The impact of Reading First on reading achievement scores in a midwestern elementary school

Julie Thomas
University of Northern Iowa

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THE IMPACT OF READING FIRST ON READING ACHIEVEMENT SCORES
IN A MIDWESTERN ELEMENTARY SCHOOL

A Thesis
Submitted
in Partial Fulfillment
of the Requirements for the Degree
of Educational Specialist

Julie Thomas
University of Northern Iowa
December 2010
THE IMPACT OF READING FIRST ON READING ACHIEVEMENT SCORES IN A MIDWESTERN ELEMENTARY SCHOOL

An Abstract of a Thesis

Submitted

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ABSTRACT

Schools are facing tremendous pressure to demonstrate student proficiency through reading achievement scores. The recommendations from the report from the National Reading Panel (NICHD, 2000) concluded that fluency and comprehension are two of five essential areas in reading instruction. The principles of Reading First programs are based on the findings of the National Reading Panel. Many schools across the nation have received Reading First funds with the intent of increasing reading achievement scores.

Federal Reading First funding is provided to school districts that meet state requirements for eligibility. This funding is provided to districts to assist schools in assessing reading achievement in addition to increasing the level of teaching proficiency in the area of reading through professional development opportunities. Fluency and comprehension are two areas of instruction often targeted in schools participating in the Reading First program. Research has clearly documented the correlation between reading fluency and reading comprehension, and it hints at a possible causal relationship between the two components of reading. Reading First schools that focus on fluency instruction with an emphasis on comprehension strategies may see a positive impact on their reading achievement scores due to the provision of strategies and instruction provided through the Reading First funding received by those schools.

The purpose of this thesis research is to search for evidence of a positive impact on reading achievement scores in a school that received Reading First funding for 6 years.
and had a specific instructional emphasis on teaching fluency and comprehension strategies to students in the school.
This Study by: Julie Thomas

Entitled: The Impact of Reading First on Reading Achievement Scores in a Midwestern Elementary School

has been approved as meeting the thesis requirement for the

Degree of Educational Specialist.

Date Dr. Charlotte Haselhuhn, Chair, Thesis Committee

Date Dr. Barry Wilson, Thesis Committee Member

Date Dr. Radhi Al-Mabuk, Thesis Committee Member

Michael J. Licari

Dean, Graduate College
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CHAPTER 1
INTRODUCTION

Schools are faced with difficult decisions regarding instructional practices and meeting the requirements of the No Child Left Behind (NCLB) Act of 2000. Reading achievement scores reported to state and federal education agencies are available to the public. Schools must meet proficiency goals and demonstrate student progress, or sanctions will be given. High stakes testing is forcing schools to carefully examine the curriculum and instruction provided to students in the area of reading. Fluency, phonemic awareness, phonics, vocabulary, and comprehension are the five critical areas of reading instruction identified by the National Reading Panel in the Report of the National Reading Panel: Teaching Children to Read (National Institute of Child Health and Human Development [NICHD], 2000). The National Reading Panel brought fluency instruction to the forefront of many reading discussions and research because fluency "is often neglected in classroom instruction" (NICHD, 2000, p.3-1). The federal government recognized that schools needed supports to increase their professional capabilities in the area of reading instruction, particularly in the critical areas of fluency and comprehension; therefore, the federal government provided funds for Reading First programs. Schools using Reading First funds are expected to provide instruction and professional development in the critical areas of reading instruction as identified in the report by the National Reading Panel.

Reading First has provided funding for several states across our nation, including the state of Iowa. This thesis reviews data from a school district that has several
elementary schools that have participated in the Reading First program. Three schools began in 2003, three more schools began in 2006, and two schools have not been identified as Reading First schools. Reading First schools have provided training for teaching staff, materials for instruction and assessment, and additional personnel to increase the volume and quality of reading instruction. Specific training and professional development were provided in the areas of fluency and comprehension as well as in the other critical areas of reading, with the ultimate goal of increasing reading achievement scores among the students in the school.

The focus of this thesis is an examination of evidence to discover if there is an improvement in fluency and reading comprehension achievement scores when students are provided instruction through Reading First strategies. Empirical evidence will be documented regarding specific fluency studies that address instructional practices and assessment as well as the relationship of fluency and comprehension. Expectations of Reading First schools will be outlined. The reading practices and achievement scores of the elementary school featured in this research will be identified. Using data from the school district, this research will also compare scores with schools not receiving Reading First funding to assist with determining the impact of the use of Reading First strategies on reading achievement scores. The research conducted in this study will assist the school personnel in determining the outcomes of their current instructional practices based on student achievement scores in reading.
CHAPTER 2
REVIEW OF THE LITERATURE

As a federally funded program, Reading First schools are required to use research-based practices for reading instruction. Because of the evidence discovered in the report of the National Reading Panel, fluency instruction has become a cornerstone of many Reading First programs. Reading achievement scores are often measured by comprehension outcomes. This review of reading literature describes the relationship between fluency and comprehension and how reading instruction provided in Reading First schools impacts reading achievement scores.

