

The Effect of Early Literacy Small Group Instruction
on Reading Comprehension

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Abstract

The purpose of this study was to investigate the effect of small group instruction in early literacy skills on the reading comprehension skills of struggling second grade students. This study used a quasi-experimental design with a pre and posttest. The study included 10 second grade students of various racial and ethnic backgrounds. All participants were reading significantly below grade level. The study's null hypothesis was that small group instruction would have no effect on the reading comprehension skills of second grade students who are reading below grade level. The results support the null hypothesis, since no significant difference in reading scores was observed using the Qualitative Reading Inventory (QRI). The results of this study do not support the results of other research studies that have shown that small group early literacy skills will improve reading comprehension. Future studies should utilize a larger sample size, longer duration, and a more practical assessment.

CHAPTER I

INTRODUCTION

Reading is a complex and multifaceted skill. To be proficient readers, students must master a set of interdependent skills. Beginning readers lay the foundation for their future development as they acquire early literacy skills and become independent readers. As education continues, higher level thinking becomes more important as students learn to read critically. The development of reading skills tends to happen sequentially, where mastery of early skills facilitates the development of higher level processes (Hulme, Bowyer-Crane, Carrol, Duff, & Snowling, 2012). Phonemic awareness and phonics are skills that are typically taught in primary grades as students learn techniques to decode words. Students who struggle to master these early literacy skills will struggle to apply reading concepts independently. Even students who have the ability to think deeply about texts can have progress hindered by the inability to apply letter-sound knowledge and decode unknown words.

Deficiencies in early literacy do not remain isolated; a domino effect may result if early interventions are not targeted at specific deficits. Therefore, it is important for educators to understand the relationship between early literacy skills, such as phonemic awareness and phonics, and higher-level reading comprehension.

Overview

Since reading is a multifaceted skill, struggling readers can encounter a variety of deficits. Should students fail to overcome these deficits, the acquisition of higher level reading skills will be hindered as well. Without mastery of early literacy skills, the ability to process and comprehend texts independently will not develop. As a result, gaps in reading ability will not only exist, but continue to grow. This problem is present in classrooms across the country.

Teachers are faced with a variety of reading levels, strengths, and weaknesses, and must differentiate their instruction accordingly in order to bring below-grade level readers up to speed.

Educators face this problem in their classrooms each year. According to the Maryland State Department of Education (2013), 15% of third graders were performing at a basic level on state tests. By eighth grade, the amount of failing students increased to 20%. Some students progress to the next grade level while lacking the necessary skills for independent reading. Once a reading deficit emerges, purposeful action must be taken to correct the problem. Reading gaps will not be rectified organically; instead, interventions must be structured in a manner that meaningfully addresses the specific issues faced by students.

Teachers are constantly looking for the best strategies and pedagogy that will meet the needs of their students. The best strategies are rooted in research and relevant to contemporary education and specific data. The purpose of this study is to provide feedback on interventions that are targeting early literacy deficits with the overall goal of improving reading ability. By focusing on early identification and interventions, educators and researchers can narrow the achievement gap that has been plaguing schools across all grade levels. This topic is meaningful for teachers in both primary and intermediate grades. To close achievement gaps, primary teachers must diligently identify and provide interventions for students who are reading below grade level. This study is relevant and important for the performance of teacher, as well as the success of their students.

Statement of Problem

This study investigated the effectiveness of small-group early literacy intervention in improving reading comprehension in second grade students.

Hypothesis

The use of small-group instruction focusing on early literacy skills will have no effect on the reading comprehension skills of second grade students who are reading below grade level.

Operational Definitions

There are several key terms that must be identified and described. The dependent variable is reading comprehension, as measured by performance on the Qualitative Reading Inventory (QRI). The independent variable is the type of instruction, either small or whole group. Small group intervention can be defined as additional instructional time apart from the whole group. Students in a small group receive supplemental instruction through teacher led activities as well as independent tasks reflecting a targeted skill. Whole group instruction is defined as teacher-led gradual release of skills. The teacher models a reading skill or phonics pattern, and allows students structured practice time before independent tasks are assigned. Every student in the class participates in the direct whole group instruction, regardless of ability level.

CHAPTER II

REVIEW OF THE LITERATURE

Introduction

This literature review intends to explore the relationship between early literacy and reading comprehension. Section one describes the different stages of literacy development that are important for reading achievement. Section two will establish the standards which on-grade-level students should be able to achieve. In section three, factors that affect reading achievement will be outlined. Finally, section four will outline possible interventions that can enable improve reading achievement by targeting early literacy skills.

