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The Effect of the HELPS Program on the Oral Reading Fluency and Accuracy Rates of Third-, Fourth-, and Fifth-Grade Students

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by
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Abstract

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This dissertation was designed to examine the effects of the HELPS Program on the oral reading fluency and accuracy rates of third-, fourth-, and fifth-grade students as compared to students who received regular classroom instruction only. The study was conducted in a school district in northwestern North Carolina. The students in this study scored below benchmark on a Reading 3D End of Year Assessment and were nonproficient on the North Carolina end-of-grade reading test. As fluency is tied to reading comprehension, it is important that students have sufficient fluency and accuracy skills to read grade-level texts.

The study used Reading 3D Beginning of Year, Middle of Year, and End of Year Assessments as well as comments from a teacher focus group and random student interviews. Mean fluency and accuracy rates were compared between the control group and intervention group, males and females, and third through fifth graders at each assessment period throughout the year.

A repeated measures analysis of variance (ANOVA) and Tukey's post hoc along with simple effects were used in this study. The data from these analyses revealed little difference between the mean fluency and accuracy scores of the control groups verses the intervention groups.

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Chapter 1: Introduction

Statement of the Problem

Children who are truly at risk in the world are those who cannot read (Fielding, Kerr, & Rosier, 1998). The problem addressed in this study was that according to the North Carolina School Report Card for a large rural school located in the foothills, approximately 37% of third-grade students, 28% of fourth-grade students, and 24% of fifth-grade students scored below proficient in reading during the 2011-2012 school year on the end-of-grade (EOG) reading test (2012). An end-of-year (EOY) oral reading fluency (ORF) test administered at the school indicated that these same students fell below national norms for ORF rates (Amplify Education Reporting, 2012). Reading fluency was a critical component of effective reading instruction for students of early elementary age; however, national data suggest that 40% of U.S. fourth-grade students are nonfluent readers (Begeny et al., 2010).

A large-scale data analysis from the National Assessment of Educational Progress (NAEP) in reading established the positive correlation between fluency and comprehension (Pinnell, 1995). This research demonstrated that a reciprocal relationship exists between fluency and comprehension that enables one to comprehend more thoroughly as one reads more fluently. Consequently, as students read more fluently, their ability to comprehend is also improved. Pinnell (1995) went on to say that proficient readers not only recognize and read words quickly, but also tend to read with a sense of ease and fluidity that highlights and reflects their understanding of the meaning of the text. He concluded that the degree to which students read orally with ease, smoothness, and effortlessness appeared to be most related to how well students understood what they were reading.

Stayter and Allington (1991) indicated that adequate ORF rates were identified as possessing a powerful, direct link to reading proficiency. They further stated that developing ORF in students helps to ensure the creation of independent, self-monitoring readers.

Fielding et al. (1998) stated that when schools fail to teach students to read, they are excluding the students from productive participation in society. Fielding et al. further concluded that schools are perpetuating a population of unemployed, homeless, incarcerated, illiterate, and dependent people within society.

The Purpose of this Study

The purpose of this study was to determine the impact of the Helping Early Literacy with Practice Strategies (HELPS) One-on-One Program on the ORF rates and accuracy rates of third- through fifth-grade students who were identified as scoring below average on a Dynamic Indicators of Basic Early Literacy Skills of Oral Reading Fluency (DORF) assessment. One group of students across all three grade levels was exposed to the HELPS Program in addition to classroom guided reading instruction. Another group of students received classroom guided reading instruction only. At the EOY, a comparison of the ORF rates and accuracy rates from the DORF assessment of both groups was made to determine the effect of the HELPS program across the beginning, middle, and end of the school year.

Conceptual Base

Fluency is defined as one's ability to read a text accurately and quickly (Armbruster, 2010). When fluent readers read silently, words are recognized automatically. Fluent readers have the ability to group words quickly to help them gain meaning from what is read. Oral reading for fluent readers is effortless, with expression,

and sounded natural, as if they were speaking. Reading aloud for those who have not yet developed fluency is slow and word by word. It sounds choppy and plodding (National Reading Panel (US), National Institute of Child Health, & Human Development (US), 2000).

A report from the National Reading Panel (US), National Institute of Child Health, & Human Development (US) (2000) identified fluency as one of five critical components that are needed for the acquisition of reading skills. The other four included phonological awareness, phonics, vocabulary, and comprehension. Fluency is important because it connects word recognition and comprehension (Vaugn & Linan-Thompson, 2004). Samuels and Farstrup (2006) stated that when readers do not have to concentrate on decoding the words, they can focus their attention on the meaning of the text. They further elaborated that students are able to make connections between the ideas in the text and their background knowledge. They found that fluent readers are able to recognize words and comprehend at the same time. They went on to say that readers who lack fluency, however, focus their attention on deciphering the words, which leaves them little attention for understanding the text.

In recent years, more emphasis has been placed on early literacy assessments which help school personnel identify and address potential reading problems (Morrow, 2001). Once problematic areas are detected, it is necessary to provide quality core reading instruction coupled with differentiated instruction to small groups of struggling readers in order to assist students in becoming competent readers (Bender, 2012).

The DORF is a research-based screening instrument used to identify students with reading fluency difficulties (Shinn, 1989). Dynamic Indicators of Basic Early Literacy Skills (DIBELS) were developed to monitor growth in the acquisition of early literacy

skills, to identify children in need of intervention, and to evaluate the effectiveness of intervention strategies (Good, Gruba, & Kaminski, 2002).

It was established that the DORF measure was a reliable predictor of performance on high stakes tests (Good, Simmons, & Kame'enui, 2001). A 2003 study included 38 third-grade students from one school in Buncombe County, North Carolina, who were given the spring DORF in the first week of May (Reschly, Busch, Betts, Deno, & Long, 2009). The researchers stated that the measure consisted of three different passages which the student read orally for 1 minute. They further stated that the number of words read correctly was then calculated. They indicated that the ORF score was taken from the median score for the three passages.

According to the study, these same students were given the North Carolina EOG reading assessment 1 week later. Reschly et al. (2009) stated that the test consisted of 56 questions with students having a total of 115 minutes to complete the test. The researchers indicated that there were two 3-minute stretch breaks during the test. They specified that students read each passage and answered a series of multiple choice questions before moving on to the next passage.

The results of this study showed that of the 38 students tested, 24 reached the spring goal of 110 correct words per minute (CWPM) or better on the DORF. Twenty-two of the 24 students also achieved Level IV on the North Carolina EOG (NCEOG) reading test. The two students who did not reach Level IV (well above grade level) scored a Level III (at grade level). The respective two students scored 120 and 110 CWPM on the DIBELS assessment (Table 1). The correlation between ORF spring scores and NCEOG reading scores was high ($r = .73$).

Table 1

Number of Students at Each NCEOG Level

Spring ORF	NCEOG Level IV	NCEOG Level III	NCEOG Level II	NCEOG Level I
110 CWPM or above	22	2	0	0
100-109 CWPM	0	3	0	0
70-99 CWPM	1	2	3	0
45-69 CWPM	0	2	4	0

The assessment used short 1- to 3-minute subtests which were developed by the National Reading Panel (US), National Institute of Child Health, & Human Development (US) (2000), and the 1998 National Research Council reports (Eisenhart & Towne, 2003). The subtests included phonological awareness, knowledge of alphabetic print, and language development. Students were typically screened three times during a school year: at the beginning, middle, and end (Johnson, Jenkins, Petscher, & Catts, 2009). Johnson et al. (2009) further stated that from the assessment results, intervention programs could be implemented which addressed specific needs of students.

The HELPS Program was an intervention program that was designed to improve reading and comprehension skills (Begeny, 2009). According to Begeny (2009), it was developed by integrating eight evidence-based fluency-building instructional strategies into a systematic program. The strategies, integrated into each 10-12 minute HELPS session, included the following: structured, repeated readings (RRs) of ability-appropriate text; having students listen to a more skilled reader read aloud, such as an adult (i.e., Model reading); systematic error-correction procedures; verbal cues for students to read

with fluency; verbal cues for students to read for comprehension; goal-setting (i.e., practicing text until a predetermined performance criterion is met); performance feedback, combined with graphical displays of student progress; and use of systematic praise and a structured reward system for student reading behaviors and successes.

Begeny, Mitchell, Whitehouse, Harris, and Stage (2011) examined the effects of HELPS when implemented by teachers with low-performing second-grade readers. Findings showed that students participating in HELPS significantly outperformed control group students across five measures of early reading with effect sizes ranging from medium to large. Previous research indicated positive effects for students receiving HELPS, but this was the first study in which HELPS was implemented by classroom teachers and teacher assistants, and solely with low-performing readers (Begeny et al., 2011).

HELPS research was focused on students in the elementary grades (Begeny, 2009). Table 2 identifies first- through fourth-grade students who would likely benefit from receiving the HELPS Program. The HELPS Program primarily targets reading fluency. Therefore, ORF benchmark norms (CWPM scores) were used in Table 2. ORF benchmark assessments typically required students to read three grade-level appropriate passages for 1 minute each. The median CWPM score of the three passages was considered the student's benchmark score for that assessment. Use of this assessment procedure was commonly referred to as curriculum-based measures of reading (CBM-R).

Table 2

Students Who Would Benefit from HELPS

Student's Grade Level	Fall CWPM Benchmark Range	Winter CWPM Benchmark Range
First	*See Note	20-33
Second	25-61	40-82
Third	20-81	35-102
Fourth	35-104	50-122

Note. *Beginning of year, first-grade students struggling with reading are unlikely to benefit from a fluency-based intervention because they likely need assistance with decoding, phonics, phonemic awareness, etc.

Reading 3D, an electronic reading record available from Amplify Education, was intended to be used for Grades K-5 (Amplify Education Reporting, 2012). According to Amplify, the process involved having teachers administer the DIBELS and Text Reading and Comprehension (TRC) diagnostics to collect a variety of reading and comprehension information. Amplify Education Reporting (2012) further stated that the assessment involved a child reading timed leveled passages that can be used for both determining benchmarks and for progress monitoring. Reading 3D was highly predictive of students' proficiencies on certain statewide English language arts assessments (Amplify Education Reporting, 2012). For students in North Carolina in 2010-2011, it was 79% accurate in predicting performance on the state's EOG reading comprehension test in third grade (Amplify Education Reporting, 2012). For the purpose of this study, Reading 3D was utilized to assess and collect ORF rates from students.

Professional Significance of the Problem

According to the EOG test results in reading from a rural school in North Carolina, 37% of third-grade students, 28% of fourth-grade students, and 24% of fifth-grade students were reaching third, fourth, and fifth grade and not achieving reading proficiency on the NCEOG reading test (North Carolina School Report Card, 2012). These same students scored below average on a test of ORF. The National Center for Education Research stated in 2005 that a strong connection exists between reading fluency and reading achievement. Students lacking fluency read slowly, with many pauses, making frequent mistakes, ignoring punctuation, and often in a monotone voice, making comprehension more difficult (Beers, 2003).

Fluency was not a static stage of development (Larsen-Freeman, 2006). Fluency rates changed depending on what readers were reading, their familiarity with the words in the text, and the amount of practice they had with the text (Hudson, Lane, & Pullen, 2005). Even skilled readers read in a slow, intentional manner when reading texts with unfamiliar words or topics (van de Kerkhof, 2012). For example, readers who were usually fluent may not have been able to read technical material fluently, such as a textbook about nuclear physics or an article in a medical journal (National Reading Panel (US), National Institute of Child Health, & Human Development (US), 2000).

A large-scale study by the NAEP found that 44% of a representative sample of the nation's fourth graders was low in fluency (Daane, 2005). Daane (2005) stated that the study also found a close relationship between fluency and reading comprehension. He further stated that students who scored lower on measures of fluency also scored lower on measures of comprehension.

Francis, Shaywitz, Stuebing, Shaywitz, and Fletcher (1996) stated that 74% of

children who are poor readers in the third grade remain poor readers in the ninth grade. A study commissioned by the Casey Foundation found that high school dropout rates for students who were unable to read on grade level by third grade were four times higher than students who read proficiently by third grade (Hernandez, 2011).

ORF was a precise measure of phonological segmentation and recoding skill as well as rapid word recognition (Fuchs, Fuchs, Hosp, & Jenkins, 2001). Fuchs et al. (2001) further stated that ORF reflected the ability of a reader to gain meaning from text. The model of automaticity, which implied quick and accurate word recognition, LaBerge and Samuels (1974), was probably most frequently cited as a framework for conceptualizing ORF as an indicator of overall reading competence. LaBerge and Samuels (1974) found that the process of automaticity allows a reader to focus attention on higher level functions, such as comprehension, rather than lower level processing of letter to phoneme correspondence.

For struggling readers who lack automaticity, reading was a frustrating and undesired activity (Cunningham & Stanovich, 1997). Cunningham and Stanovich (1997) found that this frustration often led students to avoid reading and develop an overall unfavorable attitude toward reading. They further elaborated that such an attitude could last throughout schooling, if not an entire lifetime. Inadequate capacity for comprehension deprived reading of its natural enjoyment because inadequate resources were available for processing meaning, reflecting, becoming captivated by a narrative, understanding humor, and using imagination (Nathan & Stanovich, 1991).

Nonfluent word recognition resulted in a lack of reading exposure and practice, thus starting a cycle of interacting negative consequences (Stanovich, 1986). Stanovich (1986) stated that as practice is avoided or is merely tolerated without real cognitive

involvement, vocabulary is also delayed; thus, the child who was slow to develop fluency was doubly deprived.

Therrien (2004) found that RRs increased overall fluency and comprehension ability. He further stated that low ORF rates must be increased in order to promote increased comprehension. The overall purpose of the HELPS RR procedure was to allow students to receive repeated practice opportunities in a structured manner to orally read appropriately leveled text (Begeny, 2009). By using an RR procedure in combination with other fluency-based instructional strategies, such as model reading, error correction, verbal cues, goal setting, feedback, graphic display of student progress, praise, and a structured reward system, students not only improved their reading of the text they practiced, they also developed skills that allowed them to read new text more fluently and often with better comprehension (Begeny & Martens, 2006).

Overview of Methodology

The purpose of this mixed-method study was to examine the impact of the HELPS Program, administered by a trained tutor, in addition to classroom guided reading instruction, as compared to the impact of solely providing classroom guided reading instruction, on ORF and accuracy rates of students in third, fourth, and fifth grades. These students scored below proficient on the NCEOG test and below average norms for their grade level on an EOY ORF assessment.

One group of students from each grade level was exposed to regular sessions of the HELPS Program intervention in addition to receiving classroom guided reading. The other group of students was exposed to classroom guided reading only. Both groups of students were administered the beginning of year (BOY) ORF subtest from the Reading 3D Assessment to establish a baseline. The researcher analyzed the effects of the HELPS

Program as compared to classroom guided reading instruction on students' ORF rates and accuracy rates as assessed by the DORF oral reading assessment through Reading 3D from the beginning, middle, and end of the school year.

The HELPS Program was administered to the third-, fourth-, and fifth-grade students in the treatment group 2-3 days per week by a trained tutor and monitored for fidelity by a certified reading specialist. They also received guided reading instruction from their classroom teachers. Students not participating in the treatment group only received guided reading instruction from their classroom teachers. ORF and accuracy rates were collected from the Reading 3D Assessment from the two groups which was administered by their classroom teachers during three benchmarking periods at the beginning, middle, and end of the school year.

The scores were divided between those who received the HELPS intervention along with guided reading and those who received guided reading only. The differences between the mean of the baseline fluency rate and accuracy rate and the mean postintervention fluency rate and accuracy rate were compared for each group as a whole. They were expressed and compared separately for each grade level and expressed and compared separately by male and female. A focus group was conducted with the third-, fourth-, and fifth-grade teachers in the study school by a nonbiased facilitator to determine their attitudes toward fluency and how fluency was addressed in their classrooms prior to the implementation of the HELPS program. A postintervention focus group was also held to determine if the attitudes had changed and if their implementation of fluency increasing strategies had changed. An interview of random students receiving HELPS was also conducted to garner their responses to the intervention strategies.

Definition of Terms

Accuracy. Accuracy refers to the ability to recognize or decode words correctly (Samuels, 2002).

Assessment. Assessment is the process of determining a student's proficiency with selected skills (Valencia, 1990).

Automaticity. Automaticity is the quick and accurate recognition of words and phrases (Kuhn, Schwanenflugel, & Meisinger, 2010).

Basal. A basal is a textbook designed to be used at specific grade levels as a comprehensive instructional program to teach reading skills and comprehension (Schmidt, Caul, Byers, & Buchmann, 1984).

Chunking. Chunking is presenting a limited number of sounds, words, or phrases at a time (Zhang, Damerau, & Johnson, 2002).

Decoding. Decoding refers to the process of translating a printed word into a sound (Tunmer & Nesdale, 1985).

DIBELS. DIBELS is an assessment tool used to screen students including measures of initial sound fluency, letter naming fluency, phoneme segmentation fluency, nonsense word fluency, and ORF (Kaminski, Cummings, Powell-Smith, & Good, 2008).

