RUNNING HEAD: Phonics Instruction

PHONICS INSTRUCTION AND READING LEVELS IN KINDERGARTEN

By

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Abstract

This study was completed to find if there was a difference in student reading achievement when receiving Animated Literacy Curriculum in place of Houghton Mifflin Curriculum. Different learning styles should be considered when developing and adopting curriculums that will have an impact on student reading achievements. The study compared student knowledge of letter sounds and semester reading levels of students from two Kindergarten classrooms receiving the different phonics curriculums. The results of this study showed that at the end of the two years, there was not a difference in student achievement between Animated Literacy curriculum and Houghton Mifflin curriculum.
Introduction

Background, Issues and Concerns

There have been concerns about student success in education if students are not reading on grade level by the third grade. Research suggests students not reading on grade level by third grade do not perform as high on standardized tests and tend to have a higher dropout rate. It is important to have students reading on grade level at the end of each school year. Educators are continuously researching and debating the best practices for teaching reading.

Practice under Investigation

The practice under investigation looked at the impact on student knowledge of letter sounds and their reading level while implementing Animated Literacy instead of Houghton Mifflin. The results of the study allow the school district to determine if the shift to Animated Literacy had a positive affect on student achievement in reading.

School Policy to be Informed by Study

All Kindergarten classrooms in Midwestern School District are required to teach portions of the Animated Literacy Program. The phonics program is incorporated into the daily schedule to promote successful reading skills for emergent readers. If the results of the study prove to be a positive affect on student achievement, the district could implement Animated Literacy in the early
childhood programs to help ensure that students are reading on grade level by the end of Kindergarten.

**Conceptual Underpinning**

According to Howard Gardner, “Human beings are organisms who possess a basic set of intelligences.” (Smith, 2008, para. 18) Students learn and think in many ways. Educators must find a way to help each child learn and be successful by using a variety of teaching styles. Animated Literacy introduces a sound by using a character with a story. The students then learn the sound and make an action with their hands to go along with the sound. A song is taught to the students along with gestures. The students then practice reading, writing, and singing songs using the sound and other sounds they have learned. Gardner discusses eight different types of intelligences. Animated Literacy focuses on three of those intelligences, including: musical, bodily kinesthetic, and linguistic. By using Animated Literacy the students are given an opportunity to use different intelligences to learn and retain letter sounds that will help improve reading skills. In theory, educators whom use a variety of teaching styles and multiple intelligences will see higher student achievement.

**Statement of the Problem**

Educators in the Midwestern School District question if the decision to implement Animated Literacy in place of Houghton Mifflin will result in higher student achievement in reading.
Purpose of the Study

The purpose of this study was to collect and analyze data of student achievement as a result of implementing Animated Literacy instead of Houghton Mifflin. The data collected allows instructors to understand the impact Animated Literacy has on student knowledge of letter sounds and Fountas and Pinnell reading level.

Research Question(s)

Is there a difference in student achievement between Animated Literacy curriculum and Houghton Mifflin curriculum?

Null Hypothesis

There is no difference in student achievement between Animated Literacy curriculum and Houghton Mifflin curriculum.

Anticipated Benefits of the Study

The benefit of this study was to allow the district and educators to see the impact Animated Literacy has on student achievement. The district and educators can examine student achievement when using Houghton Mifflin compared to Animated Literacy and understand if the switch of programs was beneficial for the students.
Definition of Terms

Animated Literacy-a comprehensive, research based, multisensory to reading, writing, and oral language instruction

Houghton Mifflin-educational publisher of textbooks, instructional technology, materials, assessments, and fiction and non-fiction readers

Fountas and Pinnell-a one-on-one benchmark assessment system that determines student instructional and independent reading abilities

Phonics-method of teaching reading by correlating sounds with letters and groups of letters

Phonological Awareness-awareness of sound structure in spoken words

Phonemic Awareness-listeners are able to hear, identify, and manipulate phonemes (the smallest units of sound that can differentiate meaning)

Summary

A study was conducted to see if there was a difference in student achievement while implementing Animated Literacy and Houghton Mifflin. The results of the study allows the Midwestern School District to see if the shift from Houghton Mifflin to Animated Literacy had a positive affect on student achievement in reading.
Review of Literature

Stone (2012) has used years of teaching experiences in primary grades and research to create and implement the Animated Literacy program to allow children to be successful in oral language, reading, writing, and concepts. The Animated Literacy program incorporates storytelling, song, movement, and drawings to teach encoding, decoding, and word recognition skills. The research Stone has based the program on, include; brain development, language development, memory, phonics, fluency, and many more that give reasoning behind the concepts and format of his program.