The Stages of Literacy Development

According to the National Reading Panel (NICHD, 2000), there are several processes that combine to affect reading achievement. Alphabetic knowledge (including phonemic awareness and phonics), fluency, and comprehension are all important stages in the development of a skilled reader. These skills are not mutually exclusive, however. The acquisition of reading comprehension skills depends on fluent word reading and recognition skills (Connelly, Johnston, & Thompson, 2001). The foundation is set for reading comprehension in primary grades with the introduction of phonemic awareness, which refers to the ability to recognize and manipulate the smallest sound units (phonemes) in words (Lapp & Fisher, 2011). Phonemic awareness is an important foundation skill because it introduces children to the idea that there are connections between the sounds they hear and the structure of words. According to Hulme et al. (2012), during this stage children begin to develop the ability to read words through the isolation and manipulation of the sounds that comprise whole words. The teaching of phonemic skills does not involve the association of sounds with letters. This foundation skill provides students with

context for later introduction to decoding words. Phonemic awareness requires specific instruction, particularly in early grades, because along with letter knowledge, it has been a strong predictor of future reading ability (NICHD, 2000). While instruction in phonemic awareness does not establish an entire reading curriculum, it is a vital piece in the puzzle of acquiring literacy.

Phonemic awareness does not teach children about letter-sound correspondences; it solely focuses on breaking down words into their basic sounds. Phonics instruction is the systematic teaching of letter-sound spelling patterns (Lapp & Fisher, 2011). Graphemes are matched to their corresponding phonemes, allowing children to decode based on the recognition of these spelling patterns. The goal of explicit phonics instruction is the development of a lexicon of word families that are easily and efficiently recognized (Connelly et al., 2001). These spelling patterns become automatic and effortlessly retrieved, improving decoding as well as word recognition. Phonics instruction should be systematic, since direct instruction has shown significant influence in phonics ability and reading skills (Ehri, Nunes, Stahl, & Willows, 2001). It is also possible to integrate phonics naturally into the reading program in order to reinforce concepts and highlight real-word examples. Systematic instruction still should take place to directly introduce and reinforce letter-sound correspondences.

Phonics instruction is intended to train beginning readers to identify and understand the relationships between letters and their corresponding phonemes. The connection to phonemic awareness is clear, and there can be profound effects on the development of more complex reading skills if interventions are not implemented. However, phonics skills are not meant to be used in isolation. Instead, students should be able to apply their knowledge of phonics in their

day to day reading (NICHD, 2000). Readers require practice integrating phonics rules with higher level reading skills.

Phonics skills are directly related to fluency in that decoding and word recognition is a process that must be efficient and effortless. Fluent reading requires oral and mental reading with appropriate speed, accuracy, and intonation (NICHD, 2000). After significant exposure to spelling patterns, readers should spend increasingly less time decoding words, to the point where all words are recognized as sight words. Fluent reading depends on word recognition.

Therefore, if students have difficulty with this skill, they will have trouble accessing higher level thinking processes (Conrad, 2008). Decoding or recognizing words should not be an arduous task, or else readers will struggle to recall information from the text or make connections with prior knowledge. Fluency instruction is aimed at improving the efficiency of reading words or groups of words, so that information is processed with minimal effort.

As a result of the alignment of these processes, readers should be prepared to comprehend texts. Comprehension is dependent upon the interaction of several characteristics. Lapp and Fisher (2011) note that there are various factors that influence a reader's ability to comprehend text. Reader variables include age, cognitive ability, self-worth, background knowledge, and motivation. Text variables include genres, format, features, and appropriateness. Educational -context variables are classroom environment, task assignment, and social grouping. Finally, teacher variables are instructor knowledge, experience, perceptions, and pedagogical approach. These factors will vary from student to student. Therefore, comprehension instruction should consider all aspects in order to fully account for the difficulty of this skill.

Reading comprehension is most effective when readers can relate to the information in the text or activate prior knowledge (NICHD, 2000). The instruction for reading comprehension

looks different than the other processes of reading, but must still be systematically taught. This process is active, automatic, and driven by the reader (Lapp & Fisher, 2011). Therefore, readers also must develop the ability to monitor their own understanding, and recognize misconceptions or errors in their reading or thinking. In order to connect to the text, readers must first become proficient at sounding out and analyzing words so that they can process meaning and information. Based on this idea, the importance of early literacy skills is easily established. In order for students to enhance understanding of texts, they must be able to accurately and effortlessly recognize and comprehend the words they read.