Fluency. Fluency is the speed and accuracy with which text is read orally (Speece & Ritchey, 2005).

Guided Reading. Guided reading is a teaching of lessons that includes the teacher engaging and guiding a small group of students whose reading abilities are similar and students are all able to read similar levels of texts (Pinnell & Jaggar, 2003).

HELPS. HELPS is a scientifically validated program designed to improve reading and comprehension skills (Begeny, 2009).

Phoneme segmentation. Phoneme segmentation is the ability to break words down into individual sounds (Tunmer & Nesdale, 1985).

Prosody. Prosody is a linguistic term that describes the rhythmic and tonal aspects of speech: the *music* or oral language (Samuels, 2002).

Rate. Rate comprises both fluent identification of individual words and the speed and fluidity with which a reader moves through connected text (Samuels, 2002).

Reading 3D. Reading 3D is an electronic reading record used to facilitate the DIBELS assessment (Amplify Education Reporting, 2012).

Recoding. Recoding is using systematic relationships between letters and phonemes to retrieve the pronunciation of an unknown string of letters (Tunmer & Nesdale, 1985).

Strategy. A strategy is an instructional method to meet the educational needs of students (Calhoon, 2005).

Limitations

Limitations should be taken into account when considering the validity of this study. The study was restricted to a fluency increasing program, the HELPS and regular classroom basal reading instruction. Times and locations for the DORF assessment were subject to teacher preference although within limits for BOY, Middle of Year (MOY), and EOY assessment windows. Assessments were given during the school day but occurred in various locations including, but not limited to, classrooms, hallways, and tutoring rooms. The varied readability of the passages as well as the choice of fiction or nonfiction passages by the teachers may have affected student fluency and accuracy rates. Due to the random selection process for the study group, the researcher was not able to control students participating in the study who withdrew from the school during the year.

The number of students from each grade level was limited to eight students per grade level in the control group and intervention groups due to the fact that only one tutor was available to provide all of the HELPS intervention. She had limited time within the school day to implement the program and therefore could only accommodate a limited number of students.

Delimitations

The research was restricted to third-, fourth-, and fifth-grade students within one elementary school. The school was in a rural North Carolina community. The school served students from all ability levels. A random sampling of third, fourth, and fifth graders who scored in the bottom quartile on the EOY DORF assessment during the 2012-2013 school year was utilized in this study. The research consisted of students from 18 self-contained classrooms. The HELPS program was implemented by one tutor to promote consistency. The intervention group was divided into two groups. Group one received tutoring on A days, while group B received tutoring on B days. Each student received tutoring every other day throughout the school year for approximately 10 minutes per session.

Organization of the Dissertation

A review of theoretical and empirical literature focusing on the effect of fluency increasing strategies on ORF rates and their contribution to reading comprehension and achievement follows in Chapter 2. The researcher discusses the definition of fluency, causes of dysfluency, and the effect it has on oral reading, comprehension, and achievement. Research questions and hypotheses are then disclosed. Information related to research design and methods for this study are presented in Chapter 3. The results of the study are offered in Chapter 4 with a discussion of the findings in Chapter 5.

Chapter 2: Literature Review

Overview

The purpose of this mixed-method study was to examine the impact of the

HELPS Program on ORF and accuracy rates as compared to the impact of general

reading instruction that children received in the classroom on ORF accuracy rates of

students in third, fourth and fifth grades. This chapter includes a theoretical and

empirical review of the literature related to ORF and the impact it had on reading

achievement for students in the upper elementary grades. The chapter outlines what

comprised a competent reader and defines ORF. It continues with discussions of how

ORF was measured and describes ORF norms. The effects of poor ORF rates are stated

as well as strategies for improving them. Finally, the strategy of RRs is discussed and an

explanation is given as to why this method was chosen for the study.

Competent Readers

Becoming a competent reader was a complex process (Kim, & Goetz, 1994).

Several components make up this multidimensional process including background

knowledge, phonemic awareness, letter-sound correspondence vocabulary, semantics,

fluency, and more (Kuhn & Schwanenflugel, 2006). Early reading experiences were

multifaceted and often based upon familiar texts (Johnson & Louis, 1987). Johnson and

Louis (1987) found that teachers often relied on songs and poems that children know

well. They concluded that teachers made charts from familiar chants, patterned story

books, and nursery rhymes and guided children into sentence, phrase, and word

recognition. They further stated that this process slowly transfers the decoding process

from the teacher domain to that of the child. Fuchs et al. (2001) cited the study done by

Nathan and Stanovich (1991) in which they stated that RRs of the same text built

confidence and strengthened the recognition of noncontent words, or sight words, that caused problems.

Competent readers had sufficient knowledge about language and an adequate base of background knowledge relevant to the topic (Alexander, 2005). They possessed an abundant repertoire of surface-level and deep-processing strategies, such as self-monitoring, predicting, and inferring, that they applied to a range of text-based tasks they encountered (Paris, Wasik, & Turner, 1991). The research further stated that good readers attended to meaning more than decoding and used these tactics for keeping track of the sense of the information. Paris and Meyers (1981) provided examples of effective strategies such as checking the current state of knowledge while reading, asking if what they read made sense, if they understood a word, or if these ideas fit with previous information.

Competent readers were actively engaged readers who were absorbed in the text (Reed, Schallert, & Goetz, 1993) and read for pleasure as well as for academic success (Winne, 1995). When processes of word recognition are fluent, the reader can focus his/her cognitive capacity on comprehending text, criticizing it, elaborating on it, and reflecting on it (Fuchs et al., 2001). There was more automaticity or fluidity of reading performance (Alexander, Graham, & Harris, 1998) which thereby increased comprehension and understanding. Alexander et al. (1998) further stated that comprehension was limited without automaticity and fluidity, otherwise known as fluency.

ORF Defined

Fluency was defined as the ability to read text quickly, accurately, and with proper expression (National Reading Panel (US), National Institute of Child Health, &

Human Development (US), 2000). The actual term fluency was derived from the Latin word *fluens* meaning "to flow" (Thompkins, 1997). Rasinski (2003) stated that "By focusing on oral reading fluency, students see that words are not the only part of the text that carry meaning. Meaning is also carried through the intonation, expression, phrasing, and pausing that are essential to fluent reading." (p. 34).

According to the Partnership for Reading as cited by Hasbrouk and Tindal (2006), fluency developed over time and through practice. Hasbrouk and Tindal stated that oral reading was slow and labored during the early stages of development because students are just learning to *break the code* or to attach sounds to letters and to blend letter sounds into words. Hasbrouk and Tindal continued by saying that fluency was not a stage of development, but rather a fluid process that changed depending on what the reader was reading, their familiarity with the words, and their amount of practice with the text. Hasbrouk and Tindal further elaborated that even very fluent readers may have read slower when texts were about unfamiliar topics.

Successful readers possessed the ability to project the natural pitch, stress, and juncture of the spoken word on written text, automatically and at a natural rate (Richards, 2000). Shinn (2002) supported a more simple definition of fluency that focused on rate and accuracy in oral reading as core features. Both studies defined ORF as how a reader interacts orally with written texts.

The National Reading Panel (US), National Institute of Child Health, & Human Development (US) (2000) stated that in the last 2 decades, the understanding of fluency has changed and increased. The National Reading Panel indicated that fluent readers were characterized by the ability to read orally with speed, accuracy, and proper expression. The Panel further included that fluency requires the rapid use of punctuation

and the determination of where to place emphasis or where to pause to make sense of a text.

Miller and Schwanenflugel (2008) described ORF as prosodic or expressive oral reading. Their study examined the development of prosodic features of reading such as stress, pitch, and length in spoken words and the impact of prosody on later reading skills. Miller and Schwanenflugel further stated that features of oral reading were measured for 92 children at the end of Grades 1 and 2, and ORF and reading comprehension assessments were given at the end of the third-grade school year. Miller and Schwanenflugel specified that tests were administered to determine how the key features of oral reading prosody develop and the extent to which the development of reading prosody was predictive of later ORF and comprehension outcomes beyond word reading skills alone.

Miller and Schwanenflugel (2008) found that decreases in the number of pauses in oral reading patterns between the first and second grades and early acquisition of an adult-like intonation were predictors of better comprehension later. Therefore, they concluded that prosodic oral reading might have signaled that children had achieved fluency and were more capable of understanding what they had read. The results of this study supported the addition of prosody in the formal definitions of ORF.

Pikulski and Chard (2005) proposed that reading fluency referred to the efficient, effective word recognition skills that permitted a reader to construct the meaning of text. The authors stated that fluency was manifested in accurate, rapid, expressive oral reading. Pikulski and Chard concluded that when these qualities of fluency were applied during oral and silent reading, comprehension was possible.

Hudson, Mercer, and Lane (2000) surmised that fluent reading comprised three

key elements: accurate reading of connected text, at a conversational rate, with appropriate prosody. Hudson et al. concluded that fluent readers maintained this performance for long periods of time. Torgesen and Hudson (2006) stated that prosodic features included pitch fluctuation, pausing, and phrase-final lengthening. Torgesen and Hudson further gathered that prosody, as part of the definition of fluency, reflected the understanding the reader had of the meaning of the passage read. The presence of prosody in oral reading indicated that fluency went beyond just the ability to read text fast and included an understanding of the message conveyed by the text (Torgesen, & Hudson, 2006). Torgesen and Hudson proposed that prosody was an indication that the reader was actively assigning meaning to the passage as the words were being identified and pronounced.

McGee and Richgels (2008) stated that fluency was judged by four markers: effortlessness, speed, autonomy, and lack of conscious awareness. McGee and Richgels stated that these were often achieved through repetitive reading of the text and that optimal fluency was achieved through three to five readings.

Measurement of ORF

Curriculum-based measurement (CBM) was a method teachers used to find out how students were progressing in basic academic areas such as math, reading, writing, and spelling (Fuchs & Deno, 1991). CBM was developed to test the effectiveness of a special education intervention model called data-based program modification (Deno, 2003). Deno (2003) stated that the model was based on the idea that teachers could use repeated measurement data to formally evaluate their instruction and improve their effectiveness. He further indicated that a research and development program was conducted for 6 years through the federally funded University of Minnesota Institute for

Research on Learning Disabilities (IRLD). A result of this research (Deno & Murkin, 1977) was the development of a generic set of progress monitoring procedures in reading, spelling, and written expression. A set of criteria was specified that was used to establish the technical adequacy, the treatment validity, and the logical feasibility of the measures.

ORF was assessed using a common method of CBM known as Words per Minute (WPM) (Hasbrouck, & Tindal, 1992), which concentrated on automaticity in reading by having students read aloud from grade level appropriate passages for 1 minute. Words read correctly were counted and recorded as well as errors. Typically, results were presented from various grade level appropriate passages and displayed both average performance and percentile bands for measures in fall, winter, and spring across Grades 1-8 (Hasbrouk & Tindal, 2006). Hasbrouk and Tindal (2006) further concluded that this repeated sampling across time allowed the teacher to monitor the performance of the reader for changes and to modify instruction for the benefit of increasing fluency rates.

One widely used CBM procedure was the assessment of ORF, which focused on two of the three components of fluency: rate and accuracy (Hasbrouck & Tindal, 2006). Hasbrouck and Tindal (2006) further indicated that a teacher listened to a student read aloud from an unpracticed passage for 1 minute. At the end of the minute, each error was subtracted from the total number of words read to calculate the score of CWPM. Fuchs et al. (2001) suggested that ORF assessments played a role in screening and progress monitoring by comparing current performance and subsequent performances to established norms to set short- and long-term goals.

Some initial research by Hosp and Fuchs (2005) also provided support for the use of traditional CBM measures as a way of diagnosing difficulties in reading subskills such as letter recognition, decoding, and word recognition. The authors indicated that having

current norms available can help guide teachers in using ORF assessment results to make key instructional decisions for screening, diagnosis, and progress monitoring.

DIBELS was an assessment tool used to screen students including measures of initial sound fluency, letter naming fluency, phoneme segmentation fluency, nonsense word fluency, and ORF (Kaminski et al., 2008). Kaminski et al. (2008) identified DIBELS as a commonly used CBM.

Many researchers have used DIBELS in their literacy research (Jenkins, Hudson, & Johnson, 2007). DIBELS has come to symbolize the standard for early literacy assessment throughout much of the country (Manzo, 2005). Manzo (2005) stated that teachers in Title I schools in more than 40 states and over 4,800 school systems currently used DIBELS as a universal screener in kindergarten through sixth grade to identify at-risk readers. Manzo stated that the idea is that students should read with fluency and accuracy.

The DORF was a research-based screening instrument used to identify students with reading fluency difficulties (Shinn, 1989). DIBELS were developed to monitor growth in the acquisition of early literacy skills, to identify children in need of intervention, and to evaluate the effectiveness of intervention strategies (Good et al., 2002).

The DORF measure was a reliable predictor of performance on high-stakes tests (Good et al., 2002). In a 2003 study of third-grade students from a school in North Carolina, students who were given the spring DORF in the first week of May who scored above benchmark also scored proficient on the NCEOG reading test (Reschly et al., 2009). The researchers stated that the measure consisted of three different passages which the student read orally for 1 minute. Good et al. (2002) further stated that the

number of words read correctly was then calculated and the ORF score was taken from the median score for the three passages.

Good and Kaminski (1996) used DIBELS in their study of kindergarten and first-grade students. They examined the reliability, validity, and sensitivity of measures developed to assess three areas of literacy: phonological awareness, letter naming fluency, and vocabulary development. They studied 37 kindergarteners and 41 first graders. Their study used DIBELS data to help recognize the need for early intervention, confirm the need for intervention, help plan support, evaluate and modify interventions as needed, and review outcomes periodically for all children. Results of their study indicated that the measures showed adequate psychometric properties for kindergarten students who were not yet reading, but they were less useful for first graders who were reading well.

Graves, Plasencia-Peinado, Deno, and Johnson (2005) studied CBMs of ORF through the use of DIBELS. They recognized procedures used to identify the stage of growth and movement involving the fluency and speed of a reader. They further concluded that students who read with ease and have some fluency are more likely to read more as compared to readers who struggle with fluency.

ORF Norms

It was common practice to compare fluency scores of students from kindergarten through third grade with established norms or benchmarks for (a) screening students to determine if an individual student needed targeted reading assistance, and (b) monitoring reading progress (Hasbrouck & Tindal, 1992). Examples of benchmark assessments include DIBELS (Good et al., 2002), AIMSweb (Edformation, 2014), the Texas Primary Reading Inventory (TPRI) (Texas Education Agency, 2004), and the Reading Fluency

Monitor (Naturally, R. (2002).

Hasbrouk and Tindal (1992) indicated that norms for fluency rates of students in kindergarten through eighth grade have deteriorated over the last 90-100 years. Starch (1915) calculated words per second as well as the more currently accepted method of WPM in his original metric in 1915. These data were gathered from 3,511 pupils in 15 schools in seven cities located in three states: Wisconsin, Minnesota, and New York. Results showed that fluency rates ranged from 1.5 words per second and 90 WPM in Grade 1, to 4.0 words per second and 240 WPM in Grade 8 (Hasbrouk & Tindal, 2006). Table 3 represents the fluency rates gathered by Starch in 1915.

Table 3

Norms Reported by Starch in 1915

Grade	1	2	3	4	5	6	7	8
Words/Second	1.5	1.8	2.1	2.4	2.8	3.2	3.6	4.0
Words/Minute	90	108	126	144	168	192	216	240

In contrast, Hasbrouk and Tindal (1992) collected fluency rates from students in Grades 2-5. The data reflected the 50th percentile rank from several thousand students in many districts at each grade level from a spring assessment. These results are displayed in Table 4.

Table 4

Norms Reported by Hasbrouk and Tindal in 1992

Grade	2	3	4	5
Words/Minute	94	114	118	128

These results indicated a significant delay in the 77 year span. Results showed a loss of 14 WPM in Grade 2, 12 WPM in Grade 3, 26 WPM in Grade 4, and 40 WPM in Grade 5. This may be due to the fact that over the past 40 years, reading has steadily declined as a leisure activity (Robinson & Martin, 2009). According to a 2004 report from the National Endowment for the Arts, it was indicated that possible causes for this change included increased time with television, radio, the internet, iPod, movies, and cell phones (Risk, 2004).

In a later study, another comparison was made to determine the stability of these performance levels. Hasbrouk and Tindal (2005) collected samplings from thousands of students across the United States ranging from a low of 3,496 to a high of 20,128, involving schools and districts from 23 states. They stated that the data were collected from the fall of 2000 throughout the 2004 school year to ensure that these new norms represented reasonably current student performance.

While performance varied across the grades, the average rates remained essentially the same over the course of 15 years. These results are shown in Table 5.

