Cardinal Stritch University
Stritch Shares

Master's Theses, Capstones, and Projects

12-4-2015

Decoding strategies for emerging readers

Isabel Jilk

Follow this and additional works at: https://digitalcommons.stritch.edu/etd

Part of the Education Commons

Running head: DECODING STRATEGIES FOR EMERGING READERS

Decoding Strategies for Emerging Readers

By

Isabel Jilk

A Graduate Field Experience

Submitted in Partial Fulfillment of the

Requirements for the Degree of

Master of Arts

Urban Education

At Cardinal Stritch University

Milwaukee, Wisconsin

Fall Semester 2015

This Graduate Field Experience
For Isabel Jilk
Has been approved for Cardinal
Stritch University by

Luann Dreifuerst
(Advisor)

Dec. 1, 2015
(Date)

Abstract for Decoding Strategies for Emerging Readers

The effects of using explicit decoding and phonological awareness instruction for struggling readers were studied. Four kindergarten students who were showing no academic gains in reading took part in an intervention program over seven weeks, while a comparison group of four students at a similar reading level continued their business as usual reading program. The students were tested using sections from the Woodcock Reading Mastery and Fountas and Pinnel Reading Level test before and after the study. The results showed support for the hypotheses that an explicit decoding and phonological awareness intervention would improve student reading level.

Table of Contents

Chapter One: Introduction

Introduction

This chapter lays the stage for my research project as a whole. First I will briefly discuss the academic background and any pertinent personal information for each child in my test group. I will be using pseudonyms in place of each child's name. Within this discussion I will address the student's current strengths and needs; I will also make specific references to the Special Education Law in regards to any students that it pertains to. Throughout the description of each child's needs, I will also connect the need for the intervention in regards to the Common Core State Standards.

Introduction to the Child

For this project, four children who were struggling academically were chosen for the test group. For the purpose of this study and to protect the individual students, these four students will be referred to as Michael, Demario, Sammy, and Aviar. . For ease of reading I will introduce each child separately, and then discuss their needs as a group.

First, I will introduce Michael. Michael did not attend K4 and started K5 late, in November of 2014 this year at a charter school in a Midwestern urban district. He has no medical conditions; however, starting school so late and missing all of K4 instruction, has impacted his knowledge of school-appropriate behaviors which can be a factor in his instruction. For instance, he doesn't recognize that it's inappropriate to get up whenever he wants during class which can interrupt instructional time and negatively impact his learning. Michael performs academically very low across all subject areas. His most challenging subject is reading where he struggles with being able to identify and decode letter sounds. This affects his ability to sound out words and learn new words in order to improve his reading performance. His strongest subject area is in

mathematics, although he's not an advanced student in this subject he is meeting expectations as far as math skills in addition and recognizing numbers to 100.

Demario is the next student in this test group who similarly to Michael did not attend any K4 programs. Since his birthday is also very late he is very young for K5. Due to his young age, Demario does not have an IEP, but just prior to the start of this study, he was being observed for ADHD. This student also performs low across subject areas but his lowest performing subject is learning to read He struggles with fine motor skills and is unable to form letters and numbers correctly. He also struggles with identifying letter sounds. This affects his ability to sound out words and learn new words in order to improve his reading. Demario's strengths are in science. He is very eager to learn new things about the world around him and shows a love for learning across subject areas.

Sammy is a very confident little girl who loves to participate and she has a bright personality that has helped her through some of the tough things that have affected her home life. She has been in foster care for about a year which has affected her stability to some extent. Sammy seems eager to learn and try, but does not grasp new concepts in a timely manner. She also performs very low across all subject areas, but reading is her weakest area. Although she knows her letter sounds, she struggles with using them to sound out words. She is currently receiving tier three interventions in reading to begin the process of qualification for a learning disability.

Lastly, I will introduce Aviar. Aviar started the year performing on grade level and didn't pose a concern academically. Since the beginning of the school year; however, his attendance has been very poor and this has negatively affected his academic growth. At the beginning of the year, he was able to miss several days and jump back in with his peers, but as he has missed

more and more learning, he has fallen further and further behind. His poor attendance has also affected his behavior, and he often has to miss class due to behavioral outbursts resulting in removal from the room. Currently, Aviar performs the lowest in reading ability. He is just below grade level in math and science, but has been quickly making gains since his attendance has improved. But he has not, however, made the same growths in reading.

All of the students in this study learn best in small groups. Many of them have endured some sort of situation that has made their learning in school more difficult than the average student. Due to their various challenges, all of the students excel in small group work when they are able to get more individualized attention and be redirected quickly.

The students introduced here all struggle mostly in the area of reading. Each one of the students is below grade level in reading performance. More specifically, these students were chosen for this research project because they are all up for retention if their reading level does not improve to at least a level B. The students in this group in general struggle with reading due to two different challenges. The first is the inability to produce letter sounds and a lack of decoding skills. The second challenge lies in putting decoding and phonological awareness to work for sounding out and reading new words. The area of growth for this specific group of students directly relates to two different sets of the Common Core State Standard. First, the skills of producing letter sounds are seen in the standard of CCSS.ELA-LITERACY.RF.K.2: Demonstrate understanding of spoken words, syllables, and sounds (phonemes). Second, the skills of applying those sounds to decode words are found in the standard of CCSS.ELA-LITERACY.RF.K.3: Know and apply grade-level phonics and word analysis skills in decoding words.

Conclusion

In this chapter, four different students were introduced to form the research group: Michael, Demario, Sammy, and Aviar. All of these students struggled significantly with learning to read. They all were below the kindergarten benchmark for their reading level and were up for possible retention. The group struggles mostly with two different skill sets: producing letter sounds to decode and putting those abilities to practice when reading. These skills are specifically laid out in the standards of CCSS.ELA-LITERACY.RF.K.2: Demonstrate understanding of spoken words, syllables, and sounds (phonemes) and CCSS.ELA-LITERACY.RF.K.3: Know and apply grade-level phonics and word analysis skills in decoding words. In the following chapters, you will find that this group of four students was chosen specifically to be a part of a small group intervention that focused on decoding and phonological awareness as explicit skills needed for reading as a whole. In the next chapter, previous research from existing literature is reviewed to reflect the accumulating knowledge that already exists within this field.

Chapter 2: A Review of Literature

Introduction

Throughout this chapter, various research articles that relate directly to the research done in this thesis will be discussed. All of the article summaries delve into various aspects of reading skills and literacy. As the research done for this thesis specifically focuses on increasing the reading scores of kindergarteners through guided reading and word work, it is important to fully understand previous research in order to build a basis for new research conducted. Within this chapter article, summaries are separated into three main subcategories. First, it's crucial to examine different decoding and encoding research projects as it's a major piece of early reading. Second, several articles about word study are described including vowel studies and word work. Lastly, articles revolving around phonological awareness more generally are summarized.

Decoding and Encoding

In this subsection of article summaries, decoding and encoding strategies and interventions are discussed. The first article describes an intervention using three-step decoding strategies to word reading to students with cognitive disabilities. The second summary, conversely, looks at using encoding and decoding through a prevention instruction model. The third summary looks at a case study where struggling first grade students were more explicitly taught decoding. The next study in this section looks at how decoding has an effect on the large range of reading abilities found in kindergarten and first grade.. The last summary in this subsection shows the use of pseudo words for decoding instruction in a study with Florida first graders.

Cohen, E. T., Heller, K. W., Alberto, P., & Fredrick, L. D. (2008) looked at the question of whether focusing upon phonemic awareness and phonemic decoding skills would result in gains in reading ability of students with severe reading disabilities. For many students with reading disabilities or mental retardation, the researchers believe that students are simply untrained in these skills or have less effective strategies for their use. Based on this assumption, focusing on teaching students these strategies should result in significant gains for students with reading disabilities.

For this study, he researchers were looking at interventions focused on systematically teaching strategies for phonemic awareness and phonemic decoding. The dependent variable was the number of words sounded out and read correctly by the student during interventions. The independent variable for this study was the three-step decoding strategy taught.

Five students between the ages of 9 and 14 years comprised the sample for this study. The three elementary aged students were in classes for students with mild mental retardation. The two middle school students were in classes for moderate mental retardation. All of the students were pretested on the Woodcock Reading Mastery Test in Reading, Letter ID, Sounds/Blends, Word ID, Word Attack, and Basic Skills. During their pre-test, they all scored at about a Kindergarten to 1st grade level across subject areas.

As stated above, the students were tested pre-intervention on their reading level as well as on various sections of the Woodcock Reading Mastery Test. Students participated in a probing phase and then a varied number of instructional sessions based on their score during the probing phase on the criterion. During the instructional sessions, students were taught a three-step decoding strategy to decode unknown words. This strategy consisted of the attention-getting

step, the decoding step, and the reading-the-word step. During the attention-getting step, students were taught to point to a word and then look at it through touching a target word card. Students were then taught to decode by slowly saying each sound in the word. Finally, students were taught to say the sounds together without stopping while moving their finger across the bottom of the card. If students engaged in any step of the strategy slower than a 4 second delay, the instructor modeled the step for them with each word.

All five students showed increased efficiency in decoding and word-reading after receiving the three-step decoding strategy intervention. Two pieces of data were recorded for each one of the sessions. The first piece of data was for decoding and the second was for the combination of decoding word reading. On their Woodcock Reading Mastery test scores specifically all students increased their word attack score from zero to a higher score ranging from two to eight items. This score was of particular interest to the researchers because they had identified word attack as most closely representing the specific decoding skills (Cohen, E. T., Heller, K. W., Alberto, P., & Fredrick, L. D., 2008) .

From this study we can learn that by specifically teaching a three-step decoding strategy to students who may not have prior knowledge of strategies to use to decode and giving them practice with this strategy can result in significant gains for those students. Although this study was done specifically on students with reading disabilities or mental retardation, these results can also be useful in teaching decoding strategies to students who have no prior knowledge of decoding strategies such as beginning readers.

