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## Effects of Reading Eggs on Reading Proficiency Levels

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Effects of Reading Eggs on Reading Proficiency Levels

by

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Bachelor of Arts  
University of South Carolina, 2008

Master of Arts  
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Submitted in Partial Fulfillment of the Requirements

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## **DEDICATION**

This action research study is dedicated to my son who was patient and understanding as I spent long nights working to accomplish my goals. I also pray that he remembers that God has a plan for us, and our hard work will never be in vain.

“For I know the plans I have for you,' declares the LORD, 'plans to prosper you and not to harm you, plans to give you hope and a future.” -Jeremiah 29:11

## **ABSTRACT**

The purpose of the present action research study is to examine the effects of a technology based reading intervention program titled Reading Eggs on a small rural Title I elementary school. The identified problem of practice involves students reading below grade level by third grade, which is an indicator of future academic problems for students. To address this problem, Fairfield Magnet School for Math and Science (FMSMS) has implemented the use of Reading Eggs to supplement instruction. Reading Eggs is a web based literacy program in which modules and automated videos teach students skills to build reading comprehension, fluency, spelling, vocabulary, and a range of writing skills. This program uses a pre- assessment to differentiate instruction and provide students with individualized learning paths. In this action research study, qualitative methods will be used to examine the effects of this program on reading achievement in first and second grades. The Fountas and Pinnell Benchmark Assessment System 1 is used to determine academic growth throughout the study. Classes have been randomly selected as the targeted population. The data from the targeted population has been compared to the data of the classes not using the Reading Eggs Program. The results reveal that the Reading Egg used as a supplement was effective in improving reading proficiency scores. As a result, the Reading Eggs Program will be implemented as a supplemental program into the kindergarten and first grade classes at FMSMS.

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## **CHAPTER 1: THE EFFECTS OF READING EGGS**

### **INTRODUCTION**

The ultimate goal of this action research study is to examine the effects of a reading intervention program, Reading Eggs, as we strive to improve reading proficiency levels for elementary school students at Fairfield Magnet School for Math and Science (FMSMS). At the core of this study is technology which is used to supplement the reading interventions taking place within the classroom. At FMSMS, a major focus has been placed on the types of reading interventions and supplemental programs that are in place, to ensure that all students are proficient readers by third grade according to the South Carolina Read to Succeed Law. This law also outlines what intervention should look like in kindergarten through fifth grade.

“Read to Succeed requires a systemic approach to reading and writing which will ensure that each student receives targeted, effective, literacy support from a classroom teacher in all content areas. If needed, supplemental support from a highly effective educator is provided so that ultimately all students read and comprehend increasingly complex grade-level text” (The South Carolina Intervention Guidance Document, 2017, p. 7). However, at Fairfield Magnet School for Math and Science, not all grade levels receive supplemental support from a highly effective educator. Currently, Reading Eggs is used to supplement instruction in the classes in which the reading interventionist does not offer support. To ensure that the best instructional decisions are being made for

students, the effects of Reading Eggs on reading proficiency levels needed to be examined.

### **Statement of the Problem of Practice**

Literacy is the key to being successful in the educational setting and in the workforce. “From elementary school through college, every content area relies on students’ ability to read and process text as the main vehicle for transmitting information” (Cuevas, 2012, p.446). Unfortunately for many students at Fairfield Magnet School for Math and Science, reading proficiency has been an ongoing problem. In fact, at the beginning of the school year, 32%, or ten out of thirty-one second grade students, were not reading on or above grade level. Moreover, after close examination of the Fountas & Pinnell Benchmark Assessment data, the data shows that their literacy struggles are primary related to the lack of phonemic awareness and poor comprehension skills. These are all associated with early literacy and skills that are taught as early as kindergarten.

However, in the past, little to no improvement has been made to close the reading proficiency gap. As a result of this data, an intervention program has been developed for the kindergarten students at FMSMS. This program allows struggling readers to work with a certified reading interventionist for thirty minutes daily to address their individual literacy needs. Unfortunately, once students are promoted to first grade, this program is no longer offered to these students. Historically at FMSMS, computer based programs have been used to take the place of certified interventionists once students enter first grade and continues until students are in third grade.

More recently, the Reading Eggs Program has been offered to these students to supplement the classroom interventions of the first and second grade classes. The intent is



to ensure that students are reading proficiently by third grade, to avoid third grade retention as mandated by the state of South Carolina. Therefore, the present study addresses the identified problem of practice by implementing the Reading Eggs Program with second grade teaching teams and student-participants to enable the second grade students to improve their reading levels.

### **Statement of Purpose**

To combat this continuous trend of low achievement in reading, South Carolina's lawmakers passed the Read to Succeed Act in 2014. Its mission is to "offer a comprehensive, systematic approach to reading which ensures that students will develop reading and writing to prepare them to be college-and career-ready" (Read to Succeed Act, 2014). Through this act, South Carolina has seen many changes such as providing ongoing professional development and support to teachers through reading coaches, increasing knowledge and availability of research based interventions, and collaborating with colleges and universities to ensure that teacher training programs are developed to increase reading proficiency for pre-service teachers.

Although many administrators and educators are excited about the changes that this act has brought about in South Carolina, many people are also skeptical about its outcomes. Starting in the 2016-2017 school year, third grade students who are not reading proficiently will be retained in third grade. According to the Read to Succeed Act (2014), "third-grade reading proficiency means the ability to read grade-appropriate texts by the end of a student's third grade year as demonstrated by the results of state-approved assessments administered to third grade students, or through other assessments" (p. 2). To ensure that students are reading proficiently by third grade, districts and schools had to

develop literacy plans based on the requirements of the state to ensure high academic reading achievement in South Carolina. As a result, many plans have a variety of options for intervention to meet the needs of the students. These intervention plans include small group and individual interventions conducted in the classroom and outside of the classroom by a reading interventionist or certified teachers. Correspondingly, although technology integration is not specifically a part of the Read to Succeed Act, many schools across the state are using a variety of educational technology resources to aid struggling readers within their schools. Moreover, at Fairfield Magnet School for Math and Science, the Reading Eggs program is being used to supplement instruction and serve as a reading intervention for students in first and second grades.

Reading Eggs is a web based literacy program in which modules and automated videos teach students skills to build reading comprehension, fluency, spelling, vocabulary, and a range of writing skills. This program uses a pre- assessment to differentiate instruction and provide students with individualized learning paths. Reading Eggs also creates reports and tracks the progress of the students through its online data base.

However, according to the Read to Succeed Act and the South Carolina Intervention Guidance Document (2016), “all children, especially those who struggle to learn to read benefit from highly trained teachers knowledgeable in reading and writing processes who know how to support, extend, and accelerate literacy learning across the content areas for young learners” (p. 3). It also discusses the approaches that have been historically used in our schools, and notes that technology based reading interventions and other programs that are marketed to our schools and districts to combat illiteracy are

not the most effective approaches. Schools must have highly qualified, trained reading teachers to make the difference. Since the Reading Eggs program is not being used as a primary source of intervention at Fairfield Magnet School for Math and Science, this study provides data on the effectiveness of the program accompanied by teacher interventions.

## **Rationale**

Educational technology programs are being used more frequently in schools to intervene for many struggling readers. It is often viewed as the solution to differentiated instruction and meeting the individual needs of the students. “With more struggling readers being integrated into general classrooms and the increasingly prevalent use of educational technology in today’s classrooms, it is important that teachers, schools, and districts understand the effectiveness of various types of educational technology applications that are available to them to help improve the reading skills of struggling readers” (Cheung and Slavin, 2013, p. 278).

Due to the huge literacy deficiencies and our goal to ensure that all students become proficient readers, the urgency to intervene is pressing. Research states that “there are approximately 8.7 million fourth through twelfth graders in America whose chances for academic success are dismal because they are unable to read and comprehend classroom materials” (Kamil, 2003, p. 12). Something must be done to improve these statistics. However, we must ensure that the interventions that are put in place are effective and meet the needs of the students. In this study, I will examine the effects of Reading Eggs, an online reading program developed to provide individualized instruction and support to students.

## **Conceptual Framework**

“Learning to read is a complex task in which many things must go right for a student to become a successful, strategic, and motivated reader” (Cheung and Slavin, 2012, p. 278). True reading requires the ability to comprehend, analyze and make meaning of text. To ensure that children are given all of the building blocks for learning to read, the National Reading Panel suggest that phonemic awareness, phonics, reading comprehension, vocabulary, and fluency should be the key focus. “Students need to recognize letters and sounds, blend the sounds into syllables and words, comprehend the meanings of words by themselves and in sentences and paragraphs, and get the meaning of text of all types of genres (Cheung and Slavin, 2012, p. 278).

The Reading Eggs program used in this study focuses on building reading comprehension, fluency, spelling, vocabulary, and a range of writing skills. It supports each child’s academic achievement level by offering an individualized learning path and one-on-one lessons that allow students to progress at their own pace. To ensure that students are learning on their instructional level, Reading Eggs provides the students with a pretest prior to starting the lesson. This pretest then determines what level of the child and provides them with an individualized learning path.

“Technology has often been proposed as a solution for the needs of struggling readers. In theory, computers can adapt to the individual needs of struggling readers, building on what they can do and filling in gaps” (Cheung and Slavin, 2012, p. 278). So in this study analyze the academic progress of the students using Reading Eggs to determine its effects.