Table 5

Norms Reported by Hasbrouk and Tindale in 2005

Grade	1	2	3	4	5	6	7	8
Words/Minute	59	89	107	125	138	150	150	150

Effects of Poor ORF

One of the defining characteristics of a good reader was reading fluency, and the lack of fluency was a common characteristic of poor readers (Hudson et al., 2005). The ability to read fluently not only distinguished good readers from poor readers, but a lack of reading fluency was also a reliable predictor of problems with reading comprehension (Stanovich, 1991). Dysfluent beginning readers were identified by their excessively slow, laborious reading which, in turn, impairs comprehension (Schwanenflugel et al., 2006).

It was likely that children who did not develop fluency early in their schooling process would have difficulty learning and comprehending important material from texts introduced in later grades (Rasinski & Stevenson, 2005). Lack of fluency tended to result, ultimately, in children reading less and avoiding more difficult materials (Chall, 1996). A deficiency in fluent reading was an issue for poor readers because they tend to read in a labored, disconnected fashion with an emphasis on decoding at the word level that made comprehension of the text difficult, if not impossible (Hudson et al., 2005).

Fluency was a difficult skill to remediate in older struggling students (Spear-Swerling, 2004). Torgesen et al. (2001) stated in a study of students in Grades 3-5 that intensive remedial intervention such as one-to-one or small group phonemically explicit

systematic instruction could produce large gains in reading ability in students who began the study with delayed reading skills. During the 8-week period of intervention, students moved from the 2nd to 39th percentile in phonemic decoding accuracy, from the 4th to the 23rd percentile in text reading accuracy, and from the 13th to the 27th percentile in reading comprehension. In contrast, their reading fluency scores only improved from the 3rd to the 5th percentile. Examining the same students 2 years following the intervention, their percentile scores for phonemic decoding, text reading accuracy, reading comprehension, and reading fluency were the 29th, 27th, 36th, and 4th, respectively. Although the students in this study were able to substantially close the gap with average readers in phonemic decoding, reading accuracy, and reading comprehension, the gap in reading fluency remained primarily unaffected by the intervention (Torgesen et al., 2001).

Samuels (2002) stated that there are three processes that readers use: decoding, comprehension, and attention. He defined decoding as the ability to speak the words printed on the page. According to Samuels, when a reader saw the letters d-o-n-k-e-y, he/she said /donkey/. He further concluded that the meaning of the word was unimportant at the decoding stage. Samuels stated that comprehension was the process of giving meaning to the words on the page and knowledge was kept in the mind of the reader. He maintained that to perform these two tasks in reading, attention was required. He defined attention as the cognitive energy required in these mental processes. It was a resource that was available in limited quantity and the processing required may have exceeded the amount of attention available depending on the student (Samuels, 2002).

Samuels (2002) further elaborated that a dysfluent reader must also participate in these three processes. He explained that for the average reader there was a limited

amount of processing space or attention available for the components of decoding and comprehension. Each task by itself took a considerable amount of the available space, stated Samuels. He stressed that the beginning reader found it more difficult than the average reader to balance both tasks due to the additional energy required. He stated that for this reason the struggling reader employed a divide-and-conquer strategy. Samuels further found that the student first decoded by directing attention to sounding out the words then switched his attention to comprehension. This process was slow and difficult and placed a heavy burden on the student's memory, thereby prohibiting comprehension (Samuels, 2002).

Causes of Poor Reading Fluency

The path to reading proficiency began long before a child began school and received formal reading instruction acquisition of early literacy skills (Good et al., 2002). Literacy development began in infancy (Lawhon & Cobb, 2002). As children learned to communicate using oral language, they grew from being exposed to print and gained awareness of the connection between print and oral language (Clay, 2001). To prevent reading difficulties and promote reading success, it was crucial that preschool children received early and appropriate learning experiences that promoted the acquisition of early literacy skills (Good et al., 2002). Good et al. (2002) specified that this included immersion in phonological awareness, which included the ability to hear and manipulate the sound structure of language and a beginning of sound symbol association of the alphabet.

Allington (1983) stated that the lack of fluency was oftentimes mistakenly viewed as a symptom of poor reading and the result of insufficient word recognition and decoding. He asserted that teachers frequently provided further instruction in letters,

sounds, and words in isolation, falsely believing that this would improve reading skills.

When a student read and heard simultaneously a fluent version of a text, as in a group or paired reading session, his/her reading fluency and comprehension improved (Rasinski, 2003). Schreiber (1980) stated that children relied on phrase boundaries marked through pitch, stress, and juncture to understand and develop oral language. He further stated that most children who had been read to were able to transfer these same skills into oral reading. He found that students learned from sessions of RRs how to put words together into meaningful phrases, thereby enabling them to read the passages more quickly as well as unfamiliar passages at a faster rate.

Collins (1982) identified differences in the prosody of good and poor first-grade readers. He argued that these differences resulted from the instructional behaviors of teachers who tended to emphasize decoding and accuracy with less successful readers causing them to read with staccato, or disjointed oral reading. Better readers were more likely to receive meaning-oriented instruction that focused the reader on making sense of what is read and it sounding right (Allington, 1983). Allington (1983) further stated that good readers were often reading text that was easier for them which, in turn, increased their fluency. Poorer readers were often dealing with material that was too difficult for them (Jorgensen, 1977). Cecconi, Hood, and Tucker (1977) demonstrated that passage difficulty produced a negative effect on oral prosody. The authors found that the oral fluency rates of average readers were inhibited when passages were above their achievement levels.

Strategies for Improving ORF

Perhaps the most common strategy for increasing fluency was that of RR (Dowhower, 1994). RR was an evidenced-based strategy designed to increase reading

fluency and comprehension (Therrien, 2004). RR was the most familiar and researched

approach to fluency training (Meyer & Felton, 1999). RR was a method aimed at

enhancing automaticity by performing many readings of the same text (Samuels &

Farstrup, 2006).

RRs followed several steps (Kuhn & Schwanenflugel, 2006). Kuhn and

Schwanenflugel (2006) stated that the student first selected a text of interest which he/she

could read with ease (90% word accuracy on the first reading). They further stated that

this was generally thought to be the frustration level for the reader but was a reasonable

level of difficulty for this practice. They went on to say that next the reader read a short

passage (50-300 words) while the teacher timed the reading and marked miscues. The

time and miscues were recorded on a graph, and the miscues were reviewed with the

student. They elaborated that the student read the passage several more times

independently. After this, the teacher recorded the rate of words correct and calculated

the miscues until the student reached a rate of 100 WPM, with no more than two miscues

per 100 words.

Rasinski, Padak, Like, and Sturtevant (1994) combined oral recitation with paired

RR and created an intervention entitled Fluency Development Lesson (FDL). They

indicated that the intervention took only 10-15 minutes per day and included the

following steps: prediction of text, modeled reading, class discussion, choral reading,

paired reading, performance, and at-home practice. They further stated that the subjects

involved in this study consisted of second graders from two elementary schools from a

large urban school district. They stated that the intervention lasted for 6 and a half

months. Pre and postassessments were administered.

The results from the study indicated greater gains in the instructional reading level

and reading rates of the experimental treatment group (Rasinski et al., 1994). Rasinski et al. (1994) also found that the experimental group students nearly doubled their reading rate at each level of passage difficulty from pre to posttest. They further found that actual gains over the pretest ranged from 81.7% to 93.6% for primer through Grade 3 passages. They stated that the gains by control groups were much less remarkable, ranging from 34.2% to 49.2%. This study indicated the positive effect of repeated-paired reading on fluency development (Rasinski et al., 1994).

Hapstack and Tracy (2007) completed a study of the effects of assisted RRs on elementary students of varying reading abilities. They stated that their focus was to determine if an assisted RR intervention was differentially effective for students of differing academic profiles. They further stated that students participated in assisted-RR two times a week for 8 weeks with each session lasting 10-15 minutes. They indicated that a baseline was established for each student prior to the beginning of the intervention. Initial and final readings were recorded at each session.

All kindergarten through third-grade students were tested in October by the teachers in the district using DIBELS (Hapstack & Tracey, 2007). The researchers stated that at each session, each student completed an initial reading on his instructional level. They further stated that the student read for 1 minute after which the teacher informed him/her of the number of words read correctly. The student graphed his/her score. They indicated that the student then listened to the teacher model read the passage and echo read after the teacher. They remarked that the teacher and the student completed two trials of RR. They stated that the student read the passage a final time after which the final words read correct per minute were recorded on the graph. They indicated that the procedure was repeated for each student.

The baseline scores were 17, 20, 21, 17, and 17 CWPM with a mean score of 18 CWPM. First reading scores ranged from 18 to 60 CWPM. The final scores that were recorded after each session of intervention ranged from 46 to 81 CWPM. These results indicated that assisted RR had a positive effect on raising the CWPM (Hapstack & Tracey, 2007).

Samuels (1979) shared that students were required to read a 100-word passage orally to an adult and then reread the passage silently repeatedly, with intermittent further oral readings, checking for speed and accuracy, until they reached the criterion rate of 100 WPM. As students worked their way through a story doing 100-word segments at a time, results confirmed that they were learning because each new segment led to increased starting speed and fewer repetitions needed to reach the criterion speed (Samuels & Farstrup, 2006).

Through opportunities for oral RR, students were provided additional sensory (auditory) reinforcement, thereby allowing them to focus on the prosodic elements of reading that are essential to phrasing. These sessions of oral readings also ensured that the student was actively reading and not skimming or scanning the text (Rasinski, 2003).

Through RRs, dysfluent readers were better able to capture the prosodic and syntactic essence of the text, allowing them to improve the surface-level processing of the passage as well as text comprehension (Samuels & Farstrup, 2006). RRs remained an important approach to building fluency for less able readers who experienced particular difficulties with fluency (Pikulski & Chard, 2005). With RRs, it was important to emphasize automatic word recognition for students to move away from word-by-word calling (Rasinski, 2000).

Chard, Vaughn, and Tyler (2002) completed a meta-analysis of 24 studies

including 351 subjects from 1979-2000. The study examined interventions designed to increase reading fluency in students with learning disabilities. The interventions included RR, RR with an adult or peer model reading first, word practice interventions, or RR combined with several other instructional methods.

Results from the meta-analysis suggested that effective interventions included explicit models of reading fluency; multiple opportunities to read familiar text repeatedly, independently, and with corrective feedback; and the use of established performance criteria for increasing text difficulty. The authors found that students with learning disabilities who repeatedly read text between two and seven times scored significantly higher on measures of fluency.

The meta-analysis also indicated that RRs with an adult model were more effective methods of improving fluency for students with learning disabilities than RRs after listening to a proficient peer, audiotape, or computer. Chard et al. (2002) further reported that RR with a model also appeared to have a positive impact on comprehension.

According to Rasinski (1999), there were three levels of text for instruction. The Independent Level was where the text was relatively easy for the student to read with 95% word accuracy. The Instructional Level was where the text was challenging yet manageable for the reader with 90% word accuracy. The Frustrational Level posed a difficult text for the reader with less than 90% word accuracy. He further stated that fluency instruction should have been with a text that a student could read at their independent level. It was at this level where students were able to practice on speed and expression rather than decoding.

Chunking words or phrases to control how much text was presented to a student at a time was shown to be an effective intervention (Chard et al., 2002). The authors

concluded that students who practice RRs of words presented three to five words at a time performed as well as students who practiced RR without chunking words on measures of fluency and significantly higher on measures of accuracy.

Dahl (1975) compared a high speed word recognition program to two other instructional interventions. She found that RRs, which focused on developing oral reading speed and fluency, produced better achievement than a program that produced automatic word recognition. Merely learning to recognize words quickly did not produce fluent reading (Schreiber, 1980).

Therrien (2004) completed a meta-analysis of studies of RR as an intervention for improving reading fluency. Therrien concluded that RR interventions conducted by adults or well-trained peer tutors were, on average, three times more effective. The author found three essential instructional components to be included in an RR intervention.

First, he stated that passages would be read aloud to a competent tutor who monitored the oral reading of the student and provided feedback. Teachers monitored peer groups closely to ensure that tutors were able to provide effective and timely feedback and make adjustments to the group as needed.

Secondly, Therrien (2004) asserted that feedback on word error and reading speed was communicated to students. This feedback could be immediate or delayed depending on the type of error. If a student hesitated for 3 seconds or missed a word, immediate correction was necessary. Otherwise, corrective feedback could be given upon passage completion.

Thirdly, the passage should be reread until the performance criterion is reached. Appropriate performance criterion included words read correctly per minute. These goals

were set based on the instructional reading level of the student and were based on ORF norms such as the ones established by Hasbrouck and Tindal (1992).

Topping (1987) first created paired reading, also known as duolog reading (Rasinski, 2003), for parents who wanted to tutor their children. He found that general reading performance could be improved by parents engaging in paired reading with their children for approximately 15 minutes per day (Topping, 1987).

Topping (1987) concluded that this process involved using more able readers to assist struggling readers to improve their reading skills. He further stated that this strategy was adaptable to any reading material; allowed the less capable reader to select material based on interest; and included material such as books, magazines, community literature, newspapers, and texts. Topping averred that the material should be within the independent readability level of the tutor, but slightly above the independent readability of the tutee. If the goal is to also improve the skills of the more capable reader, then there should be a modest difference between the two readers' abilities (Samuels & Farstrup, 2006).

Rasinski (2003) stated that in paired reading, the tutor and the tutee sat side-by-side with a text and read orally together for 10-20 minutes. During the reading, the tutor adjusted his voice to match the reading fluency of the student. Whenever the student missed a word, the tutor gave the correct pronunciation quickly and the reading continued to avoid disrupting fluency. The tutor also permitted the less able student to have control over the reading experience. The student could opt to read on his own without the help of the tutor. The tutor remained quiet while the student read on his own; however, when the student erred, the tutor assisted the student (Rasinski, 2003).

Paired reading could take place between student and teacher, student, and teacher

aide or parent volunteer, or between two students. The vital component was to have the child read orally with another, more fluent reader who provided support and adjusted the pace and volume to provide the most beneficial assistance (Rasinski, 2003).

Morgan and Sideridis (2006) completed a single subject meta-analysis to compare the effectiveness of different types of fluency interventions for children with or at risk for learning disabilities. They examined 30 studies that reported data on 144 experimental phases involving 107 students. Of these 107 students, 21 were girls and 86 were boys. Seventy-four of the students were in Grades K-4, 33 students were in Grades 5-12, 92 students were taught in general or inclusive educational settings, and 15 were placed in special education classrooms.

Morgan and Sideridis (2006) found seven categories of fluency intervention which included keywords and previewing, listening and RRs, goal setting plus performance feedback, contingent reinforcement, goal setting plus feedback and reinforcement, word recognition, and tutoring. They examined which interventions led to the greatest gains, the extent to which the effectiveness of an intervention was moderated by gender, the extent to which the effectiveness of an intervention was moderated by age and grade, the extent to which the effectiveness of an intervention was moderated by the special education status of a student, and the growth and sustainability of fluency between interventions.

Results from the study indicated that gender, age, and special education status likely impacted the effectiveness of an intervention. Girls on average read 19.1 WPM more than boys. Students in Grades 5-12 read 15.4 WPM more than younger students. Students in general education settings, on average, read 12.7 WPM more that students in special education settings (Morgan & Sideridis, 2006).

Morgan and Sideridis (2006) identified the two most effective interventions as goal setting plus performance feedback and goal setting plus feedback and reinforcement. Listening and RRs, keywords and previewing, and tutoring produced average to above average effects. The use of word recognition training to boost fluency was associated with low level effects. Goal setting interventions led to fluency growth over time. The most frequently studied interventions, listening and RRs, yielded effects significantly below those with goal setting.

Learning to read was a challenging task for most students, but for children who had difficulties, acquiring fluency may have required more intensive, explicit, supportive, and comprehensive instruction (Foorman & Torgesen, 2001). Foorman and Torgesen (2001) further stated that students with perceived reading deficiencies in reading skills, such as phonemic awareness and decoding, required instruction including much more repetition in order to attain knowledge.

Kuhn and Schwanenflugel (2006) stated that for readers who were still dysfluent by fourth grade or higher, fluency instruction should be individualized and supplemental. They further indicated that an approach like RRs or a reading while listening program should have been implemented for 10-15 minutes per day as an effective way to help students move past their word-by-word reading. They continued by saying that while keeping the benefits of fluency instruction in mind, the ultimate goal of reading was creating students who were able and willing to comprehend material while reading independently for pleasure and for specific purposes.

"Setting goals for expected outcomes is critical to student success" (Shapiro, 2011, p. 141). Shapiro (2011) stated that the first step in goal setting is to select a target for the student to achieve. He further indicated that targets identified an expected level of

performance to be achieved if the intervention strategy was successfully implemented. According to Shapiro, when targets were met or exceeded, it indicated that the intervention strategy met the established objectives. He conversely indicated that when the progress of individuals compared to the target was less than expected, then changes in the intervention needed to be made.

