

Effective Methods of Instruction to Increase Phonics Achievement
of Kindergartners

by

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Table of Contents

List of Figures	i
Abstract	ii
I. Introduction	1
Overview	1
Statement of the Problem	2
Hypothesis	3
Operational Definitions	3
II. Review of the Literature	4
Introduction	4
Importance of Letter Identification and Letter-Sound Associations	4
Description of the Skills/ Student Achievement	6
Contributing Factors for Struggling Students	7
Interventions/Methods of Instruction	10
III. Methods	13
Design	13
Participants	13
Instrument	14
Procedure	15
IV. Results	19
V. Discussion	21
Implications of the Study	21
Theoretical Consequences	21
Threats to Validity	23

Connections to Previous Studies/Existing Literature	24
Implications for Future Research	24
Conclusions/Summary	25
References	26

List of Tables and Figures

Table 1: Mean Scores of LNF	19
Figure 1: Mean Scores of NWF	20

Abstract

The purpose of this study was to determine if the method of instruction has an effect on the phonics achievement of kindergarten students. Group one (2012–2013) received instruction which focused on learning letter names only followed by letter sounds at a later time in the school year. Group two (2013–2014) received instruction which taught letter names and letter sounds simultaneously throughout the duration of the study, approximately four to five months. The measurement tool, DIBELS (Dynamic Indicators of Basic Early Literacy), tested Letter Naming Fluency (LNF) and Nonsense Word Fluency (NWF). The hypothesis was partially supported as there was no significant difference between groups in the skill of LNF; however, there was a significant difference in the skill of letter-sound associations (NWF). Group two achieved a significantly higher score than group one in NWF. Further research is necessary regarding the most effective methods of instruction for phonics achievement in kindergarten.

CHAPTER I

INTRODUCTION

Overview

As Chall (as cited in “Teaching Phonemic Awareness,” 2011) explains, young children go through several stages in their reading development. These stages go from basic, prereading skills, such as building knowledge of spoken vocabulary, listening to story books, and developing concepts of print, all the way to the final stages of reading development, where mastery is practiced, including fluency in reading and reading to learn new information. Children can reach these stages at varying ages and enter school at various levels, depending on their prior school experiences and personal development. Each year, Baltimore County collects data for the Maryland State Department of Education which shows the readiness of kindergartners in relation to their care prior to entering kindergarten. This data compares children who are taught at home to those who may have attended childcare, a preschool program, or even prekindergarten in a private or public school. These experiences, and the quality of these experiences, can lead children to various levels of development upon entering kindergarten, as seen in the “Ready at Five” annual report (Ready at Five, 2013).

Due to these variances in prior care, kindergarten classes consist of some students who may enter knowing very few letters or letter sounds, if any at all, alongside others who may enter already reading and writing with fluency. Since letters and letter sounds are among the first of skills to be taught in kindergarten, the question always arises among kindergarten teachers about how to most effectively reach those who come with no experience, how to best meet their needs, and how to do so quickly in order to move into building their beginning reading skills.

As a kindergarten teacher in Baltimore County Public Schools, the researcher sees firsthand how students enter school with a multitude of varying backgrounds, prior experiences, and levels of ability. Each year, the kindergarten team of teachers in the researcher's school sees students who have difficulty learning letters and letter sounds and then struggle with decoding and blending sounds in words in order to read them. If letter sounds are unknown, the student is unable to complete two key tasks: breaking down (decode) a new word in order to read it and sounding out a word and writing the sounds that he or she hears in order to spell it. Therefore, reading and writing are directly impacted. This leads to problems with students entering into first grade, where students are expected to read and write and to do so with some fluency.

According to Juel (as cited in DiLorenzo, Rody, Bucholz, & Brady, 2010), "the primary difference between good and poor readers is the ability to use letter-sound correspondence to identify words" (p. 28). If students do not grasp certain skills in kindergarten, they will continue to be struggling readers entering into first grade, as they will be delayed in the process of becoming efficient readers.

Each school year, deficits in letter identification and letter sound associations are seen among the DIBELS scores of the kindergarten students in the researcher's school. The DIBELS test (Dynamic Indicators of Basic Early Literacy Skills) measures achievement in specific phonics skills. Due to these recurring deficits, the researcher sought to initiate a research study focusing on such skills in order to determine the most effective method(s) of instruction to aid in attaining student success.