To achieve this goal, I will follow the academic progress of three grade levels and compare their level of growth with the Reading Eggs program and without the program. During the period of time in which students are using the program, they will be given thirty minutes each day to use the Reading Eggs. To ensure that students are receiving the appropriate amount of intervention time, usage reports will be kept and monitored. Also to monitor the student's academic progress, weekly progress reports will be developed and analyzed. This data will then be combined with other literacy benchmarks to determine the effects of this technology resource.

### **Participant Selection and Research Site**

Fairfield Magnet School for Math and Science (FMSMS) is a small rural school located in Winnsboro, SC. FMSMS was formerly named Fairfield Intermediate School. However, after several consecutive years of being rated unsatisfactory by the South Carolina Department of education, the district under federal guidelines had to reconstitute the school. The reconstitution formed the new and current school during the 2008-2009 school year. As a result, new staff and an administrative team were hired.

Since the school would be a magnet school, students were required to complete an application and a lottery was established to select students who would be admitted to the magnet school. The lottery pulled only a certain percentage from each attendance zone within the district, to ensure all geographical areas were equally represented. Now FMSMS serves 376 students in pre-kindergarten through sixth grade. The population is composed of primarily African American students with 294 African American students, 62 Caucasian students, 6 Asian students, 4 Hispanic students, and 1 American Indian student. Also, according to the South Carolina Department of Education's database at the

45-day mark, 80.4% of the students at FMSMS were in poverty, meaning they received TANF, Medicaid, SNAP, a foster child or homeless. This makes FMSMS a Title I school, and all students receive free breakfast and lunch under the Community Eligibility Provision.

Despite the high poverty rate and the unsatisfactory track record, students of this community has shown tremendous academic gains within the past five years. FMSMS is a Palmetto's Finest School. The school has also received excellent ratings and Palmetto Gold Awards for four consecutive years. Due to the changes in legislation and state testing guidelines, schools across South Carolina did not receive a report card rating. However, we are able to see and compare our SC READY scores to schools across the state. In English Language Arts, 41.6% of the students at FMSMS met or exceeded expectations for SC READY which closely aligns to the over state results in which 43% of the students met or exceeded expectations.

## **METHODOLOGY**

### **Research Question**

How does the Reading Eggs program effect reading proficiency levels in second grade, based on the Fountas & Pinnell Reading Benchmark Assessment in a rural Title I elementary school?

### **Sources of Data Collection**

For this study, the Fountas & Pinnell Benchmark Assessment System (2011) is used as the pre- and post-assessments. for data collection and analysis. The Fountas & Pinnell Benchmark Assessment System is a one-on-one assessment tool that is used to identify the instructional and independent reading levels of students. The assessment

system uses a text level gradient ranging from level A-Z or kindergarten through eighth grade. The Fountas & Pinnell Benchmark Assessment System assesses students for reading accuracy, fluency, phonemic awareness, letter identification and comprehension.

Additionally, progress reports from the Reading Eggs program is used to allow for continuous progress monitoring of the students receiving the supplemental intervention treatment. These reports detail the number of minutes spent on the program and how many lesson the students have completed. Reading Eggs also provides reports of lesson mastery so that areas of strength and weakness can be identified.

### **KEYWORDS GLOSSARY**

**fluency-** To read continuous text with good momentum, phrasing, appropriate pausing, intonation, and stress. (Fountas & Pinnell, 2011, p. 188)

**guided reading-** Any learning context (but most often a small group) in which the teacher guides one or more students through some aspects of the reading process. The teacher builds on students' strengths and supports and demonstrates whatever is necessary to move the learner toward independence. The teacher provides a text with just enough challenge so the learn is able to do most of the reading work. (Routman, 2014, p. 306)

**No Child Left Behind-** The No Child Left Behind Act (NCLB), which passed Congress with overwhelming bipartisan support in 2001 and was signed into law by President George W. Bush on Jan. 8, 2002, is the name for the most recent update to the Elementary and Secondary Education Act of 1965. The NCLB law—which grew out of concern that the American education system was no longer internationally competitive—

significantly increased the federal role in holding schools responsible for the academic progress of all students. And it put a special focus on ensuring that states and schools boost the performance of certain groups of students, such as English-language learners, students in special education, and poor and minority children, whose achievement, on average, trails their peers. States did not have to comply with the new requirements, but if they didn't, they risked losing federal Title I money. (Klien, 2015)

<http://www.edweek.org/ew/section/multimedia/no-child-left-behind-overview-definition-summary.html#Definition>

**phonemic awareness-** The ability to hear individual sounds in words and to identify particular sounds. (Fountas & Pinnell, 2011, p. 190)

**phonics-** The knowledge of letter-sounds relationships and how they are used in reading and writing. Teaching phonics refers to helping children acquire this body of knowledge about the oral and written language systems; additionally, teaching phonics helps children use phonics knowledge as part of a reading and writing process. Phonics instruction uses a small portion of the body of knowledge that makes up phonetics. (Fountas & Pinnell, 2011, p. 190)

**South Carolina College and Career Readiness Standards-** The South Carolina College- and Career-Ready Standards for English Language Arts (ELA) 2015 are the result of a process designed to identify, evaluate, synthesize, and create the most high-quality, rigorous standards for South Carolina's students. The standards are designed to ensure that South Carolina students are prepared to enter and succeed in economically



viable career opportunities or postsecondary education and ensuing careers. (South Carolina College and Career Readiness Standards, 2015, p. 6)

## **CHAPTER 2: LITERATURE REVIEW OF CURRENT READING PRACTICES**

### **INTRODUCTION**

This Literature Review Chapter for my Dissertation in Practice (DiP) involves an identified problem of practice at Fairfield Magnet School for Math and Sciences. All students in first through sixth grades were issued Chromebooks. Chromebooks are a type of laptop that runs on Google's Chrome Operating System. They are designed to be used while connected to the internet, because most of its applications and documents are housed in the cloud. Students can access them daily during school. With these Chromebooks, the possibility for student growth and exploration is endless; however, they are mostly used for web based instructional programs. However, since these programs claim to increase student achievement, teachers have placed a heavy reliance on them to aid in closing the achievement gap. One program in particular that has been used to improve reading proficiency levels is Reading Eggs.

In this literature review, historical research on literacy instruction and best practices for teaching reading are discussed. The use of technology as reading interventions are also examined. Correspondingly, research from other supplemental program such as Reading Eggs are discussed to develop a solid concept of how technology has played a role in literacy interventions in the past.

## **Purpose of the Study**

The purpose of the present action research study is to determine effective reading intervention programs that are being implemented at Fairfield Magnet School for Math and Science. More specifically, this study will focus on second grade students to ensure that they are reading on or above grade level by the third grade which is the expectation of the school leadership at FMSMS. This expectation was set as a result of the Read to Succeed Act, which states that students must be reading proficiently by third grade to avoid retention.

According to the Read to Succeed Act (2014), “third-grade reading proficiency means the ability to read grade-appropriate texts by the end of a student’s third grade year as demonstrated by the results of state-approved assessments administered to third grade students, or through other assessments” (p. 2). To ensure that students are reading proficiently by third grade, districts and schools such as FMSMS have developed literacy plans to better meet the needs of the students. In doing so, reading intervention has been a major focus for improvement.

Many intervention plans include small group and individual interventions conducted in the classroom and outside of the classroom by a reading interventionist or certified teachers. Correspondingly, although technology integration is not specifically a part of the Read to Succeed Act (2014), many schools across the state are using a variety of educational technology resources to aid struggling readers within their schools. Moreover, at Fairfield Magnet School for Math and Science, the Reading Eggs program is being used to supplement instruction and serve as a reading intervention for students in first and second grades. Since the Reading Eggs program is not being used as a primary

source of intervention at Fairfield Magnet School for Math and Science, this study provides data on the effectiveness of the program accompanied by teacher interventions.

Reading Eggs is a web based literacy program in which modules and automated videos teach students skills to build reading comprehension, fluency, spelling, vocabulary, and a range of writing skills. “Reading Eggs incorporates a wide variety of effective, research-based, learning activities within a highly motivational framework that help to keep students on task for longer periods of time” (Pike, Turner, and Leman, 2010, p. 2). This program offers differentiated support to each child by offering a pre-assessment, and then assigns individualized learning paths that allow students to progress at their own pace. It also addresses all five essential components of literacy instruction identified by the National Reading Panel. Pike, Turner, and Leman (2010) state:

at present, there are 100 lessons and every lesson follows a similar structural pattern. Each *Reading Eggs* lesson is constructed using a variety of instructional and review activities, with 6 to 11 parts, that always include four or five of the essential elements. (p. 4)

Early in the program, Phonemic Awareness is a highlighted instructional focus. Later, it may be replaced by phonics instruction (Adams, 1994). These sequential lessons create a bank of progressive learning resources for students ranging from 4 – 8 years of age. Many of the skills covered align with the phonics, spelling and word study continuum as described by Pinnell & Fountas (2010). Students can access these learning activities for an extended period of time as the program is large, comprehensive and its web-based delivery allows students to access it from school and home (Pinnell & Fountas, 2010).