Binder, Haughton, and Bateman (2002) indicated that practice every day coupled with keeping a graphic record of learning progress was an effective strategy for increasing ORF. They cited a program called Precision Teaching, an instructional measurement and decision-making approach developed by Dr. Ogden Lindsley, as the best way to manage learning and to make data-based decisions. They stated that if students learned to measure and chart their own daily practice and to make program changes when their progress went flat on the chart, they would soon discover for themselves what worked best for them. They further indicated that when performance showed little or no improvement and was below the target, students should have tried to work on a simpler task. They indicated that stepping back to practice weak skills often led to increased progress.

Beck (1979) demonstrated that by adding 20-30 minutes per day of practice, assessment, and charting of basic skills, standard test scores increased by 20-40 percentile points compared to others in the same district who did not chart progress. He indicated that by pinpointing weak areas, setting fluency aims for each, and combining practice with measurement of progress toward targets, dramatic improvements in academic achievement were documented.

Research Questions and Hypotheses

Research Question 1: To what extent does exposure to the HELPS Program in

addition to regular classroom reading instruction increase ORF compared to exposure to regular classroom reading only?

H_0: There is no difference in mean scores on the ORF domain of the DORF for students exposed to the HELPS Program in addition to regular classroom reading instruction and those exposed to regular classroom reading instruction only.

H_1: There is a difference in mean scores on the ORF domain of the DORF for students exposed to the HELPS Program in addition to regular classroom reading instruction and those exposed to regular classroom reading instruction only.

To answer this hypothesis, a repeated measures analysis of variance (ANOVA) was computed with the DORF fluency rate as the dependent variable and treatment group (intervention vs. control) as the independent variable. The repeated measure was time (BOY, MOY, and EOY).

Research Question 2: To what extent does exposure to the HELPS Program in addition to regular classroom reading instruction increase oral reading accuracy compared to exposure to regular classroom reading only?

H_0: There is no difference in mean scores on the oral reading accuracy domain of the DORF for students exposed to the HELPS Program in addition to regular classroom reading instruction and those exposed to regular classroom reading instruction.

H_1: There is a difference in mean scores on the oral reading domain accuracy of the DORF for students exposed to the HELPS Program in addition to regular classroom reading instruction and those exposed to regular classroom reading instruction.

To answer this hypothesis, a repeated measures ANOVA was computed with the DORF accuracy score as the dependent variable and treatment group (intervention vs. control) as the independent variable. The repeated measure was time (BOY, MOY, and

EOY).

Research Question 3: To what extent does exposure to the HELPS Program in addition to regular classroom reading instruction differentially affect the ORF of female and male students compared to female and male students exposed to regular classroom reading instruction only?

H_0: There is no difference in mean scores on the ORF domain of the DORF for female and male students exposed to the HELPS Program in addition to regular classroom reading instruction versus female and male students exposed to classroom reading instruction only.

H_1: There is a difference in mean scores on the ORF domain of the DORF for female and male students exposed to the HELPS Program in addition to regular classroom reading instruction versus female and male students exposed to classroom reading instruction only.

To answer this hypothesis, a repeated measures ANOVA was computed with the DORF fluency rate as the dependent variable, and treatment group (intervention versus control) and gender (male vs. female) as the independent variables. The repeated measure was time (BOY, MOY, and EOY).

Research Question 4: To what extent does exposure to the HELPS Program in addition to regular classroom reading instruction differentially affect the oral reading accuracy of female and male students compared to female and male students exposed to regular classroom reading instruction only?

H_0: There is no difference in mean scores on the oral reading accuracy domain of the DORF for female and male students exposed to the HELPS Program in addition to regular classroom reading instruction versus female and male students exposed to

classroom reading instruction only.

H1: There is a difference in mean scores on the oral reading accuracy domain of the DORF for female and male students exposed to the HELPS Program in addition to regular classroom reading instruction versus female and male students exposed to classroom reading instruction only.

To answer this hypothesis, a repeated measures ANOVA was computed with the DORF accuracy rate as the dependent variable, and treatment group (intervention versus control) and gender (male vs. female) as the independent variables. The repeated measure was time (BOY, MOY, and EOY).

Research Question 5: To what extent does the exposure to the HELPS Program in addition to regular classroom reading instruction differentially affect the ORF of students in Grades 3, 4, and 5 exposed to regular classroom reading instruction only?

H0: There is no difference in mean scores on the ORF domain of the DORF for students in Grades 3, 4, and 5 exposed to the HELPS Program in addition to regular classroom reading instruction compared to students in Grades 3, 4, and 5 exposed to regular classroom reading instruction only.

H1: There is a difference in mean scores on the ORF domain of the DORF for students in Grades 3, 4, and 5 exposed to the HELPS Program in addition to regular classroom reading instruction compared to students in Grades 3, 4, and 5 exposed to regular classroom reading instruction only.

To answer this hypothesis, a repeated measures ANOVA was computed with the DORF fluency rate as the dependent variable, and treatment group (intervention versus control) and grade (third, fourth, or fifth) as the independent variables. The repeated measure was time (BOY, MOY, and EOY).

Research Question 6: To what extent does the exposure to the HELPS Program in addition to regular classroom reading instruction differentially affect the oral reading accuracy of students in Grades 3, 4, and 5 exposed to regular classroom reading instruction only?

H_0: There is no difference in mean scores on the oral reading accuracy domain of the DORF for students in Grades 3, 4, and 5 exposed to the HELPS Program in addition to regular classroom reading instruction compared to students in Grades 3, 4, and 5 exposed to regular classroom reading instruction only.

H_1: There is a difference in mean scores on the oral reading accuracy domain of the DORF for students in Grades 3, 4, and 5 exposed to the HELPS Program in addition to regular classroom reading instruction compared to students in Grades 3, 4, and 5 exposed to regular classroom reading instruction only.

To answer this hypothesis, a repeated measures ANOVA was computed with the DORF accuracy rate as the dependent variable, and treatment group (intervention versus control) and grade (third, fourth, or fifth) as the independent variables. The repeated measure was time (BOY, MOY, and EOY).

Synthesis of Literature

The researcher identified goal setting, feedback, model reading, positive reinforcement, and RRs from a review of theoretical and empirical literature as interventions that produced the most significant results with regard to increasing ORF rates. This review substantiated the use of the HELPS Program in this study as a tool for assessing the effect of a fluency increasing strategy on ORF rates as the HELPS program encompasses eight research-based strategies including those stated above. The researcher looked at the effect of HELPS on fluency rates and accuracy rates between those

receiving the intervention and those receiving only general classroom reading instruction; between males and females receiving the HELPS program; and between different grade levels including third, fourth, and fifth grades. Similar comparisons were made in the empirical studies reviewed.

Chapter 3: Methodology

The purpose of this mixed-method study was to examine the impact of the HELPS Program as compared to classroom guided reading on ORF and accuracy rates of students in third, fourth and fifth grades. A mixed-method approach was one in which the researcher tended to base knowledge claims on consequence-oriented, problem-centered, and pluralistic grounds (Creswell, 2009). Creswell (2009) stated that it was inquiry that involved simultaneous or sequential data collection to best understand each research question. He further clarified that the process involved both numerical data and textual data so that the final database represented both quantitative and qualitative information.

A mixed-method study allowed the researcher to use quantitative and qualitative data to provide the best understanding of the research problem. The study not only analyzed the quantitative data from preintervention to postintervention but examined teacher attitudes and beliefs regarding reading fluency instruction in their classrooms preintervention to postintervention. In addition, feedback was solicited from the students receiving the intervention.

At the conclusion of this research, the following research questions were answered.

1. To what extent does exposure to the HELPS Program in addition to regular classroom reading instruction increase ORF compared to exposure to regular classroom reading only?

2. To what extent does exposure to the HELPS Program in addition to regular classroom reading instruction increase oral reading accuracy compared to exposure to regular classroom reading only?

3. To what extent does exposure to the HELPS Program in addition to regular classroom reading instruction differentially affect the ORF of female and male students compared to female and male students exposed to regular classroom reading instruction only?

4. To what extent does exposure to the HELPS Program in addition to regular classroom reading instruction differentially affect the oral reading accuracy of female and male students compared to female and male students exposed to regular classroom reading instruction only?

5. To what extent does the exposure to the HELPS Program in addition to regular classroom reading instruction differentially affect the ORF of students in Grades 3, 4, and 5 exposed to regular classroom reading instruction only?

6. To what extent does the exposure to the HELPS Program in addition to regular classroom reading instruction differentially affect the oral reading accuracy of students in Grades 3, 4, and 5 exposed to regular classroom reading instruction only?

Demographics

The study school was a rural elementary school located in the foothills of North Carolina. There were 876 students enrolled in prekindergarten through Grade 5. The school was identified as a school-wide Title I school with approximately 68% of students receiving free and reduced lunch. The school operated on a hybrid calendar consisting of 162 school days. Additional time was added to each school day to ensure 1,000 instructional hours as mandated by state law.

Assessment

All students in kindergarten through Grade 3 in the school were assessed using

Reading 3D: DIBELS during the 2012-2013 school year, and the lowest 30% of students in Grades 4 and 5 were assessed based on their previous year's EOG reading score. Numerous studies report the validity and reliability of the DORF assessment for screening students for reading problems and monitoring reading growth over time (Baker et al., 2008). This diagnostic and formative online assessment, which was adopted statewide, was intended to inform instruction to meet the needs of young readers. The assessment was typically performed during benchmarking windows, which occurred three times a year during 15 consecutive school-day periods. The BOY assessment window occurred within days 1-25 of the school year. The MOY assessment window occurred within days 80-105 of the school year. The EOY assessment window occurred within days 150-180 of the school year. The EOY period was adjusted to fall within the hybrid calendar for this particular school system.

Once the assessment was completed, students were assigned composite scores consisting of an ORF score and a Text Reading Comprehension (TRC) score. This composite was considered an overall estimate of reading proficiency. A benchmark goal for each grade level was established. Students scoring at or above the benchmark goal were likely to be successful with core classroom instruction. Cut points were assigned for each grade level. Students scoring below the cut point for risk (approximately 10-20%) were unlikely to achieve subsequent goals without receiving additional, targeted instructional support. These scores were identified as Well Below Benchmark, and the students were likely to need intensive support (red). Scores below the benchmark goal and at or above the cut point for risk were identified as Below Benchmark. These students were likely to need strategic support (yellow). Table 6 shows the cut points for each grade level.

Table 6

Cut Points for Benchmarks from Amplify Education Reporting (2012)

Words correct/min	23	47	52	72	87	70	86	100	90	103	115	111	120	130
Cut points for risk	16	32	37	55	65	55	68	80	70	79	95	96	101	105
Accuracy %	78	90	90	96	97	95	96	97	96	97	98	98	98	99
Cut points for risk	68	82	81	91	93	89	92	94	93	94	95	95	96	97
	M	E	B	M	E	B	M	E	B	M	E	B	M	E
	First			Second			Third			Fourth			Fifth	

Note. *Fluency is first assessed at the middle of the year in first grade.

Selection of Students

For the purpose of this mixed-method study, lists of students were generated from Grades 3, 4, and 5, whose composite scores were in the red (intensive) and yellow (strategic) ranges of the EOY assessment for the previous school year. The students were listed in ascending order based on composite scores by grade level. Students who were no longer enrolled in the school were eliminated as well as students who were identified as being Exceptional Children who participated in Special Education Programs.

McMillan and Schumacher (2006) stated that a simple random sampling offered every member of the population the same probability of being selected. They further stated that this method was often used with small populations, for example putting names or numbers in a hat and drawing some out. They indicated that if every member of the population was assigned a different number, a table of random numbers could identify the population that made up the random sampling.

Every third student from these below grade level composite lists was identified to create a list of students from each grade level, third through fifth grades. Lists were

inspected to insure the presence of both males and females. Each list was divided in half by placing every other student on a separate list to create two third-grade lists, two fourth-grade lists, and two fifth-grade lists. The students on these lists received the HELPS intervention every other school day for the school year. They were pulled from their regular classroom during a 50-minute intervention/enrichment period that is unique to each grade level. The classroom teacher did not provide any new instruction during this time; therefore, students did not miss their regular classroom reading instruction. The remaining students with below grade level composite scores received regular classroom instruction only.

This study used the scores of 48 students from the study school. Parents of those students were asked to sign permission for their anonymous data to be used in the study to protect the rights of the students. No student was identified through this process. Student data were not included without parental permission.

Programs

The HELPS program. The overall purpose of the HELPS One-on-One Program was to assist students with their reading development, primarily targeting student reading fluency. It was considered an evidence-based program as it utilized one or more instructional strategies that had been proven effective through research (Begeny, 2009).

The HELPS Program utilized the RR procedure which allowed students to receive structured, repeated practice opportunities to orally read texts that were appropriately matched to their abilities. By using an RR procedure in combination with timed readings, modeling, and phrase drill error correction, students not only became better readers of the text they practiced, they also developed skills that allow them to read unfamiliar text more fluently and often with better comprehension (Begeny, 2009).

DORF benchmarks. ORF benchmark assessments typically required students to read three grade-level appropriate passages for 1 minute each. The median CWPM score of the three passages was considered the student's score for that benchmark assessment. This assessment procedure was commonly referred to as a CBM-R. The DORF, as measured through Reading 3D, was used to measure growth in ORF rates following the intervention period.

Prior to students beginning the intervention period, they were given the DORF BOY assessment to establish a baseline for ORF rates. Students who received intervention through the HELPS Program received instruction every other school day for 10-12 minutes per session. Students receiving regular classroom reading instruction did not receive any extra direct fluency support other than classroom instruction.

At the end of the school year, students were given a DORF assessment to compare ORF and accuracy rates. Rates were compared between those participating in the HELPS program and regular classroom instruction, between males and females participating in the HELPS program, and between students in each grade level. These data were used to answer the six research questions posed and validate a hypothesis.

Statistical Analysis of Results

A repeated measures ANOVA was performed on the data. A repeated measures ANOVA is a parametric method appropriate for comparing changes in mean scores over three or more time points (De Iorio, Müller, Rosner, & MacEachern, 2004). The ORF rates of students were compared to determine the effect of the HELPS Program on students in each grade level, and males and females. The results were compared with students from the initial randomly generated list who did not receive the HELPS Program intervention but received regular classroom reading instruction only.

Qualitative components. A focus group of the teachers in Grades 3-5 was conducted to ascertain teacher attitudes toward reading fluency and its influence on reading proficiency prior to the implementation of the HELPS program. The purpose of the focus group was to gain knowledge of teacher understanding of fluency, gauge its importance to teachers, and determine how it was addressed in their classrooms. A postintervention focus group was conducted as well to see if attitudes had changed or if teachers had changed their fluency instruction since the beginning of HELPS. Participants were asked a series of questions related to fluency. The group was monitored by a nonschool employee. The researcher analyzed the frequency of various words and phrases from teachers. The following questions were asked.

1. What is reading fluency?

2. Is your fluency instruction a part of your guided reading lessons, or do you intentionally teach fluency separately from guided reading? If separate, describe the instructional strategies you use to teach fluency.

3. What materials do you have or need to teach fluency?

4. Think about your students. Is there a relationship between reading fluency and how a student performs in other areas of the curriculum?

5. How do you assess fluency? How do you use the information you gain from that assessment?

6. How often are your students provided the opportunity to practice fluent oral reading? For how long during each opportunity? What do they read? What do they do after reading?

7. Is fluency relegated to the language arts block, or do you incorporate fluency instruction into the content areas? Describe a content area lesson that

incorporated fluency instruction.

8. Have you communicated with parents about fluency and how they can help

their child? How?

In the postintervention focus group, additional questions were added. The questions were, "What is your opinion of the HELPS program? Did you notice any changes in the reading behaviors of your students who had the intervention? Did it affect other aspects of their academic achievement?"

Interviews were held with random students who received the HELPS intervention strategies to gather data regarding how they felt about their participation in the HELPS Program and how it affected their reading skills. The following questions were asked.

1. What was the most helpful component of the HELPS Program? (a) timed RR;

(b) having a fluent reader read to them; (c) setting goals for fluency and

accuracy rates; (d) having errors identified and retaught if they feel that it

helped them become a better reader.

2. How did the HELPS Program help them? (a) gave them more confidence; (b)

improved their ORF rate; (c) improved their oral reading accuracy rate; (d)

improved their comprehension; (e) helped improved their prosody.

3. Would they change any components of the program?

Student responses were analyzed for trends and summarized to reflect student perspectives regarding their participation in the HELPS program and how it affected their ORF and accuracy.

Chapter 4: Results

Introduction

The purpose of this study was to determine the impact of the HELPS One-on-One Program on the ORF rates and accuracy rates of third- through fifth-grade students who were identified as scoring below average on an ORF (DORF) assessment. One group of students (Intervention Group) across all three grade levels was exposed to the HELPS Program in addition to classroom guided reading instruction. Another group of students (Control Group) received classroom guided reading instruction only. This chapter presents the results of a comparison of the ORF rates and accuracy rates from the DORF assessment for the intervention and control groups to determine the effect of the HELPS program across the beginning, middle, and end of the school year. Comparisons were also made comparing males and females in both the intervention and control groups across the beginning, middle, and end of the school year as well as comparisons of students in third, fourth, and fifth grades across the beginning, middle, and end of the school year.