Statement of the Problem

This study was designed to determine whether the method of instruction students receive impacts their gains in phonics achievement, with a focus on letter identification and letter-sound associations.

Hypothesis

It is hypothesized that the given method of instruction will have no effect on the amount of phonics achievement in students. There will be no difference between the phonics achievement of the two groups.

Operational Definitions

The dependent variable was student phonics achievement. Phonics achievement was measured by the Dynamic Indicators of Basic Early Literacy Skills (DIBELS) test for kindergarten, which is used in Baltimore County Public Schools to monitor student progress in specific phonics skills.

The independent variable was the method of instruction provided to two groups of students. Group one (taught in 2012–2013) received instruction which focused solely on the identification of letters, followed by letter sound associations toward the end of the study. Group two (taught in 2013–2014) received instruction which taught letter identification and letter sounds simultaneously throughout the duration of the study.

CHAPTER II

REVIEW OF THE LITERATURE

Introduction

At an early age, children develop rapidly and are consistently learning and growing. This is often seen at the kindergarten level. Students at this level are the subject and focus of this literature review. Students at this level or grade are five to six years of age. Two areas in which kindergarten students are expected to grow and develop are in phonics and phonemic awareness skills, both of which are in the reading domain and include practice in building the foundation for reading skills. Phonemic awareness focuses on teaching students to focus on identifying and manipulating sounds in spoken words. These sounds are called phonemes and are not to be confused with letters. Students learn the connection of each phoneme (sound) to its grapheme (letter) in phonics instruction. Phonics is the focus on both letters and letter sounds in order to read words (“Teaching Phonemic Awareness,” 2011). Therefore, the two main skills which are of focus in kindergarten phonics and phonemic awareness instruction include letter identification and letter-sound associations.

Section one of this review will discuss the importance of letter identification and letter-sound associations. Section two will define each skill and what student achievement looks like as well as how it is measured. Section three will discuss some of the contributing factors for students who struggle with mastering each skill. Lastly, section four will describe interventions and methods of instruction which have been found to aid in mastery of such skills.

Importance of Letter Identification and Letter-Sound Associations

Identification of letters is an important skill for young learners to master. To begin their article, Neal and Ehlert (2007) emphasize this, saying, “Correctly identifying all of the letters of the alphabet is one of the first steps in learning to read” (p. 243). Neal and Ehlert also go on to stress that letter recognition is one of the most essential parts of the reading process and that it is even possibly one of the best predictors of future reading success.

DiLorenzo et al. (2010) explain that in order for children to become good readers, they must master many key areas, one of them being alphabetic principle. One part of the alphabetic principle is “alphabetic understanding,” (p. 28) which is knowing that words are made up of letters which then represent different sounds. Mastering letter identification is also important as many letters provide cues about their sound (Young-Suk, Petcher, Foorman, & Zhou, 2010). For example, letters such as Bb, Tt, Dd, Zz, etc., all have their sound at the beginning of their name. Students who master letter identification will be able to learn many letter sounds with ease, as the sound is given in the name.

While letter identification is an important skill, knowing the sounds of the letters is also a crucial part of the learning process for beginning readers. deGraaff, Verhoeven, Bosman, and Hasselman (2007) explain that both skills, letter-identification and letter-sound association, are important and predictive of reading skills. However, de Graaff et al. suggest that letter-sound association is a much more accurate predictor of success than letter identification. Craig (2006) also mentioned that letter-sound association has a “positive effect on children’s early reading achievement” (p. 715). She explains that evidence suggests that developing and strengthening children’s knowledge of letter sounds (alphabetic knowledge) through developmental spelling and reading print which they are able to decode (sound out) is crucial in leading to higher literacy learning . Knowledge of letter sounds also helps children in skills such as segmenting

sounds in words and writing the letters representing the sounds they hear. Letter-sound association was actually found to be the biggest predictor of children's ability to sound out words and represent the sounds heard, as described in the study conducted by Werfel and Schuele (2012).

As explained earlier, the alphabetic principle is crucial in students learning to become readers, the first part being the alphabetic understanding, the knowledge of letters and that letters have sound. The second part of the alphabetic principle is phonological recoding, which is knowing and using the sounds of letters to spell and read words (DiLorenzo et al., 2010). Therefore, without the knowledge of and association between letters and sounds, students are unable to proceed, grow, and develop in reading and writing skills.

