Influences of Pre-Kindergarten Schooling on Reading Achievement

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Abstract

The purpose of this study was to determine if attending pre-kindergarten schooling influences reading achievement in the primary grades. The measurement tool was the Fountas and Pinnell Benchmark Reading Assessment. This study used a quasi-experimental design. The researcher analyzed reading achievement of second graders with and without pre-kindergarten schooling. Reading achievement was slightly higher in the group of students who had attended pre-kindergarten but so significant differences were found. Research shows many benefits of pre-kindergarten on reading readiness for young students.

CHAPTER I

INTRODUCTION

Overview

Kindergarten teachers meet students at the beginning of their education. Students enter kindergarten at a varying level of academic and social skills. Usually, students who have attended pre-kindergarten schooling have more developed skills than their peers who did not attend pre-kindergarten schooling. By the end of kindergarten, students have made some sort of growth in the areas of academic and social skills. The researcher has often wondered if the students who did not attend any pre-kindergarten schooling stay behind their peers or if they catch up during first or second grade.

A child's language development begins before they are even one year old. An infant's form of communication includes babbles and sounds. Then, they begin to learn words and what they mean. It is the job of the parent and caregivers to help a child develop their language skills so they will be able to access language in text. Children begin by looking at picture books with no words. It is beneficial for the adult to foster conversations about the pictures. Early reader texts have one to four words on a page with a picture to help the young reader decode the words he may not know. The development of oral language skills "plays the most important role in the prediction of text comprehension" (Papadimitriou & Vlachos, 2014, p.2). If a child does not know what a word is, he would not be able to read or understand it when he encounters it in text. As a child's oral language skills develop, so does their vocabulary: "The average vocabulary of a three- to five-year-old is 800 words. By the time children turn five, their average vocabulary is between 3,000 and 8,000 words" (Sims, 2010, p.17). One way to develop a child's vocabulary is to talk and read with them. Yet questions remain: do children have the same access to text at

home as they would in a school setting? Do parents know what to do to help foster their child's language and pre-reading skills?

When students enter kindergarten, they are assessed on their letter and sound knowledge. More often than not, the students who attended pre-kindergarten have more letter and sound knowledge as well as sight word knowledge than those who did not attend any pre-kindergarten schooling. The students who attended pre-kindergarten are at an advantage since they already have the foundational knowledge needed to begin to learn reading strategies that allow them to grow as a reader. Some students without pre-kindergarten schooling catch up to their pre-kindergarten attending peers during their kindergarten year, but not all.

During the year in kindergarten, students are immersed in language and text. They participate in shared and independent reading activities. Small guided reading groups give students the opportunity to work with the teacher in a small group with text at their reading ability level. These small group sessions give students the time to work on reading strategies with the teacher there to help. Students who attend pre-k may have already participated in such groups and have learned the routine. Students who did not attend pre-k need to learn the routines and strategies in a guided reading group.

Statement of the Problem

The purpose of this study was to determine if attending pre-kindergarten schooling influences reading achievement in the primary grades.

Hypothesis

There will be no difference in reading achievement in the primary grades for students who have attended pre-kindergarten schooling and those who have not.

Operational Definitions

Pre-kindergarten Schooling

Pre-kindergarten schooling will be defined as Pre-K in a public or private school setting, Head Start programs, or daycare.

Primary Grades

Primary grades will be defined as Kindergarten, first and second grades.

Reading Achievement

Using the Fountas and Pinnell Benchmark Assessment System, the researcher will use reading accuracy and comprehension data as measurement of reading achievement.

CHAPTER II

REVIEW OF THE LITERATURE

Introduction

This literature review explores the topics of pre-kindergarten education, reading and school readiness. Section one addresses the benefits of attending pre-kindergarten. Section two provides a definition of reading in primary grades. Section three concerns the topic of kindergarten readiness and in section four a summary is provided.