David Rose (2005) explains how research and technology have allowed scientists to study the working brain through imaging techniques. The images have proven that different parts of the brain are being used when hearing words, viewing words, and speaking words; therefore, there are different regions of the brain that contribute to our ability to read. Rose explained that there are three main systems in our brains that work together to allow us to read, including: recognition, strategic, and affective. These systems are responsible for different aspects of reading because “reading involves not only recognizing patterns in print but also using strategies for sounding out words and constructing meaning from them”. (Rose, 2005, p. 8) Rose also stated that a “balanced reading instruction does more than address just one or two skills. It engages all of the many cognitive and affective processes that contribute to effective reading.” (Rose, 2005, p. 9) As Rose explained, readers not only need to recognize patterns of letters and words, but also must be able to sound words out.
Eric Kendal (2006) explained that there are 2 memory systems in our brains, explicit and implicit. Explicit memory is our conscious memory and implicit is our unconscious memory or sometimes called procedural. Implicit memory is the ability to perform without conscious effort or awareness of using our memory and is almost automatic. Patricia Wolfe states, “most of the time you are able to comprehend what you are reading because the decoding process is automatic.” (2001, p. 97) She also stated that students that do not have automatic decoding skills often struggle to comprehend what they are reading because they are sounding out many of the words. Stone is aware of the research of memory and how decoding skills are important to the process of reading and has worked to develop the Animated Literacy program to allow students the ability to learn patterns of letters and sounds so they are able to gain decoding skills that will become automatic to them while reading allowing them to better comprehend their reading.

Stone has also based many components of the program on the stages of language development. Before birth children can begin making connections to songs and stories. Within the first couple of months children begin to use vowel sounds and by 8 months children are beginning to use consonant sounds. Stone (2012) was able to connect this research to the letter sound movements, songs, storytelling, and song substitutions within the Animated Literacy program to support the development of phonological awareness. “Phonological awareness involves the ability to segment words in sentences and syllables in words, as well as phonemes in words.” (Uhry, 2013, para. 4) A study was conducted to see if
there was an influence of intensive phonological awareness instruction on literacy achievement and the results support that children with specific phonological awareness showed an increase in literacy achievement compared to those that received regular literacy curriculum. (Carson, Gillon, & Boustead, 2013)

After children have learned to make different sounds they begin using one-word phrases to communicate; therefore, Stone has included drawings with labeling within the Animated Literacy program. As children continue to develop language, they begin to use two to three word phrases much like the use of nouns, verbs, and adjectives within the drawing and labeling component of the program. The program continues to reinforce the development of language as children begin using high frequency words within sentences and then combining sentences to form stories. Stone has formed the Animated Literacy program to support the different stages of language development to help children become successful early readers and writers. (Stone, 2012)

Much like the stages of language, Howard Gardner believes people learn in specific ways. Gardner’s multiple intelligence theory explains how people have multiple intelligences that contribute to learning. (Smith, 2008) At first glance of the theory, there are 7 different intelligences, but Gardner believes these intelligences are linked together and rarely operate on its own. The Animated Literacy program incorporates different intelligences, including: linguistic, musical, and bodily kinesthetic. Smith also discussed the appeal of these
intelligences to educators because teachers understand that all students learn in different ways and by understanding this theory teachers can reach all students.
Research Methods

Research Design

A quantitative study was conducted to see if there was a difference in student achievement when implementing Animated Literacy curriculum and Houghton Mifflin curriculum. The independent variables being tested were the methodology of phonic instruction, while the dependent variable was student achievement measured by student letter sound knowledge and student Fountas and Pinnell benchmark assessment.

