

**The Effects of Phonics Instruction**  
**on**  
**Reading Fluency of First Grade Students**

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## Table of Contents

List of Tables	i
List of Figures	ii
Abstract	iii
I. Introduction	1
Statement of Problem	1
Hypothesis	2
Operational Definitions	2
II. Review of Literature	3
Phonics and Reading Comprehension	3
Students Who Struggle	4
Interventions and Strategies	6
Summary	7
III. Methods	8
Design	8
Participants	8
Instrument	9
Procedure	10
IV. Results	11
V. Discussion	18
References	24

## LIST OF TABLES

Table 1: Descriptive Statistics, Phoneme Segmentation	12
Table 2: Descriptive Statistics, Nonsense Word Fluency	12
Table 3: Descriptive Statistics, Oral Reading Fluency	12
Table 4: Descriptive Statistics, Word Use Fluency	13

## LIST OF FIGURES

Figure 1: Control Group, Phoneme Segmentation	13
Figure 2: Treatment Group, Phoneme Segmentation	14
Figure 3: Control Group, Nonsense Word Fluency	14
Figure 4: Treatment Group, Nonsense Word Fluency	15
Figure 5: Control Group, Oral Reading Fluency	15
Figure 6: Treatment Group, Oral Reading Fluency	16
Figure 7: Control Group, Word Use Fluency	16
Figure 8: Treatment Group, Word Use Fluency	17

## **Abstract**

The purpose of this study was to examine the effects of different phonics curricula on the reading fluency of first grade students. The participants of this study were enrolled in first grade at Joppa View Elementary School in Baltimore County for the 2008 – 2009 school year. All of the students received the Open Court Phonics curriculum while the treatment group received the DIBELS phonics curriculum in addition. The treatment group participated in 20 minute small group instruction for 3 days per week beginning in January and ending in May. While both groups increased their scores on the post-test, the hypothesis was only supported for 3 of the 4 sub-tests. Research in this area should continue to determine the best methods for phonics instruction.

## **CHAPTER ONE**

### **INTRODUCTION**

This action research study originates with the personal experience of the researcher. Having taught third grade for four years, the researcher primarily interacted with students who had very developed reading skills. A move to first grade took place during the 2008-2009 school year during which the researcher noticed a great need for phonics instruction to promote the developmental reading skills. Despite the fact that the majority of the students in the class had attended Baltimore County Public Schools for kindergarten, their phonics skills ranged from poor to excellent. The same seemed to be true for the other three first grade classrooms in the school. This disparity in reading ability prompted many questions and concerns. It was unclear whether the current phonics curriculum was having any impact on the students or whether the school was using the best phonics instruction technique, and few interventions seemed to be in place to help students who were not performing well. Since much of the research recommended teaching rhyming words, onset and rime, and fluency, a study took shape in which an instructor would work intensively with small groups of students teaching and assessing this skill in addition to instruction in phoneme segmentation, another crucial skill found to be lacking in the first grade students used in this study.

#### **Statement of Problem**

The goal of this research was to determine effective ways and strategies for children to learn phonics skills, and in turn gain strong reading comprehension skills. Research suggests that phonics skills are directly related to reading comprehension, so consequently this study focused on determining the most effective ways of teaching beginning readers phonics skills.

## **Hypothesis**

Research in the field provided insight on the nature of effective reading skills and techniques that led to the acquisition of such skills. Many researchers recommended techniques similar to those found in the DIBELS curriculum (Litt, 2007), which leads to the following hypothesis:

It is hypothesized that after intensive DIBELS teaching, first grade students will have learned more phonics skills than they would using only the Open Court method of teaching phonics.

## **Operational Definitions**

*DIBELS* (Dynamic Measurement Group, 2005) is a curriculum and testing program put in place by Baltimore County Public School System to monitor student progress. The DIBELS test provides teachers with benchmarks and testing materials as well as a framework curriculum for the teachers to follow.

*Open Court Curriculum* (McGraw-Hill, 2002) is provided to Baltimore County teachers as their sole phonics curriculum. The curriculum provides teachers with partially scripted lessons to aid in the teaching of phonics. Teachers are provided with materials such as an alphabet strip, decodable, reproducible books, worksheets, and student materials to supplement each lesson.

## **CHAPTER TWO**

### **A REVIEW OF THE LITERATURE**

This literature review seeks to explore the importance of phonics skills on reading comprehension of beginning readers, specifically first grade students. Section one provides an overview of what phonics is and how it is related to reading comprehension. Section two discusses the characteristics of students with poor phonics skills. Section three discusses interventions and strategies that would benefit students with poor phonics skills.

#### **Phonics and Reading Comprehension**

Phonics, according to Webster (2008), is a method of teaching beginners to read or enunciate by learning to associate certain letters or groups of letters with the sounds they commonly represent. Given the complexity of the English language this sounds like a daunting feat. Although there are only twenty- six letters in the English alphabet, there are over forty sounds, or phonemes, expressed by those twenty- six letters. Learning which letter represents each sound and being able to recognize and blend those sounds is the essence of phonics in the elementary school setting (Bruns & Pierce, 2007). Phonics goes beyond just sounds to encompass rime, onset, segmentation and blending.

It is believed that without a strong understanding of phonics, students would have difficulties learning to read, comprehending what they are reading, and enjoying the very act of reading. Littleton, Wood and Chera (2006) agreed, and went on to say that, “extensive reading literature shows that phonological awareness is an important precursor skill to successful reading acquisition” (p. 384).

A beginning reader who has acquired a strong understanding of phonics skills is fluent in many skills such as; i) letter sound correspondence and blending sounds to form words, for



example, taking *cat* and blending /k/ /a/ /t/ to fluently read *cat* (Fowler, 1999), ii) recognizing groups of letters to make a single sound is another skill strong beginning readers acquire, for example, readers need to know that *-tch* says /ch/, *-dge* says /j/, *bl* says /bl/, etc. A beginning reader should also be able to list and recognize rhyming words. Detecting onset, the beginning sound in a word, and rime, the ending sound of a word, is another characteristic of a beginning reader who has acquired strong phonics skills. Students must be able to decipher sounds and break them apart in order to match the sound(s) with the appropriate letter(s). This is not only important in reading words, but also in writing them. For example, using the word *pet*, if a student can identify /p/ as onset and *-et* as rime, then he/she has mastered that skill. Lastly, detecting alliteration is another building block a beginning reader must have. Being able to notice when a string of words starts with the same letter, for example, Sally sells seashells by the seashore, helps readers have a strong letter sense, which will in turn help them read more fluently.