For the present action research study, the pre- and post- assessment data for two second grade classes at FMSMS were collected and analyzed to determine the effectiveness of Reading Eggs. Class A was the treatment group which received the supplemental intervention through Reading Eggs. While Class B only received teacher delivered interventions. The ultimate goal was to determine the effects of Reading Eggs in improving reading levels for students in second grade.

### **Research Question**

How does the Reading Eggs program effect reading proficiency levels in second grade, based on the Fountas & Pinnell Reading Benchmark Assessment in a rural Title I elementary school?

### **Importance of the Literature Review**

The literature review is important because it allows researchers the opportunity to gain in-depth knowledge and background on the topic of study through examining similar studies. In some cases, a review of literature can offer new ideas or reveal new sources of data. It can also aid in the development of the design and methodology. “Simply put, the more you know about investigations and perspectives related to your topic, the more effectively you can tackle your own research problem” (Leedy and Ormrod, 2005, p. 65).

The literature used in a literature review should be of high merit. It is typically scholarly books, journals, newspapers or magazines. Also, when looking for resources, researchers should focus on find material that relates to the theoretical or historical perspective of the study. “Its function is to “look again” (re + view) at what others have done in areas that are similar, though not necessarily identical to, one’s own area of investigation” (Leedy and Ormrod, 2005, p. 64).

In this literature review, I will discuss information regarding reading theories for elementary grade students in title I schools. I will also discuss historical information on the shifts and how reading has been taught to children living in poverty in recent history. The literature review reveals the struggle, changes and debates on what is effective in teaching young children to read. Additionally, as the United States' governmental policies have changed over the years, so have our educational focuses. I will also provide research and data on how our country has shifted in focus as it pertains to literacy and how students are educated.

## **METHODOLOGY**

Fairfield Magnet School for Math and Science (FMSMS) is a small rural school located in Winnsboro, SC. FMSMS was formerly named Fairfield Intermediate School. However, after several consecutive years of being rated unsatisfactory by the South Carolina Department of education, the district under federal guidelines had to reconstitute the school. The reconstitution formed the new and current school during the 2008-2009 school year. As a result, new staff and an administrative team were hired.

Since the school would be a magnet school, students were required to complete an application and a lottery was established to select students who would be admitted to the magnet school. The lottery pulled only a certain percentage from each attendance zone within the district, to ensure all geographical areas were equally represented. Now FMSMS serves 376 students in pre-kindergarten through sixth grade. The population is composed of primarily African American students with 294 African American students, 62 Caucasian students, 6 Asian students, 4 Hispanic students, and 1 American Indian student. Also, according to the South Carolina Department of Education's database at the

45-day mark, 80.4% of the students at FMSMS were in poverty, meaning they received TANF, Medicaid, SNAP, a foster child or homeless. This makes FMSMS a Title I school, and all students receive free breakfast and lunch under the Community Eligibility Provision.

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This action research study requires quantitative research methods as the effects of the Reading Eggs program is examined. The study will have a focus on the foundational background and theories of literacy instruction and how it is used in the development of web based supplemental programs such as Reading Eggs. The design of the action research study will focus on comparing the achievement levels of the students before the usage of the Reading Eggs program and after the program has been implemented. Additionally, the frequency and number of minutes in which the students used the Reading Eggs program will also be examined to identify any variables within that data.

Using pre- and post- assessment data from the Fountas & Pinnell Benchmark Assessment System (2011), the reading levels of fifteen second graders, Class A, are

analyzed to trends that can be identified before using the Reading Eggs program and after using the Reading Eggs program. The assessment data is then compared to the sixteen students, Class B, who are not using the Reading Eggs Program for supplemental support. The goal is to see the rate of growth over time through the implementation of this reading intervention program. It is also my goal to see if the students using the program perform better than the other students on the post-assessment.

Since the teachers are also implementing other instructional strategies and individualized classroom instruction, it cannot be verified that the implementation of technology is the sole reason for student achievement. By comparing the data from the two groups of students, we can only determine that the implementation of the resource likely contributed to the achievement of the students. Also in this action research study, it is essential that teachers and students are trained and understand how to use this program. This will ensure that they are comfortable with using the resource and be more receptive to implementing it as an instructional support in the classroom.

## **THEORY**

“While the pendulum of reading instruction has swung back and forth several times, reading performance for children has remained quite stable, and unfortunately, quite poor” (Wren, 2003, p. 3). Many educators have advocated for phonics based instruction, while others have pushed for the whole language approach. “At one level this is played out in terms of constructivism and realism; at another level its pedagogic offshoots are manifested in the contrast between ‘whole language’ and ‘phonics’ approaches to reading. These divergent perspectives result in very different attitudes towards language and the mode of its acquisition” (Roy, 2005, p. 99). However, “in 30 years,



despite the different approaches to reading education that have prevailed at different times, reading scores have not really changed appreciably; about 40 percent of this country's fourth graders have always performed in the "below basic" category, while approximately 5 percent have been ranked in the "advanced" category at the other end of the distribution" (Wren, 2003).

"Whole language is a constructivist approach to education; constructivist teachers emphasize that students create (construct) their own knowledge from what they encounter" (Reading Horizons, 2010). Furthermore, whole language instruction operates from the premise "that youngsters acquire language rather than learn it through direct teaching; that language learning is child-centered, not teacher-dominated; that language is integrated rather than fragmented; that children learn by talking and doing rather than through passive listening" (Brooks and Brooks, 2005, p. 271). With the whole language approach the students are at the center of the teaching and learning. The focus is on developing meaning, problem solving, and developing a love for reading.

Contrary to this view:

Supporters of phonics instruction believe that once students recognize that sounds correspond to letters and letter patterns, and they practice and master those correspondences and patterns, then 'breaking the code' of written English becomes a fun and engaging experience rather than a frustrating, intimidating one.

(Reading Horizons, 2014, p. 6)

Phonics instruction places a heavy emphasis on understanding the relationship between letters and sounds. "This method operates from the premise that children best learn

language in a sequential and ordered process of acquiring linguistic components and then (re)arranging them appropriately” (Brooks and Brooks, 2005, p. 272).

“Around the world, not just in the U.S., when either a Phonics approach or a Whole Language approach is adopted, an unacceptably large percentage of children fail to learn to read” (Wren, 2003, p. 2). More recently many educators have adopted the practice of integrating the two to form a balanced literacy framework. Nevertheless, “according to the 1992 NAEP, most teachers in the U.S. adopted what they described as a balanced approach to reading instruction, but still the scores remained unacceptably low.” (Wren, 2003, p. 5).

Educators are now scrambling to find the latest and greatest fix to closing the achievement gap in reading. “Approaches such as improved initial teaching of reading, one-on-one tutoring, small-group tutorials, comprehensive school reform, and technology applications have been used for struggling readers in many schools across the country” (Cheung and Slavin, 2013, p. 277-278). Cheung and Slavin (2013) add that “among these approaches, educational technology applications have become one of the most popular” (p. 278).

Unfortunately, in many cases teachers are not truly integrating the technology and using it in an effective manner. Technology is mostly used for skill and drill. Conversely, “technology can be more than a tool for drilling students on skills; it can be a tool for acquiring the vocabulary and background knowledge essential to become a skilled reader” (Biancarosa & Griffiths, 2012, p. 143).

Another problem is the substantial reliance on technology. Since technology has such a heavy precedence in many of our schools, in some situations it has omitted teachers from the equation.

Research shows that computer-assisted instruction can provide effective supplemental instruction and practice for students if it is carefully monitored and delivered with enough regularity and frequency. However, computer programs are not yet well-developed enough to be depended on as the major source of intervention for our most struggling readers. (National Center for Reading First, 2005, p. 6)

Also, “given that federal research has illustrated that none of the computer-based reading products actually works as well as a teacher in fostering reading development, one wonders why these expensive non-solutions are so popular in schools” (Allington, 2011, p. 42).

The lack of improvement is not just limited to the computer-based programs, but according to the federal What Works Clearinghouse, “only one of the 150-plus commercial reading programs listed received a “strong evidence” rating. Four other programs were rated as having “possible evidence” of their effectiveness (Allington, 2011, p. 42). He goes on to say that, “only 20 had any evidence that they improved any aspect of the reading process (reading rate, phonemic segmentation, and so on), but these programs had no evidence that they improved actual reading achievement” (Allington, 2011, p. 42).

*Read Naturally* is a computer based supplemental reading program designed to improve fluency, accuracy, and comprehension. It is comprised of four products that

share common strategies to build fluency and supplement the core language arts instruction. The primary strategies used in all of the Read Naturally products includes the modeling of story reading in which students listen to a story and read along with a recording of the text being read. Another strategy used with this product is repeated reading. This strategy is used to build fluency. However, according to the What Works Clearinghouse, “Read Naturally was found to have no discernible effects on alphabetic and comprehension, mixed effects on reading fluency, and potentially positive effects on general reading achievement for beginning readers” (What Works Clearinghouse, 2013, p. 1).

Another supplemental reading program, *Waterford Early Reading Program* is also computer based. It is designed to promote and improve reading and writing skills such as letter mastery, spelling, and comprehension strategies. Like many other computer-based literacy programs, the Waterford Early Reading Program offers pretest for differentiated instruction and a posttest assessment to measure the students’ growth. It also provides students the opportunity to engage in interactive and animated lessons that includes songs and game-like activities. Despite all of the technologically advanced features that this program has to offer, overall it is not as effective as it claims to be according to the What Works Clearinghouse (2007), “Waterford Early Reading Program was found to have potentially positive effects on alphabetic and no discernible effects on comprehension” (p. 1).