Study Group Description

Students from a Kindergarten classroom at an elementary school in the Midwestern School district were chosen as the group evaluated for the study. The first group of students was in Kindergarten from 2012-2013 and received instruction using Houghton Mifflin. Of those students, 10 were males and 11 were females. 16 of those students were white, 1 black, 2 Hispanic, and 2 mixed. 52% of those students were free and reduced lunch. The second group of students was in Kindergarten from 2013-2014 and received instruction using Animated Literacy. Of those students, 9 were males and 13 were females. 11 of those students were white, 2 black, 2 Pacific Islanders, 1 Asian, 5 Hispanic, and 1 mixed. 77% of those students were free or reduced lunch.
Data Collection and Instrumentation

Student achievement data was collected from each individual student’s quarterly letter sound tracking and each student’s semester Fountas and Pinnell Benchmark Assessment from the 2012-2013 and 2013-2014 school years.

Statistical Analysis Methods

Two t-tests were conducted to find if there was a difference in student knowledge of letter sounds and student reading levels while implementing Animated Literacy and Houghton Mifflin. The source was divided into two groups based on the program (Animated Literacy and Houghton Mifflin) used to teach phonics. The tests provided the mean, mean D, t-test, df, and p-values. To test the null hypothesis the alpha level was set at 0.25. A descriptive analysis was used to explain and describe the results of the study.
Findings

t-Test Analysis Results for Phonics Program and Quarter 2 Sounds

<table>
<thead>
<tr>
<th>Source</th>
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<th>t-test</th>
<th>df</th>
<th>p-value</th>
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<td>0.08</td>
</tr>
</tbody>
</table>

Note: Significant when p<=0.25

The students that received their phonics instruction with the Houghton Mifflin curriculum had an average knowledge of 25.62 letter sounds during the 2\textsuperscript{nd} quarter. The students that received their phonics instruction with the Animated Literacy curriculum had an average of 22.79 sounds during the 2\textsuperscript{nd} quarter. There was a difference of 2.83 between the average student knowledge of letter sounds between the two different curriculums. Students that received the Houghton Mifflin curriculum had a higher knowledge of letter sounds than students that received the Animated Literacy curriculum. The t-test value was 1.77; therefore, there was a difference in student knowledge using the two different curriculums. The degrees of freedom value was 43 and the p-value was 0.08, which was less than the alpha level of 0.25. The null hypothesis stated there was no difference in student achievement between Animated Literacy curriculum and Houghton Mifflin curriculum. The null hypothesis was rejected because there was a significant difference in student achievement during the 2\textsuperscript{nd} quarter between Animated Literacy curriculum and Houghton Mifflin curriculum. Students receiving
Houghton Mifflin learned on average 3 more letters sounds than students receiving Animated Literacy.

<table>
<thead>
<tr>
<th>Source</th>
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<th>t-test</th>
<th>df</th>
<th>p-value</th>
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<td>1</td>
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<td>0.32</td>
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</table>

Note: Significant when p<=0.25

The students that received their phonics instruction with the Houghton Mifflin curriculum had an average knowledge of 26 letter sounds during the 4th quarter. The students that received their phonics instruction with the Animated Literacy curriculum also had an average knowledge of 26 sounds during the 4th quarter. There was no difference between the student knowledge of letter sounds between the two different curriculums. The t-test value was 1; therefore, there was not a difference in student knowledge. The degrees of freedom value was 43 and the p-value was 0.32, which was greater than the alpha level of 0.25. The null hypothesis stated there was no difference in student achievement between Animated Literacy curriculum and Houghton Mifflin curriculum. The null hypothesis was not rejected because there was no significant difference in student achievement during the 4th quarter between Animated Literacy curriculum and Houghton Mifflin curriculum.
### t-Test Analysis Results for Phonics Program and Quarter 2 Reading Levels

<table>
<thead>
<tr>
<th>Source</th>
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<th>Mean D</th>
<th>t-test</th>
<th>df</th>
<th>p-value</th>
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<td>Animated Literacy (n=22)</td>
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<td>-0.29</td>
<td>-0.30</td>
<td>43</td>
<td>0.76</td>
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</table>