All of these skills aid the student in becoming a fluent reader, and therefore leading to a strong understanding of the material. Phonics, while not the only building block, is a crucial part of building the foundation of reading skills and reading comprehension.

### **Students Who Struggle**

It is crucial that teachers of all student age groups, especially pre-elementary and early elementary, need to be able to detect both strengths and weaknesses in their students (Sears, 1999). Reading difficulties rank high in the “red flag” category of serious concerns. Teachers must be aware of what characteristics are warnings when a student is lacking phonics skills. Litt (2007) comprised a list of “Ten Rules for Reading” which pinpoint many characteristics of students with poor phonics skills. In her work she mentions that children who substitute a more

familiar word for the actual word often have trouble with phonics skills. For example, many students might substitute *from* for *form* because of the close similarity of the letters. This should signal to the teacher that the student is not noticing letter order and, therefore, needs to be taught to read from left to right, and match sounds in the correct order. Litt also mentions that when children rely too heavily on the picture and invent their own story to match, they are not learning how to decode and read fluently. While this is a useful strategy for toddlers and young children, and should be commended at a young age, kindergarten and school aged children should not be exhibiting such characteristics anymore. Doing this should signal to the teacher that the student is not comfortable sounding out words, and/or is unable to do so and, therefore, needs further phonics instruction. Litt goes on to mention that ignoring letters is another common mistake made by students with poor phonics skills. For example, if a student sees the word *people* but only reads *peep*, this is telling the professional that the student does not know that every letter has a sound and, therefore, a job in the word. Phonics teachers must convey to children that every letter has a job, and readers cannot exclude any letters/sounds. Students not noticing familiar “chunks” are the last of Litt’s rules that relate to children with poor phonics skills. At an early age students should be able to recognize familiar “chunks” in words. For example, *old* is a common chunk and once a student learns it, he/she should be able to read *cold*, *bold*, *older*, *folder*, etc. If a student struggles with recognizing the pattern, then it is obvious that he/she does not have a grasp on the function of each letter.

While Litt (2007) provided an overview of the first four characteristics of a student with poor phonics skills, there are other warning signs. Seymour, Duncan and Bolik (1999), Singleton (2005), and Walton and Walton (2002) characterize poor and/or lack of comprehension as another sign that students are struggling with their phonics skills. If students

cannot sound out and/or decode, than they are not making sense of what they are reading, and therefore not comprehending. If beginning readers cannot understand a simple text, then they most likely are having trouble with phonics skills. Trouble with reading/sounding out/writing nonsense words is another warning sign that a student is struggling (Roch & Jarrold, 2008). It is believed that once a beginning reader knows the rules of the English language he/she will be able to read unfamiliar and non-sense words. Not only is the student expected to sound them out, but he/she is, theoretically, able to spell them as well. Students who lack this skill have apparent troubles with their phonics skills.

A strong disinterest in reading as a whole is another characteristic of a student who struggles with phonics. It is not a secret that if a child can not do something well, he/she probably does not like it. If a teacher notices that a child has a strong dislike for reading, further investigation should take place. Reading is hard for those who are poor readers, and experts believe that if you cannot read, there is a strong possibility that you cannot decode (Johnston & Watson, 2004). This emphasizes the need for phonics instruction.

### **Interventions and Strategies**

There are countless beliefs on the best ways to introduce phonics. The experts seem to agree on most. First and foremost, students must learn each letter makes a sound and sometimes groups of letters make a sound (Litt, 2007). In some studies, researchers worked with small groups of students strictly with flashcards (Littleton, et al, 2006; Walton & Walton, 2002). Students were asked to produce the sound the letter(s) made in hopes that they would be memorized.

A second technique that was often used was the use of Elkonin sound and/or Clay letterboxes (Schmidgall & Joseph, 2007). The idea of these is to match a letter or letter group for

every sound the student hears. For example, when sounding out the word *cat*, the student would first break the word into the sounds he/she hears (/k/, /a/, /t/). Next the student would draw/use the same number of boxes for each sound and match a sound to a box. This would encourage students to realize that every sound has a letter.

Lastly, books and/or computer software were another helpful tool in teaching beginning readers phonics skills (Littleton, et al, 2006). In this type of technology students could opt to hear entire selections read aloud, partial selections, entire words and/or parts of a word. This strategy brought an element of fun to learning how to decode and building a strong sense of phonics to beginning readers.

### **Summary**

Overall, phonics are an important part in the acquisition of reading skills and therefore, important in developing strong readers. While there have been interventions researched, studied and practiced, there is further research and studies to be done. Increased interventions would give teachers more options when faced with a student in need of phonics skills.

## **CHAPTER THREE**

### **METHODS**

The goal of this research was to determine which type of phonics instruction better benefits students learning to read.

#### **Design**

Since the study involved a treatment and a control group, a quasi-experimental design was used. The control group was comprised of 13 first graders who received phonics instruction only through Open Court phonics instruction (McGraw-Hill, 2002). The treatment group consisted of the other 13 students in the classroom who received both Open Court instruction as well as intense DIBELS instruction (Dynamic Measurement Group, 2005), including small group interventions.

In this research the pre /post test used was the Winter Benchmark for the DIBELS Phonics Assessment(Dynamic Measurement Group, 2005). Students were given the benchmark in January, and then the same test was given in May. In the interim, students were exposed to a variety of phonics instruction as well as to the Baltimore County curriculum.

The independent variable in this study was the type of instruction the students received. Some students received intense phonics instruction as determined by their DIBELS (Dynamic Measurement Group, 2005) scores, while others received phonics instruction as taught from the Open Court Teacher's Guide (McGraw-Hill, 2002). The dependent variable was students' reading comprehension and their DIBELS scores on the benchmark administered in May.