Reading Ability Benchmarks

Readers of all ages can comprehend developmentally appropriate texts. Reading comprehension requires that readers actively construct meaning as they process a text (Lapp & Fisher, 2011). This is an ongoing process that requires the integration of many other skills. At each grade level, students should be able to master certain skills in order to meet the expectations of reading standards. As students enter school, they are often in the pre-alphabetic stage, where they are familiar with the concept of reading and text, but they lack adequate letter familiarity and phonemic awareness that is needed to decode words using letter-sound relationships. As a result, the priority of Pre-K and Kindergarten classes is to establish the alphabetic phase, where students learn the visual shapes and names of letters and begin to establish phonemic awareness. After significant exposure, students should begin to make associations between letters and sounds simply by looking at letters. This process sets the stage for spelling and decoding.

As memory and association skills improve, students will enter the alphabetic phase of reading development, where they begin to recognize grapheme-phoneme combinations (Lapp & Fisher, 2011). This includes long and short vowel patterns, digraphs, and diphthongs of

increasing complexity. Phonics continues in upper elementary grades, but the focus is more on word analysis and application of prefixes, suffixes, and grammar principles. According to Lapp and Fisher, readers establish connections in memory to these patterns, which results in the development of a sight vocabulary. This can include grapheme-phoneme combinations, as well as whole words. Over time, the expansion of sight vocabulary will allow readers to comprehend texts of increasing difficulty.

While these skills are an important focus for primary (grades Pre-K ó 2) teachers, comprehension skills are developing at this time as well. Younger students already have established necessary schema on certain topics, which will aid in comprehension of new information (Reutzel & Cooter, 2004). As background knowledge and working vocabulary grow, students will have more opportunities to apply meaning to texts. It is important for educators to understand this developmental process. Instruction along all phases must be developmentally appropriate in order to be effective (Lapp & Fisher, 2011). These learner qualities are important to consider when evaluating ability and making instructional decisions.

Certain measurements are directed at determining whether or not students are performing within the normal range for a particular grade level. Early intervention is imperative for young struggling readers in order to rectify any future reading deficits (Vernon-Feagans, Kainz, Amendum, Ginsberg, Wood, & Bock, 2012). Therefore, the proper implementation and analysis of measures is imperative. For young learners, the Comprehensive Test of Phonological Processing (CTOPP) is designed to measure phonemic awareness and fluency. It contains three subtests; Elision (omitting sounds in words), Blending Words, and Sound Matching. The use of these subtests can isolate particular skills that require specific interventions.

Many assessments test multiple aspects of literacy in order to paint a clearer picture of reading ability since skills can vary so widely. One particular example is the Woodcock-Johnson III Diagnostic Reading Battery. The WJIII is a comprehensive test consisting of several subtests that measure various reading skills (Vernon-Feagan et al., 2012). One useful subtest is the Letter-Word Identification subtest, which measures the letter and word recognition skills of young children. Another subtest, the Word Attack, intends to measure the application of phonics and decoding skills. Comprehension can also be tested through the Passage Comprehension subtest. Since the WJIII test can measure multiple aspects of literacy development, they are useful in presenting a multidimensional view of a student's reading ability. These tests can be implemented to get a baseline ability rating, as well as to measure gains.

Another widely used test that covers various phases of reading development is the Dynamic Indicators of Basic Early Literacy Skills (DIBELS). This test is widely used in schools across primary grades because it measures five key literacy skills in progression; Initial Sound Fluency, Letter Naming Fluency, Phoneme Segmentation Fluency, Nonsense Word Fluency, and Oral Reading Fluency (Geoffreda & DiPerna, 2010). DIBELS allows for progress monitoring to occur based on a schedule, and the test measures the progression of identified skills as a child continues through school. DIBELS is another example of a measurement that can highlight strengths and weaknesses in a variety of specific early reading skills so that accurate interventions can be selected based on student need.

Factors Affecting Emergent Literacy

Unfortunately, not all children acquire reading skills with ease. Any student can struggle with any particular skill, but there are certain factors that affect the reading progress. These qualities should be identified and acknowledged for their potential influences on reading skills,

and appropriate responses from the teacher should reflect the various causes of need. Educators must understand these factors in order to better identify children who are not meeting standards.