A Broad Definition of Fluency

Although some definitions of fluency are limited to accuracy and rate, several researchers define fluency with a stronger emphasis on expression and comprehension, which broadens the definition of reading fluency (Johns & Berglund, 2002; Pikulski & Chard, 2005; Rasinski, 2004). As outlined by Rasinski (2004) three important components of reading fluency are accuracy, automatic processing, and prosodic reading. A reader displays accuracy in word identification with the use of phonics and decoding strategies. Instruction in word patterns and word identification skills help increase a reader's ability to decode words. The automatic processing of words frees up cognitive space to make meaning of the text. The speed and ease in which a reader can read print impacts his fluent reading ability, therefore impacting his ability to comprehend the text. Prosodic reading is commonly referred to as reading with expression. A reader who gains
meaning from the text is one who reads by parsing text in syntactic and semantic units with expression.

In other research, Johns and Berglund (2002) stated there are four components of fluency: accuracy, speed, expression, and comprehension. The authors argued that since the goal of reading is meaning, then meaning must be an integral part of reading fluency. “Fluency is the bridge between the ability to identify words and the ability to understand text” (Johns & Berglund, 2002, p. 17). Rasinski (2004) also shared a belief in examining the deeper implications of reading fluency. “Reading fluency refers to the reader’s ability to develop control over surface-level text processing so that he or she can focus on understanding the deeper levels of meaning embedded in the text” (Rasinski, 2004, p. 46-47). This deeper level of reading allows the reader to engage in the meaning of the text while reading accurately with expression. Non-fluent readers are at a disadvantage for comprehending material they are reading due to their errors in word recognition and decoding skills.

The National Reading Panel (NRP) described fluency and the link with comprehension as part of a review of experimental studies concerning reading achievement (NICHD, 2000). The NRP noted that problems with accuracy, speed, and expression can interfere with comprehension because decoding and comprehension require cognitive resources. If a reader is expending too much energy on decoding, the reader most likely will not have the cognitive resources available to completely comprehend the text. A fluent reader is able to complete multiple tasks at the same time, which enables more cognitive resources for higher-order comprehension skills. Cowen
(2003) reviewed the study completed by the NRP and commented, “The study...points out that fluency of reading is highly correlated with improved comprehension, and that fluency is taught best through guided interaction with direct feedback provided by a teacher or a knowledgeable facilitator” (p. 67). Cowen also indicated that the NRP acknowledged fluency as reading text orally and silently with regards to speed and automatic word recognition. This suggests a need for direct instruction by teachers in oral reading fluency strategies to help the reader understand the text. The expectations of Reading First schools were created due to the evidence provided by the National Reading Panel (NICHD, 2000).

Bridging Fluency and Comprehension

“Fluency – accurate, expressive reading – is one aspect of reading proficiency and it seems important for reading comprehension” (Allington, 2009, p. 14). Allington (2009) identified the following as contributing to fluency development: teacher modeling, rereading, the use of appropriate texts (high success texts), level of word accuracy and responses to errors, and, arguably the most important contributor, the volume of reading. Allington believes there is strong evidence that suggests readers who are more fluent have read many more words than struggling readers.

According to the National Reading Panel (NICHD, 2000), the reviewers found two major reading approaches in the fluency research studies. Those approaches are guided reading and wide, independent reading. Both reading approaches are used within the strategies of Reading First schools. A focus on fluency instruction is provided in Reading First schools in addition to instruction in the other critical areas of reading. The
reading approaches allow for extended reading periods with an integration of all the reading areas; however, guided reading is teacher-directed and independent reading is student-directed, which impacts how much instruction is actually provided to students.

Guided reading approaches include, but are not limited to, repeated reading, neurological impress (See Flood, Lapp, & Fisher, 2005, for further information), radio reading, readers’ theatre, and paired reading. Wide, independent reading involves SSR (Silent Sustained Reading), DEAR (Drop Everything And Read), and other types of reading done at home or school that do not require much teacher guidance and regulation of reading. Both approaches are widely used in schools today. Pikulski and Chard (2005) stated the following:

If students are making adequate progress with fluency, wide reading rather than repeated reading may lead to greater improvements in vocabulary and comprehension. However, for less able readers experiencing particular difficulties with fluency, repeated readings remain an important approach to building fluency.” (p. 517)

Empirical evidence supports the possibility that fluency is the bridge between word recognition and meaning of text; therefore, fluency also has a direct impact on comprehension, creating not only a correlation, but a possible causal relationship between fluency and comprehension (Kuhn, 2004; Rasinski et al., 2005; Stahl & Heubach, 2005). When defining fluency with a broad context, comprehension is an integral component. This research directly impacts the instructional strategies chosen by schools today to improve overall reading achievement. Strategies chosen by Reading First schools must be scientifically-based and focus on improving the reading skills of early elementary
students. Reading First schools should include instruction in fluency within a meaningful context in order to enhance deeper comprehension of text.

Kuhn (2004) completed a study that assessed the growth of comprehension when implementing two approaches to reading fluency instruction. One approach was known as fluency-oriented oral reading (FOOR) and the other was a wide reading approach. Both focused on automatic word recognition and prosody in addition to comprehension strategies. Kuhn stated, “Given [the] understanding of the role automaticity and prosody play in the ability to construct meaning from text, it seems likely that instruction designed to develop learners’ fluency will lead to improvements in their comprehension as well” (p. 339). Kuhn found that while expressive reading improved with both a repeated reading strategy and the wide reading approach, comprehension gains were only found with the wide reading approach group. Kuhn’s findings indicate that both guided repeated reading and wide independent reading approaches are of benefit in fluency instruction with a focus on comprehension. Kuhn’s research also indicates that fluency can improve when there is an emphasis on comprehension within the instructional strategy.