#### **Participants**

The research was conducted in a Baltimore County elementary school with first grade students. The school is located in the northeast section of Baltimore County and services

approximately 600 students. For this study the researcher used the 26 students in her first grade classroom. The class was comprised of 13 girls and 13 boys. The entire class except for 2 students went to a Baltimore County school for kindergarten. The 2 who did not attend a Baltimore County school for kindergarten attended kindergarten in different countries, 1 in Korea and the other in the Dominican Republic. Those students received ESL services. The class was comprised of 10 Caucasian students, 9 African-American students, 3 Asian-American students, 2 Latino students, and 2 Indian-American students. While the class was very racially diverse, they were not as economically diverse. The school is located in a very strong middle class area and only 2 of the students in the class received free and reduced meal services.

### **Instrument**

There were two instruments used in this research. The first and most significant was the DIBELS assessment (Dynamic Measurement Group, 2005). Baltimore County uses DIBELS to track student acquisition of phonics skills. Students are tested in kindergarten through third grade to gauge whether or not phonics skills have been acquired. In first grade, students are tested in the following areas: nonsense word fluency, phoneme segmentation, letter recognition, sound recognition, and oral reading fluency. The DIBELS test is research-based and used throughout Baltimore County as a means for tracking student progress throughout the primary grades (Dynamic Measurement Group, 2005).

The second instrument used in this research was the Open Court (McGraw-Hill, 2002) method of teaching phonics. This is the curriculum used in Baltimore County for phonics instruction. It focuses on teaching students the specific sound/s a letter makes in addition to the spellings of those sounds. For example, when learning the long “I” sound, students are exposed to the many different spellings that make the long “I” sound, such as *i\_e*, *igh*. The Open Court

manual also provides teachers with reproducible books they can give to their students; the manual focuses primarily on the new sound being taught.

### **Procedure**

The execution of this research started in January 2009 when all 26 students were given the Winter Benchmark of the DIBELS assessment (Dynamic Measurement Group, 2005). From there, the researcher divided the class into two groups each consisting of 13 students each. The control group carried on with their regular phonics instruction, which was the Open Court material (McGraw-Hill, 2002). The treatment group received more individualized instruction using the DIBELS tested areas as a guide. This treatment group met three times a week for a 20 minute period beginning in January and ending in May. During each session, students worked on a variety of skills to enhance their understanding of phonics and become better readers. The main focus of the small group sessions was sound-letter recognition and correct spelling of each sound. The students also intensely worked on blending one and multi-syllable words. Blending of nonsense words was also practiced as this helped students blend unfamiliar words and use their phonics skills to learn new words. Lastly, fluent reading was tackled. The researcher timed students on the number of words accurately read in 1 minute, and then asked the students to recall the information read.

The information gathered in each session provided the researcher with much of the data. During each small group session, the researcher recorded the progress each student made. At the end of each session an informal review was given to each student to reiterate the skills taught. The students were retested monthly using a test based on their original pretest. While the exact content of the monthly tests differed, the format was almost identical to the pretest they already took. The post test was administered in May.

## CHAPTER 4

### RESULTS

This study compared the results of DIBELS (Dynamic Measurement Group, 2005) testing on first grade students. A total of 26 students participated in the study. All of the students were enrolled in Joppa View Elementary School in Baltimore County for the 2008-2009 school year.

The hypothesis stated that the students from the treatment group, would perform better on the DIBELS testing due to their increased phonics instruction using the Open Court Program in conjunction with small group interventions and pull out sessions than the students from the control group who only received the basic Open Court Program (McGraw-Hill, 2002).

The participants were given a pre-test in January, 2009 and a post-test in May, 2009. The students were tested in four areas: phoneme segmentation, nonsense word fluency, oral reading fluency, and word usage. A comparison of means for independent samples *t*-test analysis was then performed and the results for 2-tailed *t*-test showed:

1. For phoneme segmentation no significance and, therefore, this section does not support the hypothesis.
2. For nonsense word fluency significance was shown in the post-test and the treatment group did improve over the control group after treatment which supports the hypothesis.
3. For oral reading fluency the test showed extreme significance on the pre-test and post-test results. In order to account for the difference, a co-variance test was run and showed extreme significance of .000. We cannot state that the hypothesis was supported for this area. The results will be discussed in Chapter 5.



4. For word use fluency tests showed significance for the pre-test and no significance for the post-test and, therefore, the hypothesis was not supported.

**Table 1: Descriptive Statistics, Phoneme Segmentation**

Students		N	Mean	Std. Deviation	Std. Error Mean	t	Sig. (2-tailed)
Pre-Test (Phoneme Segmentation)	Treatment Group	13	50.6923	13.54243	3.75599	.189	.852
	Control Group	13	49.4615	19.18166	5.32003	.189	.852
Post-Test (Phoneme Segmentation)	Treatment Group	13	58.0769	11.90561	3.30202	-1.025	.315
	Control Group	13	63.7692	16.08909	4.46231	-1.025	.316

**Table 2: Descriptive Statistics, Nonsense Word Fluency**

Students		N	Mean	Std. Deviation	Std. Error Mean	t	Sig. (2-tailed)
Pre-Test (Nonsense Word Fluency)	Treatment	13	9.0000	6.55744	1.81871	.567	.576
	Control	13	7.4615	7.25276	2.01155	.567	.576
Post-Test (Nonsense Word Fluency)	Treatment	13	35.3077	10.97258	3.04325	2.816	.010
	Control	13	23.5385	10.32485	2.86360	2.816	.010