In another study Weiser (2013) investigated the synergistic relationship of simultaneously integrating encoding and decoding instruction to enhance the reading and spelling performances

of early readers. For this study, they focused on two major questions. First, what are the individual and combined contributions of time allocated to encoding and decoding instruction during core classroom time and supplemental reading intervention on the reading outcomes of first graders at risk for reading disabilities? Second, can the synergistic relationship between integrated encoding and decoding instruction time be accurately modeled for the possible amelioration of future reading failure?

For this study, the researchers were looking at combined intervention and core classroom instruction of encoding and decoding on student reading failure. The dependent variable was the student scores on the Woodcock and Johnson III subtests. The independent variable for this study was the encoding and decoding instruction during core classroom time and supplemental reading intervention during the academic year.

The sample for this study included participants from a total of 22 different schools. Within these schools the majority of students were Hispanic, 19 of these schools were in a large urban public school district in North Texas and the remaining schools were Catholic Diocese schools. The participants consisted of struggling first-grade readers nominated by classroom teachers totaling 194 students in all.

For the purposes of this study, students took the Continuous Monitoring of Early Reading Skills placement test placing all students to begin at Level 1, Lesson 1. For both the Pretest and Posttest, students took two decoding subtests of the Woodcock-Johnson III: Letter Word Id. and Word Attack to measure decoding. To measure encoding students took the spelling subtest. For Comprehension they took the passage comprehension subtest. Throughout the study daily mastery checks were given to students to monitor progress. Intervention teachers provided

students with daily interventions involving decoding and encoding. Observations were taken by teachers based on student attendance and engagement in the lessons; these were then cross-checked by observers to ensure accuracy of data across intervention teachers.

In order to investigate the results of the researcher's first question, they analyzed time variable to examine the variance among participating student outcomes. From this information, researchers found that there were discrepancies between what was expected versus what was actually observed. For instance, intervention teachers were requested to provide 30 to 40 minutes of instruction, but actual time spent in instruction activities ranged greatly from 17 to 47 minutes depending on behaviors and other outside variables. From this information, researchers found that about 76% of the variance in posttest scores could be explained by the average instruction time received by each student. For instance, students who on average received more actual instruction time scored higher on their posttests. The results from this question were further investigated through the researcher's second question. When students did receive on average a higher amount of instructional time combining encoding and decoding interventions during the core instructional time and through interventions, students scored significantly higher and showed academic gains (Weiser, B.L., 2013).

From this study, we can learn much from the researchers two questions combined. This study shines light on the major difference that actual instruction time has on student achievement. As a teacher, it can be easy to equate time in the classroom with instruction time, but as this study points out the real growth in student achievement comes from the times spent actively engaged in encoding and decoding instruction. When students spend higher amounts of time engaged in instruction both through interventions and regular class time, the achievement of students increased significantly.

In another study, Pullen, P. C., Lane, H. B., Lloyd, J. W., Nowak, R., & Ryals, J. (2005) were examining the need for beginning readers to have repeated opportunities to develop decoding abilities. They looked specifically at the question of whether or not explicitly teaching essential components of beginning reading instruction promoted first graders' skill in decoding pseudo words.

The researchers of this study looked at a specific intervention that employed numerous elements of effective reading instruction after very careful consideration. The independent variable in this study, or what was being looked at, was the explicit and systematic instruction of phonological awareness and decoding skills. The dependent variables in this study were that some students were provided with an intervention that used manipulation of magnetic letters to promote segmentation of words using the letters to represent the words' constituent phonemes, blending of words using the letters to stand for the words' phonemes, and practice over a sequence of words related to each other by minimal differences in spelling. The other group of students was not given this intervention and was therefore labeled the control group.

The sample for this study was nine first-grade students who were struggling readers. Teachers of more than 2,000 students in kindergarten through second grade were administered a class-wide screening of invented spelling to select participants. Those who scored below the 20th percentile were selected as possible participants and they assessed further on a pseudo word reading task. The study took place in two different first-grade classrooms at a private parochial school in Florida where students were from a variety of socioeconomic groups.

Students who received the intervention were involved in two phases. The baseline phase was used to measure pseudo word decoding rate by having students read a list of pseudo

words that would be introduced into the intervention phase. During the intervention phase, decoding was measured, following each session. Students during the intervention phase focused on decoding through manipulative letters. Specific titles were selected from the "Reading Recovery leveling system" that contained high frequency words. Students then used solid white letters and a plain magnetic board to create words and pseudo words from their text. Interventions were implemented by graduate students who were observed using a checklist to ensure that they were appropriately implementing the intervention.

The researcher in this study found that pseudo word decoding rates changed gradually for those who participated in the intervention group. However, students who did not participate in the intervention group and only participated in the baseline phase had no gains in pseudo word decoding. Students who received the intervention demonstrated greater decoding skills, as evident by their reading of pseudo words. These results had a high correlation with students' ability to decode running text composed of familiar or regularly pronounced words. Pseudo word decoding also shows a high correlation with reading comprehension (Pullen, P. C., Lane, H. B., Lloyd, J. W., Nowak, R., & Ryals, J., 2005).

As a result of this study we can learn that having students engage in an intervention where they focus specifically on decoding high frequency words and pseudo words, those students will see gradual gains in their ability to decode familiar words in text. If what the researchers concluded is true of students reading ability and comprehension, then we know that by focusing on pseudo word decoding with magnetic letters, students will grow as readers from being beginning readers to more fluent readers.

In a fourth study on decoding and encoding, Mathisen, K. (2014) examined the large spread found in kindergarten and first grade classrooms regarding reading abilities. The researchers noticed that in younger grades especially, there was a wide range of student knowledge in phonological awareness and decoding. Their question for this research project was: can beginning decoding instruction "kill two birds with one stone", or focusing on specific beginning decoding instruction improve both phonological awareness and decoding for students? They took this question and then examined it in a series of three different year-long studies in kindergarten.

As stated previously, this research question played out in three different studies. In the first study there were three different groups. Group one participated in teacher-led phonological awareness training. Group two received a combination of teacher led phonological awareness training and peer-mediated intervention emphasizing decoding. Group three consisted of a control group whose teachers performed their normal instruction focusing on whole language activities and letter name activities. In the second study conducted, two different groups existed. One group looked at peer mediated decoding when used alone, while the other looked at peer mediated decoding in conjunction with phonological awareness. In the third study there were once again three different groups. A peer mediated decoding and phonological awareness group, a peer mediated decoding group, and finally a peer mediated phonological awareness group.

In this research project, the researchers randomly assigned kindergarten teachers within schools to the three different study groups. To strengthen the ability to generalize the findings of their research, the researchers recruited 8 different schools, examined 33 different kindergarten teachers, and 404 kindergarten students. Half of the schools in the sample were Title I schools (high poverty) and half served mostly middle-class students. In each of the 33 classrooms, the

researchers collected data on low-achieving, average achieving, and high-achieving students where 25 of these students had disabilities (Mathisen, K. 2014).

Each one of the studies involved different combinations of phonological awareness intervention or decoding intervention. A pre and post test was given to a purposeful sample group of 14 students from each classroom: four high students, four average students, and six low students. They were measured on segmentation and blending as well as reading and spelling taken from the rapid letter sounds, Word Attack, and Word Identification subtests of the Woodcock Reading Mastery Test and the Spelling Subtest of the Wechsler Individual Achievement Test.

In the first study, students in one group were given teacher-led phonological awareness treatment. These treatments were taken from 15 different Ladders-to-Literacy program activities. Ten of these activities stimulated word and syllable awareness, rhyming, first-sound isolation, onset–rime-level blending, and sound segmentation while six of those ten activities were chosen to promote the blending or segmenting of sounds in consonant-vowel-consonant words. These were then conducted three times a week and completely teacher led for a maximum of 45 minutes a week. Students in group two of study one received a combination of this phonological awareness instruction as well as working with a peer. Highest and lowest students were paired together and worked for 4 to 6 weeks on skills taught by the teacher in a short 5 minute modeled lesson of the new letter sound. The teachers conducted these pairs three times a week at 10 minutes each for 16 weeks, engaging in two different activities, a "What Sound?" activity and a "What Word?" activity. During the "What sound?" activity, the coach would ask for the sound and then correct the reader. With the "What word?" activity, students acting as the coach ask for the sight word and then correct the reader in a similar fashion. The final group conducted lessons

regarding decoding and phonological awareness as normal, not adding any additional interventions or instruction.

In the second study, students in one group were examined using the peer mediated instruction alone. This group was compared with group two which used the combination of phonological awareness and peer mediated decoding. The same sets of procedures were used for the phonological awareness intervention and peer mediated decoding intervention as the previous study.

In the third study, Mathisen, K. (2014) introduced peer mediated phonological awareness as another way to engage in an intervention. In this study, one group did peer mediated phonological awareness which included doing 5 different activities for 5 or 10 minute including recognizing the first sound in a word, rhyming, syllables segmentation, recognizing the last sound, and blending. One group engaged in peer mediated phonological awareness alone, one group engaged in peer mediated decoding as described in study one alone, and the final group engaged in a combination of both these peer mediated interventions.

From this research the researcher found that using peer mediated phonological awareness in conjunction with peer mediated decoding provided the largest gains between pre and post test on the rapid letter sounds, Word Attack, and Word Identification subtests of the Woodcock Reading Mastery Test and the Spelling Subtest of the Weschler Individual Achievement Test. When students were given only decoding strategies or vice versa, only phonological awareness strategies, the gains were not as significant. Although the researcher's original question of whether focusing on beginning decoding instruction can improve both phonological awareness and decoding for students was not found to be true, the researchers did find that combining both

strategies in peer mediated learning provided gains for students across those categories for beginning readers (Mathisen, K., 2014)

Through these results we can learn that engaging kindergarten students in peer-mediated instruction for both phonological awareness and decoding strategies leads to improvement for those low level readers at this age. As the researchers stated from the beginning at the kindergarten level, students come in at a wide array of abilities. Having students engage in peer mediated instruction for both decoding and phonological awareness not only keeps those high level learners engaged by giving them the opportunity to teach their peers, it also allows the lower level learners to receive specific strategies to help them improve as readers. In another article researcher Madsen, K. (2014) wanted to look at the use of pseudo words in helping students with decoding skill by utilizing pseudo words in decoding instruction. The researchers looked at four specific research questions throughout their study. The first question researchers looked at was what are the effects of decoding instruction that includes pseudo words on real word decoding accuracy? The second question researchers look at was what are the effects of decoding instruction that includes pseudo words on pseudo word decoding accuracy? Third, they looked at what are the effects of decoding instruction that includes pseudo words on real word decoding automaticity? Lastly, they looked at what are the effects of decoding instruction that includes pseudo words on pseudo word decoding automaticity?