Demographics of Participants

The school district used in this study was a small rural district with approximately 10,000 students in northwest North Carolina. The school used in this study was a large elementary school with approximately 900 students. The population of students was largely White and the school was approximately 68% free and reduced lunch. The school was 83.4% White, 13.2% Hispanic, and 0.61% Black. Three hundred eighty-six of the students were female, and 445 of the students were male. The school demographics are shown in Table 7.

Table 7

Demographics of Study School

	White	Black	Hispanic	Total
Female	335	2	49	386
Male	389	4	52	445
Total	724	6	101	831

The participants in this study consisted of students who were in third through fifth grade in the 2013-2014 school year and were similar in demographics to the ratio of White, Hispanic, and Black students in the study school. A total of 48 students participated in the study. Of the 48 students, 39 were White, eight were Hispanic, and one was Black. Nineteen of the students were female and 29 were male. Table 8 shows the demographic profile of the students involved in the study.

Table 8

Demographic Information for Participants

	Female				Male				Grand Total
	White	Black	Hispanic	Total	White	Black	Hispanic	Total	
Control	7	0	0	7	15	0	2	17	24
Intervention	10	0	2	12	7	1	4	12	24
Total	17	0	2	19	22	1	6	29	48

Using SAS statistical software, a series of repeated measures ANOVAs were

performed to answer the six research questions. A repeated measures ANOVA is a parametric method appropriate for comparing changes in mean scores over three or more time points (De Iorio et al., 2004). This statistical measure was chosen due to the comparison of mean scores over three time periods: BOY, MOY, and EOY. Depending on significance levels in each main analysis, Tukey's post hoc comparisons and/or simple effects ANOVAs were performed to determine whether the two groups were similar or different. Each research question is presented and followed by the data analysis.

Data Collection

Research Question 1. To what extent does exposure to the HELPS Program in addition to regular classroom reading instruction increase ORF compared to exposure to regular classroom reading only?

H_0: There is no difference in mean scores on the ORF domain of the DORF for students exposed to the HELPS Program in addition to regular

H_1: There is a difference in mean scores on the ORF domain of the DORF for students exposed to the HELPS Program in addition to regular classroom reading instruction and those exposed to regular classroom reading instruction only.

To answer this research question, a 2 x 3 repeated measures ANOVA was computed with the DORF fluency rate as the dependent variable and treatment group (intervention vs. control) and time as the independent variables. Here, three repeated measures were taken for each participant and there were two separate groups of participants: those in the control group and those in the intervention group. The repeated measure was time (BOY, MOY, and EOY). Table 9 below shows a summary of the analysis.

Table 9

Summary of Analysis on Grouping DORF Fluency by Treatment Group and Time

SOURCE	*df*	Sum of Squares	*MS*	*F*	*p*
Treatment Group	1	22.94	22.94	0.02	0.8935
Subj. w. Treatment Group	46	58228.63	1265.84		
Assessment Time	2	16409.45	8204.73	222.74	<0.0001*
Group X Time	2	78.39	39.19	1.06	0.3493
Time X Subj. w. Group	91	3352.03	36.84		
Total	142	77306.52			

The symbol *df* represented the degrees of freedom, which were used to estimate the parameters or variability of the data. The Sum of Squares was the sum of squared deviation scores. It was used to determine how much each score deviated from the mean. The MS represented the mean score. The repeated measures ANOVA generated an F statistic that was used to determine statistical significance. The F statistic was equal to the mean score x time divided by the mean score x error.

To test the hypothesis, a *p* value was used to determine the significance of the results. A *p* value was used to weigh the strength of the evidence. The *p* value was a number between 0 and 1 and interpreted in the following way.

- A small *p* value (typically ≤ 0.05) indicated strong evidence against the null hypothesis, so the null hypothesis was rejected.

- A large *p* value (> 0.05) indicated weak evidence against the null hypothesis,

so the null hypothesis was accepted.

A p value of .05 or less was used to identify statistically significant relationships. For Research Question 1, there was no statistically significant difference for treatment group or for the interaction of treatment group with time. However, there was a significant difference with regard to change over time, F $(2, 91) = 222.74$, $p < 0.0001$. Tukey's post hoc test revealed a significant increase from the BOY (mean = 62.69) to the MOY (mean = 78.54) and a significant increase from the MOY to the EOY (mean = 88.06) for both the intervention group and the control group and as shown in Figure 1.
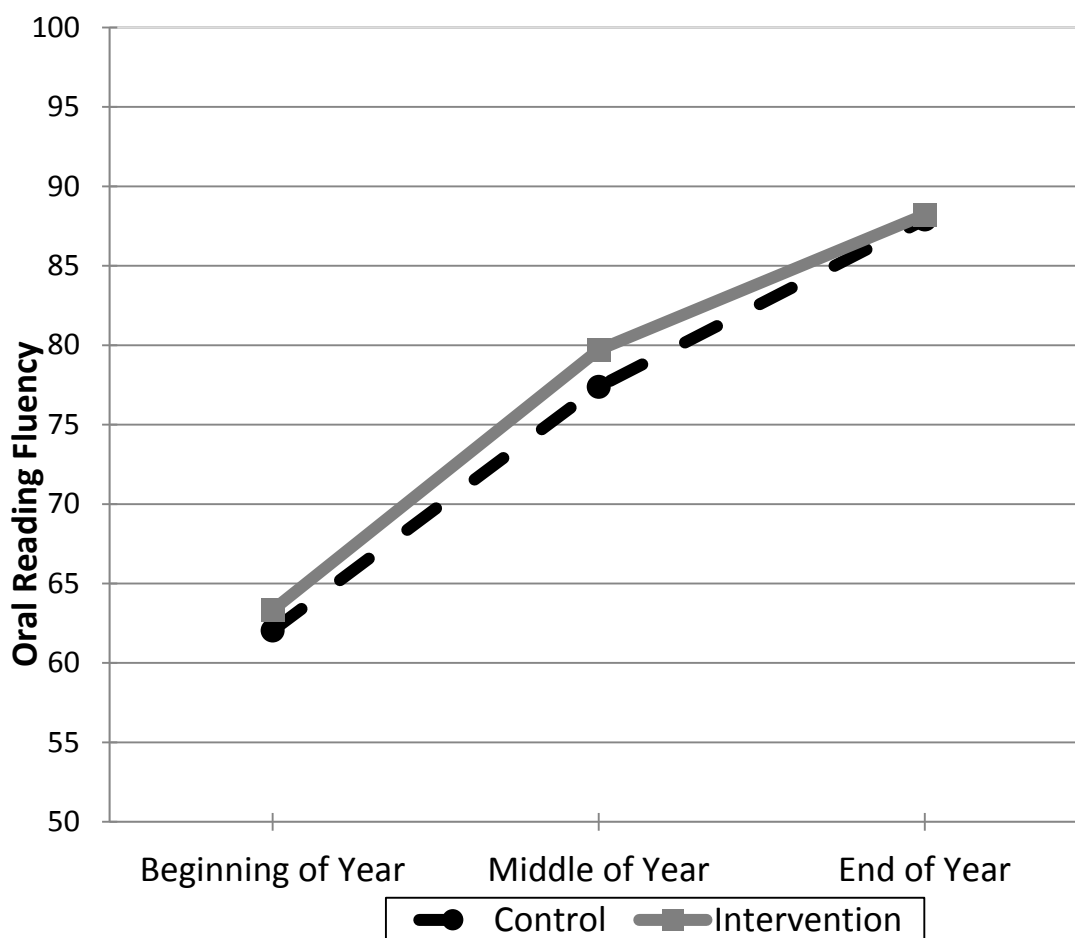

Figure 1. Research Question 1: Effect of Intervention on Oral Reading Fluency.

Results indicated that there was no significant difference between the mean scores on the ORF domain of the DORF for students exposed to the HELPS Program in addition to regular classroom reading instruction and those exposed to regular classroom reading instruction only.

Research Question 2. To what extent does exposure to the HELPS Program in addition to regular classroom reading instruction increase oral reading accuracy compared to exposure to regular classroom reading only?

H_0: There is no difference in mean scores on the oral reading accuracy domain of the DORF for students exposed to the HELPS Program in addition to regular classroom reading instruction and those exposed to regular classroom reading instruction.

H_1: There is a difference in mean scores on the oral reading domain accuracy of the DORF for students exposed to the HELPS Program in addition to regular classroom reading instruction and those exposed to regular classroom reading instruction.

To answer this research question, a 2 x 3 repeated measures ANOVA was computed with the DORF accuracy score as the dependent variable and treatment group (intervention vs. control) and time as the independent variables. The repeated measure was time (BOY, MOY, and EOY). Table 10 below shows a summary of the analysis.

Table 10

Summary of Analysis for Grouping DORF Accuracy

SOURCE	*df*	Sum of Squares	*MS*	*F*	*p*
Treatment Group	1	79.36	79.36	1.69	0.20
Subj. w. Treatment Group	46	2161.13	46.98		
Assessment Time	2	545.68	272.84	31.80	<0.0001*
Group X Time	2	27.25	13.62	1.59	0.2100
Time X Subj. w. Group	91	780.83	1.59		
Total	142	3572.81			

A p value of .05 or less was used to identify statistically significant relationships. There was no statistically significant difference for treatment group or for the interaction of treatment group with time; however, there was a significant difference with regard to change over time, F (2, 91) =31.80, p < 0.0001. Tukey's post hoc test revealed a significant increase from the BOY (mean = 91.83) to the MOY (mean = 94.85) and a significant increase from the MOY to the EOY (mean = 96.43) for all students as illustrated in Figure 2.
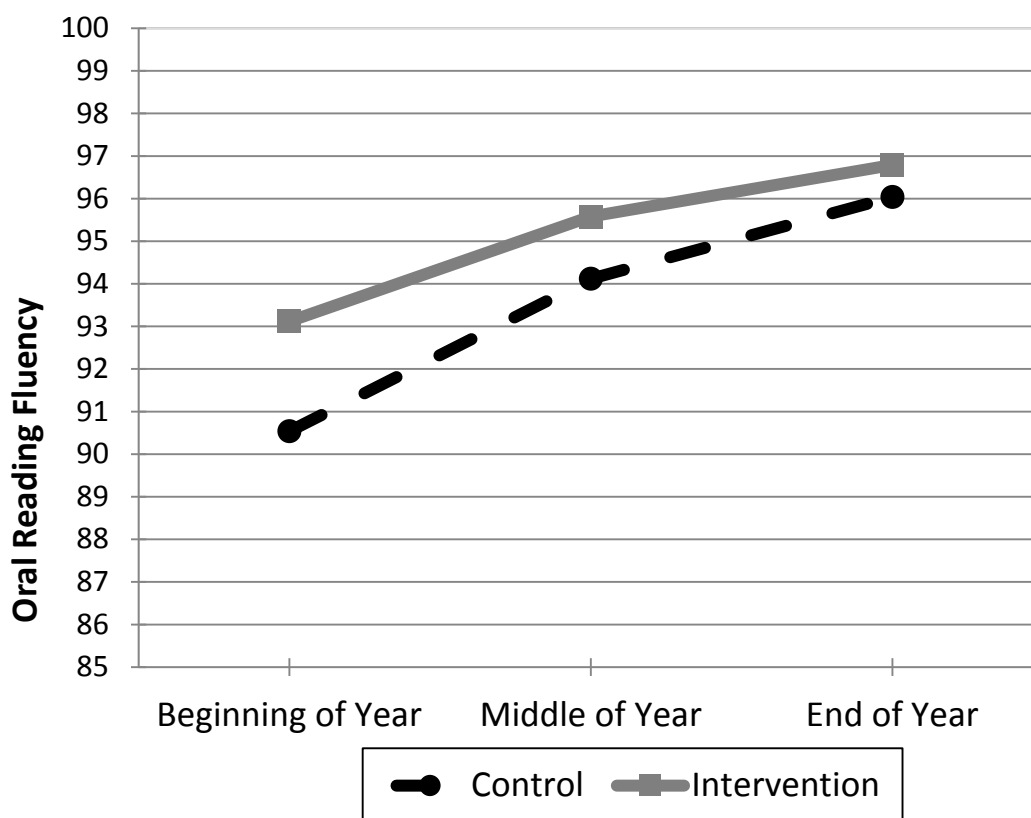
Figure 2. Research Question 2: Effect of Intervention on Oral Reading Accuracy.

Results indicate that there was no significant difference between the mean scores on the oral reading accuracy domain of the DORF for students exposed to the HELPS Program in addition to regular classroom reading instruction and those exposed to regular classroom reading instruction only.

Research Question 3. To what extent does exposure to the HELPS Program in addition to regular classroom reading instruction differentially affect the ORF of female and male students compared to female and male students exposed to regular classroom reading instruction only?

H_0: There is no difference in mean scores on the ORF domain of the DORF for

female and male students exposed to the HELPS Program in addition to regular classroom reading instruction versus female and male students exposed to classroom reading instruction only.

H_1: There is a difference in mean scores on the ORF domain of the DORF for female and male students exposed to the HELPS Program in addition to regular classroom reading instruction versus female and male students exposed to classroom reading instruction only.

To answer this research question, a 2 x 2 x 3 repeated measures ANOVA was computed with the DORF fluency rate as the dependent variable and treatment group (intervention versus control), gender (male vs. female), and time as the independent variables. The repeated measure was time (BOY, MOY, and EOY). Table 11 below shows a summary of the analysis.

Table 11

Summary of Analysis for Gender DORF Fluency

SOURCE	df	Sum of Squares	MS	F	p
Group	1	658.84	658.84	0.60	0.4419
Gender	1	3782.40	3782.40	3.46	0.0697
Group X Gender	1	7837.06	7837.06	7.16	0.0104*
Subj. w. Group X Gender	44	48139.77	1094.09		
Time	2	1513.14	7567.07	220.72	0.0001*
Group X Time	2	69.82	34.91	1.02	0.3655
Time X Gender	2	305.87	152.94	4.46	0.0431*
Group X Gender X Time	2	53.70	26.85	0.78	0.4601
Time X Subj. w. Group X Gender	87	2982.67	34.28		
Total	142	77306.52			

A p value of .05 or less was used to identify statistically significant relationships. A significant effect on fluency rates was demonstrated for time, F (2, 87) = 220.72, p < 0.0001, group x gender, F (1, 44) = 7.16, p = 0.0104, and time x gender, F (2, 4487) = 4.46, p < .0143. No other significant effects were found as shown in Figure 3. The two significant interactions included gender, so to further explore the interaction results, two simple effects repeated measures ANOVAs were performed–one for females and one for males. Results of the analysis for females and males are presented in Table 12. There

was no statistically significant interaction for group x time. There were significant main effects for both groups, F (1, 17) = 5.68, p = 0.0290, and time, F (2, 33) = 137.43, p < 0.0001. The female control group demonstrated significantly higher mean fluency scores (mean = 93.8) than the intervention group (mean = 74.72). As seen in previous analyses, Tukey's post hoc tests showed a significant increase from the BOY (mean = 65.84) to the MOY (85.63) and then to the EOY (mean 93.78).

Table 12

Simple Effects Female and Male Fluency

	Female Fluency	Male Fluency
Time	Difference Between Means	Difference Between Means
BOY - MOY	19.79	13.80
MOY - EOY	8.15	10.80
BOY - EOY	27.94	23.90

The simple effects analysis for the males yielded only a significant time effect, F (2, 54) = 102.24, p < 0.0001. Fluency rates for the males increased significantly from the BOY (mean = 60.62) to the MOY (mean = 73.90) and then to the EOY (mean = 84.52). There were no statistically significant effects for group or for the interaction of group and time.

Figure 3. Research Question 3: Effect of Intervention on Oral Reading Fluency.

Research Question 4. To what extent does exposure to the HELPS Program in addition to regular classroom reading instruction differentially affect the oral reading accuracy of female and male students compared to female and male students exposed to regular classroom reading instruction only?

H_0: There is no difference in mean scores on the oral reading accuracy domain of the DORF for female and male students exposed to the HELPS Program in addition to regular classroom reading instruction versus female and male students exposed to

classroom reading instruction only.

H₁: There is a difference in mean scores on the oral reading accuracy domain of the DORF for female and male students exposed to the HELPS Program in addition to regular classroom reading instruction versus female and male students exposed to classroom reading instruction only.

To answer this research question a 2 x 2 x 3 repeated measures ANOVA was computed with the DORF accuracy rate as the dependent variable and treatment group (intervention versus control), gender (male vs. female), and time as the independent variables. The repeated measure was time (BOY, MOY, and EOY). A summary of the analysis is displayed in Table 13 below.