Description of the Skills/Student Achievement

In letter identification, children must be able to recognize and correctly name all capital and lowercase letters, which is a total of 52 letters. This should also be done with fluency, meaning that children should not need clues or a lot of think-time in order to identify the name of the letters (Neal & Ehlert, 2007). Letter-sound association involves children being able to correctly provide a sound when shown or told a letter name, and vice versa. This is when students make connections between each letter (grapheme/digraph) and its sound (phoneme) (Dodd & Carr, 2003). Both skills fall in the stages of reading development, as described in the study conducted by King, Wood, and Faulkner (2007). Ehri (as cited in King et al., 2007) proposed phases of reading development.

The first of Ehri's (as cited in King et al., 2007) stages is the *pre-alphabetic stage*, in which there are no connections between letters and sounds. It focuses solely on letter

identification. The next phase is the *partial-alphabetic stage*, in which some connections begin to be made between letters and corresponding sounds. The third phase is the *full alphabetic stage*, where full mastery of letter-sound associations is made and reading of words begins. The final stage is called the *consolidated alphabetic phase*. This is where more reading occurs at a higher level and with greater fluency (King et al., 2007).

Letter identification and letter-sound associations can be assessed fairly easily and are usually assessed one-on-one, with each student. Letter identification is assessed by asking the students the name of each letter. Both capital and lowercase letters are assessed to ensure all are known (Young-Suk et al., 2010). Letter sounds can be assessed in different ways, as described in the study conducted by Dodd and Carr (2003). The easiest way is *letter-sound recognition*, where students are shown a set of several letters and asked to find the letter which matches or represents the given sound. The second way it can be assessed is through *letter-sound recall*, in which students are not given letters but must say which sound a given letter makes. This forces the student to recall the name of the letter, to make a connection to the sound, and to articulate the sound. The most challenging way to assess letter-sound associations is through *letter reproduction*. For this, students are asked to write down the letter which makes a given sound. This shows a higher level connection between letters, sounds, and a student's ability to print them in a timely manner. Both skills, letter identification and letter-sound association, can also be assessed by a more formal, standardized test as well. Coyne et al. (2013) used DIBELS (Dynamic Indicators of Basic Early Literacy Skills) (2013) to assess both letter-identification fluency and letter-sound associations through tests conducted over a period of time to measure growth.

Contributing Factors for Struggling Students

Preparedness for Kindergarten

Prior to entering kindergarten, students may or may not have adequate or equal preparation for school. Students coming into school may have been in daycare, Headstart, family daycare, home care, or prekindergarten. The experiences in each setting can greatly vary; thus, students entering kindergarten from one prior-care situation can be more or less prepared than those from other prior care settings.

Each year, Baltimore County Public Schools collects data on the readiness of its students entering kindergarten. As of last school year, 2012–2013, 87% of students entering kindergarten were fully ready and prepared (Ready at Five, 2013). Although this is an excellent overall readiness rate, when broken down into domains of learning, language and literacy scored the lowest. In mathematical thinking, 81% of students were ready, in scientific thinking, 79% demonstrated readiness; however, only 77% of the same students displayed readiness in language and literacy (Ready at Five, 2013). This shows that language and literacy, the area in which letter-identification and letter-sound association fall, is the area in which students are the least prepared coming into kindergarten. This contributes to the fact that students may struggle, as incoming students are ranging from either completely unprepared to ready for kindergarten; alternately, some come into kindergarten stronger in mathematics than in language and literacy and require practice to improve in that area.

Lack of Ability to Make Connections between Letters and Sounds

It is common for students to struggle with identifying letters as well as the sounds associated with each letter. As DiLorenzo et al. (2010) explain, it is difficult for students to make the connections, in part because of the large number of associations which are necessary to learn.

There are 40 sounds for 52 symbols to memorize, reproduce, and manipulate in words. Another factor described in this study which causes students to struggle is that some letters provide clues to their sounds (such as the letters D, T, and P), while other letters do not (e.g. H, W, C). This makes the connections between letter names and sounds difficult, especially if letter names are taught prior to letter sounds rather than simultaneously.