The dependent variable for this study was the student scores on the Word Attack section of the Woodcock Reading Mastery Test. The independent variable was the pseudo word decoding instruction intervention.

The participants of this study were students from one primary school in north central Florida. The researcher stated that this school was chosen because it had a very large kindergarten enrollment and that was the age group they were most interested in for this type of decoding instruction. The school had a diverse group of 513 students ranging from kindergarten to the second grade. In total 72 kindergarteners participated in the study that were chosen based on their developmental phase of word recognition results on the mid-year Broad Screen/Progress Monitoring Tool of the Florida Assessments for Instruction in Reading. The 72 students were randomly assigned to one of three groups: a treatment group, a control group, and a comparison group resulting in relatively similar composition in each group.

Those students chosen for this study for the treatment and comparison groups received 15 instructional sessions of about 20 minutes in length. The instruction for both groups was provided by the researcher to small groups of 3 to 5 students. The students in the treatment group received word work instruction incorporating real and pseudo words. They decoded and encoded words using manipulative letters in Elkonin boxes based on various word lists created for each lesson. The instruction for the comparison group was identical in every way in that they also used manipulative letters in Elkonin boxes during their instruction in small groups. This group; however, only used real words and did not interact with pseudo words. The control group contrarily did not receive any small group interaction with the researcher and simply took the pre and post test to measure their progress in comparison to the other two groups that did receive some intervention.

After the interventions were completed, the classrooms administered the Word Attack section of the Woodcock Reading Mastery Test again. The post tests given to each group showed that there was a significant difference in post test means between the comparison and treatment

group and the control group. Both the comparison and treatment group had significantly higher mean scores when compared to the control group, leading researchers to the conclusion that small group interventions on decoding instruction did have an impact on students' scores. When looking specifically at student real world automaticity in comparison to pseudo word automaticity, researchers found that having the specific pseudo word decoding instruction given to the treatment group did not result in significantly higher scores for the treatment group (Madsen, K., 2014).

This study looked specifically at kindergarten students which was especially relevant to the research that I conducted in my own classroom. The lack of difference in scores between the treatment and control group when looking at the pseudo word automaticity results is especially interesting because it separates the idea that pseudo word work specifically contributes to a difference in scores and leads researchers to conclude that interventions in decoding more generally contribute to a difference in scores. This shows us that as teachers and researchers providing small group instruction in an area can show growth, but this instruction need not necessarily utilize pseudo words in addition to real words.

Word Study

Word study instruction is examined through four different article summaries. The first summary describes an article that looks specifically at the effects of multisensory vowel instruction during word study for third-grade students. The second article shows the effects of tradition vs. extended word study, looking specifically at its effect on orthographic knowledge. The third summary looks at word study that incorporated vocabulary games to increase student engagement. The final summary in this subsection similarly looks at using singing and movement to teach pre-reading and word reading skills in a way that is engaging for students.

In the first article examining word study, Donnell, W.J. (2007) looked at the effects of multisensory vowel instruction during word study on the achievement of third grade students in an urban school district. The researcher in this study was specifically interested in the disparities in reading amongst her third grade students, specifically because of the relationship between socioeconomic status and achievement in other research the author had examined. Through this lens the author looked at the past reading records of her students and found that both the alphabetic principle and more specifically vowels were an area of weakness throughout. The author's research question was: does a whole class multisensory vowel intervention result in significant achievement in reading fluency?

For this study the researchers were looking at a whole class intervention consisting of 60 multisensory word study lessons for third grade. The dependent variable was the student scores on the augmented version of the Name Test, the Elementary Spelling Inventory, the Oral Reading Fluency assessment, and the Scholastic Reading Inventory Interactive. The independent variable for this study was the multisensory word study lessons taught to students throughout the year.

The sample for this study was 450 third-grade students in 25 intact classrooms throughout the Kansas City School District, demographically representative of the district as a whole. Since this research project was a casual comparison design students were chosen to be a part of the experimental classroom based on their teachers' selection in word study as their professional development focus for the year from various options offered by the school district. Comparison classrooms were then chosen by school administrators to be matched both on the basis of socioeconomic status and reading achievement data.

Students in the experimental classrooms experienced a total of 20 hours of the multisensory word study lessons. Each lesson was about 20 minutes in length and followed a progression from oral language, to phonological awareness, to phonics, and finally to specific vowel-spelling patterns. Each lesson within the experimental group was chosen with a specific purpose to address a particular vowel pattern or alphabetic principle.

After the interventions were completed, both the experimental and comparison classrooms post- tested their students. For the dependent variables of the Name Test, Elementary Spelling Inventory, and the Oral Reading Fluency assessment, the researcher found that there was a significant difference in student achievement between the experimental and comparison groups. For the dependent variable of the Scholastic Reading Inventory Interactive, however, there was not a significant difference between the experimental and comparison classrooms (Donnell, W.J., 2007).

From this study we can learn that interventions specifically designed for multisensory word study program does have a positive effect on students' ability to decode and correctly encode phoneme grapheme study patterns as well as increase automaticity when using the alphabetic principle. We can also learn, however, that while focusing on multisensory word study programs does have a positive effect in many areas because there was not a significant difference in achievement on the Scholastic Reading inventory, it does not have an effect on students reading comprehension. For my own research, this is important to keep in mind when thinking about what specific skills I'm targeting in my interventions.

In another article on word study, the researcher Abbot, M. (2001) wanted to look into whether or not doing an extended word study intervention with students would lead to a noticeable difference over the course of a year-long study in students' orthographic knowledge. The first question researchers look at the following question was: Does spelling instruction based on extended word study produce significantly better scores on pre- and post-test measures compared to traditional spelling instruction with typical third-grade students spelling at the within-word development stage? The second question Researchers also looked at a second question: Does spelling instruction based on extended word study produce significantly better scores for transfer of orthographic knowledge with high- and low-frequency untaught words compared to traditional spelling instruction with these students?

For this year-long study the researchers divided the intervention into three different phases having students in the experimental class received extended word study instruction with high frequency words in phase one and low frequency words in phases two and three. The comparison classroom then received traditional spelling instruction throughout the phases. The dependent variable for this study was the student scores on the Qualitative Spelling Inventory. The independent variable was the year-long extended word study instruction.

The participants in this research were students from an elementary school in northeast Kansas. The school served primarily low to middle socioeconomic status students. Eight students were chosen at random from each of the two third grade classrooms to be a part of the study and in general the two teachers in each classroom were similar in their experience and quality as teachers. Each classroom also spent a similar amount of time on spelling instruction.

Each classroom followed a weekly plan for their instruction. In the traditional spelling instruction classroom, the teacher had students practice writing spelling words and defining them on Mondays. Students would write sentences using the words on Tuesdays, put them in alphabetical order on Wednesdays, have students quiz one another on Thursdays and then take the test on Fridays. The extended word study classroom plan included brainstorming words based off a sound, dividing those words into common spellings, leading students in analyzing spelling patterns with several days spent doing activities to reinforce the spelling patterns, administering frequent non -graded quizzes and only moving on when the quiz suggested students had mastered a skill. Each classroom followed this plan throughout the course of the year.

After the interventions were completed the classrooms administered the Qualitative Spelling Inventory again. The post tests did show a significant difference in students' overall orthographic growth. It didn't, however, show significant differences in correct spelling between the two groups. After reflecting on the data, the researchers found that this lack of significant difference in spelling achievement could have been a direct result of the low-frequency words chosen in phases two and three. These words did not reflect naturally occurring syllable patterns found in English and therefore may not have led to increased spelling achievement (Abbot, M., 2001).

From this study one of the most important things that we can take away is that there is significant potential in teaching students spelling generalizations and word patterns as an extension of their regular spelling instruction. Teaching students in an extended word study instead of the traditional spelling instruction allowed those students to internalize common spelling patterns and combinations. When thinking about this at the kindergarten level, it seems

that extending word study to focus on those patterns would likely lead to increased understanding of word structure at a young age.

In another study, researchers Wells, J.C., and Narkon, D.E. (2011) were focused specifically on a problem that I saw with my own students often. They identified that students who have had past difficulties with reading instruction can often become discouraged and give up when they are given a new word to read or to learn. Because of this common problem with young readers, the researchers wanted to look specifically at targeting motivation of students in combination with reading skills. They had identified that motivation was often associated with personal interest in an activity. Due to these observations within this study, the researchers reached a main question: Does the use of vocabulary games have a positive effect on motivation and skill level in reading.

For this study, researchers looked at incorporating several different games into a vocabulary intervention. The dependent variable for this research was the mastery of the second and third grade Dolch Word List. The independent variable was the vocabulary word games introduced into the student's daily instruction.

The participants in this study were three fifth grade male students engaged in the remedial reading instruction program at their school. Over the course of a semester, word games were introduced as a daily part of their reading instruction. The word games that were played on a rotating basis using the Dolch Word List included mystery words, word-o, and word sorts. Mystery word was a vocabulary adaptation of twenty questions, word-o is an adaptation of Bingo and word sorts involved sorting words into specific categories.

At the start of the intervention, the three students in the remedial reading instruction group had not shown any mastery of the second grade Dolch Word List words. Due to the nature of the group as a remedial instruction group, ongoing assessment of word mastery occurred. By the end of the first month of utilizing word games as a part of vocabulary instruction, all three of the students had shown mastery on the second and third grade Dolch Word Lists and continued to show growth throughout the semester.

Although this study only utilized a very small sample size, the overall utilization of word games within the vocabulary instruction not only boosted the motivation of the students in the small group but also proved to show significant improvement in students' word mastery. Despite the small size of this study, it brought up crucial points regarding the importance of student interest in their learning. The authors of the study brought up the problem of students feeling continually defeated if they had been unsuccessful with reading in the past. This is something I experience regularly with my students and utilizing things that they enjoy, such as games, to make the learning something they want to do again is an important takeaway from this study.