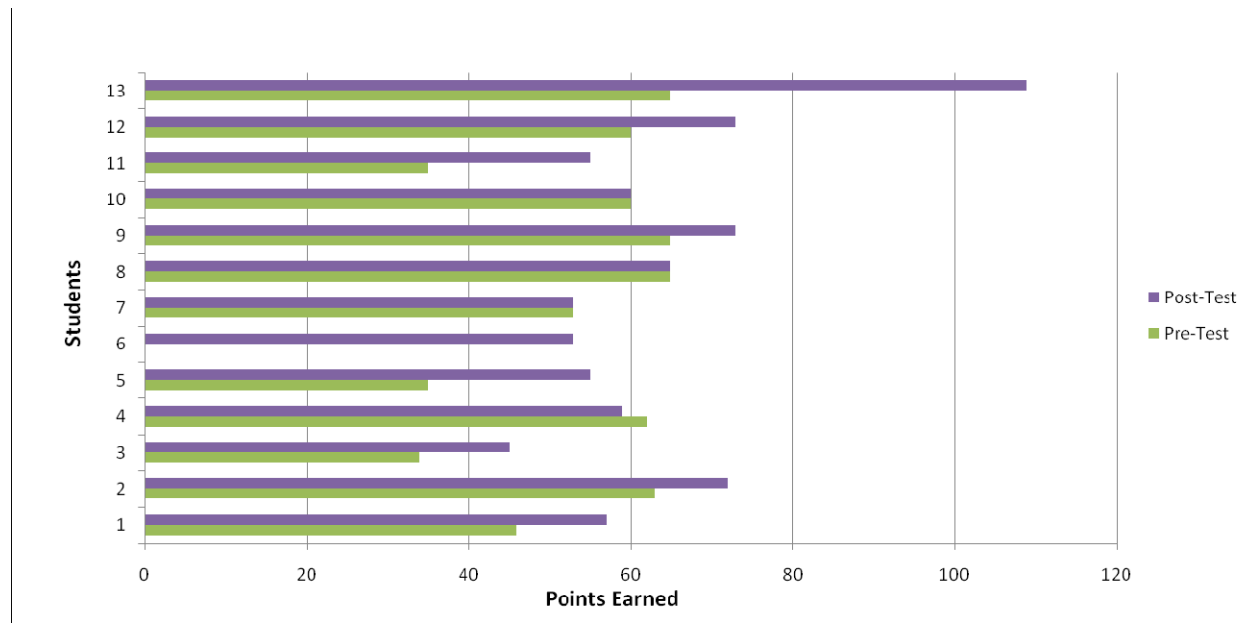
**Table 3: Descriptive Statistics, Oral Reading Fluency**

Students		N	Mean	Std. Deviation	Std. Error Mean	t	Sig. (2-tailed)
Pre-Test (Oral Reading Fluency)	Treatment	13	77.7692	18.85539	5.22954	5.115	.000
	Control	13	37.9231	20.81450	5.77290	5.115	.000
Post-Test (Oral Reading Fluency)	Treatment	13	100.6154	11.02677	3.05828	6.456	.000
	Control	13	59.8462	19.92003	5.52482	6.456	.000

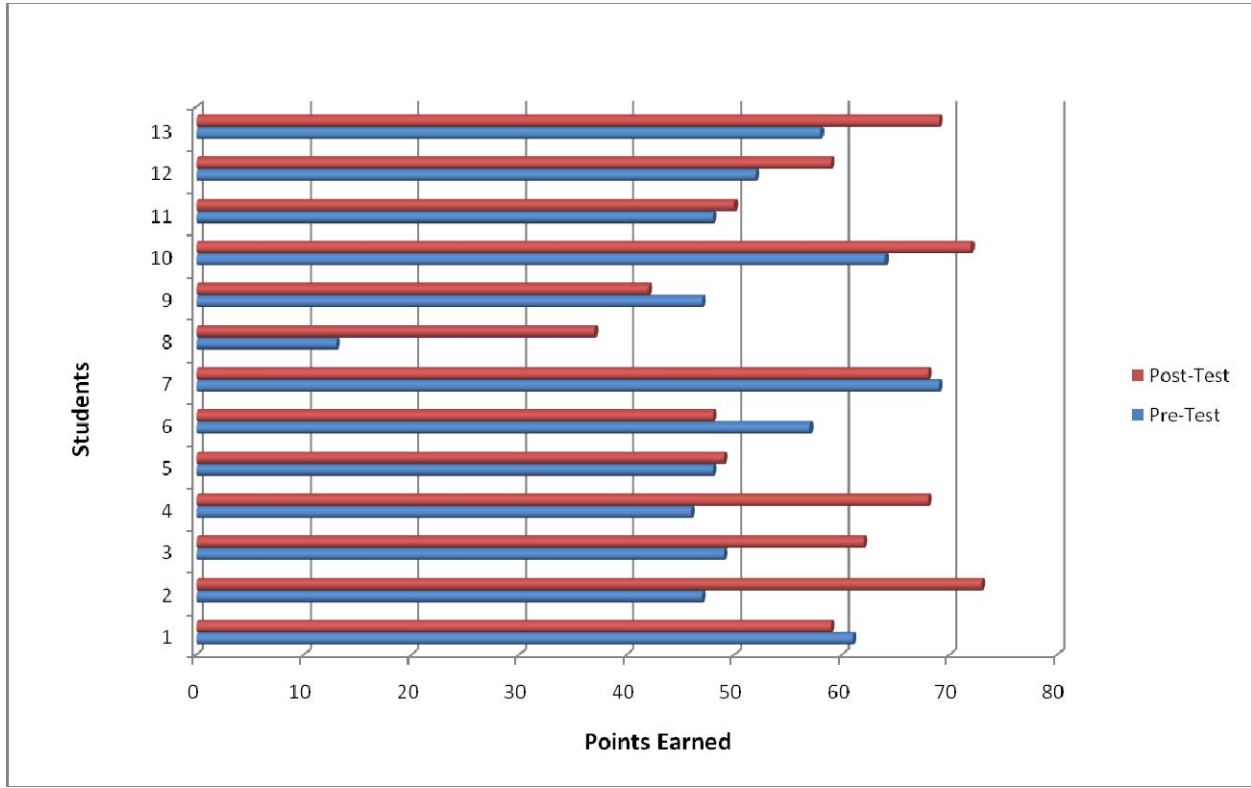
**Table 4: Descriptive Statistics, Word Use Fluency**

	Students	N	Mean	Std. Deviation	Std. Error Mean	t	Sig. (2-tailed)
Pre-Test (Word Use Fluency)	Treatment	13	41.7692	8.30817	2.30427	2.817	.010
	Control	13	29.5385	13.27036	3.68054	2.817	.011
Post-Test (Word Use Fluency)	Treatment	13	55.0769	12.03787	3.33870	1.952	.063
	Control	13	44.3077	15.83448	4.39169	1.952	.064