Benefits of Attending Pre-Kindergarten

Early education is beneficial in many ways. Not only are students exposed to academic skills, they are also able to learn and practice social skills with same age peers and adults. Through these social interactions, students develop their oral language skills, which "plays the most important role in the prediction of text comprehension" (Papadimitriou & Vlachos, 2014, p. 2). That is, students with strong oral language skills with knowledge of more skills are able to comprehend text better. They simply have more word knowledge and more schema. The more developed a student's vocabulary is, the better they are able to understand and comprehend what they read. Many students who attend pre-kindergarten are able to acclimate themselves to the routines of being in school. They have "probably overcome separation anxiety, have learned to interact with other children and adults, and have developed many of the cognitive skills necessary for a more formal classroom structure" (Alber-Kelsay, 1998, p.7). Prior school experience help prepare students for kindergarten, which is the first formal schooling grade. When students are comfortable being away from their parents in a different environment, they are able to relax and learn. When a student is stressed and upset in an unfamiliar place, they are not able to process new information and learn. If they are used to going to school and leaving

their parents, they are more likely to be comfortable in each grade after and are more able to learn new material and skills. School officials continue to be "concerned with the increase of prekindergarten students who enter the primary grades deficient in emergent literacy skills" (Maben, 2013, p.1). In a study to determine the relationship of prekindergarten emergent literacy skills between informal and formal assessments, Maben (2013) states that "one-third of the entering kindergarteners who do not know all their letter names are the same one-third who are likely to read below grade level in the fourth grade" (p.1). As students entering kindergarten show signs of not being prepared, many teachers and administrators suggest that families look into prekindergarten or preschool settings for children prior to being eligible for kindergarten.

In a study conducted over four years, during the 2006-2007 school year to the 2009-2010 school year, students' reading performance was measured at the end of kindergarten by using the Dynamic Indicator of Basic Literacy Skills (DIBELS). Students were grouped depending on whether they attended pre-kindergarten or did not attend pre-kindergarten. "It was concluded that prekindergarten attendance generates more proficiency in reading readiness skills" (Sims, 2010, p.63). Young children experience language through the world around them. "The average vocabulary of a three- to five-year-old is 800 words. By the time children turn five; their average vocabulary is between 3,000 and 8,000 words" (p.17). Preschoolers gain this new vocabulary by listening and responding to stories, learning new signs and symbols and playing with rhymes. When children participate in these language activities, they are demonstrating signs of reading readiness.

Definition of Reading in the Primary Grades

Reading in kindergarten through second grade is mainly focused on learning to read.

During second grade and in the following grades, the focus becomes reading to learn. During the

primary years, students are learning the skills and strategies required to be readers. Students must understand that each letter makes one or more sounds and how to put those sounds together to make words. They must learn how to read unknown words. They learn the strategies that help them decode those unknown words, even when they cannot sound out the word. Not only do they learn how to read words, they also learn how to write words. Once they know the letters and sounds they make, they also must learn how to form the letters correctly. They learn that letters together make words and words together make sentences. By putting words and sentences together, students learn how to read and write stories. Mozombite, MarcoPolo Educational Foundation, & National Council of Teachers and the International Reading Association (2003) state that "it is important that students know how to read different types of literature" (p.3). This starts with picture books with few words and simple stories to textbooks and articles with few or no pictures.

According to the National Reading Panel (2000), there are five components of reading: phonemic awareness (understanding the sounds in the spoken language), phonics (understanding that these sounds are attached to letters), fluency (the ability to read as well as we speak and to make sense of the text without having to stop and decode each word), vocabulary (students' knowledge of words), and comprehension (their ability to understand the text). Many believe that writing is a sixth component of reading, but it has not officially been added. Exposure to books and language helps young children develop in all these areas. For preschool children, reading does not necessarily mean reading from a text. It can be experimenting with different sounds, singing the ABC's, or talking about a book through the pictures. For all students, there are many more activities beyond just reading a book. Many, if not all, of these activities happen in an early childhood classroom. Kindergarten readiness is "still often defined in terms of constrained print-

related skills. As early as preschool, children can be introduced to more challenging interactions with multiple texts that take advantage of their natural curiosity about the world" (Casbergue, 2017, p.1).

In 2001, the No Child Left Behind Act (NCLB), was aimed at ensuring one hundred percent reading and math proficiency for all students across all states. "However, the National Assessment of Educational Progress (NAEP) revealed that many states' proficiency levels were not as challenging as those on the NAEP" (Lee & Wu, 2017, p.2). There were significant gaps between the NAEP and state assessment results. So, in 2009 the Common Core State Standards (CCSS) initiative was launched. By 2015, the standards were implemented in 42 states.