Rasinski et al. (2005) studied the relationship between reading fluency and reading comprehension for ninth grade students. The authors found that a causal relationship between fluency and comprehension is a possibility especially when considering the theory of automaticity. The results of the study led the authors “...to conclude that improvements in fluency could account for significant and substantial gains in students’ reading comprehension” (Rasinski et al., 2005, p. 25). This study demonstrates the need for automaticity of word recognition, which is a key component of
reading fluency, in order for students to have the cognitive resources for comprehending the text being read. The fluency of reading words smoothly and automatically frees up the attention needed to comprehend reading text.

Stahl and Heubach (2005) conducted a 2-year study of second graders that focused on reorganizing a basal reading program. The components of the authors’ fluency-oriented reading instruction included a redesigned basal reading lesson with repeated reading and partner reading, a choice reading period during the day, and a home reading program. Five goals of the reading program were as follows: lessons were comprehension oriented even when smooth and fluent oral reading was emphasized; material was read at the reader’s instructional level; support in reading was given through repeated readings; readers engaged in partner reading; and there was an increase in the amount of reading done at home as well as in school (Stahl & Heubach, p. 30-31). “The results of our two-year study of fluency-oriented reading instruction suggest that reorganizing instruction so as to stress fluency had positive effects on second-grade children’s growth as readers” (Stahl & Heubach, p. 52). Of the students who entered the second grade reading at a primer level or higher, all but two were reading at grade level or higher by the end of the year. Stahl and Heubach’s findings indicate that as students move from decoding words to comprehending text due to their automaticity of words, the bridge that fluency provides is essential to gaining meaning from text and becoming a proficient reader.
Fluency and Comprehension in Reading First Schools

Based on the review of literature concerning the relationship between fluency and reading comprehension, the literature suggests increased fluency instruction can improve reading comprehension when fluency and comprehension strategies are taught within a meaningful context. Reading is a complex, interactive process in which components of reading overlap and work together to provide the ultimate goal of reading – gaining meaning from text. Schools need to provide high quality reading instruction. Reading First schools must provide instruction in the five critical areas of reading. As outlined in the review of literature, the correlation between fluency and comprehension is relatively high; therefore, providing intense instruction in those two areas is of great importance to increasing reading achievement scores.

Schools have many decisions to make regarding providing high quality instruction to students in order to positively impact reading achievement scores. Funding becomes a factor as schools look for efficient methods and instructional practices to help increase those scores. Reading First is one such venue for schools to pursue. Reading First funds must be used for professional development, provision of scientifically-based reading instruction in the five core components of reading as outlined by the report of the NPR (NICHD, 2000), and student assessment (Iowa Department of Education, 2009). Reading First does not specify any particular curriculum or materials schools need to use. The decision is left to local school districts with the understanding that the strategies must be scientifically-based in order to be eligible for the federal funds. Instruction in fluency and comprehension is an integral part of the Reading First strategies schools use to address
student needs in the area of reading. It could be expected that the use of Reading First strategies will increase reading achievement scores.

Reading First funds are accessed by State Education Agencies through a formula grant process. The State Education Agencies then provide sub-grants to the Local Education Agencies (e.g. school districts) which are eligible for funding based on an agreement to use scientifically-based reading research strategies to help increase reading achievement scores and on the proportion of students with low socio-economic status within the school building. Once a school has been selected as a Reading First school, the funding is used to support reading coaches, professional development opportunities, and assessment and instruction tools that assist with measuring student achievement and progress in the area of reading.

Reading First is a major federal education funding source. The federal government expects reading achievement scores to improve until all students are able to read at grade level by third grade. One solution offered to school districts is to implement Reading First strategies with the understanding that using research-based reading strategies will improve student achievement scores due to increasing teacher knowledge and student skills in the five critical areas of reading. This study will provide evidence concerning the effectiveness of implementing Reading First in one school building.

The federal government requested a national study be conducted to assist in determining the impact of Reading First programs on student reading achievement and classroom instruction. The Institute of Education Sciences (2008) from the National Center for Education Evaluation and Regional Assistance released the Reading First
Impact Study – Final Report in November 2008. The study focused on students in grades 1, 2, and 3. There were several key findings within the study. Two findings of particular importance to this thesis include the following: there was no statistically significant impact on reading comprehension found in grades 1, 2, and 3, and no relationship was found to exist between the number of years a student was exposed to Reading First and an improvement in reading comprehension. Other findings from the study included finding a positive and statistically significant impact on the amount of instruction time spent on the five components of reading, professional development in scientifically-based reading instruction, the amount of reading instruction, the use of reading coaches, supports for struggling readers, and the decoding skills of first grade students. The results of the national study indicate that despite the federal funds provided for teacher training and resources for instruction in specific Reading First reading strategies, there was not significant impact on reading comprehension achievement scores.