Studies have shown that English Language Learners and children of poverty are at a higher risk of experiencing a reading deficit (Reutzel & Cooter, 2004). One potential explanation is that students from these particular backgrounds experience less home support, as parents often do not have the education or understanding of certain aspects of reading development (Bochner, 2012). Therefore, these students enter school with fewer background experiences that provide the foundation for reading development. Students from low-income homes show a particular risk for reading deficiencies because they have less exposure to literacy and lower print awareness (Koutsoftas, Harmon, & Gray, 2009). These groups enter schools at a disadvantage, so on-going support and early interventions are particularly important.

Research also reveals that children with hearing difficulties often have specific struggles with foundation reading skills. Phonological awareness can be particularly difficult for students with hearing problems because they lack the tools necessary to isolate and manipulate phonemes (Bochner, 2012). Without an understanding of phonemes, subsequent skills of grapheme-phoneme correlation, phonics, and decoding can present a significant challenge as deaf students learn to read. Therefore, visual cues become even more important to compensate for phonemic deficiencies.

Reading comprehension research shows that understanding of the text requires active and purposeful mental interaction with information (NICHD, 2000). Therefore, the amount and type of active background knowledge can affect the development of reading comprehension. Reutzel and Cooter (2004) explain that cultural background can influence comprehension because of the variety of background knowledge and experiences that affects the development of schemas. A

lack of background knowledge on a particular subject will make it difficult for readers to connect with the text and apply meaning. Experiences provide context for new information, and culture and background could explain some variances in comprehension skills. Therefore, even if other reading skills are sound, a dearth of background knowledge will provide challenges in terms of higher level thinking.

Potential Interventions

Most students effectively learn to read through classroom instruction and the delivery of curricula through traditional pedagogy. However, some students do not respond to these methods due to the aforementioned variables. As a result, instruction must be altered to meet the needs of a diverse student population. After measuring skills to identify students who are not meeting benchmarks, teachers should consider targeted small group interventions. This is not a haphazard process, however. In order to drive decisions and instructions, data, research, and student needs should be cross referenced with the curriculum in determining a plan of action for reading interventions (Koutsoftas et al., 2009). This will allow interventions to be meaningful and substantiated.

Interventions should be directly related to identified needs that are rooted in data. This concept is important in the quest to rectify learning problems in the classroom and bring struggling readers up to grade level performance. A common strategy is the response to intervention (RTI), which is intended to identify students who are not responding to the regular classroom instruction and provided more intense, targeted support to close achievement gaps (Koutsoftas et al., 2009). This can be accomplished through the implementation of supplemental instruction in small groups. Koutsoftas et al. examined the benefits of small group Tier 2 instruction. Students who did not benefit from Tier 1 (whole group) instruction were identified

through progress monitoring. As a result, students not meeting benchmarks received interventions that were high quality and targeted based on data, and were provided as a supplement to regular classroom instruction. Their research showed that small group instruction helped to close the gap between struggling students and those who were already performing on grade level. The RTI model is useful for improving reading because teachers can focus on specific skills, and decisions can be justified through the use of progress monitoring.

Small group instruction is easily implemented into school settings. According to Slavin, Lake, Chambers, Cheung, and Davis, (2009), small group instruction is the most common form of remedial instruction due to cost effectiveness and ease of implementation. It is important, however, that the instruction delivered in small group is not simply a repeat of the same type of instruction that previously had failed. Again, the importance of targeted and intentional interventions is highlighted in order for small group instruction to improve students' reading ability.

To provide even more individualized instruction, one-on-one interventions can be utilized. This can be done as a Tier 2 intervention, or if Tier 2 interventions have failed (based on a lack of progress on monitoring measurements), one-on-one can be used as a Tier 3 option. Vernon-Feagans et al. (2012) described this method in their research on the Targeted Reading Intervention (TRI). By meeting with students one-on-one, teachers could create specific word-attack strategies based on the particular student's strengths and weaknesses. Here, diagnosing deficiencies is particularly important, so that interventions are directly related to the needs of students. In this study, interventions were only scheduled in 15 minute sessions twice weekly, but reading gains were still observed because of their targeted and direct nature. One-on-one

interventions are, however, very time consuming and expensive; yet, their efficiency can justify the high price of money, time, and resources (Slavin et al., 2009).

In addition to type of instruction, the level of intensity of interventions should also be considered. Ukrainetz, Ross, and Harm (2009) studied intervention groups that had a short, intense treatment schedule and groups with a weekly treatment over the course of a year. The results of the study showed that both types of interventions resulted in similar gains in achievement. However, the group receiving concentrated instruction maintained their gains more effectively than the students who received dispersed treatment. Students who master skills are better suited to apply them throughout the course of the school year.