Shape of Individual Letters

Within various print and texts, the shape or appearance of letters can differ in numerous ways. Dodd and Carr (2003) explain that letters can vary in size, font, and case, making it difficult for readers as they must be “flexible” in order to identify letters, even when their features may change. DiLorenzo et al. (2010) also discuss this issue, explaining that letters can vary greatly in appearance and that simply turning a letter can change it into a different letter, making identification difficult and challenging for a new learner. DiLorenzo et al. provide the example of the letter d, and how, when turned, can become the letters b, p, or even q.

In a different study on the features for identifying letters, Fiset, Blais, Éthier-Majcher, Arguin, Bub, and Gosselin (2008) explained that “line terminations are the most important features for letter identification” (p. 1161). All of the information described by the authors mentioned above explains that, until students are comfortable with and have exposure to letters in many different forms and shapes, they will struggle with letter identification due to changes in individual shapes and appearances.

Lack of Phonemic Awareness

DiLorenzo et al. (2010) recommend that teachers who are working with students to identify letters and make letter-sound associations address other phonemic awareness skills as

well as those skills to aid in the learning process. DiLorenzo et al. explain that children who lack phonological skills, such as segmenting, identifying, and manipulating sounds struggle in developing and using the alphabetic principle. Therefore, without this essential piece of instruction and a stronger grasp on phonemic awareness skills, these same students will struggle in mastering letter identification and letter-sound associations.

Self-Confidence

Individuals do not like to feel failure when they are trying to learn and master a new skill. Wilson and Colmar (2008) explored the role that both teachers and school counselors should play in teaching phonics and phonemic awareness to students. Wilson and Colmar explain that students who feel as though they are not learning as they should and are struggling as beginning readers often become frustrated in the process. If this is unknown to the teacher, the student's needs may not be met. This is why Wilson and Colmar express the importance of the role of a school counselor in meeting those needs. The teacher can ensure that the child's academic needs are being met, and the school counselor can aid in supporting and encouraging struggling students. Wilson and Colmar even recommended that, in order to fully understand the importance of those skills as well as how they may be able to help, school counselors should be trained in the basics of phonics and phonemic awareness. Overall, both teachers and school counselors are to be involved, as they each have an important role in helping struggling students who are beginning readers, and these professionals can work together to raise children's self-confidence, thereby helping them to continue to grow and develop even further (Wilson & Colmar, 2008).

Interventions/Methods of Instruction

Teaching Letter Identification Prior to Introduction of Letter Sounds

There are various approaches which are suggested to be the most effective in teaching students letters and letter sounds. One of the suggested methods is to focus on teaching letter names first and having students master letter identification before introducing letter sounds. Young-Suk et al. (2010) found that students who did not previously know the names of the letters prior to learning letter sounds were at a great disadvantage. Therefore, it was suggested that students learn letter names first and then letter sounds, as many letter names provide clues to their sounds. Neal and Ehlert (2007) also focus on the importance of teaching the names of letters and how best to do so. They explain that teachers need to first find a baseline, showing which letters students do or do not know. This can be done by using basic flash cards, separating the letters the student already knows and does not know, and/or by recording students reading. Then the letters the child knows need to be reviewed daily; in addition, each child must be learning and practicing the unknown. Each day a new letter should be introduced, and the student should have repetitious exposure to the letter. This can include students saying the name of the letter repeatedly, showing students a mixture of letters and having the student find all of the instances of target letter, and even doing a sort of letter cards with students finding all of the cards with the target letter and separating them from the other letters. All of the repetition and focus on one letter at a time will help the child focus on the features of that letter and increase his or her chances of identifying that letter the next day.

Teaching Letter Identification and Letter Sounds Simultaneously

Many studies explained the importance and effectiveness of another, main method of instruction. This method suggests that letters should not be taught in isolation but rather

introduced with the sound of the letter in order to help students in the learning process. deGraaff et al. (2007) examined how kindergarten students best learn letter-sounds and explained that “the contingency between a letter sound and its letter name is predictive of the acquisition of letter-sound knowledge” (p. 520). de Graaff et al. also reported that, since many letter names have the sound of the letter in their name, both skills should be taught simultaneously, thus allowing students to make a connection between the two. Craig (2006) recommends this method as well as stressing the importance of phonemic awareness in teaching letters and letter sounds. Craig explains how the National Research Council Committee on the Prevention of Reading Difficulties in Young Children states that metalinguistic activities in instruction, including rhyming, segmenting, identifying pictures/objects by a letter sound, or identifying individual letter sounds, are all ways to lead to stronger phonemic awareness as well as the alphabetic principle, which is the connection between letters and sounds. Craig also suggests exposing students to more texts, having them reading more often, and having them begin to write. By doing so, teachers are compelling students to make connections between letters and sounds as they decode and encode words through reading and writing them in words.