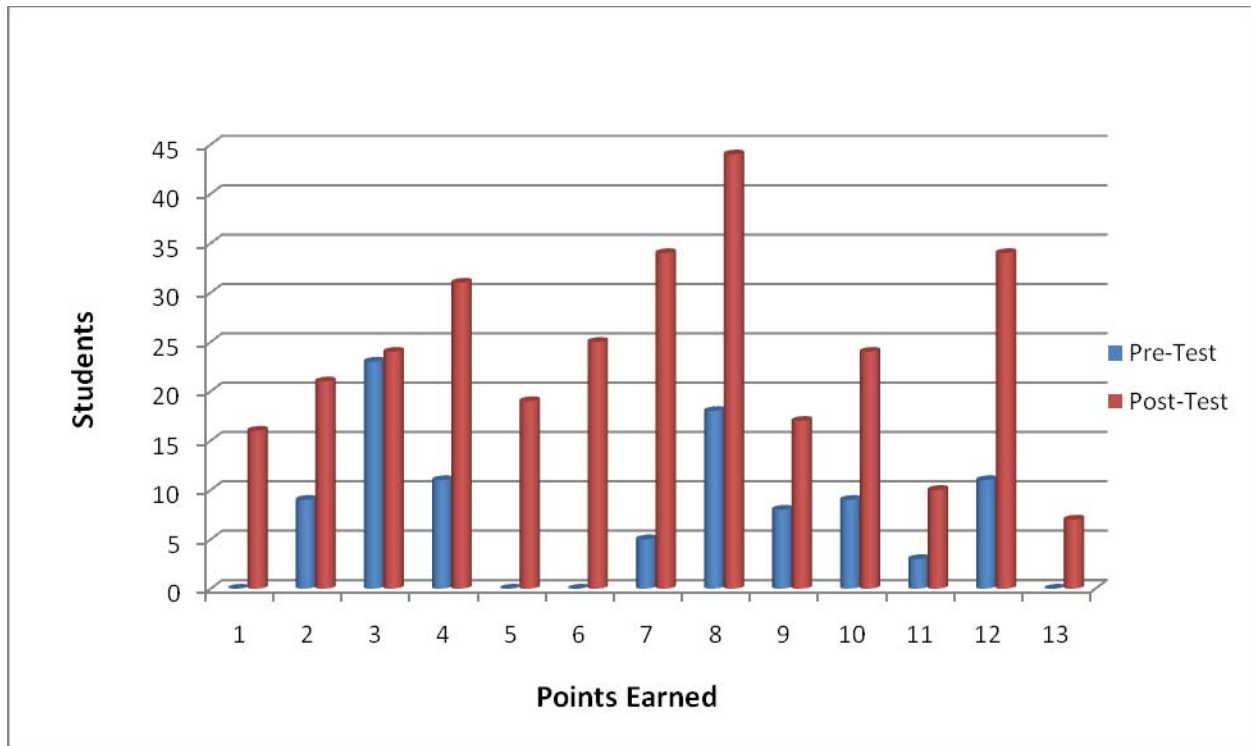
**Figure 1: Control Group, Phoneme Segmentation**



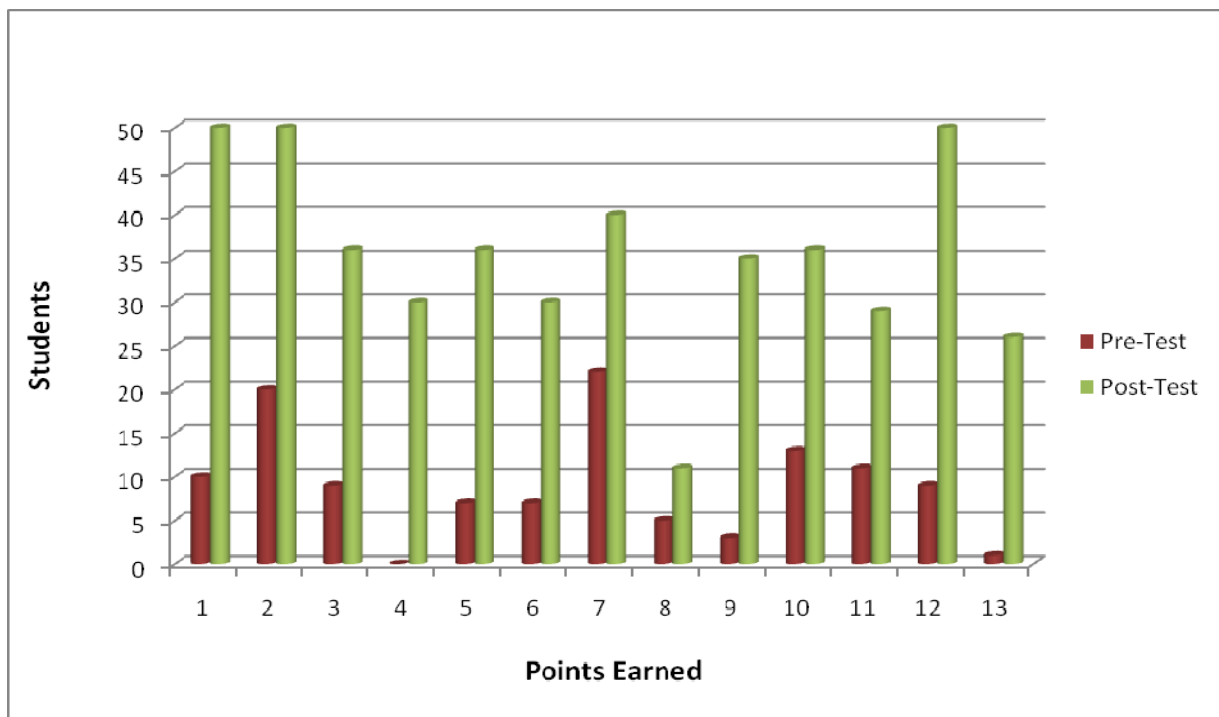
**Figure 2: Treatment Group, Phoneme Segmentation**



