging authentic writing.

This conclusion relates to the *Reading and Writing Relations Theory*. The authors state that reading and writing share similar knowledge representations, cognitive processes, and contextual constraints. Effective reading involves recognizing and interpreting symbols, words, and sentences, a skill mirrored in writing where individuals generate these linguistic elements. Both activities require cognitive functions like memory, attention, and comprehension, as readers decode text and writers create meaningful content. (Fitzgerald & Shanahan, 2000, p. 40). Therefore, supplemental phonemic awareness and phonics instruction would have a positive impact on students' writing skills.

### **Recommendations for Further Research**

After conducting this research project, there are several recommendations for further research. One recommendation is to investigate the sustained effects of supplemental phonemic awareness and phonics instruction over an extended period. A longitudinal study could track the progress of students who received such intervention beyond the initial ten days to assess the

persistence of improvements in grapheme and phoneme knowledge, phonemic awareness, and writing skills.

Another recommendation for further research is to explore the effectiveness of tailored or differentiated supplemental instruction based on individual student needs. This study utilized a standardized approach for all students, but future research could investigate whether customized interventions, catering to specific writing challenges or skill gaps, yield even more significant improvements in struggling writers.

Lastly, a further research recommendation is to expand the scope of research by incorporating a diverse range of writing tasks and genres in the supplemental instruction. While this study focused on specific aspects such as phonemic awareness and grapheme knowledge, future research could explore how different writing genres, such as narrative, expository, or creative writing, respond to targeted phonics instruction, potentially uncovering nuanced impacts on various writing skills.

### **Recommendations for Teachers**

Based on the findings from this research study, there are many recommendations for teachers. First, teachers are recommended to incorporate supplemental phonemic awareness and phonics instruction in small group settings. This involves implementing targeted sessions to enhance students' grapheme and phoneme knowledge, as evidenced by improved scores on assessments such as the Foundations Unit 1 Mid Unit Check and the Weekly Grapheme Phoneme Correspondence (GPC) Assessment. It is suggested that teachers allocate specific time within the curriculum for grapheme and phoneme instruction, considering the positive growth observed in students who received ten days of supplemental instruction. This dedicated time is seen as crucial for contributing to improved foundational skills.

Furthermore, teachers are advised to utilize assessments, such as the Foundations Unit 1 Mid Unit Check and the Weekly Grapheme Phoneme Correspondence Assessment, regularly. This practice enables tracking progress and adjusting instruction based on individual needs, aligning with the valuable insights provided by these assessments. The integration of phonemic awareness activities within spelling instruction is also recommended, building on the observed growth in students' encoding ability demonstrated in the Spelling Inventory Assessment. This integration can further support students in developing crucial phonemic awareness skills.

The emphasis on teaching students how to correctly form graphemes is another key recommendation. The study highlighted growth in students' grapheme formation skills, and explicit instruction and practice in forming letters are deemed essential for improved writing and spelling. Additionally, teachers are encouraged to connect phonemic awareness instruction to writing skills, leveraging the positive impact observed on students' words and sounds in writing. Integration of phonemic awareness activities into writing instruction is seen as a means to enhance overall writing proficiency.

Word awareness in writing is another focus area for teachers. The recommendation is to foster word awareness by guiding students to separate words with spaces in their writing. This stems from the study's finding that word awareness improved in students' writing samples. Lastly, teachers are advised to provide individualized support by recognizing and addressing the specific needs of struggling writers. The study demonstrated that struggling writers can improve their skills through supplemental instruction, and tailoring support to individual needs is considered crucial for maximizing the effectiveness of instruction.

These recommendations, grounded in the specific findings of the study, aim to provide

actionable guidance for teachers seeking to enhance the grapheme and phoneme knowledge, phonemic awareness, and writing skills of struggling writers in kindergarten.

## References

- Albuquerque, A., & Martins, M. A. (2020). Invented spelling activities in kindergarten: The role of instructional scaffolding and collaborative learning. *International Journal of Early Years Education*, 29(1), 96–113. <https://doi.org/10.1080/09669760.2020.1760085>
- Cuffari, M. (2015). *The influence of systematic phonological awareness instruction and instructional scaffolding on students' authentic writing in a kindergarten classroom* (Publication No. 1594986) [Master's thesis, William Paterson University of New Jersey]. ProQuest Dissertations and Theses Global.
- Dunn, M. (2021). The challenges of struggling writers: Strategies that can help. *Education Sciences*. 11(12), 795. <https://doi.org/10.3390/educsci11120795>
- Fitzgerald, J., & Shanahan, T. (2000). Reading and writing relations and their development. *Educational Psychologist*, 35(1), 39-50. [https://doi.org/10.1207/S15326985EP3501\\_5](https://doi.org/10.1207/S15326985EP3501_5)
- Hauck, D. (2021). *The effect of small group, supplemental phonics and phonemic awareness intervention on struggling readers' foundational literacy skills* (Publication No. 28540957) [Master's thesis, William Paterson University of New Jersey]. ProQuest Dissertations and Theses Global.
- Jones, C.D. (2015). Effects of writing instruction on kindergarten students' writing achievement: An experimental study. *Journal of Educational Research*. 108(1):35-44. <https://doi.org/10.1080/00220671.2013.836466>
- Jordan, D. (2016). *The impact of explicit phonemic awareness instruction on kindergarteners' ability to manipulate sounds and decode* (Publication No. 10124168) [Master's thesis, William Paterson University of New Jersey]. ProQuest Dissertations and Theses Global.

- Mackenzie, N., & Hemmings, B. (2014). Predictors of success with writing in the first year of school. *Issues in Educational Research*, 24(1), 41-54.
- Sohn, E. (2020). *It's time to stop debating how to teach kids to read and follow the evidence*. Science News. <https://www.sciencenews.org/article/balanced-literacy-phonics-teaching-reading-evidence>
- SUREducation. (2013, June 9). *Research to practice - Teacher research: Forms & possibilities* [Video]. YouTube. [https://www.youtube.com/watch?v=zAX6M\\_srohw](https://www.youtube.com/watch?v=zAX6M_srohw).
- Thompson, C. (2021). *The letter name/sound knowledge, decoding, encoding of ELLs in kindergarten by differentiating phonics instruction* (Publication No. 28549050) [Master's thesis, William Paterson University of New Jersey]. ProQuest Dissertations and Theses Global.
- Vadasy, P. F., & Sanders, E. A. (2021 a). Introducing grapheme-phoneme correspondences (GPCs): Exploring rate and complexity in phonics instruction for kindergarteners with limited literacy skills. *Reading and Writing*, 34(1), 109-138.  
<https://doi.org/10.1007/s11145-020-10064-y>
- Vadasy, P. F., & Sanders, E. A. (2021 b). Introducing phonics to learners who struggle: Content and embedded cognitive elements. *Reading and Writing*, 34(8), 2059-2080.  
<https://doi.org/10.1007/s11145-021-10134-9>
- Wilson Language Training Corporation. (2020, November 24). *Evidence of effectiveness*.  
<https://www.wilsonlanguage.com/programs/research-results/evidence-ofeffectiveness/>