In a fourth article on word study, Walton (2014) was looking at the use of movement and singing in building early reading skills for Kindergarteners. His main research questions: (a) Will experience with singing and movement increase phoneme identity, rhyming, and letter-sound knowledge compared to a control group? (b) Will experience with singing and movement increase word reading compared to a control group? (c) Will children be able to generalize their reading to include words not presented in the songs and movement program? (d) Will phoneme identity, rhyming, and letter-sound knowledge make independent contributions to word reading (Walton, 2014)?

For this study, the dependent variable was student scores on the four sections of the pretest and posttest. The independent variable was the use of songs and movements as a part of the reading curriculum.

The participants in this study included six different kindergarten classrooms in four schools across two years. The study included 93 children who averaged 5 years and six months of age in a medium sized city in British Columbia, Canada.

For this study, the children were pre and post-tested for rhyming ability, phoneme identity, letter-sound knowledge, and word reading. For the research, eighteen songs were created for a pilot, twelve of which were taught to children during the actual study. Two research assistants implemented the song and movement activities. After being taught the songs, students continued to utilize the songs and movements at least four times a week in their classrooms as a part of their curriculum for six months during the school year.

As a result of this research, the researchers found that students who took part in the reading curriculum with songs and movement showed significant gains on their post test compared to those who did not receive song and movement curriculum. The main findings of this study were that songs and movement are excellent methods to teach important pre-reading skills and reading to kindergarten children, and that these experiences significantly enhanced the effectiveness of the language and literacy programs typically used by kindergarten teachers (Walton, 2014).

From this study, we can learn that songs and movements have a positive effect on reading. As the researcher's state, there was previously very little research done on using songs and movement specifically designed for teaching the key pre-reading skills of letter-sounds,

phoneme skills, and rhyming, and to teach children the beginning steps of reading. Previous research had shown more general links between achievement in reading and involvement in music. From this study, we can now see that utilizing songs and movements that are more targeted for literacy can significantly boost student reading skills at the kindergarten level.

Phonological Awareness

In this subsection, three articles that look more generally at phonological awareness are summarized. The first summary shows a study on phonics-based sentence method as a reading method for students in fifth grade struggling with comprehension. The second summarized article shows phonological awareness interventions for children with Down syndrome. The last summary looks at the different phonological variables that influence word decoding spelling in early readers.

The researchers Kayiran & Karabay (2012) looked at the effects of the phonics-based sentence method and decoding method followed in primary reading and writing instruction and if this had any effect on fifth grade students' reading comprehension achievement. The researchers in this study looked to specifically address the relationship between socioeconomic status and reading comprehension achievement. Through these interests the researchers looked at several different research questions: Is there a meaningful difference on fifth grade students from reading comprehension achievements in terms of two different methods: learning reading and writing through phonics based sentence method and decoding method? The other part of their question was look at whether there is a meaningful difference on fifth grade students from low, mid, and high socioeconomic status reading comprehension achievements in terms of the two different methods.

For this study, the researchers were looking at interventions on reading and writing using either PBSM or DM methods. The dependent variable was the student scores on the Reading Comprehension Achievement Test created by the researchers. The independent variable for this study was the phonics-based sentence method or decoding method taught to students throughout the year.

The sample for this study was 745 fifth- grade students in 20 different classes from four different elementary schools. Participants were chosen who had learned reading and writing through both DM and PBSM methods. Students in the study were chosen at random and were similar in characteristics.

This study was based on a causal comparative research. Causal comparative studies aim to determine the reasons and results of differences among groups without intervention on conditions and participants. For the purpose of this study, the Reading Comprehension Achievement Test was used to measure reading comprehension. This test was designed specifically by the researchers of this study for the purpose of testing on different genres. Participants in the study also completed a socio-demographic questionnaire consisting of 16 questions. For the purpose of the study, students were divided into two separate groups, one learning basic reading and writing skills through PBSM and the other learning through DM. Students were taught using each perspective method for the entire academic year and then did a post test.

The researchers then compared data both based on whether there was a significant difference based on a teaching method and whether there was a significant difference based on socio-economic status. In regards to the first question, researchers found that there is no

statistically significant difference on reading comprehension achievement of students learning by PBSM or DM. However, when taking into account the students' scores from their answers on the socio-demographic questionnaire, the scores did have a significant difference based on socio-economic status when comparing low, mid, and high (Kayiran & Karabay, 2012).

From this study, we can learn that methods of teaching basic reading and writing skills through decoding or phonics based methods shows no significant difference in achievement. As long as students are receiving the intervention, they showed some improvement in scores throughout the course of the academic year. For my own research this means that by adding a decoding intervention into the curriculum, students should show growth. On the other hand, this study also shows us that socio-economic status does have a significant effect on achievement in reading comprehension. As teachers in an urban environment, this is important to keep in mind when implementing decoding strategies.

In another study on phonological awareness, Lemons, Mrachko, Kostewicz, & Paterra (2012) asked the primary research question: Do students who receive the selected interventions demonstrate improvement in the targeted early reading skills including phonological awareness, production of letter sounds, reading of words, and oral reading fluency? Three different studies were conducted, each using a different intervention. In Study One, the researchers used Reading To Read (RTR); in Study Two, Read To Read plus a Phonological Awareness activity (RTR+PA); and in Study Three, Reading To Comprehend (RTC). Researchers hypothesized that participants would demonstrate positive outcomes in targeted skills, results would highlight components of each intervention that may need substantial modification in future work, and participant performance would provide a baseline picture of responsiveness that may serve as a

point of comparison for future work (Lemons, C. J., Mrachko, A. A., Kostewicz, D. E., & Paterra, M. F., 2012) .

For this study the researchers were looking at the three different intervention types conducted over a period of time. The dependent variables for this experiment are the cumulative measures documenting the total number of targeted sounds and words mastered as well as retention of new words and sounds. The independent variables for this study were the three different interventions RTR, RTR+PA, and RTC.

Fifteen children between the ages of 5 and 13 years comprised the sample for this study. Students were chosen by staff and parents based on need. All of the participants in this study were identified as a child with Down syndrome and qualified for special education services.

For this study, each instructor implemented their assigned intervention in a reading support classroom where interventions were delivered to students one-on-one at a small table separated from other students to limit distraction and outside variables. Intervention for RTR included using sound boards with a small dry erase board to practice fluency. For RTC it involved props for a sound awareness game. For each intervention, instructors administered a pre and post test one on one with students. Teachers were trained specifically for their assigned intervention and maintained typical reading instruction. The interventions were delivered four times per week for an average of 12 weeks. RTR intervention program's goal is to increase student knowledge of the alphabet principle. The RTR+PA is designed to provide practice for two and three phoneme words. Finally, the RTC program enhanced phonological awareness and taught common sounds for eight letters.

For RTR three of the four dependent measures showed a functional relation between student improvement and introduction of the intervention. ORF was the only exam students did not show improvements on. For RTR and PA, the intervention was effective for two of the five dependent measures, PRWs and HFWs. For RTC, no effects were shown in the measure skills.

From this study we can learn that overall, the RTR intervention was the most effective. Although the students in this study were all receiving special-education services and were diagnosed with Down syndrome, the results can be applied to early readers working on gaining similar skills.

In the final study of this section, researchers Strattman, K. and Barbara, W. H. (2005) looked specifically at what variables influence decoding and spelling for beginning readers. As the researchers state, much information exists on the predictive power of literacy success and phonological processing abilities; however, there is little information about the relationship between phonological processing abilities and decoding and spelling. Through their research, they hope to answer the question if there is a relationship between phonological processing ability and decoding and spelling.

In this research, the independent variable was to examine the relationships of cognitive and linguistic variables with decoding and spelling performances. The variables examined for this research were phonemic manipulation tasks, concurrent working memory, multi-syllable word production, rapid naming, nonverbal intelligence, and receptive vocabulary.

This research involved seventy-five 2nd graders from four different regular education classrooms in the same Midwestern metropolitan public school. All students volunteered themselves and ranged in ethnic and socioeconomic status. All students had also passed the

school-administered hearing and vision screening and were not receiving any speech-language services.

All of the children in the study were tested during two separate 30-minute sessions during the fourth month of their year in 2nd grade. During the first session, students were assessed on spelling in a small group as well as individually on the Peabody Picture Vocabulary Test (PPVT-III) and the Test of Non-verbal Intelligence (TONI-3). During their second testing session, students were tested on the Word Attack subtest of the Woodcock-Johnson (WJ-R) followed by tasks that assess students' phonological processing abilities including phonemic manipulation tasks, concurrent working memory, multi-syllable word production, rapid naming, nonverbal intelligence, and receptive vocabulary. Audio recordings of all participants' performances were made for later scoring for the decoding, phonological manipulations, working memory, rapid naming, and multi-syllable word naming tasks.

To calculate the results of this study, the researchers were interested specifically in whether or not there was a correlation between each of the variables and decoding and spelling. Pearson correlations were computed for predictor variables. After analyzing the correlations, they found that the strongest correlation existed between decoding and spelling as well as phonological manipulations and both decoding and spelling. The results of the correlational analyses indicated, that in addition to the strong correlations between decoding and spelling, there were also significant relationships among all of the other variables, with the exception of nonverbal intelligence and both phonological awareness and rapid naming (Strattman, K., & Barbara, W. H., 2005) .

From this study we can learn that there is a predictive relationship between spelling and decoding abilities and a majority of phonological processing abilities with the exception of nonverbal intelligence, phonological awareness, and rapid naming. The strongest relationship was found between decoding and spelling and decoding and spelling and phonological manipulations. As a teacher, this means in order to improve student decoding ability, it would make the most sense based on the predictability to focus on spelling and phonological manipulations during interventions.