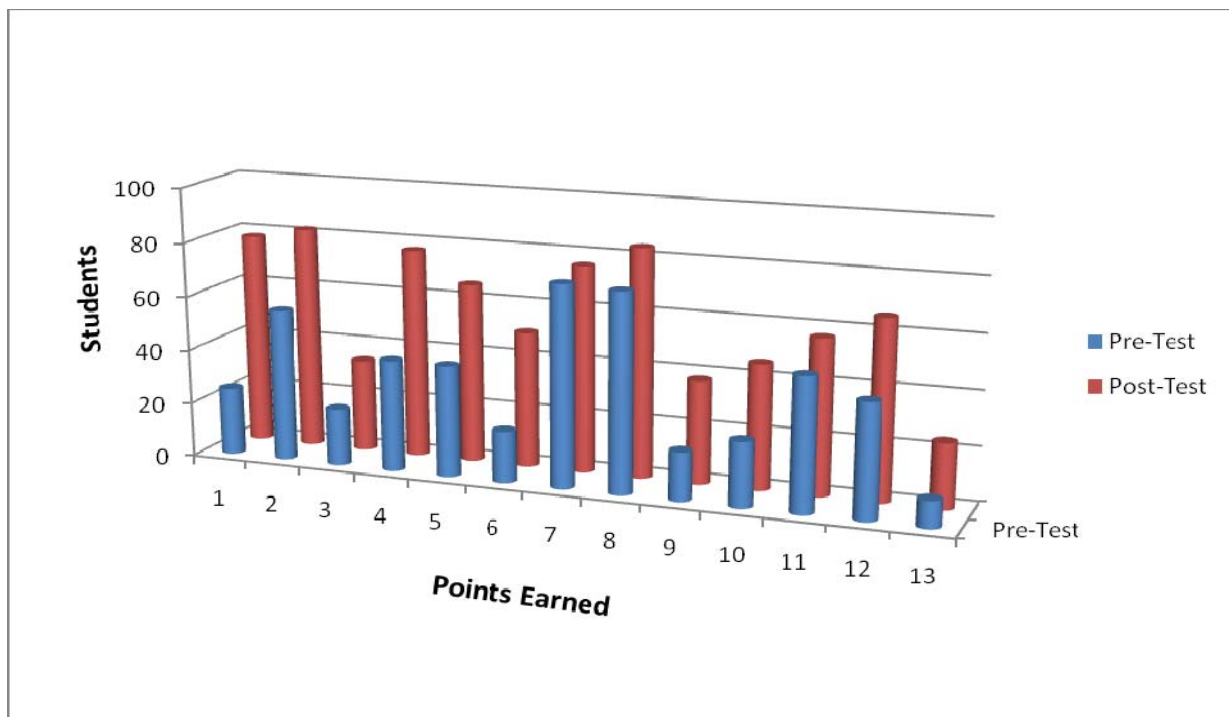
**Figure 3: Control Group, Nonsense Word Fluency**



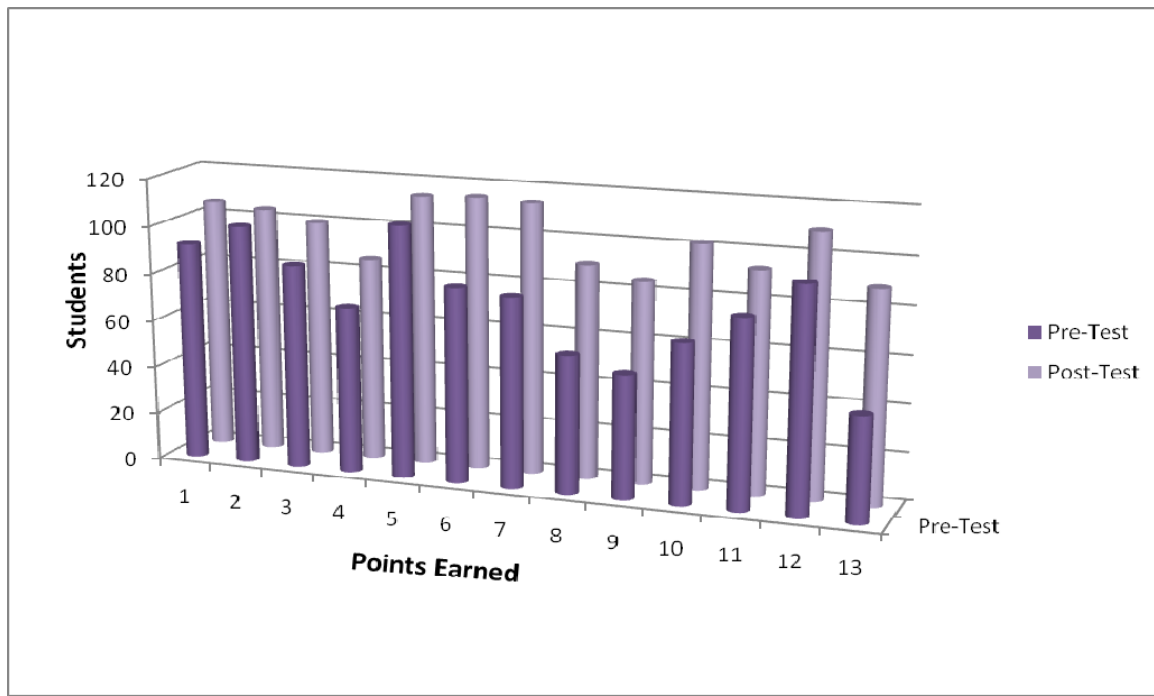
**Figure 4: Treatment Group, Nonsense Word Fluency**