With an ultimate goal of improving all reading skills, including comprehension, it is important to consider the connections between the different types of literacy skills. According to Vernon-Feagans et al. (2012), phonological and phonemic skills provide the most common forms of reading disability. These difficulties are not isolated; instead they influence the development of other skills. Therefore, it is possible to improve comprehension indirectly through interventions in early literacy skills. The research of Hulme et al. (2012) yielded results that show the multidimensional benefits of targeting foundation skills for improvement. For example, an intervention for phoneme awareness resulted in improvements to phoneme and letter-sound skills. As a result, fluency and reading comprehension also improved. While the phoneme awareness intervention did not directly improve higher level skills, overall reading progress was a byproduct of intervention.

Many other studies have shown a similar correlation of phonemic awareness and phonics to comprehension skills. This is because reading comprehension is contingent upon fluent word recognition, which is facilitated by efficient decoding skills (Connelly et al., 2001).

Furthermore, Ehri et al. (2001) concluded that systematic phonics instruction was most effective in improving overall reading ability. This is especially true for early grades. A consistent theme in the literature is the importance of early interventions that are specific to the identified needs of children.

The process of learning to read is complex and constantly evolving as a child progresses through school. Sound instruction is not always enough to help all learners reach success. The list of possible interventions for struggling readers is as diverse as the types of skills that encompass reading ability. All of these qualities should be considered when selecting an intervention that is intended to improve the literacy skills of struggling primary students.

CHAPTER III

METHODS

Design

This research utilized a quasi-experimental design using a pre and posttest. Reading comprehension was measured using the QRI. The type of instruction was implemented through two separate groups. One group received small group instruction targeting early literacy skills. The other group participated in traditional whole group instruction according to the state curriculum. The study lasted ten weeks.

Participants

From using the Dynamic Indicators of Basic Early Literacy Skills (DIBELS) progress monitoring throughout the school year, ten students in the class were identified as not meeting grade level benchmarks.

All ten participants were between seven and eight years old. The small group consisted of two boys and three girls. Three students were Hispanic, yet only two were enrolled in English for Speakers of Other Languages (ESOL) services. The other two students in the group were African American.

The group receiving traditional instruction was also made up of seven or eight year old students. There were three boys and two girls in the group, part of the larger class of 27. Three participants were also Hispanic ELL students, but again only two were enrolled in ESOL services. The other two students in the group were African American.

Instrument

As a pre and posttest, this study utilized the Qualitative Reading Inventory (QRI). The QRI measures a variety of reading skills, including decoding, fluency, and comprehension. The

QRI includes various reading passages that reflect different grade-level abilities. It is an informal assessment, and it generates a percentage score for reading levels, and that score is generally only compared to the particular individual, with the intention of measuring personal growth.

This study utilized the fifth edition of the QRI, which was released in 2011. The QRI has become a popular assessment tool, since the results allow for targeted interventions and diagnostic placements. This assessment reflects the developmental nature of reading, as it measures the progression of skills.

In order to meet high standards for reading instruments utilized in schools, the creators of the QRI established reliability and validity of the instrument. According to the test book, multiple forms of reliability and validity are demonstrated (Leslie & Caldwell, 2011). Concurrent validity is demonstrated by showing statistically significant correlations between the QRI and scores on different norm-referenced tests. The QRI also showed construct validity by establishing correlations between types of skills. The QRI shows alternate forms reliability in that students perform consistently on passages in the same genre with the same amount of picture cues. Test-retest reliability was also demonstrated when a study compared results on earlier versions of the QRI. This repeated consistency shows that the QRI comprehension scores are reliable.

Procedure

All students who were selected were reading below grade level. They had similar qualities, but did not receive the same type of instruction. In order to maintain a reasonably sized group conducive to individualized instruction, five students received treatment, while the rest did not receive additional treatment. Students were assigned to two groups, the small group

intervention and traditional instruction group, in order to maintain similar demographics in each group. The same pretest was administered to each student, and a baseline reading comprehension score was calculated. Depending on the speed of the reader, the test took about ten minutes each to administer. At the end of the study, both groups took the same version of the posttest.