Conclusion

In summary, after examining research studies and their findings from three major areas of decoding and encoding, word study, and phonological awareness, there are several important takeaways that will further influence my own research in the coming chapter. Within decoding and encoding, a recurring theme of the research from all articles was the importance of teaching specific strategies for decoding and encoding and ensuring that the work is engaging for students. The research projects were most effective when students were taught exactly how to decode words step-by-step and were actively a part of the learning. Within the section on word study, having activities that are multisensory was an overarching theme leading to significant academic gains for young readers. Whether students were involved in specifically engaging with different word patterns, word games, or songs and movements, having creative ways for emerging readers to interact with the words was a key factor in the success of each one of the research related to word study. Lastly, within the section on phonological awareness, each researcher seemed to focus specifically on the areas of spelling and phonological manipulations. Having small group interventions, regardless of the specifics of the intervention, also seemed to be a factor in this section. Each group of researchers found that simply by having more

individualized attention to look at each student's specific areas of struggle, there would be a positive effect. Overall, the research articles examined in this chapter laid the groundwork for my own research, detailed in the next chapter. Similar to much of the research found here, Chapter 3 describes the procedures of my own research, utilizing a word work intervention with a small group of struggling readers and writers.

Chapter Three: Procedures for the Study

Introduction

  In this chapter, detailed information will be described on the research that I conducted. First, the sample of four students who were chosen for this study and why I chose these students will be explained, second, the procedures of my study in detail include how I engaged students in the word work and guided reading section of the intervention as well as how things differed for the comparison group. Next, I laid out the pre and posttests that were used for this study and why I chose these tests to determine the effectiveness of my intervention. Lastly, a summary will be written on all the important pieces of the intervention procedures used in my research study.

Sample

  The sample for this research included four students who were struggling in the subject areas of reading and writing. All four of these students were kindergarteners from ages 5 to 6 years old in an urban charter school in a Midwestern district. Two of the students were female and two were male; all of the students in this study were students of color and qualified for our school free and reduced lunch program based on their low socioeconomic status. Prior to this study, all four of these students were receiving a tier three guided reading intervention for twenty minutes four days a week without much academic improvement compared to their peers. At the kindergarten level at the school where the research was conducted, students were expected to be reading at a level C according to the Fountas and Pinnel Guided Reading Program by the time they reached the end of third quarter of their kindergarten year which was when this study began. While their peers also participating in my tier three intervention lessons were making the appropriate gains, these four students had not made those gains. Three of the students were still reading at a level B and one students continued to read at a level A. The student who was reading

at a level A transferred to our school in October of the 2014-15 school years, but all students received the same interventions and were in the same class throughout the remainder of the school year and were receiving identical education as their peers.

Along with the four students in the sample test group described above, I also worked with another group of four students throughout the course of this study. This second group was also identified as the lowest achieving readers in their class. Although they had a different classroom teacher, the academic makeup of the group was nearly identical to the test group described above with all four students reading at a level B at the start of the study. This comparison group also had two males and two females and were an identical demographic.

Procedures

The main goal of my study was to determine if providing a word work intervention in conjunction with the guided reading intervention would help raise the students' reading scores. For seven weeks, students received their 15 minute word work section focusing on building new words using magnet letters and then applying their knowledge of these words in the readings. A 30 minute guided reading section then followed, ending with students doing a short writing to apply their word work and phonics skills in relation to their reading. This intervention occurred for a minimum of four days a week. Approximately twice a week, I administered a Fountas and Pinnel guided reading test to assess each student's ongoing progress.

The intervention conducted with my small group of four students followed the same plan each day. At the start of every 45 minute long session, students would sit in my intervention room at a small table. In order to prevent any distractions to their learning, we were the only group in the room at this time. The intervention began each day with students taking out their bag of magnetic word work letters along with their word mat. Before each lesson I would put

letters into the bags to correspond with the word ending and story that we would focus on for that day. The students would then use the word work letters to create different beginning sounds depending on the focus of the individual day. For instance, if the focus of the day was the "–op word family", students would create the -op ending with their word work letters and then as a group we would spend time talking about how adding different beginning sounds to that ending created new words. This word work portion of the lesson lasted about 15 minutes each day.

After the word work portion, students would take out their Fountas and Pinnel leveled book. All books we used were part of the Heinemann Orange Leveled Literacy Intervention program. The reading portion of the intervention would begin with looking through the new book together. This meant looking at the pictures on each page to help identify new or complicated words and solidifying sight words that were frequently used in the story. For instance when we read *Hop*, the book associated with the -op ending, we stopped on a page with a bunny so students would be prepared to find and identify that word. After looking through the book as a group, students would attempt reading the book on their own. As the instructor, I would listen in on their whisper reading to identify any areas students were struggling with.

After each student had finished the reading section, three students would engage in a cumulative writing activity. The writing activities for each story utilized the skill that we focused on during the word work section in conjunction with the story. For instance, with the story *Hop* the writing activity asked students to write about and draw what happened in the story using a fill in the blank template: _op went the _____. The goal of this writing activity was to have students fill in the blanks with the appropriate -op word and a character from the story. For example "Hop went the bunny" would have been an appropriate response for this story. During

this time, the student who was not engaging in the activity was given a Fountas and Pinnel running record test based on the previous lessons' book as a way for ongoing assessment. A student would rotate each day so that every student would be assessed once a week.

The comparison group for this study did not receive the intervention given to the test group. The comparison group continued throughout the 7 week study receiving the normal leveled guided reading program provided by the school. For twenty to thirty minutes each day over the seven weeks, these students read the same leveled books as the test group, but the procedures for the guided reading were "business as usual". Students in this group started each lesson by taking their guided reading book for the day and briefly discussing what they thought would happen in the book, based on the front cover and title of each book, thus using their prediction skills Students then choral read through the book. At the end of each lesson, students had a short discussion about the events in the book. This group also received ongoing Fountas and Pinnel running records for assessment on the books read to keep similar records of progress for each group.

Data Collection

In order to determine whether the intervention was effective, students in both groups were given   a pre and posttest at the start and finish of the study. At the beginning of my research, each student received a Fountas and Pinnel running record test as well as the Woodcock Reading Mastery Test (WRMT) for the sections regarding Rapid Automatic Naming and Word Attack. I chose to use the Fountas and Pinnel guided reading test because my school's choice for report cards and to determine retention was based on the results of this test and it would easily show any reading skills growth. I chose to use the Woodcock Reading Mastery sections because it shows more specifically the effect of the word work part of the intervention

used. Since these students struggled most with decoding and identifying words, this test showed the results in that area.

As stated above, I also gave ongoing running record tests throughout the study which both allowed me to adjust the time spent on specific word work skills accordingly and allowed me to have more detailed information at the end of the study. Prior to this intervention, the students were showing little to no growth in their reading scores. By assessing students reading scores throughout the intervention, I was able to see their growth throughout the program. At the end of the study, student's pre and post-test scores on the Fountas and Pinnel running record tests and from the Woodcock Reading Mastery Test were used to notice if there was significant growth in the student's reading skills.

Summary

Overall, my procedures for this study involved three main pieces. First, my student sample which included four kindergarten students, two female and two male, of low socioeconomic status, and who identified as students of color were chosen despite already receiving a tier 3 reading intervention, they were still reading below grade level and were being considered for retention. A comparison group of similar academic and demographic makeup was also chosen to compare to the test group. The procedures for this study involved having students participate in an intervention of a daily 45 minute long lesson, for 7 weeks. This intervention involved 15 minutes of word work using magnetic letters as well as 30 minutes of guided reading at the student's instructional level. Each lesson concluded with a short writing activity that incorporated student word work skills or a running record formative assessment. Lastly, I described my data collection. At the start and end of the study, I assessed the students using the Fountas and Pinnel guided reading test and the Woodcock Reading Mastery Test sections on

Rapid Automatic Naming and Word Attack. These tests allowed me to clearly see student growth directly from the intervention program because they tested the specific skills focused on in the intervention including decoding and overall reading ability. In the next chapter I will examine the results of the data collection from this intervention.

Chapter Four: Results

Introduction

In this chapter, the data collected throughout the study is presented and examined in order to measure and determine the effectiveness of the word work, guided reading and writing intervention for the decoding and overall reading abilities of my student sample when compared to the comparison group. To begin, the data from the Woodcock Reading Mastery test section on Rapid Automatic Naming and the test section on Word Attack is examined. Next, the mean scores of the test group and comparison group are compared on both sections. After looking at the Woodcock Reading Mastery, the focus will shift to the Fountas and Pinnel guided reading test. The mean scores from this test will also be compared between the test group and comparison group, breaking the scores down into reading accuracy and comprehension. Lastly, student overall guided reading level using Fountas and Pinnel will be examined.