Table 13

Summary of Analysis for Gender DORF Accuracy

SOURCE	*df*	Sum of Squares	*MS*	*F*	*p*
Group	1	25.73	25.73		
Gender	1	62.407	62.41		
Group X Gender	1	84.62	84.62	1.83	0.1828
Subj. w. Group X Gender	44	84.62	46.18		
Time	2	438.99	219.50	24.99	<0.0001
Group X Time	2	14.77	7.39	0.84	0.4448
Time X Gender	2	3.73	1.86	0.21	0.8093
Group X Gender X Time	2	13.58	6.79	0.77	0.4647
Time X Subj. w. Group X Gender	87	764.26	8.78		
Total	142	3572.81			

A *p* value of .05 or less was used to identify statistically significant relationships.

A significant effect of accuracy rates was demonstrated for time, F (2, 87) = 24.99, $p <$ .0001. No other significant effects were found (see Figure 4). Tukey's post hoc tests showed a significant increase from the BOY (mean = 91.83) to the MOY (mean = 94.85) and then to the EOY (mean = 96.43). There were no significant effects for group or the interaction of group and time and no significant effects for gender or the interaction of gender and time.
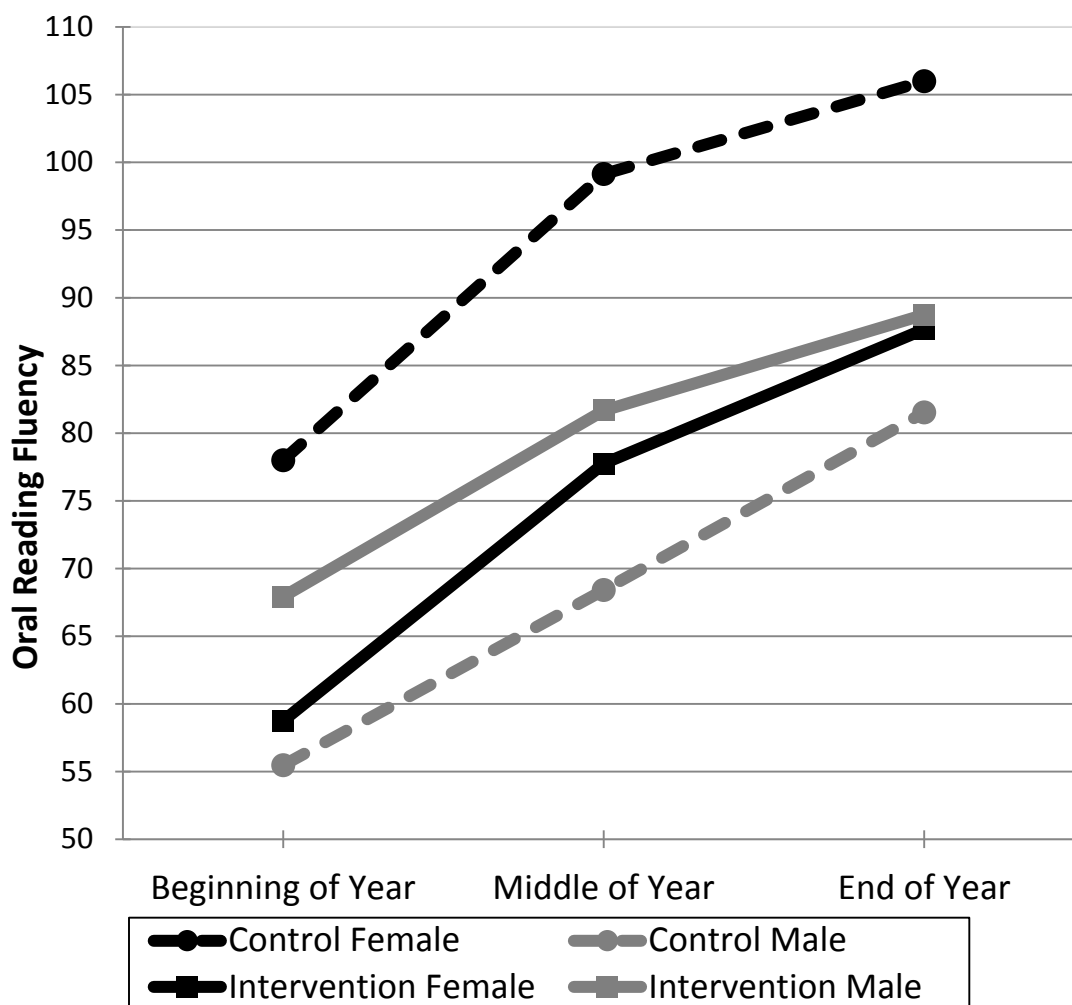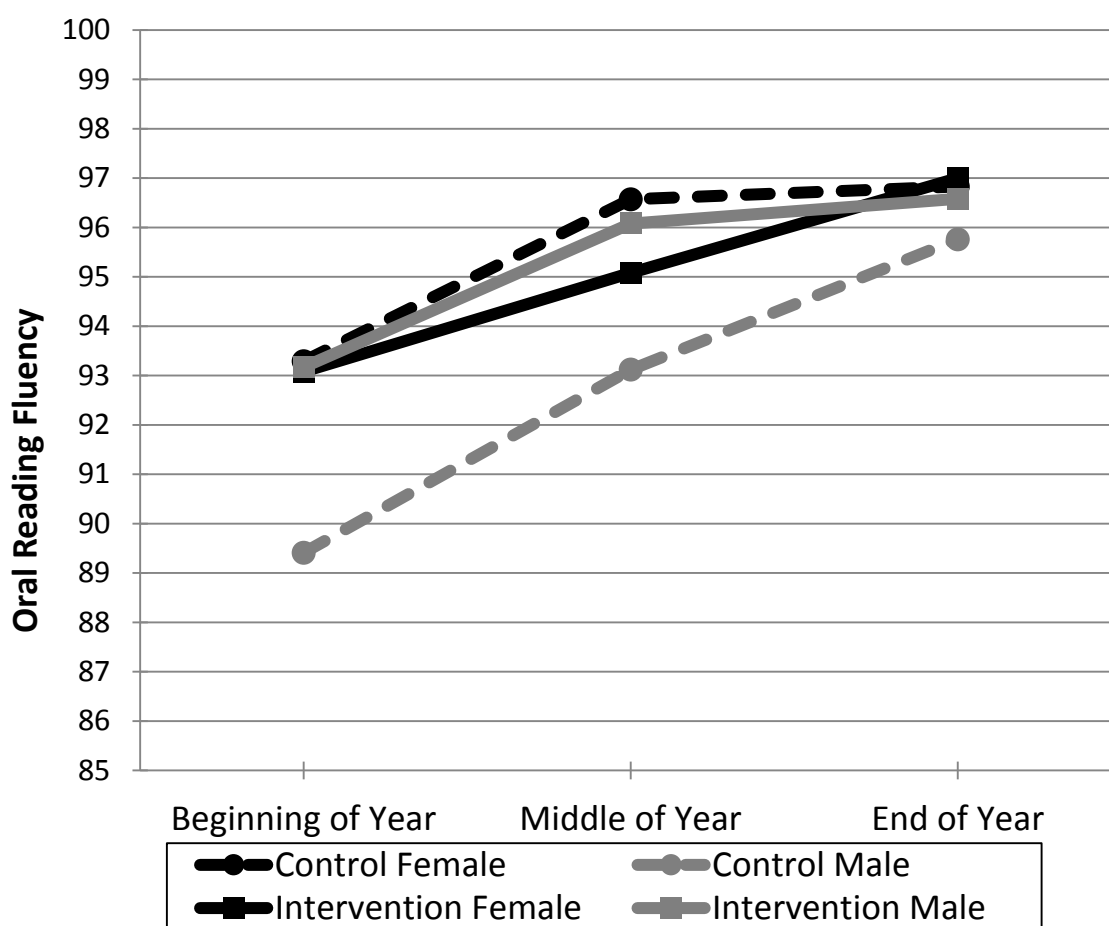

Figure 4. Research Question 4: Effect of Intervention on Oral Reading Accuracy.

While all groups increased their accuracy rates at all points, the males in the control group had greater increases from the MOY to the EOY than males in the

intervention group and females in both the control group and the intervention group as shown in Table 14.

Table 14

*Level of Group * Gender * Time (Accuracy)*

Level of Group	Level of Gender	Level of Time	N	Mean	Std Dev
Control	Female	BOY	7	93.29	5.25
Control	Female	MOY	7	96.57	3.91
Control	Female	EOY	6	96.83	1.47
Control	Male	BOY	17	89.41	7.76
Control	Male	MOY	17	93.12	5.21
Control	Male	EOY	17	95.76	3.61
Intervention	Female	BOY	12	93.08	4.42
Intervention	Female	MOY	12	95.08	3.20
Intervention	Female	EOY	12	97.00	2.09
Intervention	Male	BOY	12	93.16	5.98
Intervention	Male	MOY	12	96.08	2.43
Intervention	Male	EOY	12	96.58	2.81

Research Question 5. To what extent does the exposure to the HELPS Program in addition to regular classroom reading instruction differentially affect the ORF of students in Grades 3, 4, and 5 exposed to regular classroom reading instruction only?

H_0: There is no difference in mean scores on the ORF domain of the DORF for students in Grades 3, 4, and 5 exposed to the HELPS Program in addition to regular classroom reading instruction compared to students in Grades 3, 4, and 5 exposed to regular classroom reading instruction only.

H1: There is a difference in mean scores on the ORF domain of the DORF for students in Grades 3, 4, and 5 exposed to the HELPS Program in addition to regular classroom reading instruction compared to students in Grades 3, 4, and 5 exposed to regular classroom reading instruction only.

To answer this research question, a 2 x 3 x 3 repeated measures ANOVA was computed with the DORF fluency rate as the dependent variable and treatment group (intervention versus control), grade (third, fourth, or fifth), and time as the independent variables. The repeated measure was time (BOY, MOY, and EOY). Table 15 shows a summary of the analysis.

Table 15

Summary of Analysis for Grade DORF Accuracy

SOURCE	*df*	Sum of Squares	*MS*	*F*	*p*
Group	1	19.64	19.64		
Gender	2	11652.73	5826.37		
Group X Gender	2	5955.56	2977.78	3.05	0.0580
Subj. w. Group X Gender	42	41014.99	976.55		
Time	2	16490.24	8245.12	227.12	<0.0001*
Group X Time	2	86.94	43.47	1.20	0.3071
Time X Gender	4	205.52	51.38	1.42	0.2361
Group X Gender X Time	4	138.66	34.67	0.95	0.4368
Time X Subj. w. Group X Gender	83	3013.19	36.30		
Total	142	773069.52			

A *p* value of .05 or less was used to identify statistically significant relationships.

A significant effect on fluency rates was demonstrated for time, F (2, 83) = p < 0.0001. All three grades demonstrated a significant effect for time of assessment: third grade, p = 0.0014; fourth grade, p < 0.0001; and fifth grade, p = 0.0026. No other significant effects were found (see Figure 5). Tukey's post hoc tests showed a significant increase from the BOY (mean = 62.69) to the MOY (mean = 78.54) and then to the EOY (mean = 88.06). There were no significant effects for group or the interaction of group and time, and no significant effects for gender or the interaction of gender and time. Results are displayed in Figure 5.

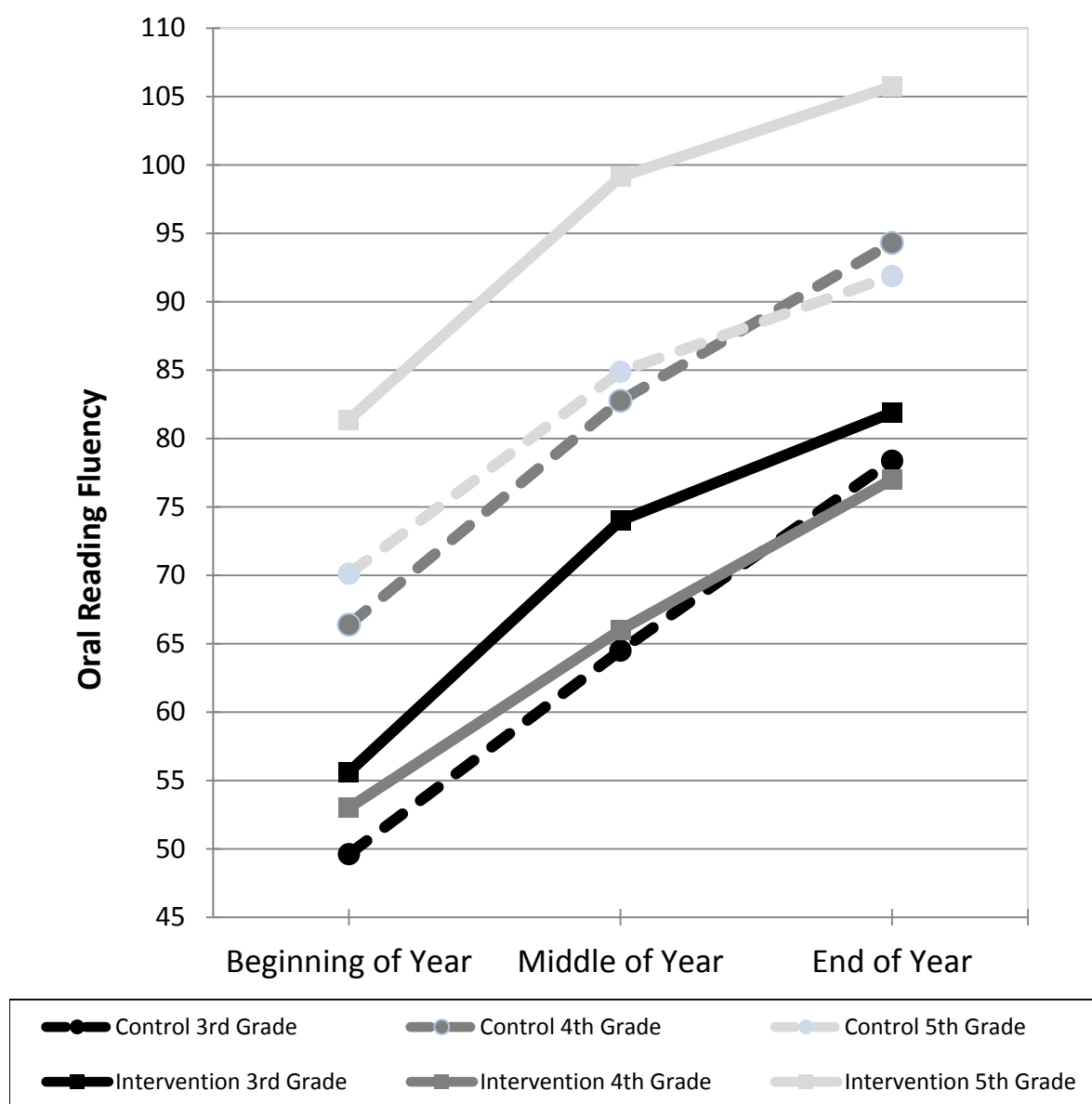*Figure 5*. Research Question 5: Effect of Intervention on Oral Reading Fluency.

Research Question 6. To what extent does the exposure to the HELPS Program in addition to regular classroom reading instruction differentially affect the oral reading accuracy of students in Grades 3, 4, and 5 exposed to regular classroom reading instruction only?

H_0: There is no difference in mean scores on the oral reading accuracy domain of

the DORF for students in Grades 3, 4, and 5 exposed to the HELPS Program in addition to regular classroom reading instruction compared to students in Grades 3, 4, and 5 exposed to regular classroom reading instruction only.

H_1: There is a difference in mean scores on the oral reading accuracy domain of the DORF for students in Grades 3, 4, and 5 exposed to the HELPS Program in addition to regular classroom reading instruction compared to students in Grades 3, 4, and 5 exposed to regular classroom reading instruction only.

To answer this research question, a 2 x 3 x 3 repeated measures ANOVA was computed with the DORF accuracy rate as the dependent variable and treatment group (intervention versus control), grade (third, fourth, or fifth), and time as the independent variables. The repeated measure was time (BOY, MOY, and EOY). A summary of the analyses is shown in Table 16 below.

Table 16

Summary of Analysis for Grade DORF Accuracy

SOURCE	df	Sum of Squares	MS	F	p
Group	1	78.57	78.57	1.90	0.1755
Grade	2	342.37	171.18	4.14	0.0229*
Group X Grade	2	102.39	51.19	1.24	0.3006
Subj. w. Group X Grade	42	1738.21	41.39		
Time	2	547.04	273.52	34.27	<0.0001
Group X Time	2	27.70	13.85	1.74	0.1827
Time X Grade	4	102.18	25.54	3.20	0.0170
Group X Grade X Time	4	14.76	3.69	0.46	0.7631
Time X Subj. w. Group X Grade	83	662.50	7.98		
Total	142	3572.81			

A p value of .05 or less was used to identify statistically significant relationships. A significant effect of accuracy rates was demonstrated for time, $F(2, 83) = p < 0.0001$; grade, $F(2, 83)$, $p = 0.0229$; and time x grade, $F(4, 83)$, $p = 0.0170$. No other significant effects were found. Results are displayed in Figure 6.