Conclusion

In summary, this review of the literature has explored phonics and phonemic awareness skills and their importance. When it comes to letter identification and letter-sound association, both are essential in the development of young children’s prereading skills and can be taught through different methods of instruction. With a strong foundation in these skills, kindergartners are well on their way to reading success.

CHAPTER III

METHODS

Design

A quasi-experimental independent pretest/posttest design was used to conduct this research. In this study, the dependent variable was phonics achievement, as measured by the Dynamic Indicators of Basic Early Literacy Skills (DIBELS). The independent variable was the method of instruction received. During the 2012–2013 school year, students were taught from the Open Court phonics curriculum. During the 2013–2014 school year, student were taught from the Benchmark Education phonics curriculum. The length of this study was approximately five months, from September to January of each school year.

Participants

The participants in this study were from two different school years of kindergarten students enrolled at an elementary school in Essex, Maryland. The students in each given group were from the same kindergarten class, and both classes were taught by the same instructor. All of the students in the study were between the ages of five and six years old. The students who were selected from each class scored the lowest on the DIBELS test given in the fall of each year and were the students who did not meet the benchmark score.

Group one was selected from a kindergarten class in the 2012–2013 school year, and group two was selected from a kindergarten class in the 2013–2014 school year. In group one, eight students did not meet the benchmark, four females and four males. The majority of group one was African American (n=7), with one Hispanic member. In group two, seven students did

not meet the benchmark; four were females, and three were males. Within group two, four were African American, two were Caucasian, and one was Native American.

Instrument

The instrument used in this study was the Dynamic Indicators of Basic Early Literacy Skills (DIBELS), 6th Edition, for kindergarten. This consists of four subtests which assess growth and development of early literacy skills. Two of these tests within DIBELS are administered in the fall of each school year, and all four are administered in the winter. The four tests are Initial Sound Fluency (ISF), Letter Naming Fluency (LNF), Phoneme Segmentation Fluency (PSF), and Nonsense Word Fluency (NWF). ISF and LNF are administered in the fall, with PSF and NWF added to those in the winter.

According to the *Buros Mental Measurement Yearbook* (2003), DIBELS does lack some validity and reliability; however, it is still a widely used test which offers valuable information to teachers regarding individual students' abilities. The test guide offers rules to identify students who may require intensive instructional support, although "schools can create local norms" (Good et al., 2003, p. 3). These reviews explain that there is some evidence of alternate-form reliability and internal consistency reliability within DIBELS. On the down side, the reviews also explain that there is not much predictive validity in relation to meeting state standards. However, DIBELS is described as being a great resource for teachers to use in the classroom with regard to decision making and placing students into groups for interventions. It also provides quick results and has equivalent forms reliability, as each benchmark and progress monitoring test is administered following the same structure, basic script, and rules, only changing the actual words

or pictures being used. The state standards have also changed with the new Common Core curriculum, and these reviews were written prior to the development of these standards.

Procedure

Formation of Groups and Testing Administration

For this study, the DIBELS test was administered each school year (2012–2013 and 2013–2014) to the kindergarten students twice within the year, fall and winter. All portions of the test were administered, but only the LNF (Letter Naming Fluency) test and the NWF (Nonsense Word Fluency) test were used for this study. The LNF test was administered in both fall and winter each year, providing pretest and posttest data for both groups. Students who did not meet the LNF benchmark in the fall of each year were the ones included in this study. The NWF test, which assesses letter-sound associations and decoding words, was only administered in the winter of each year, after students received the given method of instruction from fall to winter, serving as an additional posttest for the purposes of this study.

For LNF, students were presented with a page of letters, in random order, which consisted of a mix between uppercase and lowercase. A timer was set for one minute, and students were instructed to say the names of as many letters as possible within that time frame. At the conclusion of the fall tests, the number of letters each student correctly recognized in LNF was totaled. For this study, the students who performed the lowest in LNF in the fall of 2012 were in group one, and those who performed the lowest in LNF in the fall of 2013 were in group two.