The Common Core State Standards Initiative (2010) pushes rigor in all grades but especially lower grades. By the end of kindergarten, students are expected to be able to demonstrate an understanding of the organization of basic features of print. They need to know that they read on each line from left to right, that words are representative of spoken language, and that words are separated by spaces. In addition, they must recognize and name all the upper and lower case letters of the alphabet. They should be able to demonstrate an understanding of spoken words, syllables and sounds. Consequently, they must be able to recognize and produce rhyming words, count, pronounce, segment and blend syllables in spoken words, isolate, and add or substitute individual sounds in three to four phoneme (sound) words and/or one syllable words. Students must know and apply grade-level phonics and word analysis skills in decoding words. This means that students must understand the one-to-one letter-sound correspondence, associate the long and short sounds for the five major vowels, read high-frequency sight words, and distinguish between similarly spelled words by using the individual sounds. The skills expected by the end of kindergarten are extended in first and second grade. Students are expected

to retain the information they learn in kindergarten and build upon it in the following school years. In first and second grade, students should be able to read with sufficient fluency and accuracy in order to comprehend. The CCSS are what drive instruction and assessment in reading especially as the foundational skills are developed. If students don't master the foundational skill of reading, how will they be able to catch up to their peers in later grades?

Kindergarten Readiness

With the increase in rigor in the primary grades, many students enter kindergarten unprepared for the challenges that lay ahead. Parents may be unaware of the specific standards that are expected at the end of kindergarten, how to prepare their children for kindergarten, or how to help them throughout the early reading process.

Early childhood years are an important time for social, emotional and cognitive development. In a study conducted by Pekodogan & Akgl (2016), the authors state there are three important points about the significance of children, schools, and families in terms of children's school readiness:

- Children who are prepared effectively for school, focus on learning and development.
- Schools which are ready effectively for school readiness of children, provide optimum conditions for children's learning and development.
- Ready family and the closest environment to the child's family provide support for early learning and development of children. (p.144)

Hannon & James (1990) sought to understand the perspective of parents and teachers on preschool literacy. After interviewing both parent and teachers of three and four year olds, they discovered that "a very high level of parental interest in literacy was found, centered on books and print-related activities. Teachers, however, placed more emphasis on developing what they saw as pre-reading and pre-writing skills" (p.1). This shows that parents want to help their child develop early literacy skills, but beyond reading and working with books, they do not know how to help develop these skills. Parents should be educated on how to introduce children to the individual sounds and how to manipulate them. When asked if they ever spelled our words for their children, and if so, how, some parents were unsure if it was better to say the letter names or to sound out the words phonetically. One response was, "I say A, B, C. I don't think /a/, /b/, /c/, is right. I don't know whether it is or not" (p. 5).

In 2014, the state of Maryland began the Kindergarten Readiness Assessment (KRA) as part of the Ready for Kindergarten: Maryland's Early Childhood Comprehensive Assessment System (R4K) that was developed to align to the more rigorous PreK-12 CCSS. The reports in the 2015-2016 school year showed that "nearly half of entering kindergarteners (45%) are demonstrating that they possess the foundational skills and behaviors that prepare them for the curriculum that is based on Maryland's new more rigorous kindergarten standards (Maryland State Department of Education, 2016, p. 1). In Anne Arundel County, 45% of students demonstrated kindergarten readiness on the KRA in the domain of language and literacy. The report also states that "30% of the County's children were enrolled in PreK the year prior to Kindergarten" (p.11). In contrast, in Kent County, 86% of the County's children were enrolled in PreK the year prior to Kindergarten" and "63% demonstrate kindergarten readiness" on the KRA (p. 24). Access to quality preschool education can make a difference in kindergarten readiness.

Summary

Preschool education in reading is crucial to begin the foundational skills for learning to read. Preschool aged children need exposure to language in order to begin to understand it and

access the print form. Without the earliest stages of development, students can start kindergarten behind and struggle to catch up to their peers in later grades. With early education experiences, students can enter kindergarten with the skills needed to develop and grow into successful readers.

CHAPTER III

METHODS

The purpose of this study was to determine if attending pre-kindergarten schooling influences reading achievement in the primary grades.