The Psychology in Education Research Lab (PERL) is the external evaluator for Iowa’s Reading First Program. PERL evaluates student and staff performance, with both proficiency rates and level of implementation of selected strategies. Schools can meet performance benchmarks through one of two ways. The first method involves a statistical comparison of the percentage of students proficient in the fall and in the spring. The second method involves determining whether 75% or more of the students were proficient in the spring. For the purposes of this study, the second method will be used to help determine the effectiveness of Reading First in the selected schools.
This study focuses on students in kindergarten through sixth grade in elementary school. For this research study, the following questions will be addressed: Do fluency and comprehension reading achievement scores increase over time as students receive specific reading instruction in a Reading First school? How do achievement scores compare between elementary schools in the same school district who do not implement Reading First strategies? How does the information found in this research study compare to the results found in the national Reading First study?

In order to conclude the Reading First school highlighted in this study has shown improved progress toward proficiency, this researcher will use the benchmark used by PERL, the outside evaluator for Iowa's Reading First schools, as part of the evidence to help determine the effectiveness of the implementation of Reading First strategies. Using that benchmark the results would need to indicate that at least 75% of the students were proficient on the BRI and ITBS assessments. Using data from the 2008/09 academic year allows for teachers to have more experience with teaching the Reading First strategies and allows for students to have been exposed to the strategies for a period of time. There would also need to be a general trend toward higher percentages of students who are proficient in the areas of fluency and comprehension after implementation of the Reading First strategies. Rate of improvement may also be established with the evidence collected in the study.
CHAPTER 3

METHOD

Participating Schools

An elementary school in a small Midwestern school district was identified as a Reading First school and used specific reading strategies in their K-3 reading programming from the 2003/04 academic year through the 2008/09 academic year. Upper elementary teachers also implemented the Reading First strategies as they were introduced to them by their teaching peers. A select team of teachers were trained in the use of fluency and comprehension strategies, and these teachers shared their learning with their co-workers. Coaching and supervision in the use of the reading strategies were provided by reading specialists assigned to their building. (This elementary school continued with the same format for reading instruction from 2006/07 to the present; however, the funding stream came from a source other than Reading First funds.) Two other schools in the same district are included in the study as comparison groups. One comparison school did not implement Reading First, and the other school implemented Reading First strategies three years later than the focus school.

This school district has a total student population of 4,528 students with 48% of the student population identified as low socio-economic status (SES). Low SES figures are determined by the percent of students who receive free or reduced lunches as determined by annual family income. Three of the eight elementary schools were identified as Reading First schools in the 2003/04 academic year. All three schools chose a team of teacher leaders to participate in the initial trainings in order to share their
learning with their co-workers. Training was provided in strategies and instruction as well as in the effective use of the assessment tools. Although the funding was intended for K-3 students, the schools chose to share their learning with all teachers K-6 and use the reading strategies and assessment measures school-wide. The learning for 4-6 teachers was provided by a few of the K-3 teachers during in-service opportunities rather than any direct coaching supports. Administrators held the expectation that all teachers would implement the reading strategies school-wide as they were provided information on what specific strategies and supports were needed for the students. The elementary school featured in this study, known as Jones Elementary, has a student population of 218 with 89% of the students identified as low SES. An average of 34 students were in each of the K-6 grade levels. Jones Elementary began teacher training and implementation of Reading First strategies in grades K-3 in the 2003/04 academic year and continued to implement those strategies school-wide through the 2008/09 academic year. To compare the impact of Reading First programming, Herbert Hoover Elementary was chosen as a school with a total population of 262 students with 40% low SES and no implementation of reading strategies through the use of Reading First funds. Douglas Elementary was also chosen as a comparison school due to the implementation of Reading First strategies in the 2006/07 academic year, 3 years after Jones Elementary began Reading First. Douglas Elementary has a total population of 312 students with 62% low SES. (For the purposes of this study, the names of all schools have been changed.)
Implementation of Reading First Strategies

As a Reading First school, Jones Elementary was required to have a minimum of 90 minutes of reading instruction per day in all of their K-3 classrooms. The 4-6 classrooms were expected by administration to have as close to 90 minutes as was possible within their schedules, and 4-6 teachers were to implement the reading strategies as they were able after initial presentation of the strategies were provided by their peers through in-service opportunities. Within those 90 minutes, the five critical areas of reading (fluency, phonemic awareness, phonics, vocabulary, and comprehension) were taught through specific instructional strategies. Specific reading instruction that targets accuracy skills includes Working With Words, Making Words, and the Picture Word Induction Model (PWIM). Decoding, word analysis, and word identification strategies were taught during these blocks of time, ranging from 10 minutes daily to 20-30 minutes three times per week. Times varied depending upon grade level expectations. Fluency instruction incorporates five dimensions of fluency: rate, volume, expression, phrasing, and smoothness. Students were grouped according to their ability within the dimensions of fluency. These instructional strategies were taught between 15 and 30 minutes daily. Comprehension strategies include Read-Alouds, Think-Alouds, the use of Question-Answer-Response (QAR), and Guided Reading. These strategies were done daily to teach students how to comprehend what they were reading while they were reading. Critical areas of reading, particularly fluency were taught within meaningful context.