In theory, many people would believe that these programs would be the solution to improving reading achievement for students. For years, educators have followed the traditional or cognitive approach to literacy development thinking they were the keys to

developing readers. According to Dole et al. (1991), “in the traditional view of reading, novice readers acquire a set of hierarchically ordered sub-skills that sequentially build toward comprehension ability. Having mastered these skills, readers are viewed as experts who comprehend what they read” (Vaezi, 2006).

On the other hand, other educators believe that “the development of reading is best understood as a developmental continuum on which children are first able to listen to sounds, rhyme, manipulate syllables (phonological awareness), differentiate individual sounds within words (phonemic awareness), and eventually associate these sounds with letters (phonics)” (Ming and Dukes, 2010, p. 22). Christine Sleeter and Jamy Stillman (2013) add that, “language arts is hierarchically structured into a learning sequence, leading toward classification of students based on master of that sequence. Students are to learn skills first, and build meaning on skills” (p. 260).

These computer-based reading programs also align with the National Reading Panel’s research on developing readers which states, that phonemic awareness, phonics, fluency, vocabulary, and comprehension development are the keys to growing proficient readers. They also reported that educators must be mindful in how they teach these skills as they differ in the amount of guidance or teacher instruction needed. As a result, the NRP identified the systematic and explicit instruction approach as the most effective in teaching these skills.

“*Systematic* instruction reflects several important characteristics. Skills and concepts are taught in a planned, logically progressive sequence. For example, certain sounds (those that are easier to learn or those used more often in the words students will read) are taught before other sounds” (Learning Point, 2004, p. 1). Systematic instruction

also requires the teachers to plan meaningful and purposeful instruction to aid the students in mastering the skills.

*“Explicit instruction means the teacher states clearly what is being taught and models effectively how it is used by a skilled reader”* (Learning Point, 2004, p.1). This requires the teachers to plan engaging lesson that require the students to be actively involved. It requires teachers to model and provide guided and supported practice.

Although these technology programs align with the skills identified to improve reading proficiency, they do not provide the students with systematic and explicit instruction. This is the job of the teachers. Despite the claims that these programs are the solution to improving reading achievement in young children, research reveals that the level of achievement is not significant enough to truly turn a non-reader into a reader

## **HISTORY**

In early American schooling, the three major curriculum focuses were reading, writing, and arithmetic also known as the 3 R’s (Spring, 2014). Although, literacy instruction has been at the center of American schooling education since the mid-18th century, it is still a challenge to effectively educate American students to be efficient readers and writers of the English language (2014). In contemporary times, “The National Assessment of Educational Progress (NAEP) reports that reading overall has changed among American students from 1992 to 2000” (Salinger, 2003, p. 79).

Despite the decades of research on how to improve literacy, the reading proficiency levels are still significantly low in the U.S. According to the 2013 data from the National Assessment of Educational Progress, the average reading score for fourth-graders in the U.S. did not show a significant change from 2011 to 2013 with only 68%

of the nation's fourth graders performing at or above the basic achievement level. Also in assessing the nation's growth in reading achievement, the NAEP (2013) found that only "34% of public school students performed at or above Proficient in reading in 2013 at both grades 4 and 8, with the percentages in the states ranging from 17 to 48 percent" (NAEP, 2013, p. 9). This data also closely aligns with the reading statistics from the 1990s. This shows that there have not been any significant gains in literacy proficiency in over twenty years.

In the recognition of the poor literacy rates and with the passing of the No Child Left Behind Act actions were taken in 2000 to improve literacy instruction and early literacy initiatives. NCLB emphasized that all children should be reading proficiently by third grade. It also held schools accountable for closing the achievement gaps and making adequate yearly progress. Most importantly, from this legislation came the organization of the National Reading Panel.

"In 2000, the National Reading Panel issued a report to help parents, educators, and policy makers understand the skills necessary for the successful development of reading. The panel reviewed over 100,000 documents, including hundreds of empirical studies, and identified five key components" (Ming and Dukes, 2010, p. 22). The components are phonemic awareness, phonics, fluency, vocabulary, and comprehension. As a result of their findings,

the National Reading Panel Report (National Institute of Child Health and Human Development, 2000), the No Child Left Behind (NCLB) Act of 2001, and Reading First (Gamse, Jacob, Horst, Boulay, & Unlu, 2008) reinforce the idea

that students' learning and use of cognitive strategies and skills are tantamount to successful reading. (Afferbach, Cho, Kim, Crassas, & Doyle, 2013, p. 440-441)

In 2009, this focus slightly changed when the Race to the Top educational policy was signed into law as part of the American Recovery and Reinvestment Act. This legislation gave states the opportunity to compete for federal money to meet the following goals:

1. Adopting standards and assessments that prepare students to succeed in college and the workplace and to compete in the global economy;
2. Building data systems that measure student growth and success, and inform teachers and principals about how they can improve instruction;
3. Recruiting, developing, rewarding, and retaining effective teachers and principals, especially where they are needed most; and
4. Turning around our lowest-achieving schools (Spring, 2014, p. 445).

From this legislation, came the creation of the Common Core State Standards. These standards were developed to prepare students to enter into a global workforce. According to Spring (2014),

by focusing on preparation for work, the Common Core State Standards limit the range of student education as exemplified in the area of literacy instruction. The goal of preparation for college or work results in the Common Core Standards for literacy increasing the reading of nonfiction and decreasing the reading of fiction. (p. 448)

This shift in focus can be noted in the separation of reading instruction into three subsections: foundational skills, literature, and informational text. It is also interesting to



note that although the foundational skills standards address four of the five essential components of effective literacy instruction identified by the National Reading Panel, Common Core does not limit reading instruction to just acquiring those skills. The standards are linked to cognitive strategies and skills developed to promote high order thinking. In essences, it is not the goal of Common Core to teach skills in isolation. They are to be taught in conjunction with the instruction of literature and informational text.

The Common Core standards, attending to foundational skills does not occur at the expense of engaging students with compelling content in texts. NCLB taught us that a simple view of reading instruction—in which skills come first and learning from text comes next—does not create engaged readers. The Common Core initiative views the foundations of literacy as more than just accurate word recognition. As schools incorporate Common Core standards into the primary grades, teachers and students will experience how powerful literacy can be when texts are not only used to teach basic skills, but also viewed as a source of knowledge. (Hiebert & Pearson, 2012, p. 52)

Despite the major push to offer consistency among the states with the development of the Common Core standards, South Carolina has decided to part ways with the standards after four years.

South Carolina is the second state to back away from the common core and replace it with new standards. Indiana was the first state to do so last year, although the general consensus is that the state adopted standards that are nominally new, but in fact very similar in the common core. (Ujifusa, 2015)

South Carolina's state legislators made this decision claiming that the standards were too demanding and did not address the needs of the students. As teachers start to implement the new state standards in the 2015-2016 school year, it will be interesting to see how they will effect reading instruction.

Another initiative that SC has recently implemented to combat the continuous trend of low achievement in reading, is Read to Succeed. Its mission is to "offer a comprehensive, systematic approach to reading which ensures that students will develop reading and writing to prepare them to be college-and career-ready" (Read to Succeed Act, 2014). Through this act, South Carolina has seen many changes such as providing ongoing professional development and support to teachers through reading coaches, increasing knowledge and availability of research based interventions, and collaborating with colleges and universities to ensure that teacher training programs to increase reading proficiency for pre-service teachers.

In summary, it is not clear what literacy instruction will look like in the next ten years as there are constant changes in legislation. Still, there is a need to meet the needs of our students, and with the literacy rates as low as they are this issue is urgent. Through continuous research I am hopeful that one day we will find the key to combating illiteracy.

## **CHAPTER 3: METHODOLOGY**

### **INTRODUCTION**

The goal of this action research study is to examine the effects of a reading intervention program, Reading Egg, on reading proficiency levels for second grade students at Fairfield Magnet School for Math and Science. At the core of this study is technology which is used to supplement the reading interventions taking place within the classroom. On the other hand, the implementation of small group and individualized reading interventions are also essential in the methodology.

In both classrooms, teachers take a balanced literacy approach in which reading and writing workshops are at the center of the literacy instruction. More specifically, reading workshop includes a read aloud/modeled reading, shared reading, interactive reading, guided reading, and independent reading. Moreover, during guided reading and independent reading, teachers have the opportunities for small group and one-on-one interventions. Teachers use the Fountas & Pinnell Benchmark Assessment System I (2011) assessment data to identify the students' reading level and The Continuum of Literacy Learning (2011) to make individualized instructional decisions.

The Fountas & Pinnell Benchmark Assessment System I (2011) assesses students for reading accuracy, fluency, phonemic awareness, letter identification and comprehension. The grade level benchmarks set by this assessment system were used as this study's guidelines. "Benchmark results yield optimal levels for independent reading

and instructional reading at a given point in time” (Fountas & Pinnell, 2011, p. 2). For the present action research study, teachers assessed students for their independent reading level. The independent reading level is “the level at which the student reads a text with 95% or higher accuracy and excellent or satisfactory comprehension (levels A – K) or 98% or higher accuracy with excellent or satisfactory comprehension (levels L-Z)” (Fountas & Pinnell, 2011, p. 204).