Design

This study used a quasi-experimental design. The researcher looks to analyze reading achievement of second graders with and without pre-kindergarten schooling.

Participants

The participants in this study are the second grade students during the 2017-2018 school year at a public charter school in suburban, central Maryland. This charter school serves students in kindergarten through eighth grade. This school accepts students from all over Anne Arundel County through a lottery application. In 2017, the enrollment of this charter school was 679 students with 49.6% male and 50.4% female. The population of this charter school includes 48% Caucasian (325 students), 32% African American (217 students), 9% Hispanic/Latino (59 students), 3% Asian (18 students) and 9% (58) students identifying as two or more ethnicities. Free and Reduces Meals (FARMS) account for 24.1% of the population at this school. The students at this charter school who receive special education services are 12.8% of the population and the students with 504 accommodations are 5.7%.

This charter school is an Expeditionary Learning (EL) school. In an EL school, students experience at least two expeditions during their school year where they research and learn about a narrow topic. These students become experts on this topic and create a final product that they present during a celebration of learning. Each expedition includes learning across curricular

areas and service learning opportunities. Expeditions are strong in science and social studies standards, as well as covering math and language standards.

This study's participants are the 2017-2018 second grade class. This second grade class has 70 students, 61.4% (43) male and 38.6% (27) female. The demographics of this second grade class are as follows: 42.9% Caucasian (30 students), 28.6% African American (20 students), 11.4% Hispanic/Latino (8 students), 5.7% Asian (4 students), and 11.4% (8) of students identify at two or more ethnicities. Thirteen percent of second grade students receive special education services and 7.1% or second grade students receive 504 accommodations. 14 (20%) students qualify for free or reduced meal prices.

Instrument

In Anne Arundel County Schools, the assessment used to measure reading achievement is the Fountas and Pinnell reading benchmark system (F&P). Specifically looking at the reading accuracy and comprehension scores when the test was administered during February 2018, this information gives the researcher information about the student's decoding skills and ability to understand what he or she reads.

Procedure

The purpose of this study was to determine if attending some type of pre-kindergarten schooling influences reading achievement in the primary grades. The highest grade level considered primary is second grade. The researcher gathered data on the second grade students at Monarch Academy. This data included, demographics, educational history, and scores from the winter 2018 Fountas and Pinnell testing.

All second grade families were given a letter from the researcher to introduce the study and ask for information about their child's pre-school experiences. Parents were asked to identify if their child had: either attended pre-kindergarten schooling, and if so, what and where; or not attended pre-kindergarten schooling. From the data collected on students' educational background, the researcher found there were five pre-schooling categories. These categories were: day care centers, Head Start, Montessori schooling, private church affiliated pre-kindergartens, and public school pre-kindergartens.

The researcher gathered Fountas and Pinnell testing scores from the second grade teachers for each student. The researcher looked at each student's reading accuracy score. This score is presented as a percentage of the words the student was able to decode and read correctly throughout the text. The researcher also looked at each student's reading comprehension score. This score is out of seven or ten depending on the reading level. The number score is given a descriptive score of excellent (6-7 or 9-10), satisfactory (5 or 7-8), limited (4 or 5-6), or unsatisfactory (0-3 or 0-4). The reading accuracy and comprehension scores are combined to identify the student's independent and instructional reading levels. The researcher used these two scores along with each student's instructional level to define the students' reading achievement.

CHAPTER IV

RESULTS

The purpose of this study was to determine if attending pre-kindergarten schooling influences reading achievement in the primary grades.

Analysis

The accuracy and comprehension scores from the Fountas and Pinnell Reading

Assessment administered in February 2018 for second grade students who had and had not
attended pre-kindergarten were analyzed using a t test for independent groups. The results are
presented in Table 1 below.

Results

Table 1

Accuracy and Comprehension Results for Students with and without Prekindergarten.

Score	Prekindergarten	Mean	n	Standard Deviation	t	Significance
Accuracy	No	96.8	30	2.71	0.84	0.40
	Yes	97.3	40	1.68		
Comprehension	No	70.9	30	10.22	1.14	0.26
	Yes	68.4	40	8.33		

The hypothesis that there will be no difference in reading achievement in the primary grades for students who have attended pre-kindergarten schooling and those who have not is supported.