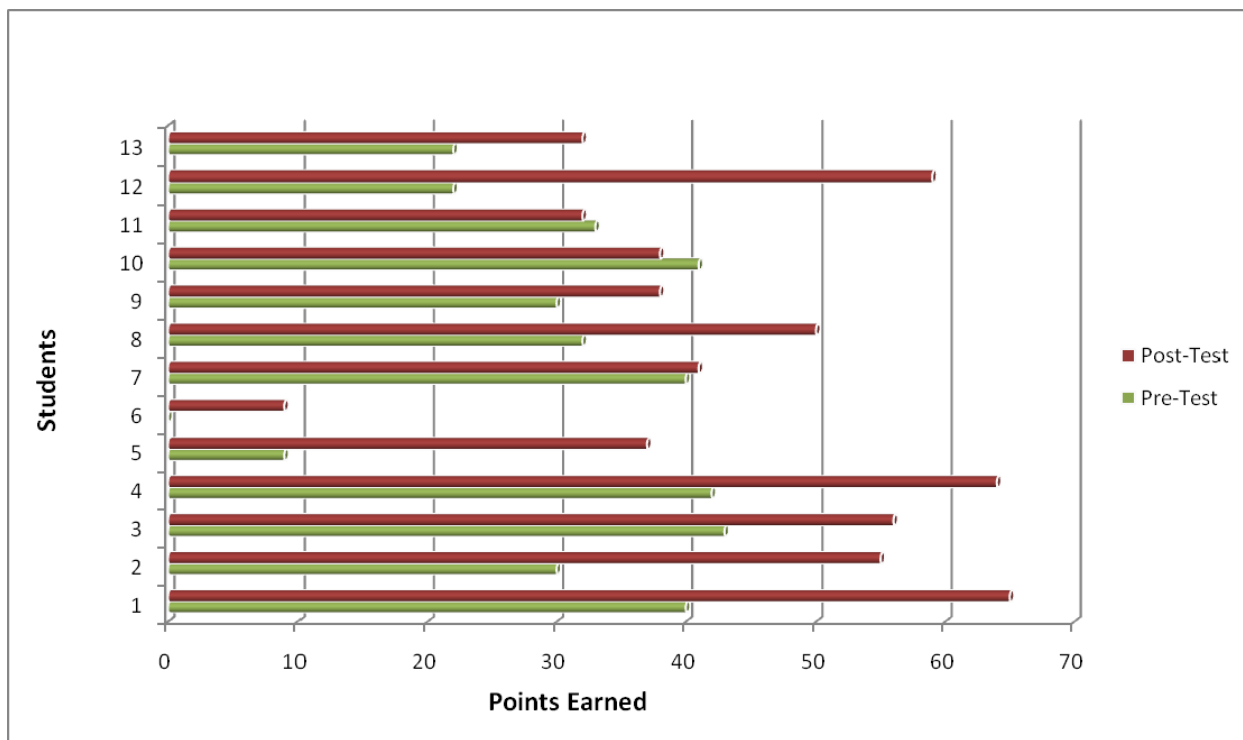
**Figure 5: Control Group, Oral Reading Fluency**



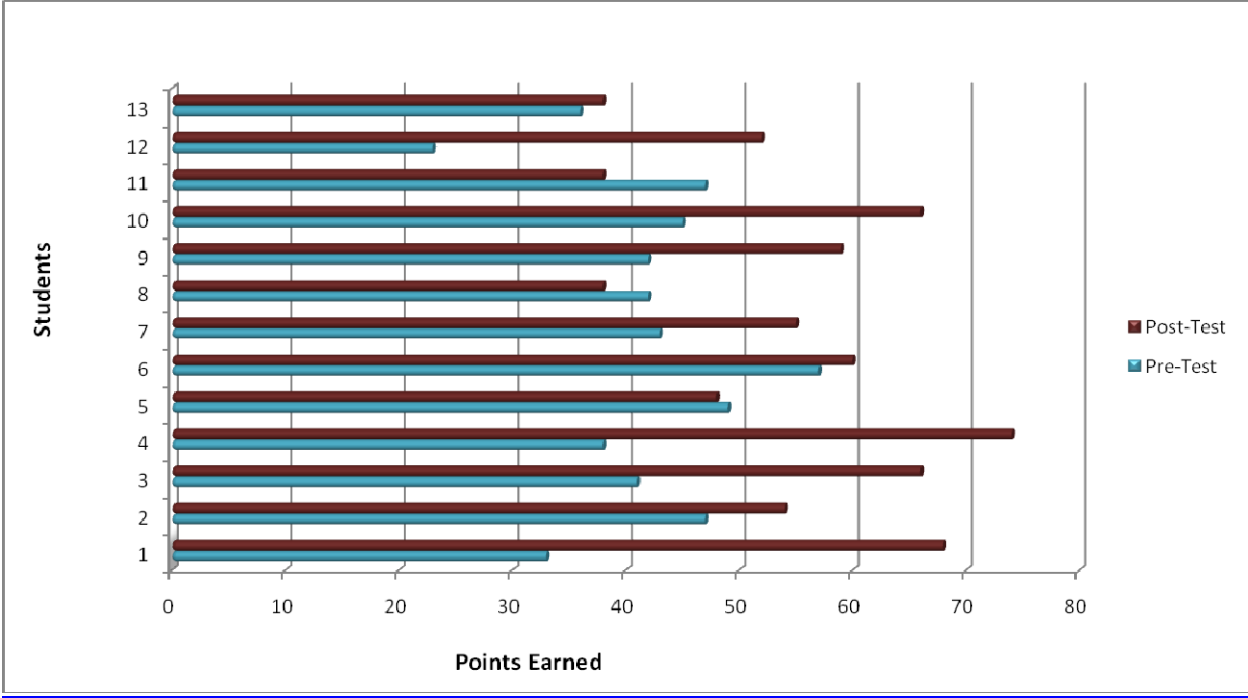
**Figure 6: Treatment Group, Oral Reading Fluency**



**Figure 7: Control Group, Word Use Fluency**



**Figure 8: Treatment Group, Word Use Fluency**



## CHAPTER 5

### DISCUSSION

The hypothesis for this study stated that students who received further phonics instruction would score higher on their DIBELS (Dynamic Measurement Group, 2005) post-test. An independent samples *t*-test was conducted on the data and means were compared. The hypothesis was supported in one area – nonsense word fluency. In this section the students in the treatment group improved their score by an average of 26 points. All of the students performed better during the post-test than the pre-test.

Nonsense word fluency seems to be a crucial area for improvement. Since students must learn letter patterns and rules for the English language in order to become fluent readers, being able to decode nonsense words is important. For example, if a student knows that a short vowel must come before –ck, then he/she will know how to read a nonsense word like *vack* correctly. This leads to the conclusion that if students can fluently read unfamiliar words using what they have learned about phonics and patterns in the English language then they are on the right track to fluent reading in general.

It is important to note that for the phoneme segmentation portion of the testing, 4 of the 13 students' scores decreased while the results noted no significance. This raises questions regarding the relationship of phoneme segmentation to reading skills. Since decoding and segmentation are useful steps in the acquisition of new words, students must first master decoding and segmentation before being able to read words fluently.