Although the independent reading level is the assessment goal, teachers use the instructional level for guided and independent reading instruction and interventions. This means that students are instructed on a level higher than they are able to read independently. To aid in making specific instructional decisions about what to teach, the teachers uses The Continuum of Literacy Learning (2011). The continuum “provides a way to look for specific evidence of learning from prekindergarten through grade 2, and across seven curricular areas” (Fountas & Pinnell, 2011, p. 2). It also provides specific skills that correlate with each reading level on the Fountas & Pinnell (2011) Text Level Gradient.

Teachers have a minimum of 30 minutes each day to provide reading intervention. Using the assessment data and the continuum, teachers are able to provide each student with at least one hour of intervention each week. Due to the varied reading levels and the class sizes, teachers are unable to work with each student every day.

In the present action research study, both classes received the teacher delivered reading intervention. However, only Class A received the Reading Eggs Supplemental support. The ultimate goal in this study was to determine the effects of Reading Eggs as a

supplemental reading intervention program on a class already receiving teacher interventions compared to a class only receiving teacher delivered reading interventions.

### **PURPOSE STATEMENT**

To combat this continuous trend of low achievement in reading, South Carolina's lawmakers passed the Read to Succeed Act in 2014. Its mission is to "offer a comprehensive, systematic approach to reading which ensures that students will develop reading and writing to prepare them to be college-and career-ready" (Read to Succeed Act, 2014, p. 1). Through this act, South Carolina has seen many changes such as providing ongoing professional development and support to teachers through reading coaches, increasing knowledge and availability of research based interventions, and collaborating with colleges and universities to ensure that teacher training programs are developed to increase reading proficiency for pre-service teachers.

Although many administrators and educators are excited about the changes that this act has brought about in South Carolina, many people are also skeptical about its outcomes. Starting in the 2016-2017 school year, third grade students who are not reading proficiently will be retained in third grade (Read to Succeed Act, 2014). According to the Read to Succeed Act (2014), "third-grade reading proficiency means the ability to read grade-appropriate texts by the end of a student's third grade year as demonstrated by the results of state-approved assessments administered to third grade students, or through other assessments" (p. 3). To ensure that students are reading proficiently by third grade, districts and schools had to develop literacy plans based on the requirements of the state to ensure high academic reading achievement in South Carolina. As a result, many plans have a variety of options for intervention to meet the

needs of the students. These intervention plans include small group and individual interventions conducted in the classroom and outside of the classroom by a reading interventionist or certified teachers. Correspondingly, although technology integration is not specifically a part of the Read to Succeed Act (2014), many schools across the state are using a variety of educational technology resources to aid struggling readers within their schools. Moreover, at Fairfield Magnet School for Math and Science, the Reading Eggs program is being used to supplement instruction and serve as a reading intervention for students in first and second grades.

Reading Eggs is a web based literacy program in which modules and automated videos teach students skills to build reading comprehension, fluency, spelling, vocabulary, and a range of writing skills. This program uses a pre- assessment to differentiate instruction and provide students with individualized learning paths. Reading Eggs also creates reports and tracks the progress of the students through its online data base.

However, according to the Read to Succeed Act and the South Carolina Intervention Guidance Document (2016), “all children, especially those who struggle to learn to read benefit from highly trained teachers knowledgeable in reading and writing processes who know how to support, extend, and accelerate literacy learning across the content areas for young learners” (p. 1). It also discusses the approaches that have been historically used in our schools, and notes that technology based reading interventions and other programs that are marketed to our schools and districts to combat illiteracy are not the most effective approaches. Schools must have highly qualified, trained reading teachers to make the difference. Since the Reading Eggs program is not being used as a

primary source of intervention at Fairfield Magnet School for Math and Science, this study provides data on the effectiveness of the program accompanied by teacher interventions.

## **PROBLEM STATEMENT**

Literacy is the key to being successful in the educational setting and in the workforce. “From elementary school through college, every content area relies on students’ ability to read and process text as the main vehicle for transmitting information” (Cuevas, 2012, p. 446). Unfortunately for many students at Fairfield Magnet School for Math and Science, reading proficiency has been an ongoing problem. In fact, at the beginning of the school year, 32%, or ten out of thirty-one second grade students, were not reading on or above grade level. Moreover, after close examination of the Fountas & Pinnell Benchmark Assessment data, the data show that their literacy struggles are primary related to the lack of phonemic awareness and poor comprehension skills. These are all associated with early literacy and skills that are taught as early as kindergarten. However, in the past, little to no improvement has been made to close the reading proficiency gap.

As a result of this data, an intervention program has been developed for the kindergarten students at FMSMS. This program allows struggling readers to work with a certified reading interventionist for thirty minutes daily to address their individual literacy needs. Unfortunately, once students are promoted to first grade, this program is no longer offered to these students. Historically at FMSMS, computer based programs have been used to take the place of certified interventionists once students enter first grade and continues until students are in third grade.

More recently, the Reading Eggs Program has been offered to these students to supplement the classroom interventions of the first and second grade classes. The intent is to ensure that students are reading proficiently by third grade, to avoid third grade retention as mandated by the state of South Carolina. Therefore, the present study addresses the identified problem of practice by implementing the Reading Eggs Program with second grade teaching teams and student-participants to enable the second grade students to improve their reading levels.

### **HYPOTHESIS**

Based on research related to technology and reading achievement, I believed that students who consistently use the Reading Eggs program will have higher reading levels than the students who do not participate. By gaining individualize interventions in an innovative format, students will enjoy reviewing and learning new reading skills which will result in academic growth. Although I hypothesized that students in the treatment group would show more gains than the students not receiving the supplemental interventions, I did not believe that the differences in reading levels would prove to be statistically different.

### **RESEARCH OBJECTIVES**

To determine the effects of Reading Eggs on student achievement, several objectives will be addressed. The first objective was to establish whether the use of the Reading Eggs program is beneficial to the students in helping the increase in reading level and become proficient readers. Students' growth was measured by the Fountas & Pinnell (2011) Benchmark Assessment System.



The second objective was to examine and describe the frequency in which the students used the Reading Eggs program. In doing so, I was looking for trends that correlate with the findings of the program's effectiveness. Moreover, I was looking at the number of minutes each child spends on the program to determine whether the number of minutes spent increases the reading level.

## **RESEARCH DESIGN**

For this study, quantitative research methods were used to examine the effects of the Reading Eggs program. The study had a major focus on the foundational background and theories of reading intervention and the role of technology in improving reading proficiency levels. The design compared the achievement levels of the students before the usage of the program and after the program had been implemented. Additionally, the frequency and number of minutes in which the students used the program were examined to identify any variables within that data.

### **Variables**

The students in this action research study were second graders at FMSMS. For this study, pre- and post- assessment data from the Fountas & Pinnell (2011) Benchmark Assessment were examined and compared to determine the students' reading proficiency levels from Class A, the treatment group, and Class B, the control group. The grouping did not change. The only variable that changed was the number of minutes in which students used the program each week. The expectation was that students will use the Read Eggs program for a minimum of sixty minutes per week.

### **Causal Relationships**

Since teachers provided tier two interventions in class for forty-five minutes each day and implemented other instructional strategies and structures such as guided reading, it cannot be verified that the implementation of technology was the sole reason for student achievement. Both classes used in this study collaboratively plan and the instruction closely aligns to one another. However, the teachers and the participants were different. By comparing the two classes, I can only determine that the implementation of the Reading Eggs program was likely (or not) to have contributed to the achievement of the students.

### **Control**

In the present action research study, it was essential that teachers and students were trained and understand how to use the Reading Eggs Program to ensure that the program was used with fidelity. It was also essential that the students using the Reading Eggs Program understood the basic functions and commands of a Chromebook to ensure that the manipulation of the device would not interfere with the progress of learning.

### **Quantitative Purpose Statement**

The purpose of this study was to examine the effects of Reading Eggs on student achievement in a rural, Title I school.

## **CHAPTER 4: FINDINGS AND INTERPRETATION OF RESULTS**

### **INTRODUCTION**

In this chapter, the results of the data analysis and findings are presented in response to the research study's purpose statement, problem of practice, and research question that was presented in previous chapters. The ultimate goal of this action research study was to determine the effects of a web-based reading intervention program, Reading Eggs, on reading proficiency levels in second grade based on the Fountas & Pinnell (2011) Benchmark Assessment System 1. This chapter also discusses the findings of the study to include an interpretation of the results of the study and a conclusion.