CHAPTER V

DISCUSSION

The purpose of this study was to determine if attending pre-kindergarten schooling influences reading achievement in the primary grades.

Results

After reviewing the data presented in Table 1, the results of this study show some evidence of higher reading scores for students who attended pre-kindergarten, but the difference in scores is not significant. Of the seventy second grade students, forty students attended pre-kindergarten and thirty students did not attend pre-kindergarten. The Fountas and Pinnell reading levels for the students who attended pre-kindergarten ranged from level C through level U. These levels range in grade level from kindergarten to fifth grade. The Fountas and Pinnell reading levels for the students who did not attend pre-kindergarten ranged from level B through level U. These levels range in grade level from kindergarten to fifth grade as well. However, for the students who attended some type of pre-kindergarten, twenty-six of the forty students tested at least one grade level above in their reading ability. For the students who did not attend any re-kindergarten experience, twenty-one of the thirty students tested at least one grade level above in their reading ability.

There were more students reading at fourth or fifth grade levels (Q, R, S and U) that had attended pre-kindergarten than had not attended pre-kindergarten. There were twelve students reading at a fourth grade level and two students reading at a fifth grade level that did attend pre-kindergarten. In contrast, there were seven students reading at a fourth grade level and two students reading at a fifth grade level that did not attend pre-kindergarten. While there was no

significant different between the two groups, the group of students who attended prekindergarten had more higher reading scores than students who did not attend pre-kindergarten.

Implications

Since this study looked at all historical data, there are no real implications for instruction. While there was no significant difference in reading scores between students who attended pre-kindergarten and students who did not attend pre-kindergarten, there were more students reading above grade level who attended pre-kindergarten.

Even without the significant difference in reading levels in second grade, providing preschool literacy experiences is important for a child's development. There should be better communication to parents about what they can do to help their child be ready for kindergarten.

Threats to Validity

When students enter kindergarten, their difference in reading readiness is much more significant between students who attended pre-kindergarten and those who did not. One threat to the validity of this research may be that the difference narrows as students have more experiences in school and become almost non-existent by second grade.

Another threat to the validity of this research is that the students who did not attend any formal pre-kindergarten may have had other reading readiness experiences at home. A parent or older sibling may have guided the child in reading activities before they attended pre-kindergarten. This would help the child gain some skills needed to be ready for reading in kindergarten.

A third possible threat to the validity of this research is the quality of education students received in kindergarten, first and second grades. Most schools boast that they have highly qualified teachers, and at this charter school in the primary grades, the teachers have many years

of experience and participate in collaborative planning to grow as educators. However, students who have transferred into this charter school during first or second grade come with a different experience in reading.

Comparison of Results to Research Literature

This study compared reading achievement in second graders who had attended pre-kindergarten and second graders who had not attended pre-kindergarten. While the research showed no significant difference in reading achievement between the two groups, in a study conducted in 2010, "it was concluded that prekindergarten attendance generates more proficiency in reading readiness skills" (Sims, p. 63). The current study was not able to look at reading readiness skills in kindergarten.

In 2014, the Maryland State Department of Education launched the Ready for Kindergarten, Kindergarten Readiness Assessment. The results of this assessment also show a correlation between pre-kindergarten attendance and reading readiness skills. In Anne Arundel County, 45% of students demonstrated kindergarten readiness on the KRA in the domain of language and literacy. The report also states that "30% of the County's children were enrolled in PreK the year prior to Kindergarten" (Maryland State Department of Education, 2016, p.11). In contrast, in Kent County, 86% of the County's children were enrolled in PreK the year prior to Kindergarten" and "63% demonstrate kindergarten readiness" on the KRA (p. 24). Access to quality preschool education can make a difference in kindergarten readiness.

Future Research

During the years this group of students has attended the charter school used in this study, from kindergarten to second grade, the school has had three reading teachers. This lack of consistency has caused a difficulty in the tracking and collecting of data. If time allowed, it

would be beneficial to complete research over multiple years to see how the students grow each year. The research would look to discover if students who attended pre-kindergarten show faster growth in reading achievement than their peers who did not attend pre-kindergarten.

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