The two significant interactions included grade, so to further explore the interaction results, three simple effects repeated measures ANOVAs were performed–one for third grade, one for fourth grade, and one for fifth grade.

For the fourth grade, there was a significant increase in accuracy from the BOY (mean = 92.50) to the MOY (mean = 94.69) and another significant increase to EOY

(mean = 97.67). For third and fifth grades, there was a significant increase in accuracy

from BOY (mean for Grade 3 = 88.5, mean for Grade 5 = 94.50) to MOY (mean for

Grade 3 = 93.56, mean for Grade 5 = 96.31) but no significant change from MOY to

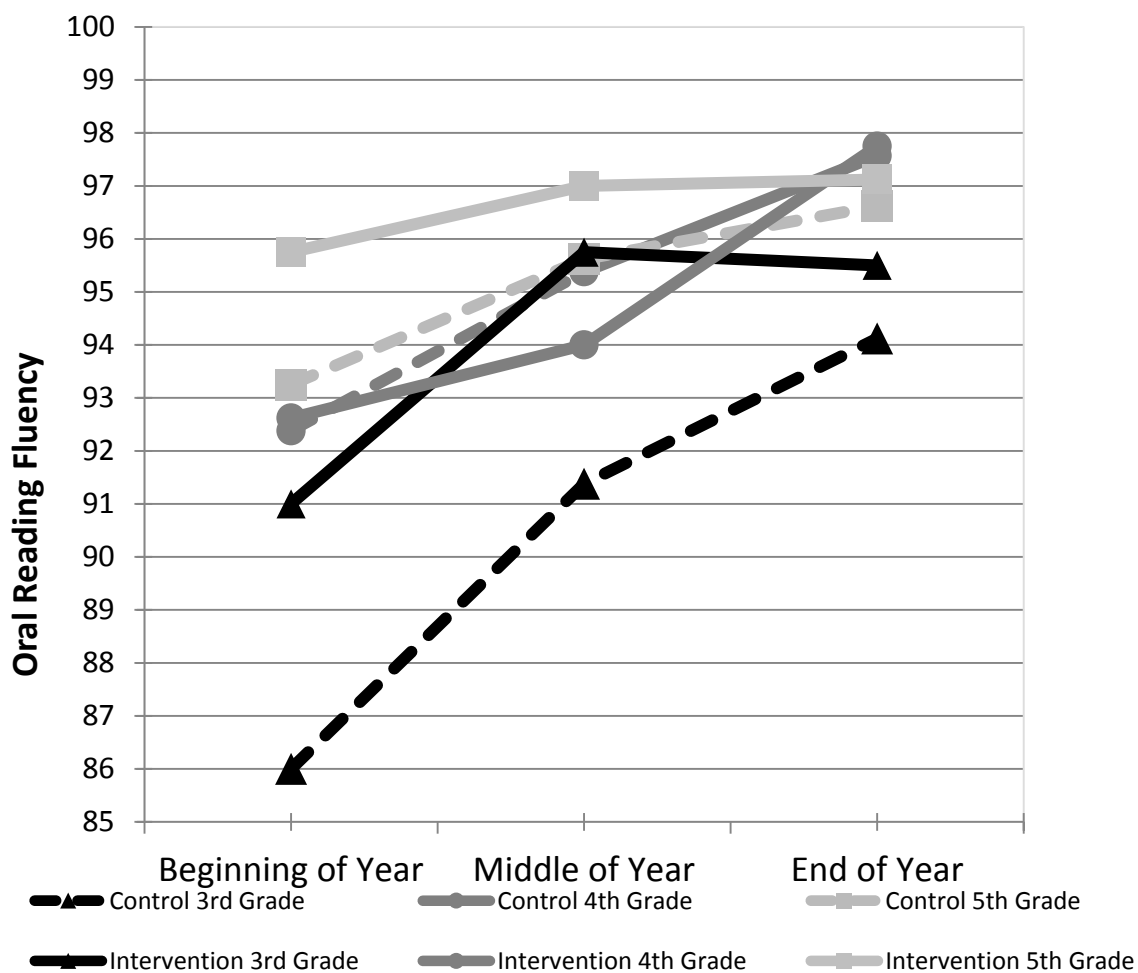EOY (mean for Grade 3 = 94.81, mean for Grade 5 = 96.88).

Figure 6. Research Question 6: Effect of Intervention on Oral Reading Accuracy.

Focus Group Responses

A focus group of the teachers from the study school in Grades 3-5 was conducted

to ascertain teacher attitudes toward reading fluency and its influence on reading

proficiency. Eighteen teachers participated. Seventeen were female and one was male.

The purpose of the focus group was to gain knowledge of teacher understanding of fluency, gauge its importance to teachers, and determine how it was being addressed in classrooms. Participants were asked a series of questions related to fluency. The group was conducted by an independent facilitator. The frequency of words and phrases from the focus group are displayed in Figure 7.

The following questions were asked.

1. What is reading fluency?

2. Is fluency instruction part of your guided reading instruction? If separate describe the activity.

3. What materials do you need or have?

4. Think about students. Is there a relationship between reading fluency and how a student performs in other areas of the curriculum?

5. How do you assess fluency? How do you use information gained?

6. How often are students provided opportunity to practice fluency oral reading?

7. Is fluency relegated to the ELA block or other content areas?

8. Have you communicated with parents about fluency and how they can help their child?
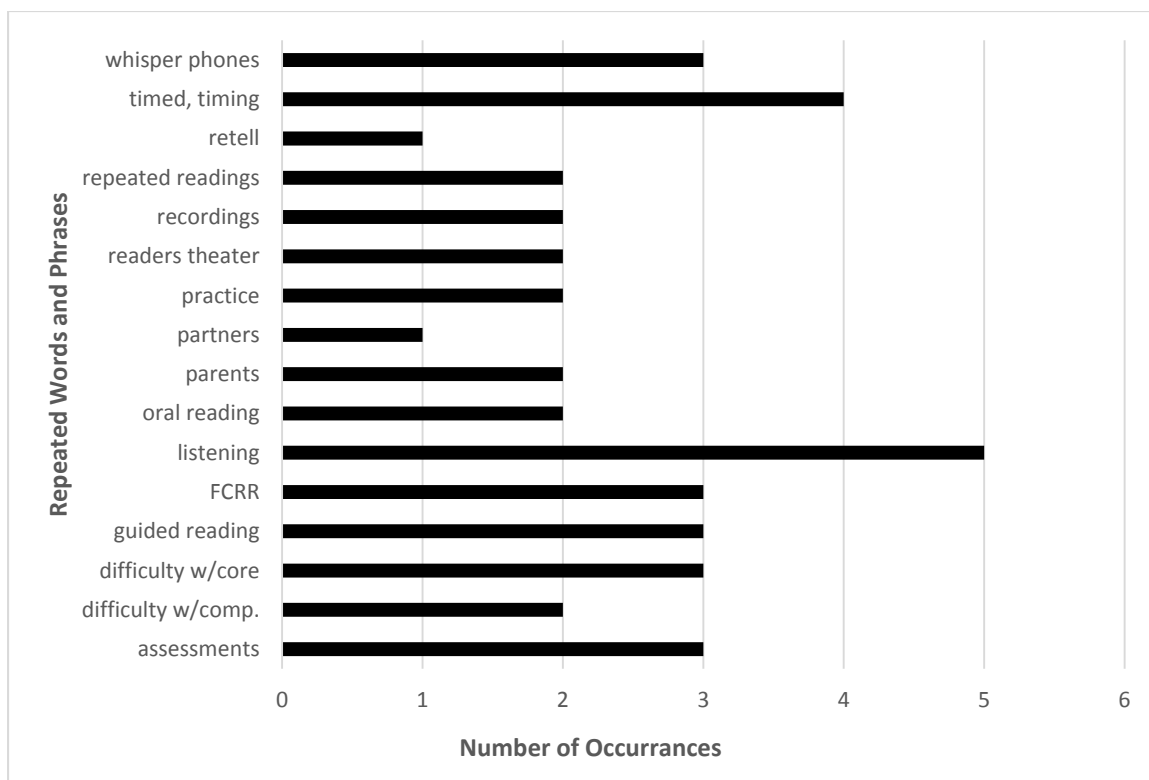
Figure 7. Repeated Words and Phrases from Focus Group Preintervention.

The word listening was used most frequently by teachers with approximately five responses indicated. Using timed readings or timing students while they read was indicated by four teachers. Assessments, difficulty with core instruction, guided reading, whisper phones, and FCRR strategies were indicated by three teachers each. Difficulty with comprehension, oral reading, parents, practice, reader's theater, recordings, and RRs were indicated by two teachers each. Partners and retell were each indicated by at least one teacher each.

A postintervention focus group was also held to determine if the attitudes had changed and if their implementation of fluency increasing strategies had changed. In addition to the questions asked in the first focus group, the following questions were added: "What is your opinion of the HELPS program?" "Did you notice any changes in

the reading behaviors of your students who had the intervention?" "Did it affect other aspects of their academic achievement?"

The group was conducted by an independent facilitator. Fifteen teachers from Grades 3-5 from the study school participated, all of them female. The frequency of words and phrases from the postintervention focus group are displayed in Figure 8.
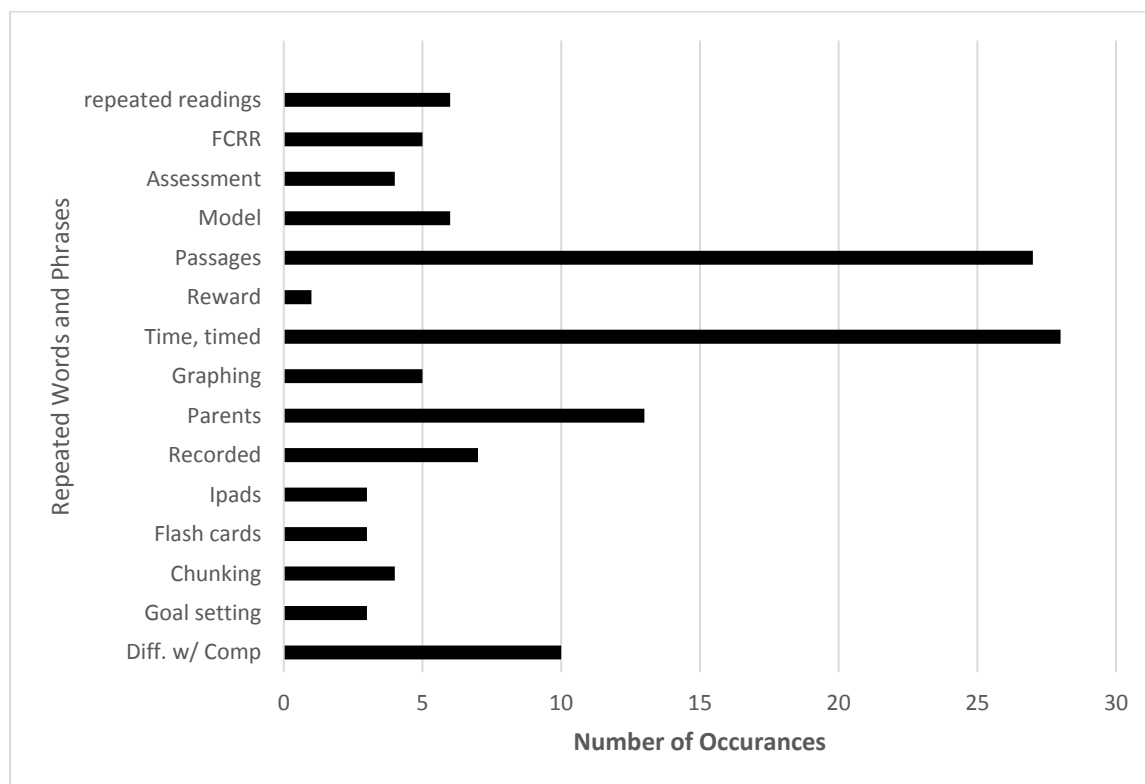
Figure 8. Repeated Words and Phrases from Postintervention Focus Group.

The words time and timed were used most frequently by teachers with 27 responses indicated. The word passages was indicated second most frequently with 26 responses indicated. Thirteen responses were given for parental involvement and10 for difficulty with comprehension. Seven indicated some type of recorded text or recording of students reading. Six indicated RRs and modeling passages. Five indicated that they

used FCRR strategies and some form of graphing with students. Four made mention of assessment and chunking, three indicated the use of iPads, flash cards, and goal setting, while one indicated a reward of some type.

A comparison was made of the major differences between the words and phrases repeated in the first focus group to the second as shown in Figure 9.
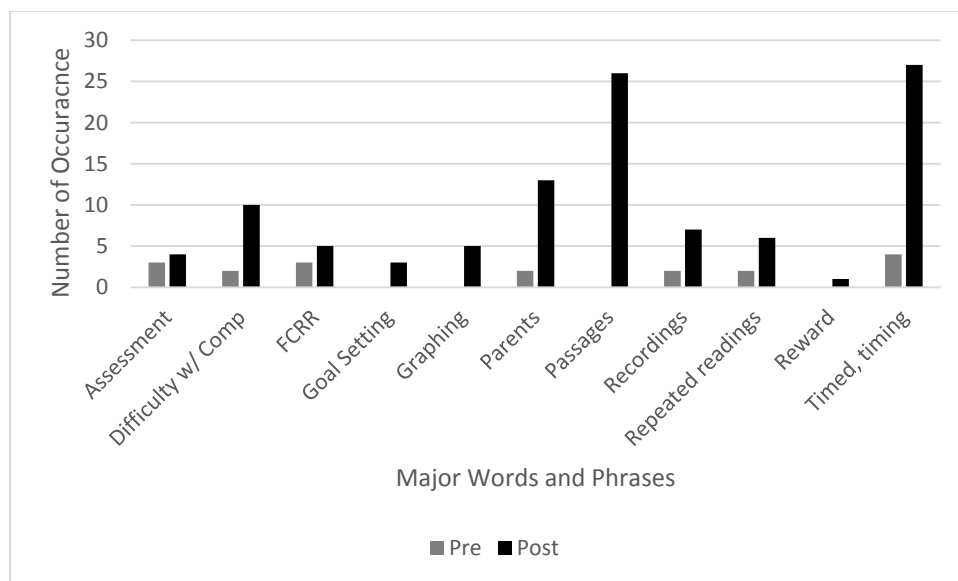
Figure 9. Comparison of Focus Groups Pre/Post.

Assessment was mentioned three times in the first focus group and increased to 4 times in the second focus group. Teachers made comments about students struggling with fluency also having difficulty with comprehension two times in the preintervention focus group and 10 times in the post. FCRR activities were referenced three times in the first focus group and five times in the second. Goal setting, graphing, passages, and reward were not mentioned in the first focus group but were referenced three, five, 26, and one times, respectively, in the postintervention focus group. Parents were indicated 13 times in the second group up from only two in the first one. RRs increased from two to six and reference to timed or timing activities increased from four to 27.

Student Questions

Questions were asked by the tutor implementing the HELPS program to 14 random students within the intervention group. Nine of the students were female and five were male. Student responses are displayed in Table 17. The following questions were asked.

1. What was the most helpful component of the HELPS Program?

2. Did the HELPS Program help you become a better reader? If so, how?

3. Would they change any components of the program?

4. How did HELPS affect your reading fluency? Were you able to read more WPM after having HELPS?

Table 17

Student Responses to Questions

Questions	Responses	
1	Being shown my errors and how to correct them.	7
	RRs.	2
	Listening to someone read to me.	3
	Charting my progress.	0
	Setting a goal.	2
2	It helped me a lot. I am a better reader.	5
	I knew what my errors were and I tried to correct them.	1
	I'm still reading at home.	1
	I knew the words.	1
	I can read good.	1
	Now I can read fast.	1
	Reading Lexile went up 245 points.	1
	It helped me increase my Lexile level.	1
	It showed me what I was doing wrong.	1
	I read more smoothly and understand.	1
3	Read every day.	1
	Nothing.	12
	No more questions and answers.	1
4	Could read more words per minute.	14

Seven students responded that the most helpful part of the HELPS program was being shown their errors and being able to correct them. Three students indicated that having someone listen to them read was most helpful. Two stated that RRs were the most helpful, and two stated that setting a goal was helpful.

Five students indicated that HELPS helped them a lot and helped them to become a better reader. Other comments included, "I knew what my errors were and I tried to correct them," "I'm still reading at home," "I knew the words," "I can read good," "Now I can read fast," "Reading Lexile went up 245 points," "It helped me increase my Lexile level," "It showed me what I was doing wrong," and "I read more smoothly and understand."

When asked if they could change anything, most reported nothing; however, one reported that he/she would like to read every day and another stated he/she would like to not have questions and answers. All 14 students stated that HELPS improved the number of WPM they could read.