Woodcock Reading Mastery Rapid Automatic Naming: Group Comparisons

The Woodcock Reading Mastery Rapid Automatic Naming test was given to help determine word recognition. This test section measures the speed and accuracy with which one is able to retrieve the names of known stimuli such as objects, colors, letters, or numbers. This section of the exam was given before and after the study. In table 1 below, the results for each group's mean scores are displayed.
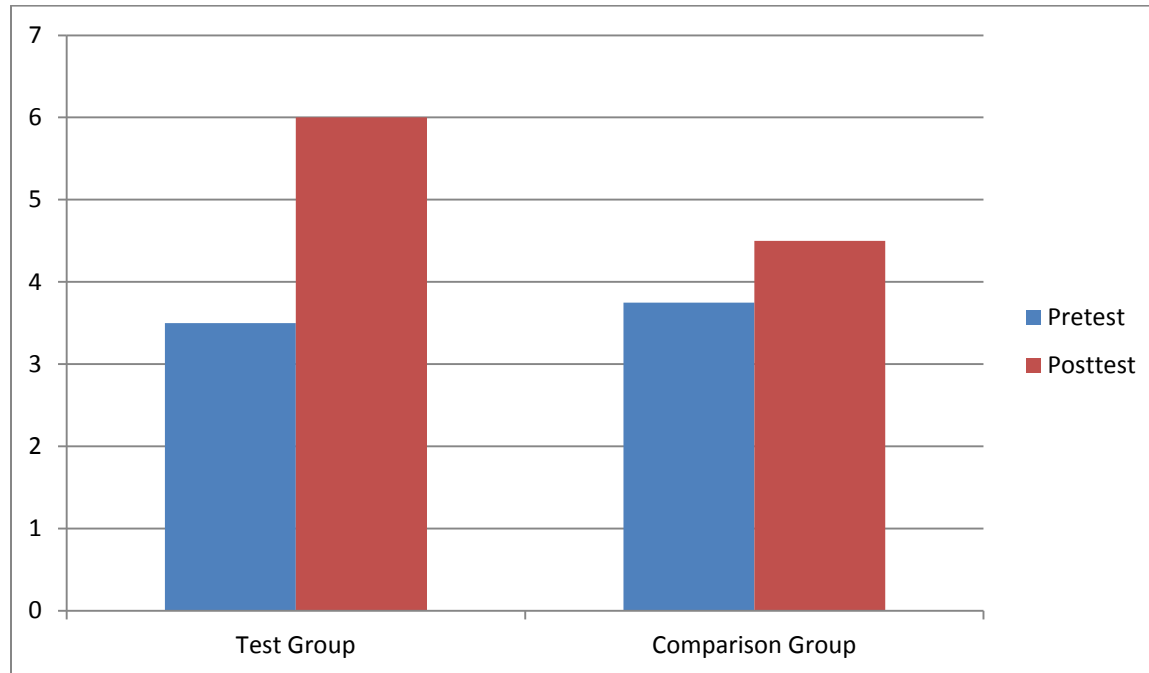
Table 1
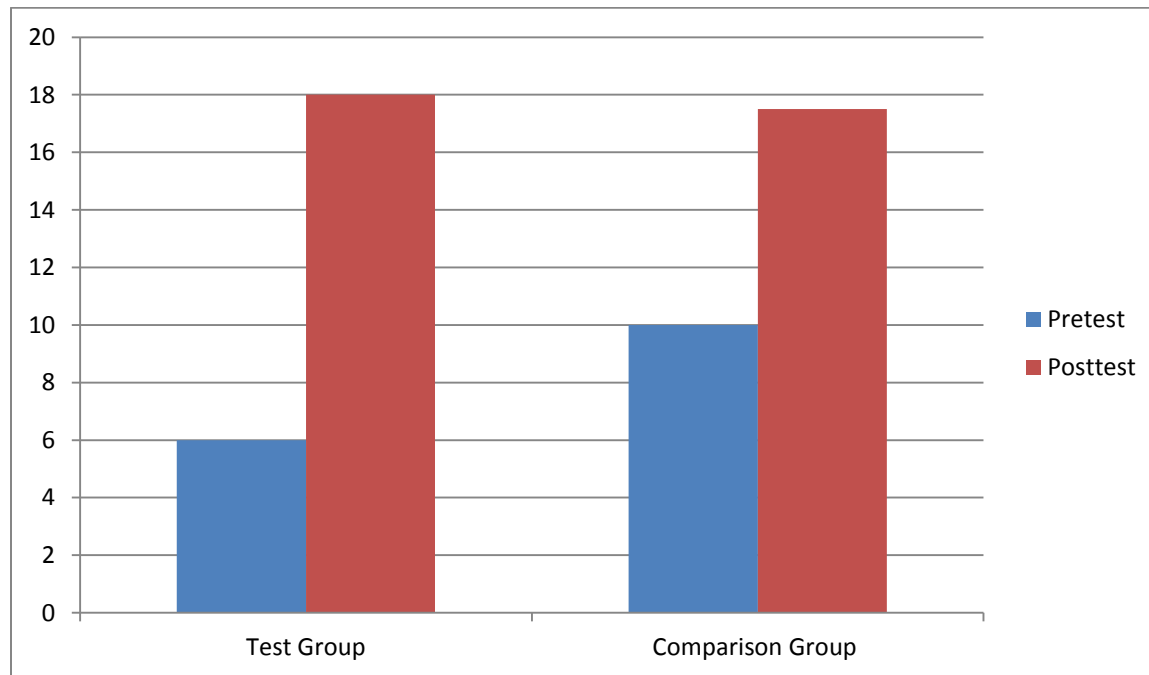
Here the findings from the Woodcock Reading Mastery Automatic Naming test section, graphed in Table 1 show that the test group's mean score for the pretest was a raw score of 6 points. The mean score for their posttests was a raw score of 18 points, an increase of +12 points. The test group, as described in chapter 3 participated in a 45 minute long intervention for seven weeks. The comparison group achieved a mean score of 10 points on the pretests. This score was quite a bit higher than that of the test group. Their posttest average climbed to 17.5 points, a gain of +7.5 points. The comparison group continued lessons as usual, receiving no additional intervention. The test group experienced the overall greatest increase in their mean score, about two times that of the comparison group.

Woodcock Reading Mastery Word Attack: Group Comparisons

The Woodcock Reading Mastery Word Attack test was given to help further determine phonics and structural analysis skills. This test section measures the ability to read nonsense

words. This section of the exam was given before and after the study. In table 2 below, the results for each group's mean scores are displayed.

Table 2

Here the findings from the Woodcock Reading Mastery Word Attack test section, graphed in Table 2, show that the test group's mean score for the pretest was a raw score of 3.5 points. The mean score for their posttests was six, an increase of +2.5 points. Once again, the test group, as described in chapter three participated in a 45 minute long intervention for seven weeks which included creating nonsense words using the magnetic letters. The comparison group achieved a mean score of 3.75 points on the pretests. Their posttest average climbed to 4.5 points, a gain of +.75 percentage points. The comparison group did not receive any additional instruction regarding the decoding of nonsense words. The test group experienced the greatest increase overall in mean score, approximately four times that of the comparison group.

Fountas and Pinnel Guided Reading Test: Group Comparisons

The Fountas and Pinnel test was given to determine the accuracy of each student's reading as well as their overall comprehension of the passages read. In this section, irst the accuracy on the level B book from the Fountas and Pinnel test given before and after the study, will be compared for accuracy and then it will be compared for comprehension. In table 3 below, the results for each group's mean scores are displayed.
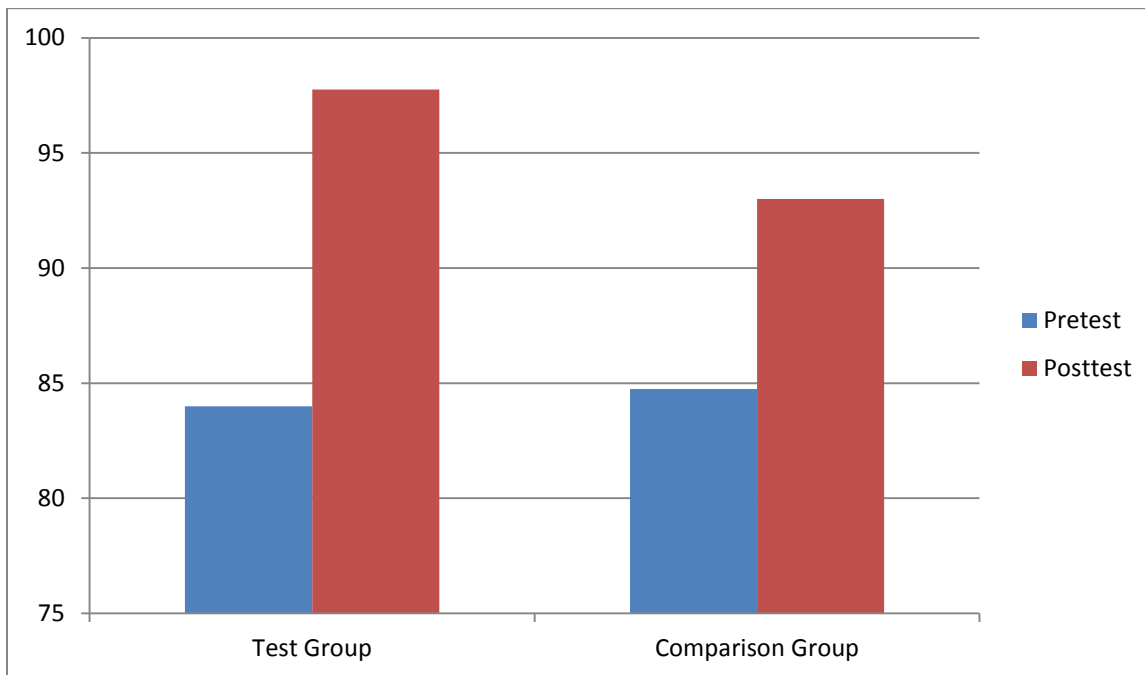
Table 3

Table 3 shows the accuracy of the test group's mean score for the pretest was 84%. The mean score for their posttests was 97.75%, an increase of +13.75 percentage points. Throughout the intervention, students in the test group were given frequent Fountas and Pinnel tests to determine ongoing growth while the comparison group was only given the pre and posttest. The comparison group achieved a mean score of 84.75% on the pretests. Their posttest average

climbed to 93%, a gain of +8.25 percentage points. . The test group experienced the overall greatest increase in mean score, just less than two times that of the comparison group.