#### **Purpose of the Study**

To combat this continuous trend of low achievement in reading, South Carolina's lawmakers passed the Read to Succeed Act in 2014. Read to Succeed is a comprehensive approach to improving literacy outcomes in South Carolina so all students become proficient readers and writers. Further, Act 284 supports the notion that students who do not read or comprehend at grade level struggle academically in all their content area courses and that reading proficiency is a fundamental life skill vital for the educational and economic success of our citizens and State. (South Carolina Intervention Guidance Document, 2016, p. 4)

As a result, South Carolina has seen many changes such as providing ongoing professional development and support to teachers through reading coaches, increasing

knowledge and availability of research based interventions, and collaborating with colleges and universities to ensure that teacher training programs are developed to increase reading proficiency for pre-service teachers. Moreover, the South Carolina Department of Education (2017) website states that,

the goal of the Read to Succeed Act (R2S) is to ensure that every educator at every grade level in every school and subject area is committed and able to support reading development of the South Carolina students they serve. The R2S Act requires that all certified educators earn the appropriate R2S Endorsement(s) for their area(s) as part of their regular certificate renewal cycles. (section, para. 1)

Although many administrators and educators are excited about the changes that this act has brought about in South Carolina, there are a lot of aspects related to teaching reading that must be revised and refined in our schools to meet the expectations of Read to Succeed. For example, starting in the 2016-2017 school year, third grade students who are not reading proficiently will be retained in third grade. According to the Read to Succeed Act (2014), “third-grade reading proficiency means the ability to read grade-appropriate texts by the end of a student’s third grade year as demonstrated by the results of state-approved assessments administered to third grade students, or through other assessments” (p. 3). To ensure that students are reading proficiently by third grade, districts and schools had to develop literacy plans based on the requirements of the state to ensure high academic reading achievement in South Carolina. As a result, many plans have a variety of options for intervention to meet the needs of the students. These intervention plans include small group and individual interventions conducted in the classroom and outside of the classroom by a reading interventionist or certified teachers.

Correspondingly, although technology integration is not specifically a part of the Read to Succeed Act, many schools across the state are using a variety of educational technology resources to aid struggling readers within their schools. Moreover, at Fairfield Magnet School for Math and Science, the Reading Eggs program is being used to supplement instruction and serve as a reading intervention for students in first and second grades.

Reading Eggs is a web based literacy program in which modules and automated videos teach students skills to build reading comprehension, fluency, spelling, vocabulary, and a range of writing skills. This program uses a pre- assessment to differentiate instruction and provide students with individualized learning paths. Reading Eggs also creates reports and tracks the progress of the students through its online data base.

However, according to the Read to Succeed Act and the South Carolina Intervention Guidance Document (2016), “all children, especially those who struggle to learn to read benefit from highly trained teachers knowledgeable in reading and writing processes who know how to support, extend, and accelerate literacy learning across the content areas for young learners” (p. 3). It also discusses the approaches that have been historically used in our schools, and notes that technology based reading interventions and other programs that are marketed to our schools and districts to combat illiteracy are not the most effective approaches. Schools must have highly qualified, trained reading teachers to make the difference. Since the Reading Eggs program is not being used as a primary source of intervention at Fairfield Magnet School for Math and Science, this study provides data on the effectiveness of the program accompanied by teacher interventions.

## **Statement of the Problem of Practice**

Literacy is the key to being successful in the educational setting and in the workforce. “From elementary school through college, every content area relies on students’ ability to read and process text as the main vehicle for transmitting information” (Cuevas, 2012, p.446). Unfortunately for many students at Fairfield Magnet School for Math and Science, reading proficiency has been an ongoing problem. In fact, at the beginning of the school year, 32%, or ten out of thirty-one second grade students, were not reading on or above grade level. Moreover, after close examination of the Fountas & Pinnell Benchmark Assessment data, the data shows that their literacy struggles are primary related to the lack of phonemic awareness and poor comprehension skills. These are all associated with early literacy and skills that are taught as early as kindergarten. However, in the past, little to no improvement has been made to close the reading proficiency gap.

As a result of this data, an intervention program has been developed for the kindergarten students at FMSMS. This program allows struggling readers to work with a certified reading interventionist for thirty minutes daily to address their individual literacy needs. Unfortunately, once students are promoted to first grade, this program is no longer offered to these students. Historically at FMSMS, computer based programs have been used to take the place of certified interventionists once students enter first grade and continues until students are in third grade.

More recently, the Reading Eggs Program has been offered to these students to supplement the classroom interventions of the first and second grade classes. The intent is to ensure that students are reading proficiently by third grade, to avoid third grade

retention as mandated by the state of South Carolina. Therefore, the present study addresses the identified problem of practice by implementing the Reading Eggs Program with second grade teaching teams and student-participants to enable the second grade students to improve their reading levels.

### **Research Question**

How does the Reading Eggs program effect reading proficiency levels in second grade, based on the Fountas & Pinnell Reading Benchmark Assessment in a rural Title I elementary school?

### **Data Collection Methods**

The present action research study was conducted using quantitative methods. Reading levels from the Fountas & Pinnell (2011) Benchmark Assessment System 1 were collected and analyzed throughout the research process to determine the effectiveness of the supplemental intervention program, Reading Eggs. The Fountas & Pinnell (2011) Benchmark Assessment System 1 is a one-on-one assessment tool that is used to identify the instructional and independent reading levels of students. The assessment system uses a text level gradient ranging from level A-Z+ or kindergarten through eighth grade (see Appendix A). “Each point on that gradient, from easiest at level A to the most challenging at level Z+ (which are books recommended for high school and beyond) represents a small but significant increase in difficulty over the previous level” (Fountas & Pinnell, 2011, p. 2).

The Fountas & Pinnell (2011) Benchmark Assessment System I assesses students for reading accuracy, fluency, phonemic awareness, letter identification and comprehension. The grade level benchmarks set by this assessment system were used as

this study's guidelines. "Benchmark results yield optimal levels for independent reading and instructional reading at a given point in time" (Fountas & Pinnell, 2011, p. 2). For the present action research study, teachers are assessing students for their independent reading level. The independent reading level is "the level at which the student reads a text with 95% or higher accuracy and excellent or satisfactory comprehension (levels A – K) or 98% or higher accuracy with excellent or satisfactory comprehension (levels L-Z)" (Fountas & Pinnell, 2011, p. 204). Based on the Fountas & Pinnell (2011) text level gradient, students entering second grade should be on a Level J to meet the benchmark requirement at the beginning of the school year. Moreover, by the mid-year point the benchmark is Level L, and at the end of the school year students should be reading on a Level M (Fountas, & Pinnell, 2011).

For the present action research study, all second grade students were assessed at the beginning of the school year and again at the conclusion of the action research study. The scores were matched to the benchmark expectations to determine students reading below, on or above grade level. To determine the effectiveness of the supplemental intervention program, Reading Eggs, the data from the students using the program was compared to the data of the students not using the program to determine the effects of its implementation.

### **Data Collection Source**

For the present action research study, the Fountas & Pinnell (2011) Benchmark Assessment System 1 was the primary data collection source. It is a one-on-one assessment tool that is used to identify the instructional and independent reading levels of students. The assessment system uses a text level gradient ranging from level A-Z or



kindergarten through eighth grade. The Fountas & Pinnell (2011) Benchmark Assessment System 1 assesses students for reading accuracy, fluency, phonemic awareness, letter identification and comprehension.

### **Method of Data Analysis**

This action research study uses quantitative data. The analysis of this data was done using a deductive process. Moreover, descriptive statistics were used to determine the effectiveness of the supplemental reading program, Reading Eggs. Mertler (2014) identifies “three categories of descriptive statistics that are frequently used by teacher-researchers” (p. 169). These categories are: measures of central tendency, measures of dispersion, and measures of relationship. For this study, measures of central tendency were examined.

The Fountas & Pinnell (2011) Benchmark Assessment System 1 uses a text level gradient ranging from level A-Z or kindergarten through eighth grade in which benchmarks for reading proficiency have been set. “A benchmark is a standard against which to measure something. In Fountas & Pinnell (2011) Benchmark Assessment System 1, the standard is set by the benchmark books a student reads aloud and talks about during the assessment conference” (p. 2). According to the Fountas & Pinnell Text Level Gradient (2011), students entering second grade should be on an independent reading level J to meet the benchmark requirement at the beginning of the school year. Additionally, by the mid-year point the benchmark is level L, and at the end of the school year students should be reading on a level M.

For the present action research study, all second grade students were assessed at the beginning of the school year, and again at the conclusion of the action research study.

After collecting the data, the teacher-participants and researcher correlated the benchmark expectations to determine whether students are reading below, on or above grade level. Also in analyzing the data, the scores from each class were compiled and the mean, median and mode were determined. The data from the students using the program was compared to the data of the students not using the program to determine the effects of the Reading Eggs program on student achievement.

### **FINDINGS OF THE STUDY**

In the present action research study, thirty-one students participated. The students were broken up into two classes; Class A had 15 students, Class B had 16 students. Class A also served as the treatment group. Students in this class received supplemental interventions using the web-based reading program, Reading Eggs, in addition to the daily needs-based interventions provided by the classroom teacher.

At the beginning of the 2016-17 school year, 32% of the students in second grade were reading below grade level according to the Fountas & Pinnell (2011) Reading Benchmark Assessment System 1. More specifically, Class A had 46% students below grade level and Class B had 25% of their students reading below second grade level according to the Fountas & Pinnell Reading Benchmark Assessment System 1.

After the initial assessment, students were provided reading interventions for six weeks. Students in Class A were provided needs-based interventions from their teacher and they also used the Reading Eggs program for supplemental intervention. Class B only received intervention instruction from their teacher.