An additional 30 minutes of time known as Read to Self was also implemented in the school day. During Read to Self students selected their own reading materials based
on interest and independent reading levels. Students read silently while waiting to conference with teachers about their reading selections.

**Materials**

Part of the requirements for the monies provided through the Reading First grant is to use assessment tools to gather data on student progress. Jones Elementary school used the Jerry Johns Basic Reading Inventory (BRI) to assess student proficiency in the areas of fluency (reading rate and accuracy) and comprehension. The BRI has several components depending on the types of reading inventory selected. However, there are three main pieces of information collected from a BRI. Those include reading rate (calculating the number of words read correctly per minute), reading accuracy (determining miscues within the reading passage), and comprehension (literal and inferential questions asked of the reader about the reading passage). Once a student’s rate, accuracy, and comprehension scores are gathered, then the student is given a descriptor for the score. If a student’s score is considered in the independent or instructional range, then that score is proficient. If the score is in the frustration range, the score is not proficient. For the purposes of this research, only the percentage of proficient scores is reported for the BRI data. All three schools in the study administered the Iowa Tests of Basic Skills (ITBS) to third through sixth grade students in the winter of each academic year. The ITBS is a standardized assessment of academic achievement. Only reading comprehension scores were collected for the purposes of this study. The ITBS score for each student is reported in national percentile rank, and a proficient score is at or above the 41st percentile. The ITBS scores reported in this thesis are the percentages of
students performing at or above the proficient level on the ITBS reading comprehension test. This data is representative of student scores from Jones Elementary for 4 academic years (2005/06 – 2008/09). BRI data are displayed by specific cohorts across several years and cross-sectionally by grade level. ITBS data are displayed across several years by grade level.

Data Collection

The two outcome measures used in this research are BRI data from Jones Elementary and ITBS data from Jones Elementary, Herbert Hoover Elementary, and Douglas Elementary. The percentage of students proficient in reading comprehension is identified in both outcome measures. The percentage of students proficient in fluency (rate and accuracy) is measured within the BRI data. The focus of this thesis is to measure progress over time; therefore, data were selected based on availability and within a range of years to reflect the implementation period of Reading First strategies. Data were collected for multiple grade levels to provide an analysis of possible change within a grade level over time in addition to the possibility of change within cohorts over time.

BRI Data Collection

The Reading First strategies are specifically identified for the intent of instructing students in grades 1, 2, and 3; however, the Reading First schools in this study implemented the strategies, as possible, K-6. BRI fluency and comprehension data were collected at Jones Elementary for grades 1 through 6 over a 4 year period of time, beginning with the 2005/06 academic year. Each grade level had implemented Reading
First strategies for 2 years prior to the first year of data collection for this study, which allows for the opportunity for teachers to become familiar with the strategies they are expected to teach their students and to implement those strategies with a higher level of understanding. For purposes of BRI analyses, data are included only for those cohorts with 4 years of BRI data. Cohorts included are those who were in grades 1, 2, and 3 in the 2005/06 academic year, labeled in results as Cohort 1, Cohort 2, and Cohort 3, respectively.

**ITBS Data Collection**

Measuring progress over time within grade levels in the area of reading comprehension is also identified through ITBS data in each of the three schools. ITBS data are available for grades 3 through 6 in this district. ITBS data are provided for a 9 year period of time, from the 2000/01 through the 2008/09 academic years. This provides 3 years of pre-intervention data for Jones Elementary and 6 years of pre-intervention data for Douglas Elementary.
CHAPTER 4

RESULTS

The results from data collected are displayed in graphs to show progress over time. The percentage of students proficient on the BRI is displayed through cross-sectional data by grade level and by cohort across 4 years. The percentage of students proficient on ITBS is displayed through cross-sectional data by grade level across 9 years.

BRI Proficiency Data

Cross-Sectional BRI Performance

Jones Elementary implemented the Reading First program in 2003/04. BRI information was collected to measure student progress in the areas of rate, accuracy, and comprehension. Using cross-sectional data, Figures 1, 2, and 3 show the percent of students proficient across a 4 year period (2005/06 through 2008/09) for grades 1, 2, and 3, respectively.

Figure 1 shows the percentage of students who were proficient on BRI rate, accuracy, and comprehension for cohorts who were in first grade in the 2005/06 through 2008/09 academic years. Accuracy had the lowest number of students proficient in all 4 years, with 3 of the 4 years showing the percentage of students proficient at approximately 58%. Students in Grade 1 had received instruction in Reading First strategies beginning in kindergarten.

Figure 2 includes the percentage of Jones Elementary second grade students who were proficient in BRI components. All these cohorts received instruction in Reading
First strategies beginning in kindergarten. Percent proficient in 2008/09 was higher than in 2005/06 for each of the three components. Although the 2007/08 cohort seems to show a lower rate of proficiency than the other cohorts, there appears to be a general improvement across time in all three areas.

Figure 2. Percent of second grade students proficient on the BRI for Jones Elementary

Figure 3 shows BRI proficiency rates for cohorts in Grade 3. The cohort in Grade 3 in the
2005/06 academic year had received only 1 year of Reading First instruction, but the other 3 cohorts had received 2 years. Rate has the lowest percent proficient in all 4 years, as was noted for cohorts in Grade 2, as well. There does not appear to be a difference in comprehension between the third graders in 2005/06 who only had Reading First since first grade and the cohorts that had Reading First since kindergarten. However, an apparent trend does indicate improvement was made over time in accuracy and rate for Grade 3, with percent proficient increasing from 82% to 96% for accuracy and 65% to 86% for rate.