As stated above, the Fountas and Pinnel Guided Reading test also tested comprehension which was given before and after the study. Comprehension scores on the level B passage are displayed in table 4 below.
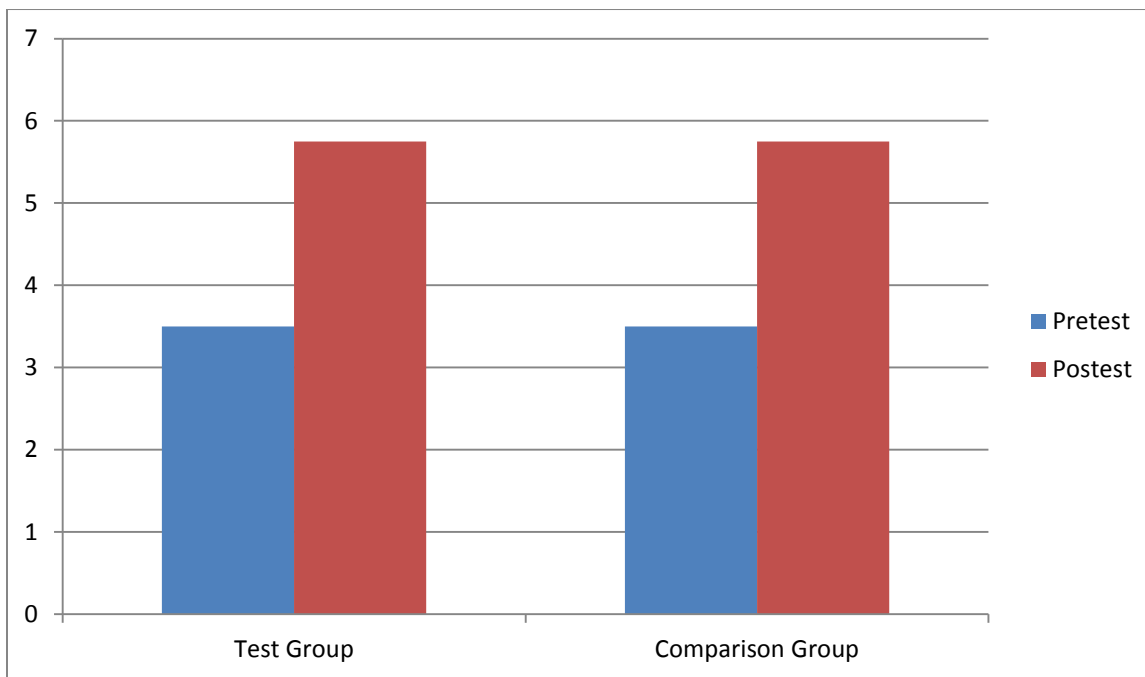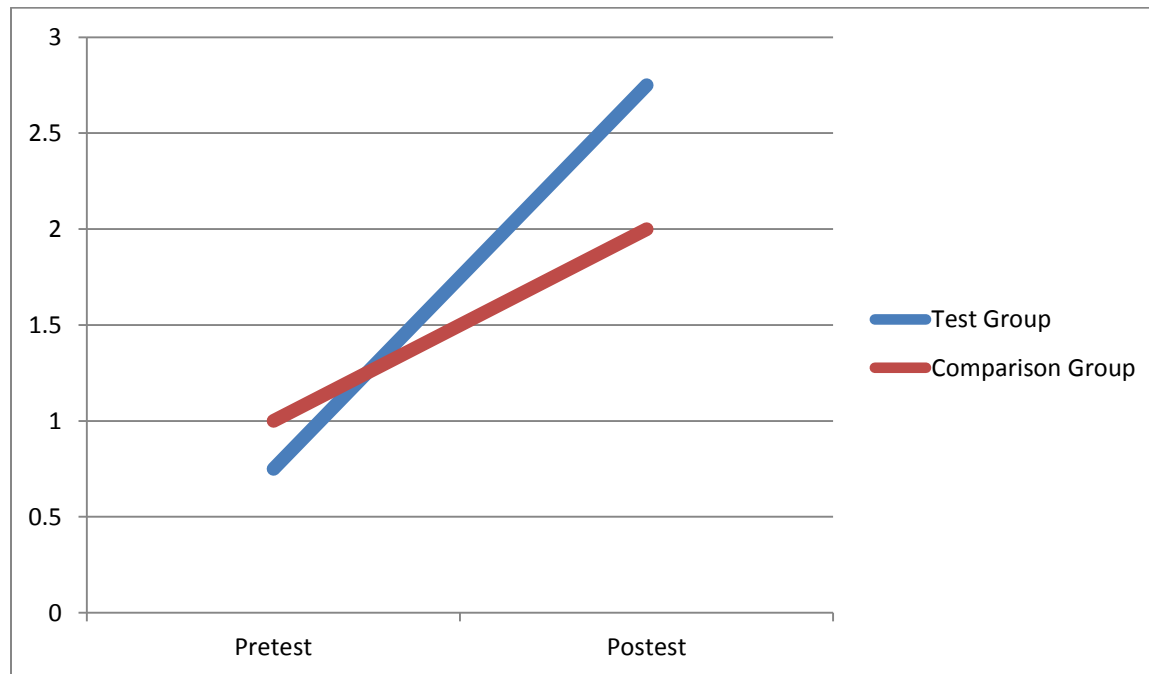
Table 4

Table four, shows the comprehension's mean score for the test groups' pretest was 3.5 points. The mean score for their posttests was 5.75 points, an increase of +2.25 points. Again, throughout the intervention students in the test group were also given frequent Fountas and Pinnel tests to determine ongoing growth in comprehension but the comparison group was only given the pre and posttest. The comparison group also achieved a mean score of 3.5 points on the pretest. Their posttest average also climbed to 5.75 points, a gain of +2.25 points. . Both groups saw the same increase in mean score over the course of the study.

Fountas and Pinnel Guided Reading Level

As stated in chapter three, all students in this study, both the control or test group and the comparison group, started the study with a guided reading level of A or below A. This level roughly equates to the end of the first quarter of a kindergarten reading level. This study was done during the fourth quarter when students were reading on average a level D and the cut-off for retention level was a level B. While the pre and posttest were given on the level B passage, students in each group were also given a running record test to determine their reading level at the end of the study. Table 5 shows the reading level growth from before to after the study for each group.

Table 5

In table 5 it shows that while each student started at a similar level, those students in the test group showed more reading level growth over time than those in the comparison group. For the purpose of this paper, each level was given a point value, below A receiving a 0 and each level after increasing by one point. Three of the students in the test group started at A level while one started at a below A level, resulting in a pretest of .75 points. The three students at a level A finished the study at a level C. The one student who started below A finished the study at a level B. This is shown on the table as a two- point gain from pretest to posttest. All four students in the comparison group began at level A, shown on the graph as starting with a pretest of 1.0 points. Each student in the comparison group finished the study at a level B, showing a one point gain. Overall, students in the test group showed an increase in reading level double of that shown by the comparison group.

Conclusion

Chapter 4 revealed the study's findings in regards to the Woodcock Reading Mastery Rapid Automatic Naming and Word Attack sections, the Fountas and Pinnel Guided Reading test for the Level B passage both in regards to accuracy and comprehension, and the final Fountas and Pinnel Guided Reading levels for each student within the test and comparison groups. It was shown that the test group made a greater amount of growth on the Woodcock Reading Mastery Rapid Automatic Naming section. The test group increased +12 points, while the comparison group made gains of +7.5 points. Similarly, it was shown that the test group made a greater amount of growth on the Woodcock Reading Mastery Word Attack section as well. The test group made gains of +2.5, while the comparison group made gains of +.75. In regards to the Fountas and Pinnel guided reading test using the level B passage, the test group made a greater amount of growth in regards to the accuracy section. The test group increased +13.75%, while

the comparison group made gains of only +8.25%. on the comprehension section; however, both the test and comparison group made similar amounts of growth. The test group increased +2.5, while the comparison group also made gains of +2.5. Finally, when examining overall reading levels at the start and end of the study, each student in the test group made a growth of two levels. Each student in the comparison group only grew one level. The data described above will be analyzed in Chapter 5 in order to draw conclusions about the overall effectiveness of the intervention done in the study.

Chapter 5: Conclusions

Introduction

In this chapter conclusions are drawn about the study overall. First, I will look at the problem addressed by the study and connect this action research with previous studies done. Next, I will explain my data findings and discuss the overall conclusion of the study. Then, I will examine the overall strengths of the study as well as its limitations. Lastly, I will make recommendations for how to best meet the needs of the particular group of students in my test group both at school and at home, making explicit connections to the Common Core State Standards used for Literacy in Wisconsin.

Connections to Existing Research

As discussed in chapter 3, the main goal of my study was to see if providing a word work intervention in conjunction with the guided reading intervention would help raise the test group students' reading scores. Within my classroom, I had a group of students who, despite being released for a small group reading intervention were still struggling in reading and had shown little to no growth over the course of the year thus far. In my study, those three students would receive an intervention at least four days a week for seven weeks that included 15 minutes of word work, 30 minutes of guided reading, and a short writing lesson to apply their word work and phonics skills in relation to their reading.

The study that I conducted drew upon and expanded upon many of the different pieces that were described in the various existing research studies that were examined in chapter 2. One piece that was a recurring theme in many of the previous research studies was the importance within the studies, specifically in encoding and decoding, to explicitly teach students strategies for this skill. For instance, in the study conducted by Pullen, P. C., Lane, H. B., Lloyd, J. W.,

Nowak, R., & Ryals, J. (2005) the researchers were examining the need for beginning readers to have repeated opportunities to develop decoding abilities. Specifically, this research found that when students were explicitly taught the essential components of beginning reading, the first graders in the study did significantly better when decoding pseudo words. In my own research, I also found that the students in the test group who were specifically being taught decoding strategies during the fifteen minute word work portion of the intervention scored higher on average than those in the comparison group who did not receive explicit instruction. Especially when, similar to in the study of Pullen, P. C., Lane, H. B., Lloyd, J. W., Nowak, R., & Ryals, J. (2005), they were tested on the Word Attack section of the Woodcock Reading Mastery which tested ability to read pseudo words.

The previous research also found that when students were involved in activities that were multisensory, students had more significant gains. Within the research of Wells, J.C., and Narkon, D.E. (2011) for instance, they experimented with the use of various word games using the Dolch Word List for that grade level. They used everything from mystery words, word-o, and word sorts and found these games had a large impact on the engagement of their students and therefore, also had an impact on their overall growth over the course of the study. In comparison in another article on word study, Walton (2014), looked at the use of movement and singing in building early reading skills. Walton found that after students were taught the songs and continued to utilize them throughout the school year showed significant gains on their posttest compared to those who did not receive songs and movement curriculum. While in my own research I did not use songs or games, the intervention engaged students in various different forms of learning styles from hands on, tactile, word work activity to engaging in writing, oral activities, and reading. Engaging students in my test group through multiple different types of

learning allowed the intervention in my study to impact all types of learners as compared to the regular guided reading curriculum that the comparison group participated in.