After the needs-based interventions and the Reading Eggs supplement, Class A had 27% of the students reading below grade level, 60% reading on grade level, and 13%

reading above grade level. This shows a 19% decrease in the number of students reading below grade level. Moreover, the number of students reading on grade level increased by 13% and the number of students reading above grade level increased by 6%.

In Class B after the needs-based interventions reading gains were noted; however, the improvements did not allow students to change categories. The percentage of students in each category remained the same with 25% of the students reading below grade level, 62% of the students reading on grade level and 13% of the students reading above grade level.

When comparing both classes, it was evident that Class A demonstrated the most growth. Also, in comparing the medians and modes from both classes from the beginning of the intervention process to now, Class A also demonstrated the most growth. Class A's median score was a J but increased to a K, and the mode was an I but increased to M after six weeks of interventions. Contrary in Class B, the median and mode was K before and after the interventions.

### **INTERPRETATION OF RESULTS OF THE STUDY**

Based on the data collected from this action research study, students who were given supplemental reading support using the Reading Eggs Program showed more overall growth than the students who did not receive the support. Both classes did show gains based on the Fountas & Pinnell (2011) Benchmark Assessment System 1. However, more of Class A's students demonstrated growth. Also more students in that class were able to increase by two reading levels in the six-week period.

It is evident that the teacher provided interventions are effective in improving reading proficiency levels as determined by the Fountas & Pinnell (2011) Benchmark

Assessment. Both classes showed gains in reading levels with the common factor being small group and individualized interventions during guided reading and independent reading. Since Class A's students showed more growth than Class B it is clear that targeted, needs-based reading interventions have a positive effect on reading proficiency levels as determined by the Fountas & Pinnell (2011) Benchmark Assessment System 1.

When explicit intervention instruction is coupled with Reading Eggs as a supplemental intervention, students demonstrate more growth in reading levels. Results show that the web based reading intervention program, Reading Eggs, has a positive effect on reading levels for the students in second grade at FMSMS. The class that previously did not use Reading Eggs, should begin implementing the program to maximize the growth potential for all students.

## **CONCLUSION**

The data collected in this action research study clearly show the supplemental reading intervention had a positive effect in increasing reading proficiency scores. Class A spent an hour each week on Reading Eggs to supplement the intervention that takes place daily during guided reading. As a result, 93% of the students in that class increased by at least one reading level, opposed to Class B in which the 19% of the students increased by at least one reading level. Based on the findings and data analysis, Reading Eggs is a program that has shown benefits for the second grade students at FMSMS. Reading Eggs along with the teacher-based intervention has proven to effectively increase reading proficiency scores based on the Fountas & Pinnell (2011) Benchmark Assessment System 1.

These findings support my hypothesis that students' reading levels would increase with the implementation of the Reading Eggs program as a supplement. Although increases in reading levels are noted, the gains are not significant. Most students only increased by one reading level. These findings also align with the foundation of the literature review which states that

computer-assisted instruction can provide effective supplemental instruction and practice for students if it is carefully monitored and delivered with enough regularity and frequency. However, computer programs are not yet well-developed enough to be depended on as the major source of intervention for our most struggling readers. (National Center for Reading First, 2005, p. 6)

In other words, despite the claims most computer based reading programs make about improving reading proficiency levels for young children, research reveals that the level of student growth is not significant enough to turn a non-reader into a reader.

What benefits children who struggle with learning to read the most is a steady diet of high-quality reading lessons, lessons in which they have texts they can read with an appropriate level of accuracy and in which they are also engaged in the sort of work we expect our better readers to do. (Allington, 2013, p. 527)

## **CHAPTER 5: SUMMARY AND DISCUSSION**

### **INTRODUCTION**

The purpose of the present action research study was to examine the effects of a web based reading intervention program, Reading Eggs, on reading achievement in a rural second grade classroom. This research was intended to better meet the instructional needs of the second grade students of Fairfield Magnet School for Math and Science by comparing the reading growth of a class receiving only classroom teacher interventions to a class receiving classroom teacher interventions and Reading Eggs intervention. The findings suggest that the implementation of Reading Eggs as a supplemental intervention proved to show positive gains in reading levels, as measured by the Fountas and Pinnell (2011) Benchmark Reading Assessment System 1.

#### **Purpose of the Study**

The purpose of the present action research study was to determine effective reading intervention programs being implemented at Fairfield Magnet School for Math and Science. More specifically, this study focused on second grade students to ensure that they are reading on or above grade level by the third grade, which is the expectation of the school leadership at FMSMS. This expectation was set as a result of the Read to Succeed Act (2014). To ensure that students are reading proficiently by third grade, districts and schools such as FMSMS have developed literacy plans to better meet the

needs of the students. In doing so, reading intervention has been a major focus for improvement.

Many intervention plans include small group and individual interventions conducted in the classroom and outside of the classroom by a reading interventionist or certified teachers. Correspondingly, although technology integration is not specifically a part of the Read to Succeed Act (2014), many schools across the state are using a variety of educational technology resources to aid struggling readers within their schools. Moreover, at Fairfield Magnet School for Math and Science, the Reading Eggs program is being used to supplement instruction and serve as a reading intervention for students in first and second grades. Since the Reading Eggs program is not being used as a primary source of intervention at Fairfield Magnet School for Math and Science, this study provides data on the effectiveness of the program accompanied by teacher interventions.

### **Statement of the Problem of Practice**

Literacy is the key to being successful in the educational setting and in the workforce. However, based on state and district assessment data, this is an area of critical need for most elementary aged students. This trend is also true at Fairfield Magnet School for Math and Science where ensuring that all students are reading proficiently is an ongoing focus. In fact, at the beginning of the school year, 32%, or ten out of thirty-one second grade students, were not reading on or above grade level.

An intervention program has been developed for the kindergarten students at FMSMS. This program allows struggling readers to work with a certified reading interventionist for thirty minutes daily to address their individual literacy needs. Unfortunately, once students are promoted to first grade, this program is no longer

offered to these students. Historically at FMSMS, computer based programs have been used to take the place of certified interventionists once students enter first grade and continues until students are in third grade.

More recently, the Reading Eggs Program has been offered to these students to supplement the classroom interventions of the first and second grade classes. The intent is to ensure that students are reading proficiently by third grade, to avoid third grade retention as mandated by the state of South Carolina. Therefore, the present study addresses the identified problem of practice by implementing the Reading Eggs Program with second grade teaching teams and student-participants to enable the second grade students to improve their reading levels.

### **Research Question**

How does the Reading Eggs program effect reading proficiency levels in second grade, based on the Fountas & Pinnell Reading Benchmark Assessment in a rural Title I elementary school?

### **FOCUS OF THE STUDY**

The overall purpose of this action research study was to determine the effects of Reading Eggs, a web based reading intervention program, on reading proficiency scores in a second grade classroom. In this study, reading proficiency levels were based on the Fountas and Pinnell (2011) Benchmark Reading Assessment System 1. This assessment system is a one-on-one assessment tool that is used to identify the instructional and independent reading levels of students. The assessment system uses a text level gradient ranging from level A-Z+ or kindergarten through eighth grade (see Appendix A). “Each point on that gradient, from easiest at level A to the most challenging at level Z+ (which



are books recommended for high school and beyond) represents a small but significant increase in difficulty over the previous level” (Fountas & Pinnell, 2011, p. 2).

The grade level benchmarks set by this assessment system are used as this study’s guidelines. Additionally, for the present action research study, teachers were assessing students for their independent reading level. The independent reading level is “the level at which the student reads a text with 95% or higher accuracy and excellent or satisfactory comprehension (levels A – K) or 98% or higher accuracy with excellent or satisfactory comprehension (levels L-Z)” (Fountas & Pinnell, 2011, p. 204). Based on the Fountas & Pinnell (2011) text level gradient, students entering second grade should be on a Level J to meet the benchmark requirement at the beginning of the school year. Moreover, by the mid-year point the benchmark is Level L, and at the end of the school year students should be reading on a Level M (see appendix A).

Students were assessed two times during this action research study. Once at the beginning of the data collection process, and again after six weeks of interventions. The goal was to compare reading levels from Class A, the class receiving the supplemental support, to Class B, the class who only implemented the traditional interventions in the classroom. By analyzing the data from both classes, the primary focus was to determine which class demonstrated the most growth as measured by the Fountas and Pinnell (2011) Benchmark Assessment System 1.

## **OVERVIEW OF THE STUDY**

With the passing of the Read to Succeed Law (2014), more attention has been brought to reading achievement scores and proficiency rates in South Carolina. As a result of this legislation, guidelines have been set for intervention requirements, and an

expectation that all students will be proficient readers by third grade was set for all third graders in South Carolina. To address the requirements of Read to Succeed (2014), districts and schools across the state have developed reading plans to explain how they will work toward improving reading proficiency scores for all students.

The present action research study examined the reading practices in two second grade classes at Fairfield Magnet School for Math and Science. More specifically, two classes implemented small group needs-based interventions in which students were grouped based on their Fountas and Pinnell (2011) Benchmark Assessment System 1 data. In these small groups, students were provided targeted instruction to match the strategic reading actions that are identified for each reading level. In Class A, students were also given provided opportunities to participate in a supplemental intervention program, Reading Eggs.