Figure 3. Percent of third grade students proficient on the BRI for Jones Elementary

Longitudinal BRI Performance

Beginning in 2005/06, the percentage of students who were proficient on the BRI as first, second, and third graders in the 2005/06 academic year was followed for the next 4 years. Groups of students (cohorts 1, 2, and 3) were tracked over the same time period (2005/06 through 2008/09). Cohort 1, the group that was in third grade in 2005/06, received Reading First strategy instruction since they were in first grade, while cohorts 2
2005/06 academic year had received only 1 year of Reading First instruction, but the other 3 cohorts had received 2 years. Rate has the lowest percent proficient in all 4 years, as was noted for cohorts in Grade 2, as well. There does not appear to be a difference in comprehension between the third graders in 2005/06 who only had Reading First since first grade and the cohorts that had Reading First since kindergarten. However, an apparent trend does indicate improvement was made over time in accuracy and rate for Grade 3, with percent proficient increasing from 82% to 96% for accuracy and 65% to 86% for rate.

**Figure 3.** Percent of third grade students proficient on the BRI for Jones Elementary

**Longitudinal BRI Performance**

Beginning in 2005/06, the percentage of students who were proficient on the BRI as first, second, and third graders in the 2005/06 academic year was followed for the next 4 years. Groups of students (cohorts 1, 2, and 3) were tracked over the same time period (2005/06 through 2008/09). Cohort 1, the group that was in third grade in 2005/06, received Reading First strategy instruction since they were in first grade, while cohorts 2
and 3, students in first and second grade in the 2005/06 academic year, received instruction since kindergarten. This longitudinal data, found in Figures 4, 5, and 6, provides information about group student progress over time.

Figure 4 shows the percentage of students proficient on the BRI for rate, accuracy, and comprehension for Cohort 1. Rate and comprehension proficiency show little change over time; however, the percent proficient in comprehension was high, ranging from 94% to 100% of the students achieving proficiency. Rate ranged from 70% to 75%. The percent proficient in rate is the lowest of the three. Rate, accuracy, and comprehension proficiency maintained through the grades.

![Graph showing student proficiency](image)

**Figure 4.** Percent of students proficient on the BRI – Jones Elementary data for Cohort 1

Figure 5 includes the percentage of students proficient on the BRI for Cohort 2. Both rate and accuracy proficiency sharply declined in the 2008/09 academic year. Comprehension improved between 2005/06 and 2008/09 from 94% to 100%, although there was a slight decline in the 2008/09 academic year. There was an apparent
improvement in accuracy and comprehension proficiency as the students moved from second to third grade, but percent proficient declined when the cohort reached fifth grade.

![Graph showing percent proficient on the BRI - Jones Elementary data for Cohort 2.](image)

**Figure 5.** Percent of students proficient on the BRI – Jones Elementary data for Cohort 2

Figure 6 includes the percentage of students proficient on the BRI for Cohort 3. Accuracy and comprehension proficiency increased over time. There was also an apparent improvement in the accuracy proficiency from first to second grade.

![Graph showing percent proficient on the BRI - Jones Elementary data for Cohort 3.](image)

**Figure 6.** Percent of students proficient on the BRI – Jones Elementary data for Cohort 3
Overall, the BRI data regarding grades 1, 2, and 3 indicates the average percent of the number of students proficient in comprehension increased from 84% in Grade 1 to 97% in Grade 3. The average percent of the number of students proficient in accuracy increased from 64% in Grade 1 to 90% in Grade 3. Rate proficiency did not increase over time. Although statistical analyses were not conducted, visual inspection of all the cohorts' information suggests comprehension and accuracy proficiency maintained or increased over time. Rate proficiency in all the cohorts either maintained or declined over time. Rate also proved to be the lowest percent proficient average in all the cohorts.

**ITBS Proficiency Data**

From 2000/01 to 2002/03, Reading First was not implemented in Jones Elementary, Herbert Hoover Elementary, or Douglas Elementary. These years provide baseline information for the percentage of students proficient on ITBS. As mentioned previously, outcome measures in the area of reading comprehension are often reported to the state and federal government in the form of standardized testing, and ITBS is the chosen measure for this school district. Jones Elementary began implementation of Reading First strategy instruction in 2003/04 and continued through 2008/09. Douglas Elementary, similar to Jones Elementary in size and SES, began implementation of Reading First in 2006/07 and continued through 2008/09. Herbert Hoover Elementary, similar to the others in size and not in SES, has not ever received funding to implement the Reading First strategies. Figures 7, 8, 9, and 10 display the percentage of students proficient on ITBS in each of the three schools. The cross-sectional data is grouped according to grade level spanning a nine year period of time (2000/01 through 2008/09).
Figure 7 shows the percentage of third grade students proficient on ITBS in Jones, Douglas, and Herbert Hoover elementary schools. An apparent trend shows that Jones and Douglas have a slight increase over time in the number of students who were proficient on ITBS. Although Herbert Hoover’s students showed generally higher levels of proficiency than the other schools, there is an apparent trend indicating an appreciable decline in their scores. The data from Jones Elementary shows an upward trend in the number of students proficient prior to Reading First implementation.