Similarities in Instruction Received by Both Groups

Upon testing and forming the groups included in this study, the homeroom teacher delivered daily phonics instruction to both groups of students in a whole group setting along with the remainder of their peers. The instruction followed the phonics curriculum which was the Baltimore County curriculum for each given year. The whole group phonics lessons which were included in this study were approximately 30–40 minutes daily and ran from September to January of each year, totaling approximately five months of instruction. Students in both groups also received small group instruction during literacy center time, when students were grouped according to ability levels. These groups were based on DIBELS scores, sight word recognition, reading levels, etc. Students received further practice on the skills taught in whole group lessons at their own level and received this for 10–15 minutes, four days per week. With both groups, this practice was also conducted throughout the five-month period (fall to winter) as a supplement for the phonics lessons. Therefore, both groups in this study received equal amounts of instructional time, both within whole group and small group, the difference being the actual curriculum and methods used within the given time frame. Group one received instruction which focused solely on letter identification first, and then letter sounds were taught at a later point in the school year. Group two received instruction which taught letter identification and letter sounds simultaneously.

Group One: Instructional Methods

Group one received whole group phonics lessons from the Open Court phonics curriculum in the 2012–2013 school year. This curriculum introduced each letter of the alphabet one at a time, with a minimum of two days spent on each letter. These lessons included time spent on learning the shape of the letter, tracing and writing it, and locating it within print in order to fully understand what the letter looks like. Instruction on the sounds of the letters did not

start until all letters had been taught, which did not begin until close to the end of this study's time period, around the beginning of January, 2013.

Group Two: Instructional Methods

Group two, comprised of the students who were taught in the 2013–2014 school year, received a different method of instruction, as the kindergarten phonics curriculum was changed in Baltimore County. This curriculum is called Benchmark Education. This group also received daily whole group phonics instruction. This curriculum taught one letter per week, rather than over only two days, but the method included instruction and practice associating the letter sound as well. Students received practice in identifying the letter, identifying words with the letter as the beginning or ending sound, and learning how to decode words using the new letter with letter sounds previously taught. As additional letters and letter sounds were taught over time, students could read and write more words by segmenting, blending, and decoding, as was part of the whole group lesson. This differed greatly from the instruction of group one, as such skills were not yet introduced during this time frame.

End of Study: Posttests

After both groups received the instruction for the same amount of time but from different curriculums, posttests were administered in order to compare student achievement. In the winter of each school year, LNF was readministered to monitor growth in letter identification, along with the NWF test, in order to compare the amount of letter-sound associations made by the conclusion of this study by each group. For NWF, a page of two- and three-letter nonsense words were given to the student. A timer was also set for this test, providing one minute for the student to give as many letter sounds and read as many nonsense words as possible. NWF provides two

scores: Correct Letter Sounds (CLS), and Words Recoded Correctly (WRC). The LNF and NWF scores from group one were compared to the scores of group two at the conclusion of the study in order to see which method of instruction more effectively aided students' knowledge of letter identification and letter-sounds by the end of the fall to winter period.

CHAPTER IV

RESULTS

The analysis was conducted on data from two of the DIBELS subtests, Letter Naming Fluency (LNF), and Nonsense Word Fluency (NWF) for each group. Examination of the within group effects showed a significant difference from the pretest to posttest scores for both groups. Group one (2012–13) obtained a mean pretest score of 3.75, which significantly increased to a mean posttest score of 28.63, $t(7) = -4.42$, $p < .05$. Group two (2013–14) obtained a mean pretest score of 1.14, which significantly increased to a mean posttest score of 28.86, $t(6) = -4.57$, $p < .05$ (Table 1). Examination of the posttest scores between group one and group two revealed no significant difference, $t(13) = -.03$, $p = .98$. Therefore, despite group two starting with a lower pretest score than group one, there was no significant difference in achievement between the two groups on the posttests in LNF as a result of receiving differing instruction.

The results of NWF, used as an additional test, showed a significant difference in the ability to make letter-sound associations between the two groups of kindergartners. The mean score for group one was 7.38, and the mean score for group two was 16.0, which is significantly different, $t(13) = -2.249$, $p < .05$ (Figure 1).