After six weeks of small group needs-based interventions and supplemental intervention, the students were assessed using the Fountas and Pinnell (2011) Benchmark Assessment System 1. Based on the data collected, students who participated in the supplemental intervention program demonstrated more growth than the students who only participated in the traditional small group interventions. As a result, it can be concluded that Reading Eggs had a positive effect on reading proficiency scores for students in second grade at Fairfield Magnet School for Math and Science (FMSMS).

### **SUMMARY OF THE STUDY**

“Classrooms are full of a wonderful diversity of children; differentiated instruction is needed to reach all of them. Many teachers have embraced small-group teaching as a way of effectively teaching the broad range of learners in their classrooms”

(Fountas & Pinnell, 2012, p. 269). In working towards improving reading proficiency rates, the teachers at FMSMS have implemented small group reading intervention groups to better address the needs of the students. Using Fountas and Pinnell's (2012) research on guided reading and the reading benchmark system, it is a common practice that teachers at FMSMS pre-assess the students and group them according to their reading proficiency levels. Once they are grouped, "the A to Z text level gradient has become a teacher's tool for selecting different texts for different groups of children" (Fountas and Pinnell, 2012, p. 270). Teachers use the text and the continuum of literacy learning to work with students in small groups for reading intervention.

Historically, the small groups interventions have proven to be effective in improving reading levels. However, in an effort to address the specific individual needs of the students, Reading Eggs has been implemented into first and second grade. With the implementation of this web-based program, questions of the program's effects on reading proficiency lingered in the minds of the instructional leadership team. So to address this problem, two second grade classes were studied. One class implemented the small group interventions, while the other class implemented the small group interventions and received supplemental interventions using Reading Eggs.

As a result, both classes demonstrated growth according to the Fountas and Pinnell (2011) Benchmark Assessment System 1. However, the class who also used Reading Eggs demonstrated more growth than the class that did not use the program. This shows that the Reading Eggs program had a positive effect on improving reading proficiency scores in second grade at FMSMS.

## **DISCUSSION OF MAJOR POINTS OF THE STUDY**

The present action research study addresses two major questions: what are effective reading interventions and how can technology be used to address the individual needs of students in reading? In this study, the effectiveness of the Reading Eggs program was demonstrated in the data collected from the second grade classes at FMSMS. This data also correlates with findings from the National Center for Reading First (2005) which states:

research shows that computer-assisted instruction can provide effective supplemental instruction and practice for students if it is carefully monitored and delivered with enough regularity and frequency. However, computer programs are not yet well-developed enough to be depended on as the major source of intervention for our most struggling readers. (p. 6)

It is also be noted,

given that federal research (Institute for Education Sciences, 2007) has illustrated that none of the computer-based reading products actually works as well as a teacher in fostering reading development, one wonders why these expensive nonsolutions are so popular in schools. (Allington, 2011, p. 42)

Simply put, computer-based reading products can be beneficial in improving reading proficiency levels, but they should never replace the explicit differentiated instruction provided by the teacher.

The caution is the over usage and ineffective usage of technology. “Too many of us educators apply new literacy tools in old ways, which then constrains the possibilities for our students” (Routman, 2014, p. 106). Based on the present action research study and

other related research studies, technology programs such as Reading Eggs do have positive effects on reading proficiently levels. However, it should not be utilized to solely educate our students. The primary use of such programs should be to supplement instruction. In conclusion, “internationally, the highest-performing schools are not heavy into technology use. Spending on teacher pay and resources for neediest students comes first” (Routman, 2014, p.106).

### **ACTION PLAN: IMPLICATIONS OF THE FINDINGS**

“In most cases, developing an action plan means that you will be doing something different in the future” (Mertler, 2014, p. 211). Based on the data collected from this action research study, it is clear that Reading Eggs should be implemented with fidelity in all first and second grade classes at FMSMS. This will be the first plan of action. To ensure that this happens, a two-day training for teachers will be provided prior to the start of school on August 22, 2017. This training will focus on best practices and effective strategies for delivering in-class reading interventions. Teachers will also be trained on how to use the Reading Eggs program. This will include training on setting up accounts, progress monitoring, and generating reports.

By September 8, 2017, teachers will be expected to have their initial Fountas & Pinnell Benchmark Assessment I completed. On September 11, 2017, all in-class interventions and supplemental instruction using the Reading Eggs program will begin. The goal is to provide students with a minimum of one hour on Reading Eggs weekly. This supplement does not replace the small group intervention and one-on-one interventions that are already taking place in the classroom. Teachers will be expected to continue their daily practices of meeting with students during guided reading and

working with students in one-on-one settings. Teachers will be expected to progress monitor and take anecdotal notes in their data notebooks. After six weeks of intervention, we will re-assess the students using the Fountas & Pinnell Benchmark Assessment I. The data will be compiled and analyzed. Then further instructional decisions will be made. Action research is cyclical, and it is our goal to continuously improve instructional practices for the students at Fairfield Magnet School for Math and Science.

### **SUGGESTIONS FOR FUTURE RESEARCH**

“No research study – regardless of who has conducted it – is perfect. There are always ways to improve any given research study” (Mertler, 2014, p. 2014). In conducting the present action research study, it was my goal to ensure confidentiality, fidelity and consistency throughout the data collection process. In the implementation phase, I also worked closely with the teachers to ensure that teacher interventions were taking place daily and the students who were receiving the treatment, were using the Reading Eggs program for at least an hour each week. The implementation phase lasted six weeks and yielded some valuable data. However, for future research on this topic, I suggest extending the amount of time collecting data and including more grade levels into the study.

### **CONCLUSION**

In improving reading proficiency scores, explicit targeted instruction must be provided to the students. Students must be provided instruction on their individual level and then supported to be moved to the next level. The present action research study examined the effects of how students in a second grade classes were taught and supported using Reading Eggs. As a result, the data show that the web-based reading program,

Reading Eggs proves to aid in improving reading proficiency levels. Although the data shows positive gains in supplementing instruction, this program should not be used to replace teacher delivered interventions. Moreover, from the findings in this study, it is safe to say that computer based reading intervention programs can have a positive effect on reading proficiency scores if it is used to supplement instruction.

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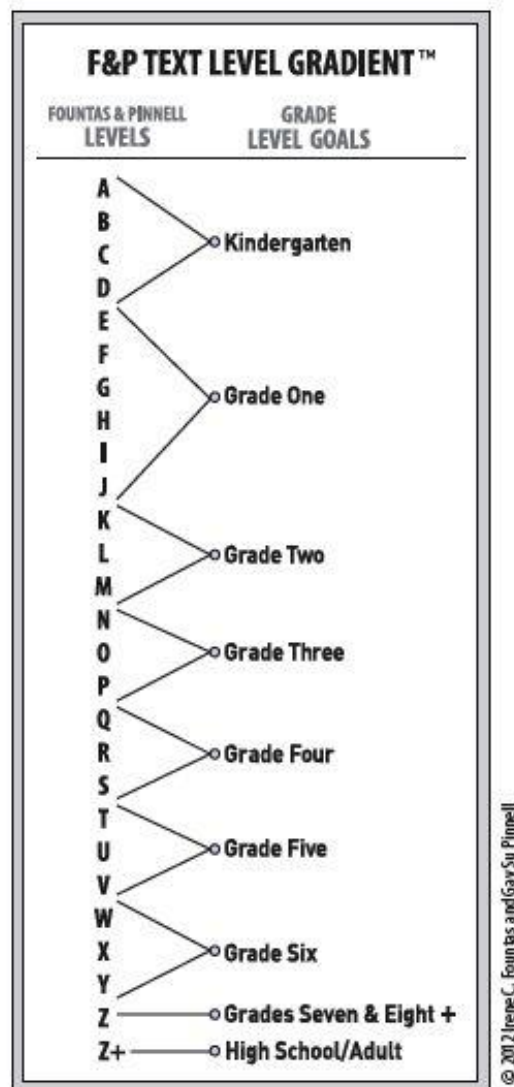
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## APPENDIX A

### Fountas & Pinnell Text Level Gradient



## APPENDIX B

### 2<sup>nd</sup> Grade: Class A Fountas & Pinnell Reading Levels

STUDENT ID	SEPTEMBER 2016	OCTOBER 2016
M.C.	I	I
S.D.	M	O
K. D.	L	M
D.F.	J	K
R.G.	I	J
B. G.	H	J
J.G.	K	L
J.H.	K	M
K.H.	J	M
J.J.	L	M
D.M.	Q	Q
C.P.	I	J
C.R.	G	H
D.S	G	H
C.S.	E	G

(continued)

**Key: Below Grade Level (< J)**

**B/M/E 2nd Grade Level (J-M)**

**Above 2nd Grade Level (>M)**

## APPENDIX C

### 2<sup>nd</sup> Grade: Class B Fountas & Pinnell Reading Levels

STUDENT ID	SEPTEMBER 2016	OCTOBER 2016
B.B.	Q	Q
C.B.	H	I
L.C.	K	K
Z.F.	I	I
H.G.	Q	Q
I.G.	K	K
K.H.	M	M
K.M.1	K	L
K.M.2	N	N
M.M.	L	L
D.P.	F	F
B.R.	J	K
S.S.	J	J
D.S.	K	K
J.S.	H	H
A.W.	K	K

(continued)

Key: **Below 2nd Grade Level** (< J)

**B/M/E 2nd Grade Level** (J-M)

**Above 2nd Grade Level** (>M)