Small Group Instruction

The treatment in this study consisted of small group interventions in early literacy skills, such as phonemic awareness, phonics, and fluency. Time was devoted to targeting each subset of skills in a small group setting. Each session lasted approximately twenty minutes, and involved activities and independent practice work. The group met on Tuesdays and Thursdays during independent work time in order to maintain consistency for students.

The first two weeks were devoted to reinforcing phonemic awareness. Activities included identifying the number of sounds in orally spoken words, identification of location of sounds in words, and manipulation of sounds. This was accomplished through the use of segmenting, oral examples, and word sorts based on sounds and syllables. This portion of the intervention only used oral words and pictures, since the focus was not on letter-sound correspondences.

The second phase of the small group schedule also lasted two weeks, and focused on phonics skills. The researcher used interventions from the Open Court curriculum, as well as teacher-created materials that would reinforce letter-sound correspondences and sight syllables. The researcher reviewed skills with students and led a practice activity that included reading common letter combinations and decoding words. Students completed an independent practice activity based on the targeted sounds or skills from that session.

Finally, the last two weeks of the small group schedule targeted fluency skills. The school-purchased program, Fluency Formula, provided reading passages and vocabulary skills. During these sessions, the researcher also practiced sight words, readerø theater, and repetitive readings. All activities were intended to increase word recognition and reading speed.

Whole Group Instruction

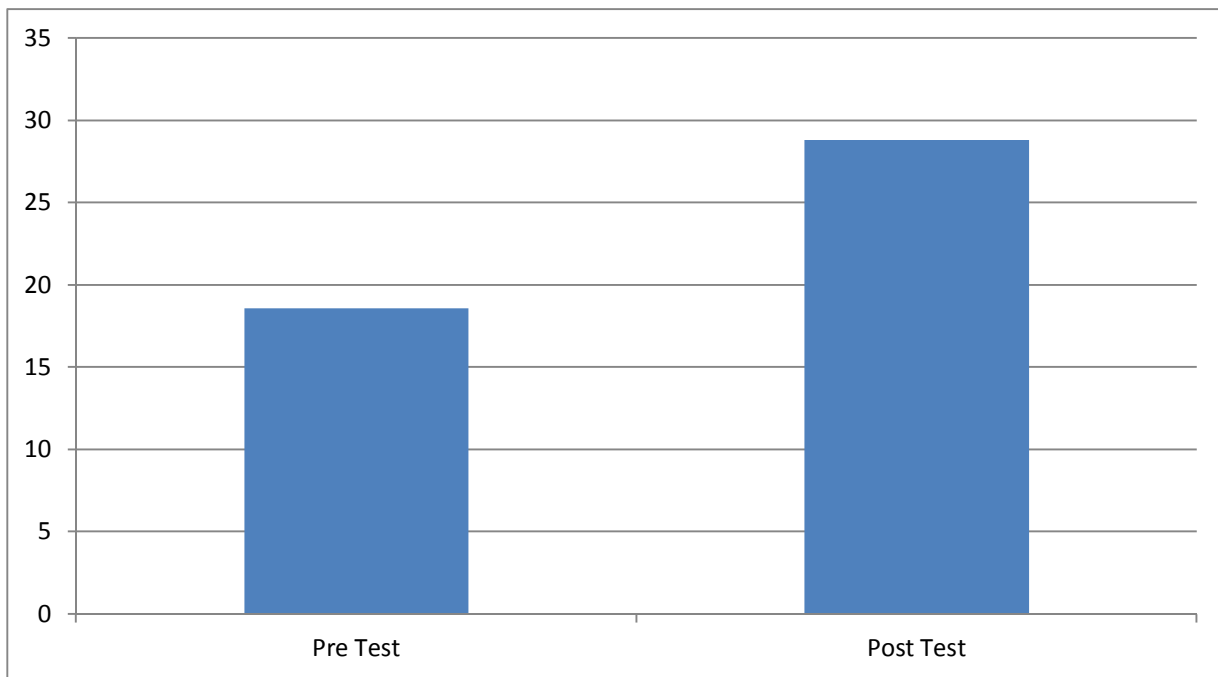
The whole group was concurrently receiving daily traditional instruction along with the rest of the class. Whole group lessons focused on a weekly word list with a targeted sight syllable. The whole group practiced decoding words that included the sight syllable and completed independent practice work to reinforce the skill. Whole group phonics instruction lasted 20 minutes, four days per week.