Figure 8 shows the percentage of fourth grade students proficient on ITBS. An apparent trend indicates an appreciable increase over time in percent of students proficient at Jones Elementary, a slight increase at Herbert Hoover, and a flat, steady line at Douglas. The average percent proficient across time for Jones Elementary increased,
ranging from 48% prior to Reading First implementation and 67% after 6 years of Reading First implementation.

**Figure 8.** Percent of fourth grade students proficient on ITBS. (Vertical lines on the graph indicate that years Jones Elementary and Douglas Elementary implemented Reading First, 2003/04 and 2006/07, respectively.)

Figure 9 shows the percentage of fifth grade students proficient on ITBS. An apparent trend indicates a decline in the percentage of students proficient at Jones Elementary and an increase in the percent proficient at Douglas. Herbert Hoover's apparent trend indicates a flat, steady line, with no growth or decline. Douglas increased the percentage of students proficient over the time from 57% proficient to 71% proficient.

Figure 10 shows the percentage of sixth grade students proficient on ITBS. An apparent trend indicates an increase in proficiency scores at Jones Elementary, and a flat, steady line for Herbert Hoover and Douglas. Jones averaged 38% proficient prior to Reading First implementation and 52% proficient after six years of implementation.
Figure 9. Percent of fifth grade students proficient on ITBS. (Vertical lines on the graph indicate that years Jones Elementary and Douglas Elementary implemented Reading First, 2003/04 and 2006/07, respectively.)

Figure 10. Percent of sixth grade students proficient on ITBS. (Vertical lines on the graph indicate that years Jones Elementary and Douglas Elementary implemented Reading First, 2003/04 and 2006/07, respectively.)
Overall, with the exception of fifth grade, the percentage of students proficient on ITBS at Jones Elementary increased after implementation of Reading First strategy instruction. However, the increase was slight with variability among years. Douglas Elementary also had variability among years, and they did not show an increase in percent of students proficient after initial implementation of Reading First. Herbert Hoover's percent of students proficient remained high and relatively steady over the 9 year period. It is important to note that the percent of students who were proficient on ITBS at Herbert Hoover Elementary did not have as much room for improvement as did students at Jones Elementary and Douglas Elementary.
CHAPTER 5
DISCUSSION

Jones Elementary spent over 6 years using Reading First guidelines to provide teachers with professional development and to provide students with research-based strategy instruction in reading fluency and comprehension. The changes to instructional practices and the opportunities available for training focused on improving student achievement scores in the area of reading. The No Child Left Behind (NCLB) Act of 2000 expects schools to have all of their students reading at grade level by third grade in 2014. Reading First funding is based on the premise that providing specific supports in the area of reading instruction will assist schools in meeting their annual yearly progress goals which may enable them to meet the expectations of NCLB.

Do fluency and comprehension reading achievement scores increase over time as students receive specific reading instruction in a Reading First school? The results of this study show that some of Jones' reading achievement scores have generally increased over time, particularly accuracy and comprehension, as Reading First strategy instruction was implemented by the teaching staff at Jones Elementary; however, the increase did not appear quickly or dramatically nor is it conclusive that Reading First strategies were the sole reason for the improvement. Another interesting result found in this study is reading rate, which is a component of fluency, did not show an increase in the number of students proficient in this area while comprehension did have an increase. As mentioned in the literature review, a broad fluency definition includes rate and accuracy, and the documented studies indicate a high correlation between fluency and comprehension.
Based on the results in this study, reading rate did not improve over time as did comprehension and accuracy. It is unknown whether teachers in Jones Elementary specifically addressed reading rate through strategies such as timed readings or specific reading rate drills; yet, it is interesting that the percentage of students proficient in comprehension for the BRI and for the ITBS generally increased over time. Using the benchmark PERL identifies for meeting expectations in Iowa's Reading First schools, more than 75% of the students in Grades 1, 2, and 3 were proficient in 2008/09 in rate, accuracy, and comprehension on the BRI. In the ITBS results, it shows more than 75% of the students were proficient only once (Grade 4 in 2008/09) in the 6 years of Reading First implementation using data from Grades 3, 4, 5, and 6.

How do achievement scores compare between elementary schools in the same school district who do not implement Reading First strategies? According to data results from this study, Jones Elementary slightly increased reading comprehension achievement scores (e.g. the percentage of students proficient on ITBS) in third, fourth, and sixth grades after the implementation of the Reading First program. A similar elementary school, that had not implemented Reading First for as long as Jones, did not show an increase in reading comprehension scores. An elementary school that had not implemented the Reading First program did not make the improvement gains in achievement scores over time as Jones Elementary did; however, the scores were relatively high and steady throughout the years, so there was little room for improvement. Achievement scores (e.g. the percentage of students proficient in rate, accuracy, and comprehension on the BRI) at Jones Elementary also increased in the areas of accuracy
and comprehension over time after implementation of the Reading First program. Jones Elementary showed more rate of improvement and higher percentages of students proficient in the BRI assessments than compared to the ITBS assessments. Some important differences between the BRI and the ITBS assessments are the amount of time students need to sustain their attention to task and the format for assessing their reading skills. A BRI can be administered in approximately 10 minutes, depending upon the length of the grade level passage and the speed in which a reader reads the material aloud. Questions and answers are given through oral response. The reading comprehension portion of ITBS is approximately 45 minutes in length. Students are required to read the grade level passages silently and answer the written questions on a bubble sheet through multiple choice format. Depending upon the grade level, students have a variety of multiple passages to read during the testing session. These differences can significantly impact many students' ability to demonstrate reading progress.