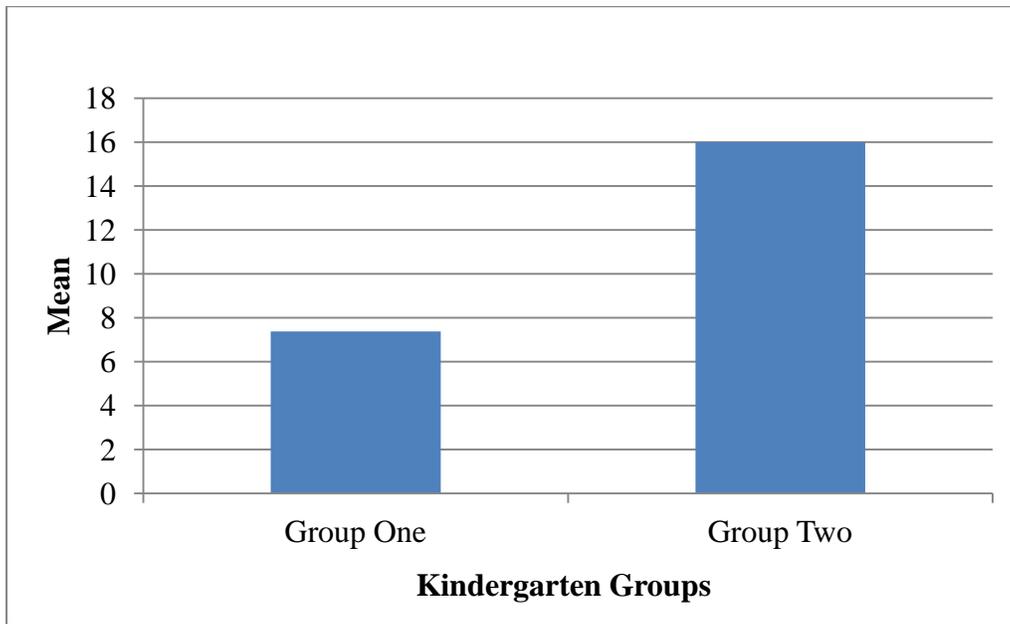
Table 1

Mean Scores of LNF

Group	Pretest Mean LNF Score	Posttest Mean LNF Score
1: 2012–2013	3.75	28.63
2: 2013–2014	1.14	28.86

Figure 1

Mean Scores of NWF



CHAPTER V

DISCUSSION

The hypothesis in this study was partially supported as the hypothesis stated that there would be no difference between the phonics achievement of students in the two groups. The collected data showed no significant difference between groups for one skill (LNF) but a significant difference between groups in another (NWF).

Implications of the Study

The results of this study suggest that neither method of instruction resulted in a significant difference between the two groups in the skill of letter identification. The data collected for this skill (LNF) showed that each method had a positive effect on achievement in letter identification as seen by each group's pretest and posttest scores. However, as neither group reflected a significant gain over the other as shown on the posttest scores, each method of instruction produced similar results in letter naming fluency between group one and group two.

Although the results of this study showed no significant difference between groups for letter naming fluency, the results of second skill assessed in this study, letter sound associations, did show a significant difference. Students in group two made significantly more growth in their ability to correctly identify letter sounds in comparison to group one. These results imply that the method of instruction group two received was more effective in teaching letter sounds than that used with group one. Therefore, with regard to teaching letter sounds, the method of teaching letters and letter sounds simultaneously is more effective than teaching letters in isolation prior to introducing the sounds of the letters.

Theoretical Consequences

The results of this study did not support some of the theories and studies discussed in Chapter II, while other theories discussed in Chapter II were supported. Some theorists, such as Young-Suk et al. (2010) and Neal and Ehlert (2007), expressed the importance of teaching letter names and developing that skill prior to teaching letter sounds. This was not supported in the current study, as there was no significant difference between groups in the letter naming fluency scores. Neither method of instruction resulted in a significant difference over the other in letter identification. However, other theories in Chapter II were supported by the results of this study, such as those discussed by deGraaff (2007) and Craig (2006). They discussed the importance of teaching letter sounds and letter names simultaneously. Group one in this study did not receive this method and was, instead, taught letters names in isolation. Group two, however, did receive instruction merging letter names and letter sounds and made significant improvement over group one as shown by posttest NWF scores.