CHAPTER IV

RESULTS

An analysis was conducted examining the difference between small group interventions and traditional whole group instruction, and then the data was further analyzed by subgroups. The whole sample population showed a significant increase in their performance from the pretest to the posttest $t(9) = -3.65, p < .05$. As a whole, the sample population showed an increase in scores on the QRI from 19% on the pretest to 29% on the posttest (Figure 1).

Figure 1: Pre and Posttest Percentage Scores for the Sample Population



The difference in performance between the groups was also examined to investigate the influence of the type of instruction (small vs. traditional whole group) on reading performance. Here, the results showed that the differences between the groups' performance was not significant $t(8) = -1.85, p = .10$. Therefore, the type of instruction did not have a significant effect on overall reading performance (Table 1). However, students in the small group showed a significant increase from pre to posttest $t(4) = -3.53, p < .02$.

Table 1: Comparison of Reading Performance of Small vs. Traditional Instruction Groups

Type of Instruction	Mean Pretest Score	Mean Posttest Score
Small Group	7.40	17.60
Traditional Group	13.80	17.00

To investigate the possible effect of race on performance as an effect of instruction, the results were also compared based on students' race within each group. African American students showed a significant mean score increase from 11.40 to 17.80 $t(4) = -4.69, p < .05$. Hispanic students showed an increase in mean score from 9.80 to 16.80, but that difference was not significant $t(4) = -1.92, p = .13$. Both African American and Hispanic students obtained similar pretest and posttest scores (Table 2).

Table 2: Comparison of Reading Performance of African American and Hispanic Students

Race/Ethnicity	Mean Pretest Score	Mean Posttest Score
African American	11.40	17.80
Hispanic	9.80	16.80

An analysis by gender was conducted in order to evaluate whether the type of instruction had a different effect on male vs. female students. Male students showed a large increase in mean scores from 10.00 to 17.80, but the difference was not significant $t(4) = -2.20, p = .09$. Female students showed an increase in mean scores from 11.20 to 16.80. This difference was significant $t(4) = -3.73, p < .02$. Both male and female students obtained similar pretest and posttest scores (Table 3).

Table 3: Comparison of the Reading Performance of Male and Female Students

Gender	Mean Pretest Score	Mean Posttest Score
Male	10.00	17.8
Female	11.20	16.80

CHAPTER V

DISCUSSION

The purpose of this study was to determine whether small group intervention in early literacy skills would affect the reading comprehension performance of struggling second grade students. There was support for the hypothesis that the use of small-group instruction focusing on early literacy skills will have no effect on the reading comprehension skills of second grade students who are reading below grade level. The results showed that the null hypothesis was supported since no significant difference in reading scores was observed. Additionally, no significant difference was observed in the performance across racial or gender groups.

Implications of Results

The results of this study reflect the difficult nature of closing the achievement gap, and confirm the importance of early intervention. Previous studies have shown a correlation between early literacy skills and later reading success. However, second graders, like those in the study, are reaching the point in schooling where it is expected that these skills have been mastered. A lack of understanding will manifest itself in all aspects of a child's reading performance. One implication of this study is that interventions must be implemented early in order to be effective. Reading problems of this nature will not disappear, and corrective action must be taken before students are negatively affected in other reading skills.

The researcher had access to students in second grade who had previously not received formal interventions. The students in the study are performing significantly below grade level. While they showed growth throughout the year and the duration of the study, all students were still performing well below grade level at the conclusion of the study. Both the traditional and small groups reading scores on the QRI measurement tool increased from the pretest to the

posttest, with an average score of 19% on the pretest to an average score of 29% on the posttest. However, a score of 29% on the QRI still indicates that the students are performing at a frustration level according to the assessment guide, and therefore they are lacking a meaningful understanding of the text. Unfortunately, a gap of this size cannot be closed in a short time frame.

A test for statistical significance was used to determine if the intervention of small group instruction in early literacy skills would improve reading performance more effectively than traditional whole group instruction according to the curriculum. The scores of both groups increased, and at the end of the study they were performing at approximately the same level. Previous research studies by Koutsoftas et al. (2009) illustrated the positive influence of small group instruction in increasing student achievement when instruction was driven by assessment results and related to specific areas of need. The results of this study have implications on the type of instruction that is utilized in small group. While necessary time was spent reinforcing early literacy skills, low-achieving students were not spending as much time engaged in texts and practicing comprehension skills as their on-grade level peers. This discrepancy in time spent reading could contribute to the continued gap in reading skills.