In oral reading fluency both the pre-test and post-test showed extreme significance between the treatment and control groups. However, the mean of the treatment group at the pre-test was 40 points higher than the control group which indicates that the treatment group was

already performing very well before implementation of intervention. After intervention, the treatment group improved by 23 points while the control group improved by 22 points. Even though the results still showed significance the improvement was the same in both groups. The researcher then ran a co-variance test to correct for the difference existing at the pre-test and the results still showed a significance of .000. One might conclude from these results that even though the groups were chosen using the convenience method the treatment group came out much stronger at the pre-test and any intervention cannot be attributed to the improvement at the post-test and therefore the hypothesis was rejected. Since fluent reading is the foundation of reading comprehension and higher level reading skills, developing fluent readers is ultimately the goal of a first grade teacher, regardless of the method used to achieve this goal. Without a strong understanding of the English language and the ability to read fluently, other reading tasks, such as following written directions, become difficult for students. It is imperative that students learn to decode and fluently read to be successful students and eventually successful adults.

In the final sub-test, word use fluency, the pre-test showed significance between the treatment and control groups, but the post-test did not. Even though the treatment group outperformed the control group in the pre-test, their performance in the post-test was not significant and the hypothesis was rejected. The mean of the treatment group at the pre-test was 12 points higher than the control group which indicates that the treatment group was already performing very well before implementation of intervention. After intervention, the treatment group improved by 13 points while the control group improved by 14 points. The results did not show significance and the improvement was the same in both groups. Since the treatment group was much stronger at the pre-test, the improvement cannot be attributed to intervention alone. This raises questions about this sub-test regarding its importance. Additional concerns about this



sub-test are the clarity of the directions. For example, if the word the student was given was “run”, the student could use this word in a variety of ways in a sentence to complete the task. The student might ask, “What kind of run?” causing him/her to lose time and, therefore, produce a negative outcome on the test. In addition, homophones, words that are spelled differently but said the same (pear/pair, to/two/too, etc.), could also pose a problem for students. It might be helpful for teachers to either explain beforehand that these types of words are possibilities to better prepare the students. Likewise, the teacher could provide the students with the written form of the word so that they may reference it as they are forming their sentences.

### **Implications of the Study**

Given the fact that the students in this study were all from the same class, the teaching style and assignments given might have created the results that did not support the hypothesis. Also, the maturity level and natural growth of the students could have also contributed to the findings. Students naturally mature throughout the school year, and this might naturally produce more positive results. If students are more mature in May than in January than they may have better test taking skills and better focus during a test.

In this research the pre-test was an extremely significant part of the process. Without it, the researcher would not have had a starting point from which to determine growth. It was also necessary that the pre- and post-tests be aligned with one another so the students would be familiar with the format and comfortable with the test administrator.

The raw data demonstrated that both groups of students’ scores improved. The sub-test with the greatest improvement seemed to be that of nonsense word fluency. This is very telling. It means that while students are learning rules of the English language, they are able to recognize patterns in order to sound out and read new words.

The most questionable portion of this research seems to be the effectiveness of the treatment curriculum. Since both groups improved, it is possible that the improvement can be attributed to the Open Court Curriculum solely.

This research could inform other studies on the same topic. This research suggests that phonics instruction does improve specific phonics skills. In future studies, researchers should consider implementing the treatment for a longer period of time. Also, future researchers should consider using a larger sample size to gain better insight as to which methods work the best to improve reading comprehension.

### **Comparison to Findings in Previous Research**

Unlike the present study, earlier research supported the hypothesis stated by Litt (2007) believed that students must have a full understanding of the English language and its patterns in order to fully comprehend a passage. It was found in the research that while sub-groups such as nonsense word fluency and word use fluency increased, so did oral reading fluency. Since helping their students become fluent oral readers is the goal and focus of most early childhood educators, this research supports the use of phonics instruction in the classroom.

Littleton, et al. (2006) and Walton and Walton (2002) also discussed the benefits of small group instruction when learning phonics skills. This technique was implemented in this study and found to be beneficial. The technique of using flashcards to specifically work on a skill was used by these researchers and was supported in this study.

Fowler, Parker and Cuda (1999) also stated that concentrating on blending words increases a student's phonics skills. This technique corresponds with the idea of phoneme segmentation found in the DIBELS program. When a student recognizes that each letter, or group of letters, makes a sound, then he/she realizes that each letter has a job. During the

phoneme segmentation portion of the testing, students are asked to break the sounds of a word apart. For example when a student is given the word *cat* he/she would have to segment it into /k/ /a/ /t/.

### **Threats to Validity**

Throughout this study some of the major threats to validity were timeframe, sample size, and methods of instruction. Often the students in the treatment group were working with a teacher other than their classroom teacher. This could have affected the students' comfort level, which in turn, could have possibly affected their test scores. Also, it would have been beneficial if the research for this study could have begun at the beginning of the school year rather than at the beginning of the second semester. A great deal of instruction happens from August to January that would have become evident if the pre-test had been administered in August. Lastly, the sample size for this research was less than ideal. A better sample size possibly would have included all of the first grade rather than just one class.

### **Implications for Future Research**

This research and data can open the door to future research. Additional research should include different methods for teaching phonics and possibly different sub-sets than those provided in the DIBELS curriculum.

In addition, students with no previous knowledge of the English language can and/or should be included in this study. These students would be coming into the research as “blank slates”, and it would suggest that previous English phonics instruction had not taken place. Similarly, younger students might be considered for this research. The current research took place with students who had already received kindergarten and some pre-school education which might mean that they came to the table with more background knowledge than their peers.

## **Conclusion**

Although the research did not clearly support the hypothesis, it does show that with phonics instruction first grade students can make improvements in their reading fluency. From this study the researcher learned that small group instruction is beneficial to students. While the hypothesis was not supported in three of the four tested areas, the results did provide insight as to which areas of sub-testing need to be further developed. This study proved that nonsense word fluency can improve with DIBELS instruction, and while the other three sub-tests did not prove the hypothesis, the study provided an appropriate stepping stone from which to work. The researcher now knows that future studies should focus on strategies that will enhance the acquisition of phoneme segmentation, word use fluency and oral reading fluency, in order to fully prepare students for fluent reading.

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