**Note:** Significant when $p \leq 0.25$

The students that received their phonics instruction with the Houghton Mifflin curriculum had an average reading level of 2.71 during the 2\textsuperscript{nd} quarter. The students that received their phonics instruction with the Animated Literacy curriculum had an average reading level of 3 during the 2\textsuperscript{nd} quarter. There was a negative difference of 0.29 between reading levels of students receiving instruction from the two different curriculums. The t-test value was -0.30; therefore, there was not a significant difference in student knowledge using the two different curriculums. The degrees of freedom value was 43 and the p-value was 0.76, which was greater than the alpha level of 0.25. The null hypothesis stated there was no difference in student achievement between Animated Literacy curriculum and Houghton Mifflin curriculum. The null hypothesis was not rejected because there was not a significant difference in student achievement of reading level during the 2\textsuperscript{nd} quarter between Animated Literacy curriculum and Houghton Mifflin curriculum.
t-Test Analysis Results for Phonics Program and Quarter 4 Reading Levels

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<td>Animated Literacy (n=22)</td>
<td>6.20</td>
<td>-0.68</td>
<td>-0.66</td>
<td>43</td>
<td>0.51</td>
</tr>
</tbody>
</table>

Note: Significant when p<=0.25

The students that received their phonics instruction with the Houghton Mifflin curriculum had an average reading level of 5.52 during the 4th quarter. The students that received their phonics instruction with the Animated Literacy curriculum had an average reading level of 6.20 during the 4th quarter. There was a negative difference of 0.68 between reading levels of students receiving instruction from the two different curriculums. The t-test value was -0.66; therefore, there was not a significant difference in student knowledge using the two different curriculums. The degrees of freedom value was 43 and the p-value was 0.51, which was greater than the alpha level of 0.25. The null hypothesis stated there was no difference in student achievement between Animated Literacy curriculum and Houghton Mifflin curriculum. The null hypothesis was not rejected because there was not a significant difference in student achievement of reading level during the 4th quarter between Animated Literacy curriculum and Houghton Mifflin curriculum.

All of the findings compiled answered the research question: “Is there a difference in student achievement between Animated Literacy curriculum and Houghton Mifflin curriculum?” Figure 1 reported there was a significant difference in student knowledge of letter sounds during the 2nd quarter. Although
there was a difference in student knowledge during 2\textsuperscript{nd} quarter, Figure 2 reports by 4\textsuperscript{th} quarter the average student knew all the letter sounds with both phonics curriculums. Students that received the Houghton Mifflin curriculum did have a higher average of letter sound knowledge during 2\textsuperscript{nd} quarter, but there was not a difference in reading level average between the two curriculums in the 2\textsuperscript{nd} quarter according to Figure 3; therefore, their higher sound knowledge did not have an impact on their reading level. Figure 4 also reported that there was not a difference in reading levels between the two curriculums in the 4\textsuperscript{th} quarter. The findings reported support the null hypothesis that there is no difference in student achievement between Animated Literacy curriculum and Houghton Mifflin curriculum.
Conclusions and Recommendations

The outcomes reported from this study show that there is no difference between student achievement between Animated Literacy curriculum and Houghton Mifflin curriculum by the 4th quarter. The t-test results for letter sounds in the 4th quarter indicated that the p-value was 0.32 and for reading levels in the 4th quarter the p-value was 0.51, both greater than the alpha level set at 0.25; therefore, the null hypothesis tested was not rejected. There was not a difference between student achievement between Animated Literacy and Houghton Mifflin.

Although the conceptual underpinning of theorist Howard Gardner was not strongly supported by these research findings, teachers should take into consideration that each child learns in multiple ways and this can be used to teach all different types of curriculums to help each child continue to learn and grow as readers.

After concluding this study there are some further studies that could be conducted. The Midwestern School district only requires certain parts of the Animated Literacy curriculum to be implemented daily. Another study could be conducted to see the impact of teaching all parts of the curriculum with fidelity daily on student achievement. A study over high frequency word instruction and curriculum could be conducted to understand the impact of high frequency words on reading achievement. This research could help teachers continue to find the most effective way to teach students letter sounds and high frequency words and improve their reading levels to help students be more successful.
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Alexandria, VA: Association for Supervision and Curriculum Development.