Threats to Validity

There are several threats to validity that could offer possible explanations for the results of the study. First, the sample size was very small ($n = 10$) and limited to the students available to the researcher. A larger sample size from a wider population could have yielded different results. Due to the small sample size, non-educational factors outside of school impaired the ability to generalize results to the other populations. For example, some students have parental support at home, and practice reading with parents daily. Other students only read when it is

required of them in school. The extra time spend engaged in text benefits those students who are exposed to more opportunities to read. Other factors include student health, motivation, and student emotions. Additionally, a certain degree of growth can be attributed to maturation, as students are expected to develop a certain amount due to natural growth and schooling. These issues could have been minimized by using a larger sample size.

With so few students available for the study, it was not feasible to have a completely random sampling system. As is common in educational research, it was also not feasible to randomly select from a more diverse population, since only the students in the same class were available to the researcher. The use of a convenience sampling poses a threat to internal validity, and therefore the results cannot be generalized to describe a larger population. Additionally, two students in the study were diagnosed with reading disabilities and assigned IEPs during the study. The existence of reading disabilities makes it more difficult for these students to learn reading skills, and was not planned for at the onset of the study.

Secondly, the duration of the interventions was only nine weeks. This short time frame is not enough to rectify several years of reading difficulties. Additionally, the scheduling of the study was difficult to control in a sometimes unpredictable school environment. Snow days, absences, and school events were out of the researcher's control and interfered with the consistent scheduling of interventions as planned by the researcher and the focus of the participants.

Connections to Previous Research

A multitude of research has been conducted in the area of intervention and early literacy skills. Research cited in Chapter Two indicated different results than those in this study. According to the research of the National Reading Panel (2000), phonemic awareness is a

precursor to higher level reading skills, such as phonics, fluency, and decoding. Without a mastery of phonemic skills, the assignment of letters to sounds will not be logical to the reader. The National Reading Panel was able to study students over a longer period of time and monitor progress of reading skills, so their results reflect a deeper look into the correlation between early literacy deficiencies and later comprehension.

The studies of Koutsoftas et al. (2009) investigated the use of Tier 2, or small group, instruction as a Response to Intervention (RTI). Students who did not benefit from whole group instruction were identified through interpretation of classroom data. Small group instruction was determined based on the results of assessments, and the interventions reflected the determined areas of need. This study showed that small group instruction significantly improved reader performance and helped to close reading achievement gaps. Due to factors beyond the control of the researcher, the results of this study were not similar.

Research studies have also shown the connection between early literacy skills and later reading success. According to the study of Hulme et al. (2009), phonemic awareness skills are a strong predictor of future reading performance. This particular study showed that interventions in phonemic awareness resulted in better letter-sound recognition and phonetic skills. In turn, participants also demonstrated better decoding, fluency, and comprehension. The interventions in the study of Hulme et al. had an indirect, yet still significant, influence on the reading performance of struggling readers.

Implications for Future Research

The results of this study showed that there was no significant difference in reading performance when small group early literacy interventions were implemented. Substantial amounts of research and previous studies have shown otherwise. The connection between early

literacy skills and later comprehension is well documented, and the use of small group instruction as a form of intervention is supported by educational research. Therefore, future studies should be done with alterations in order to further explore the best way to close this achievement gap.

This study could be replicated with careful corrections to the threats to internal and external validity. A larger sample from a more diverse population would yield results that could be generalized to a larger group. The sample should be chosen randomly, and subgroups of race and gender should be representative of the general population. Ideally, more time should be used for interventions, and the environment should have fewer variables. For example, regularly scheduled meetings should occur without disruptions, and attendance by all participants should be consistent and monitored.

Future studies should also consider altering the measurement tool. The QRI offers reading passages for multiple grade levels. This study used a second grade appropriate passage in order to monitor the participants' ability to read on grade level. The passage was clearly far too advanced for students who were reading more than a year behind grade level. Future studies should use a measurement tool that is closer to the students' current reading level as a better indicator of growth.

Finally, the researcher only had access to students in second grade. The skills targeted in the intervention group are typically taught and mastered in kindergarten and first grade. The fact that students are still in need of instruction in early literacy skills provides a realistic challenge for these children and their teachers. Future replications of this study should be done in kindergarten or first grade so that interventions can have a meaningful effect before students fall so far behind their peers.

Conclusions

Despite the suggestions of previous research, the results of this study did not show any significance of small group interventions in early literacy skills. Various factors that were out of the control of the researcher may have affected the results of the study. Future researchers and educators should continue to consider the results of this study and others like it when implementing early interventions with struggling readers.

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