How does the information found in this research study compare to the results found in the national Reading First study? The impact study completed by the Institute of Educational Sciences in 2008 concluded that Reading First does not significantly impact reading comprehension scores for students in first, second, or third grades, nor does the number of years a student receives strategy instruction in a Reading First school appear to impact reading comprehension scores. Reading First does appear to positively impact decoding skills in first grade students. Findings relevant and similar to this thesis include the general improvement in the area of accuracy for students at Jones Elementary, as evidenced by a positive impact in decoding skills, and the lack of consistent and steady
improvement over time in the area of comprehension as students received Reading First instruction. As this study did not provide statistical analyses, the assertion from the impact study that Reading First does not significantly impact reading comprehension scores could not be concluded from these results. However, the visual representation of data does suggest that improvement over time was not as dramatic nor as quickly achieved as might be hoped due to the resources and training provided for schools. There was a slight increase in the percentage of students proficient on ITBS comprehension scores over time within three of the four identified grade levels after Reading First strategies were implemented in Jones Elementary.

Reading instruction is a complex process. Reading achievement scores are affected by factors such as the quality of instruction, the use of research-based interventions, the amount of exposure to books and reading materials, SES, additional supports provided for struggling readers, and many other factors. A limitation in this study includes the inability to isolate these variables within the focus school and when analyzing the data of the comparison schools. This study did not control for other variables nor were statistical analyses conducted. Another limitation is although cohorts were studied across time, the cohorts do not consist of all the same students due to students moving in and out of the school. As schools are natural environments for students, there are many ethical issues to be considered when attempting to manipulate the variables in research. The data used in this study was data available to the public and used to report school progress. It is impossible to account for all the factors that impact
students' proficiency data when comparing school-wide data rather than individual student data.

Another issue that was not addressed in this study is the fidelity of implementation. Reports indicate that teachers were observed periodically by coaches and received the amount of training necessary to implement the Reading First strategies. However, teachers may not have implemented all of the components of the program every day with fidelity. There was not a checklist that teachers were required to follow each day, nor were there the resources to monitor the instruction on a daily basis. It was expected that teachers would follow through with their training and implement the strategies on a daily basis, yet it is impossible to determine if the intervention was implemented as intended within the parameters of this study.

The results of this study suggest the number of students who were proficient on ITBS and on the BRI at Jones Elementary increased over time in some areas. Yet, the average percent of students proficient on ITBS remained at least 10 percentage points and as much as 23 percentage points below that of students at Herbert Hoover Elementary, a school which did not receive funding to implement Reading First strategies. Also, there were no BRI data scores available prior to Reading First implementation; therefore, a comparison within that data set is not possible. It is likely that scores would differ among and within schools, especially when considering the differences in SES, students with disabilities, English language skills, and other factors. While the increase over time is a positive trend, this researcher questions the amount of time and money spent on improving reading achievement scores in Jones Elementary over a 6 year period of time.
with the percentage of students proficient on ITBS ranging from 33% to 82% across the grade levels. It could be expected that the level of training and resources provided to Reading First schools would dramatically increase student achievement scores in the area of reading. To date, Jones Elementary has met adequate yearly progress expectations and has not been identified as a school in need of assistance due to reading achievement scores. However, the data does not show that all students are on target to meet NCLB expectations. When using benchmark provided by PERL to assess student progress on BRI and ITBS data indicating that more than 75% of the students are proficient, Jones Elementary was not meeting expectations after implementation of Reading First in both ITBS and BRI assessments after 6 years of Reading First implementation. There was a positive increase over time in fluency and comprehension; however, visual inspection of the graphs suggests the increase is slight and may or may not continue to increase as time prevails. Based on the results from the study, there is no conclusive evidence that indicates Reading First has been effective for improving progress toward proficiency in fluency and comprehension.

As the pressure for improving reading achievement scores continues to drive education decisions, schools will need to make difficult decisions regarding best practices in the area of reading instruction. The results from this study are inconclusive regarding the improvement of fluency and comprehension achievement scores due to the implementation of Reading First strategies. Implementation of research-based strategies and the adherence to best practices are essential to the success of any school. Reading First may be an avenue toward success when schools provide high quality instruction.
Schools must be aware of the unique needs of their students and systems. It may be possible that only addressing one area such as reading may not provide enough supports for student needs. School climate, teacher implementation of interventions, the amount of time needed to make substantial change, and other factors can impact achievement scores. Finding the solution to raising achievement scores will help schools make decisions about how to provide high quality instruction to our students. Reading First may be one piece to a solution, but likely not the only solution.
REFERENCES