Although my own research found similarities to many of the different previous studies that were examined in chapter two, my research picked up at a point where many of those studies left off. Each one of the previous studies that I found focused on one particular aspect of reading as a part of their intervention. While it was important in my research to focus on specific skills, I found through previous attempts at interventions with this particular group of students that focusing on specific skills was not providing the results that I wanted. The primary reason for choosing this particular group of students for my test group was that if they didn't score higher on their guided reading level, they would be considered for retention. While focusing on specific skills during intervention provided gains in that particular skill area such as in the study done by Mathisen, K.,(2014) where students in peer mediated instruction on different phonological awareness showed gains on the Spelling Subtest of the Weschler Individual Achievement Test or the study done by Madsen, K. (2014) where students were taught decoding skills using pseudo words and then had gains on the Word Attack section of the Woodcock Reading Mastery Test, which focuses on pseudo words. In my own study, I t was imperative that students showed gains in both phonological awareness and decoding in order for them to be able to increase their reading accuracy and score at a higher reading level at the end of the study. It is for this reason that my study was multifaceted and focused on not only teaching specific decoding and phonological awareness skills, but also explicitly taught students how to put these skills into practice together to aid in reading unfamiliar passages.

Explanation of Results

In chapter four, the data that resulted from this study is laid out in order to clearly present and analyze the effectiveness of the study. From this chapter, we are able to conclude that the intervention was successful overall in helping the students in the test group to make academic growth. When looking at the pre and posttest results of both the Rapid Automatic Naming and the Word Attack sections of the Woodcock Reading Mastery test, we can see that on both tests, the test and comparison group started off the study with very similar scores. By the end of the study; however, the test group had scored two times higher than the comparison group on the Rapid Automatic Naming Section and two times higher on the Word Attack sections. Since these two sections specifically measured the phonological awareness and decoding respectively, we can conclude that the word work section of the seven week intervention which specifically focused on phonological awareness and decoding had a positive effect on the students in the test group, when compared to those in the comparison group who did not receive any word work intervention.

The pre and post tests using the Fountas and Pinnel level B passage also showed that when looking at the accuracy score, the test group scored two times higher than the comparison group. This test showed the ability of students to apply the phonological awareness and decoding skills to their reading. Due to the fact that the test group did score two times higher than the comparison group on this section, we can also conclude that the second portion of the intervention done with the test group that focused on applying the new skills was successful. The comprehension scores on the Fountas and Pinnel level B passage, however, were very similar for both the test group and the comparison group. This makes sense because the intervention given to the test group didn't focus on comprehension skills. When starting the study, I had originally

thought that better reading accuracy would have a significant effect on the comprehension abilities of the test group, but the results of the data did not show that to be true.

Finally, having students take the Fountas and Pinnel running record to find their reading level at the end of the study as compared to the start of the study really brought all aspects of the intervention together. At the start of the study, the problem that I was most concerned about was finding a way to effectively teach my students the skills to be able to increase their reading level to one that would allow them to be promoted to the first grade. All of the students in both the test and comparison groups started at a level A or below A. In order to qualify for promotion, they needed to finish the study at a level B. All students in both groups met this goal; however, those in the test group made gains of two levels while those in the comparison group gained one level. Since this final test applies every aspect of the intervention and puts it to the test, we can conclude that overall the intervention was successful and that my hypothesis that providing students with an intervention that combined word work and guided reading would lead to an increase in reading level to be true.

Strengths and Limitations

With the research that I conducted and the intervention that was given, there were both strengths and limitations in regards to the research as a whole. First, I will discuss the strengths of this research project, and then I will discuss the limitations.

One of the biggest strengths I found in the intervention that I conducted with the small group test sample was that explicitly instructing students in the areas of decoding and phonological awareness made a large impact on their scores in these areas. Laying out for students in a very direct way throughout the intervention, step by step, how to decode each new word and then how to use that decoding in their reading made the intervention as a whole more

successful. Through the results on the Woodcock Reading Mastery Subtests, it is clear that teaching those specific skills led to significant gains in those specific areas. Another strength of this intervention was that it was multisensory. The group of students who were chosen for the test group struggled with the traditional means of learning, so being able to engage students in various ways allowed them to grasp the skills throughout the intervention regardless of individual learning style. Lastly, a strength of this intervention was that it was multi-faceted. In most of the research that was examined in chapter two, researchers focused on either decoding or phonological awareness, but did not pair these findings with overall reading level. The results of this research, however, showed the results of both the individual skills and its overall impact on reading level. As a kindergarten teacher, having the ability to see trends both with individual skill and see that translated to reading level is a useful connection to be able to make.

Although there were many strengths in the intervention, there were also several limitations. One of the greatest limitations was that although we can reasonably conclude that the specific areas of intervention impacted specific skills having multiple groups to compare would make this clearer. Being able to test specific aspects of the intervention separately across more groups would allow me to know with more certainty whether the magnet word work, for instance, led to increasing scores in the Word Attack subtest. Another limitation of this research was that the groups were small and the results may not be applicable to all demographics or student groups. Since I was limited to testing students at the school in which I taught, all of the students represented the same demographic. The last limitation is that the study did not have significant effect on comprehension. Throughout the intervention, comprehension was not a skill that was focused on, but it was a part of the Fountas and Pinnel reading level test given. If I were to do this study again, I would either choose to include comprehension in the intervention more

specifically, or remove the comprehension section from the Fountas and Pinnel reading level test.

Recommendations

As a result of this research there are several recommendations that can be made for the students in the test group. First, I will make several school recommendations, and. I will make recommendations for use at home.

Much of the intervention given to the students in the test group throughout this research provides different recommendations for those students at school. While the intervention was largely successful, students could benefit from continuing to work on the skills focused on. The first recommendation for use at school is continued small group or individualized attention. The next recommendation I have is teaching through very explicit skill instruction; when skills were taught to these students in a very explicit way and were not combined with other skills or distractions, the students picked up on the ideas more quickly. Lastly, I would recommend guided practice to put these skills into practice. The student's in the test group often struggled with using the skills taught immediately, so guiding them first on how to use skills learned in class will help them continue to grow and achieve as learners.

At home, the recommendations I have are very similar to those at school. In general, the students within this particular test group were not doing activities at home to expand on their learning at school. My first recommendation is that students are provided with independent and instructional level reading opportunities at home. Sending books home with students who are at their independent reading level for students to read on their own at home, and several instructional level books to read with their parent or guardian would help to build the connection from school to home. I would also recommend engaging students in simple word work activities

at home. Although many of the students in my test group specifically may not have the means or time to engage in in depth word work activities, something as simple as using magnetic letters on the fridge to form and sound out words would make a huge difference for these students. My final recommendation for work at home would be to increase school to home communication so parents know specifically what their students are working on and how those interventions are affecting their learning and growth.

Conclusion

Overall, the intervention that I performed with my students was successful and my starting hypothesis that providing students with a small group intervention focused on word work would lead to gains in reading level was correct. Through my data, I found that the intervention led to significant gains in Word Attack, Rapid Automatic Naming, and Fountas and Pinnel reading levels for the test group when compared to the comparison group. The research conducted held strengths in its ability to impact student scores in decoding and phonological awareness through the multisensory intervention provided, but it had limitations in its small size and lack of potential applicability to other student groups. The students in the test group will benefit from further explicit instruction during small groups at school, and additional practice with reading and word work in the home.

Appendix A

List of Tables

Table	**Page**

Appendix B

Bibliography

Abbot, M. (2001). Effects of traditional vs. extended word-study spelling instruction on student orthographic knowledge. *Reading Online, 5*(3). Retrieved from: http://www.readingonline.org/articles/art_index.asp?HREF=abbott/index.html

Cohen, E. T., Heller, K. W., Alberto, P., & Fredrick, L. D. (2008). Using a three-step decoding strategy with constant time delay to teach word reading to students with mild and moderate mental retardation. *Focus on Autism and Other Developmental Disabilities, 23*(2), 67-78. Retrieved from: http://0-search.proquest.com.topcat.switchinc.org/docview/205058645?accountid=9367

Donnell, W. J. (2007). The effects of multisensory vowel instruction during word study for third-grade students. *Reading Research Quarterly, 42*(4), 468-471. Retrieved from: http://0-search.proquest.com.topcat.switchinc.org/docview/212122nc

Kayiran, B.K., & Karabay, A. (2012). A Study on Reading Comprehension Skills of Primary School 5th Grade Students – Learning Basic Reading and Writing Skills Through Phonics-Based Sentence Method or Decoding Method. *Educational Sciences: Theory & Practice, 12*(4), 2854-2860

Lemons, C. J., Mrachko, A. A., Kostewicz, D. E., & Paterra, M. F. (2012). Effectiveness of Decoding and Phonological Awareness Interventions for Children with Down Syndrome. *Exceptional Children*, *79*(1), 67-90.

Madsen, K. (2014). The Use of Pseudowords for Decoding Instruction. *University of Florida Digital Collections*. Retrieved from: http://ufdc.ufl.edu/UFE0045936/00001

Mathisen, K.Q. (2014). Best Practices in Reading Instruction for Emergent Readers. *California State University of Sacramento Digital Collections.* Retrieved from: http://0web.a.ebscohost.com.topcat.switchinc.org/ehost/pdfviewer/pdfviewer?sid=acccd626-f6a9-479d-9471-9a70215e56ef%40sessionmgr4001&vid=1&hid=4207

Pullen, P. C., Lane, H. B., Lloyd, J. W., Nowak, R., & Ryals, J. (2005). Effects of explicit instruction on decoding of struggling first grade students: A data-based case study. *Education & Treatment of Children, 28*(1), 63-75. Retrieved from: http://0-search.proquest.com.topcat.switchinc.org/docview/202674331?accountid=9367

Strattman, K., & Barbara, W. H. (2005). Variables that Influence Decoding and Spelling in Beginning Readers. *Child Language and Therapy, 21*(2), 165-190. Retrieved from: http://dx.doi.org/10.1191/0265659005ct287oa

Walton, P. D. (2014). Using Singing and Movement to Teach Pre-reading Skills and Word Reading to Kindergarten Children: An Exploratory Study. *Language & Literacy: A Canadian Educational E-Journal*, *16*(3), 54-77.

Weiser, B.L. (2013). Ameliorating Reading Disabilities Early: Examining an Effective Encoding and Decoding Prevention Instruction Model. *Learning Disability Quarterly, 36*(3), 161-177.

Wells, J.C., and Narkon, D.E. (2011). Motivate students to engage in word study using vocabulary games. *Intervention in School and Clinic.* Retrieved from: http://isc.sagepub.com/content/47/1/45