When looking back at additional theories discussed in Chapter II, there are some theories which suggested reasons, or contributing factors, about why some students may struggle in developing the skill of letter identification. The reasons described in some of these theories could have led to the lack of significance between group one and group two in this study in the skill of letter naming. As discussed in Chapter II, some of the contributing factors for struggling students include lack of prior experience entering kindergarten (Ready at Five, 2013), lack of ability to quickly make connections between letters and sounds (DiLorenzo et al., 2010), and difficulty remembering all 52 letter shapes (Dodd & Carr, 2003). All of these are factors could have influenced the results of this study since it included students from two different school years who most likely came with varying prior experiences and ability levels. These levels change from

year to year and class to class, and students enter at varying developmental levels, all contributing to variances within the results just as the theories suggested.

Threats to Validity

Within this study, some of the major threats to validity were maturation, differential selection, and testing. The time frame for this study was approximately four to five months. Although this is not a long period of time, young children mature at various ages and time periods. Also, many kindergartners begin to improve at a rapid rate later in the school year, after this study was concluded, when they begin to make more connections among skills, build upon them, and apply them in their reading and writing. Analyzing their scores over the course of the entire school year may have provided a more accurate and valid view of their maturation in each skill for the purpose of this study.

Regarding the threat of differential selection, the students were selected based on the researcher's convenience, and the researcher was limited solely to the students in her classroom. In order to acquire more valid results, a larger number of kindergarten students and a more diverse selection would be ideal.

The final threat to validity within this study is testing. The pretest and posttest had identical structure. The timing, layout, directions, prompts, and rules were exactly the same, the only difference being the actual order of the letters used. By taking the pretest which matches the exact structure of the posttest in addition to receiving practice in between following the same basic layout, the students were set up for further success on the posttest simply by taking the pretest and, therefore, already knowing what to expect. They were possibly more successful on the posttest than they might have been had they received a posttest with a different format or structure.

Connections to Previous Studies/Existing Literature

When looking at the results of this study, there are relationships to some of the previous studies conducted regarding the same phonics skills. As discussed in Chapter II, Young-Suk et al.'s (2010) results showed that letter-name knowledge had a great impact on the ability to make letter-sound associations. In the current study, group two received instruction in which the letter name and letter sound were taught simultaneously, and they made significant growth in the skill of letter-sound associations. This also suggests that if this study had been extended, the students in group one may have made further growth in letter sounds, as they had learned the letter names first and may have been more successful in making letter-sound associations later on. However, because this study concluded after only a few months prior to the students in group one being taught many letter sounds, this information is unknown.

A second study which relates even more closely to this current study was that conducted by deGraaff et al. (2007). Their study suggested that, since many of the letter names suggest their sound, thereby providing a cue, letter names and letter-sounds should be taught together. deGraaff et al.'s results relate to those of the current study, as the method described by deGraaff et al. was the method employed with group two, and this group achieved significant growth in identifying letter sounds over group one, who did not receive this method.

Implications for Future Research

The research in this study implies that further research and investigation should be conducted on the most effective method for improving phonics achievement in kindergartners. Future research could include a larger sample size with a more diverse selection, extending the time frame to one school year, and possibly using a different form of testing.

Selecting a larger sampling which is more diverse may lead to more accurate results in determining which method of instruction most effectively leads to phonics achievement. It would provide a larger population of students struggling in phonics and allow researchers to more accurately track growth as well as any patterns that may exist which can be too difficult to observe with a smaller population.

By extending the time of the study to the entire school year, researchers could better determine which students made growth as a result of the instruction and which did not. Within this study, only part of the school year was included, leaving it unknown whether certain students included did not make as much progress as others or whether they simply mastered the skill at a later time in the school year after the study due to varying developmental stages. Extending the length of the study would allow that information to be known about all students involved.

Lastly, using different forms of testing rather than only one pretest and one posttest for a skill could provide researchers with a more accurate view of which students made growth, the amount of growth made, and how consistently students are able to achieve and master each skill.

Conclusions/Summary

As the hypothesis in this study was only partially supported, further research on the most effective methods for developing phonics achievement in kindergartners would be ideal. From this study, it appears that teaching letter names and letter sounds simultaneously is the most effective for teaching letter sounds, but this method does not provide significant results in letter naming. Further research is recommended, using a larger and more diverse sample, with an extended time period, and with varying testing forms in order to allow for more accurate data and analysis of the effectiveness of each method.

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