Chapter 5: Discussion

Introduction

The purpose of this study was to determine the impact of the HELPS One-on-One Program on the ORF rates and accuracy rates of third- through fifth-grade students who were identified as scoring below average on an ORF (DORF) assessment. One group of students (Intervention Group) across all three grade levels was exposed to the HELPS Program in addition to classroom guided reading instruction. Another group of students (Control Group) received classroom guided reading instruction only. The intent of Chapter 5 is to discuss the findings and implications, to make recommendations for subsequent leadership implementation and actions, and to suggest studies for future research based on the results of the research study.

The problem in this study is that according to the North Carolina School Report Card (2012) for a large rural school located in the foothills, approximately 37% of third-grade students, 28% of fourth-grade students, and 24% of fifth-grade students scored below proficient in reading during the 2011-2012 school year on the EOG reading test. An EOY ORF test administered at the school indicated that these same students fell below national norms for ORF rates (Amplify Education Reporting, 2012). Reading fluency is a critical component of effective reading instruction for students of early elementary age; however, national data suggest that 40% of U.S. fourth-grade students are nonfluent readers (Begeny et al., 2010). Twenty-eight percent of fourth graders in the study school were nonproficient on the NCEOG test in 2012.

The following research questions were used as a guide for this research.

1. To what extent does exposure to the HELPS Program in addition to regular classroom reading instruction increase ORF compared to exposure to regular

classroom reading only?

2. To what extent does exposure to the HELPS Program in addition to regular classroom reading instruction increase oral reading accuracy compared to exposure to regular classroom reading only?

3. To what extent does exposure to the HELPS Program in addition to regular classroom reading instruction differentially affect the ORF of female and male students compared to female and male students exposed to regular classroom reading instruction only?

4. To what extent does exposure to the HELPS Program in addition to regular classroom reading instruction differentially affect the oral reading accuracy of female and male students compared to female and male students exposed to regular classroom reading instruction only?

5. To what extent does the exposure to the HELPS Program in addition to regular classroom reading instruction differentially affect the ORF of students in Grades 3, 4, and 5 exposed to regular classroom reading instruction only?

6. To what extent does the exposure to the HELPS Program in addition to regular classroom reading instruction differentially affect the oral reading accuracy of students in Grades 3, 4, and 5 exposed to regular classroom reading instruction only?

The results of this study will inform district leaders and principals of the benefits of including fluency improving strategies into reading instruction and inform them of a program that might be beneficial for increasing ORF and accuracy rates. A summary of the results will be provided followed by a discussion of the findings. A correlation of the literature in Chapter 2 will be given, along with recommendations for practice, policy,

and research.

Findings and Interpretations

       In a 2011 study, Begeny et al. examined the effects of HELPS when implemented by teachers with low-performing second-grade readers. Findings showed that students participating in HELPS significantly outperformed control group students across five measures of early reading, with effect sizes ranging from medium to large. Therefore, the researcher anticipated that the fluency and accuracy rates of the intervention group would be higher. That was not supported in the data analysis.

       All students, regardless of whether they were in the control group or the intervention group, improved their fluency and accuracy rates from the BOY to the EOY. All groups showed a significant effect for time. Research Questions 1 and 2 focused on the extent to which the HELPS Program affected the mean fluency and accuracy rates. The findings showed that there was no significant difference between the fluency and accuracy rates of the control group and the intervention group; therefore, the null hypothesis was accepted for both Research Questions 1 and 2.

       This could be explained by the greater emphasis the principal has placed on reading fluency in recent years and better instruction from the teachers. Several strategies have been presented to teachers to use during their Intervention/Enrichment (I/E) periods. This is a 50-minute daily period that teachers utilize to focus on reteaching, remediating, and enriching needs of students according to data obtained through formal and informal assessments. Teachers are also required to progress monitor students every 10-20 days in Reading 3D, which may increase their implementation of strategies in the classroom. The enriched and intensified reading strategies being employed with all students could have leveled the difference in the growth of fluency and

accuracy rates in the intervention group and the control group.

Teachers in North Carolina have also become more like diagnosticians since the implementation of the Reading 3D assessment from Amplify Education Reporting (2012). Once students are assessed, strategies are suggested for specific skill deficits, including fluency. There has been greater expectations from the principal to implement these strategies during the I/E periods.

Research Questions 3 and 4 focused on the extent to which the HELPS Program affected fluency and accuracy rates between males and females in the control group and males and females in the intervention group. Morgan and Sideridis (2006) completed a single subject meta-analysis to compare the effectiveness of different types of fluency interventions for children with or at risk for learning disabilities. They examined 30 studies that reported data on 144 experimental phases involving 107 students. Of these 107 students, 21 were girls and 86 were boys. Results from the study indicated that gender, age, and special education status likely impacted the effectiveness of an intervention. Girls on average read 19.1 WPM more than boys. Based on this 2006 study, the researcher predicted that girls would have a higher ORF and accuracy mean than boys.

This prediction was supported by the data for the female control group as they demonstrated significantly higher mean fluency scores than the intervention group. The girls also experienced significant increases from the BOY to the MOY and from the MOY to the EOY. Boys also demonstrated significant effect for time but no significant difference between the control and intervention group for fluency.

Although the data did not demonstrate that HELPS had a greater effect on either males or females than students who received regular classroom instruction only, the null

hypothesis for Research Question 3 was rejected due to the control group of girls having a higher fluency rate than the intervention group of girls, the intervention group of boys, and the control group of boys. Given the significant gender x group interaction in the main ANOVA, it can be concluded that the intervention differentially affected the fluency rates of males and females.

With regard to accuracy, there was a significant increase from the BOY (mean = 91.83) to the MOY (mean = 94.85) and then to the EOY (mean = 96.43). There were no significant effects for group or the interaction of group and time and no significant effects for gender or the interaction of gender and time; therefore, the null hypothesis was accepted for Research Question 4.

Spear-Swerling (2004) stated that fluency is a difficult skill to remediate in older students. Torgesen et al. (2001) stated in a study of students in Grades 3-5 that intensive remedial intervention such as one-to-one or small group phonemically explicit systematic instruction could produce large gains in reading ability in students who began the study with delayed reading skills. During the 8-week period of intervention, students moved from the 2nd to 39th percentile in phonemic decoding accuracy, from the 4th to the 23rd percentile in text reading accuracy, and from the 13th to the 27th percentile in reading comprehension. In contrast, their reading fluency scores only improved from the 3rd to the 5th percentile.

Examining the same students 2 years following the intervention, their percentile scores for phonemic decoding, text reading accuracy, reading comprehension, and reading fluency were the 29th, 27th, 36th, and 4th, respectively. Although the students in this study were able to substantially close the gap with average readers in phonemic decoding, reading accuracy, and reading comprehension, the gap in reading fluency

remained primarily unaffected by the intervention (Torgesen et al., 2001).

The researcher predicted that students in third grade would have a higher ORF rate than the fifth graders. However, the data do not support this prediction. Students across all grades made steady gains, and the mean fluency rate increased at each grade level; therefore, the null hypothesis was accepted for Research Question 5.

With regard to accuracy, there was a significant increase from the BOY to the MOY and another significant increase from the MOY to the EOY for fourth graders. However, third and fifth graders, while exhibiting a significant increase from the BOY to the MOY, did not demonstrate a significant increase from the MOY to the EOY. Because there was a significant difference in mean accuracy rates for fourth graders, the null hypothesis was rejected and the alternative accepted for Research Question 6. Given the significant grade x time interaction in the main ANOVA, it can be concluded that the intervention differentially affected the accuracy rates of fourth graders.

Teacher Focus Group Data

The purpose of the focus group was to gain knowledge of teacher understanding of fluency, gauge its importance to teachers, and determine how it was being addressed in classrooms. The first focus group was held prior to the implementation of the study and prior to any teacher knowledge of the HELPS program. The researcher reviewed teacher responses and looked for words and phrases that dealt with the eight research-based intervention components that were utilized in the HELPS program to see if teachers were already incorporating those into their instruction. Those strategies were timed RRs, model reading, phrase-drill error correction, verbal cueing, retell check, goal setting, performance feedback (graphing), and motivation (reward).

Based on the responses, teachers had a very basic sense of what fluency is. They

understood that students must read smoothly, with voice inflection, and being mindful of punctuation marks. They understood that children with reduced fluency oftentimes do not understand what they read and struggle with content area instruction. Teachers who responded said that they either combined guided reading and fluency or used fluency activities during the day. They indicated that they used partner readings, group readings, and timed readings to improve fluency. Resources used included reading repeated passages, whisper phones, and activities from fcrr.org. Teachers stated that students who had difficulty with fluency had difficulty solving word problems and difficulty understanding social studies and science content. They mentioned that they used Reading 3D and timed passages to monitor student progress with fluency. Some teachers indicated that they practiced fluency daily, while others did not indicate a specific amount of time per week. Teachers said that some readers' theater passages contained social studies and science topics, but it was not demonstrated that they used social studies or science instructional time to practice fluency with that content. Some teachers stated that they sent fluency passages home with students for parents to read with them. None of them indicated sharing the results of the Reading 3D assessments with parents.

None of the teachers who participated seemed to have a formal definition of fluency instruction. Some teachers did not respond at all during the focus group, which indicated to the researcher a lack of knowledge of fluency increasing strategies or lack of implementation in their reading instruction. While some did refer to timed readings, RRs of passages and phrases, they did not refer to error correction, verbal cueing, retelling, goal setting, providing performance feedback through graphing, or providing motivation. This demonstrated that they are not implementing these strategies into their reading instruction, and that perhaps students are working on fluency activities without realizing

the purpose of the activities. The chances of a student improving a skill would undoubtedly increase if the student was made aware of the skill he/she was trying to improve.

Teachers stated that they spent most of their time providing guided reading instruction with a focus on teaching the standards and vocabulary. They reported that upper grade teachers traditionally spend more time on comprehension strategies and that concepts such as fluency are typically thought of as a lower elementary skill. Fluency seemed to be a less important skill for the teachers thereby limiting the amount of time they spent trying to increase fluency rates of students. Much of their time was also spent teaching students to restate the question in their answers and provide text-based evidence as this is required for students to advance through the levels on the Reading 3D TRC assessment. This could suggest a need for further staff development for teachers regarding the benefits of utilizing research-based fluency increasing strategies such as those provided by the implementation of the HELPS Program. Such training could supply teachers with additional strategies for addressing student issues with fluency and accuracy, as well as assisting students with particular errors once problems are identified.

During the second focus group with the teachers after the intervention period, the researcher gathered from the data that the teachers believed the HELPS program was a valuable tool in increasing fluency and accuracy for their students. Teachers had a clearer, more informed definition of fluency, stating, "Reading fluency is a student's ability to read a passage at an appropriate speed while also focusing on accuracy and comprehension"; "Fluency is reading with expression, paying attention to the punctuation"; and "Reading fluency is the student's ability to read through a passage on their level with accuracy, intonation, reading fluidly, not choppy. It allows students to

read with expression, pausing at periods and commas."

Teachers indicated that they intentionally taught fluency during their guided reading groups for students who were in the yellow or strategic range and during their I/E periods for students who were in the red or intensive range. Students who were in the benchmark range still practiced fluency increasing strategies by reading timed practice passages with a partner from their basal text, from Readinga-z.com, and passages from a previous program used in the county to progress monitor students, Aimsweb. The teachers stated that they intentionally used read-alouds to model appropriate fluency for their students using both fictional texts as well as nonfiction to address fluent reading related to content area instruction. Other strategies included Reader's Theater, fluency folders, fluency checks, listening centers, and recording students on the iPad. Students would hear the passage they recorded and hear the improvement in the number of words read correctly per minute. Beck (1979) demonstrated that by adding 20-30 minutes of intentional practice, assessment, and charting, reading test scores increased by 20-40%. He indicated that by pinpointing weak areas, setting fluency aims for each, and combining practice with measurement of progress toward targets, dramatic improvements in academic achievement were documented.

Teachers believed there was a strong connection between fluency and comprehension. They thought that students who struggled with fluency were focused more on decoding the words and understanding vocabulary rather than comprehending the text. They stated that if the students were fluent readers, their abilities to read fluently also increased their enjoyment of reading and well as enabled them to comprehend what they read. This correlates to the findings of Cunningham and Stanovich (1997) who stated that for students who lacked automaticity, reading was frustrating and undesirable.

They further elaborated that this frustration often led students to avoid reading and develop an overall unfavorable attitude toward reading. They continued by inferring that students who read fluently had a natural enjoyment of reading and were able to become captivated by a narrative, use their imagination, and understand humor.

There were multiple means of assessment discussed during the focus group. Reading 3D was primarily used to assess the DORF. Students in the strategic or yellow zone are assessed every 20 days while students in the intensive or red zone are assessed every 10 days using Reading 3D. Teachers stated that they also listened to struggling students read leveled passages during guided reading or I/E time and recorded the number of words read correctly and accurately and graphed those with the students over multiple readings to show progress. They indicated that students were very motivated as their graphs indicated they could read more WPM. One teacher said,

> Graphing the students' progress is helpful. Mrs. Church recorded their performance, and the students are motivated because they can visually see their progress. The students are so excited to show their note about what level they got to that day!

Binder et al. (2002) showed that practice every day, coupled with keeping a graphic record of learning progress was an effective strategy for increasing ORF. They stated that if students learn to measure and chart their own daily practice and to make program changes when their progress goes flat on the chart, they will soon discover for themselves what works best for them.

The teachers reported using information from the assessments to share with students and parents, to determine where the student should be within a certain reading group, and to determine what interventions need to be provided and what to focus on,

whether it be actual WPM or accuracy or perhaps phonological awareness. The assessments determine if students have reached their goals; it guides instruction and indicates if a teacher needs to change strategies in order for a student to be successful. A teacher explained, "When I conference with the students, I see if they can incorporate a strategy that we have been practicing during the I/E block naturally rather than having to be prompted. We want it to be natural." Another teacher reported,

> I used the data so that if we are reading a third grade passage, and they only get 20 words right, it tells me that I need to drop down a word list and meet the student where they are.

Binder et al. (2002) stated that when student performance shows little or no improvement and is below the target, they should work on simpler tasks. They showed that stepping back to practice weaker skills often led to increased progress.

According to a teacher, "Students were allowed to practice multiple times a day, not just in reading, but in other content areas. They would spend approximately 5-20 minutes daily working on fluency at school." Many teachers indicated that they were also sending home timed leveled passages for parents to use with their students at home a few nights a week. One beneficial change that teachers believed they had made was to utilize one passage over several days to see the improvement in fluency rather than changing to different passages each day. "Frequent practice with the same passage demonstrated greater increases in words per minute," one teacher stated.

This is corroborated by the research of Pikulski and Chard (2005) who said that RRs remain an important approach to building fluency for less able readers who experience particular difficulties with fluency.

Teachers who had students who participated in the HELPS program stated that

they liked the program and believed it to be beneficial for their students. They noticed

that the students who participated in the interventions were able to read with more

continuity and prosody and they read with more confidence. One teacher reported,

"Some students had increases in their Lexile scores and were better able to keep up with

the rest of the class during reading instruction." Another said, "Students were excited to

go to the tutor for HELPs and excited to bring back feedback in the form of graphs to

share with me about how their rates had increased." One teacher stated,

> I had a student who was not a good oral reader. After going to Mrs. Church
>
> (HELPS tutor) he wanted to read aloud. He still stumbled over a few words, but it
>
> did not seem to bother him to read aloud because he was reading better than
>
> before.

The teachers also indicated that they had increased their repertoire of skills for

increasing fluency rates for their students since they are now required to formally assess

it three times a year and progress monitor frequently through Reading 3D for their at-risk

students. The program, while mostly diagnostic, also provides prescriptive strategies that

are personalized for the students. This could explain why in many cases the control

groups had higher mean scores than the intervention groups.

Student Questionnaire Results

Fourteen of the students who received the HELPS intervention were randomly

questioned by the tutor. Based on the results, approximately half of the students who

were questioned found benefit in having their errors pointed out to them and corrected.

A little more than 20% stated that listening to someone model read helped them. About

14% of the students found RRs helpful, and approximately 14% found goal setting to be

beneficial. All 14 of the students indicated positive benefits of the HELPS intervention,

and all stated they were able to read more WPM by the EOY. Twelve of the 14 indicated they would not change anything about the program. Some of the following student quotes were gathered from the questionnaires.

- "It (HELPS) helped me be a better reader because Mrs. Church always helped me read."
- "I read more words than I did before."
- "It (HELPS) helped me because when Mrs. Church read it to me. I know the words now."
- "It (HELPS) helped me because I did not know how to read fast and now I do."
- "I knew what my errors were and I tried to correct them."
- "I was able to read more words per minute."
- "It (HELPS) helped me a lot on my reading and I am a better reader now. We were reading three times each and every day. I was a better reader afterwards. I would change it and read four times."
- "The most helpful part was seeing what my errors were so I could correct them to do better."
- "My reading lexile went up 245 points from the beginning of the year."
- "It helped me become a better reader because it was showing what I was doing wrong."
- "I read more smoothly and understand."

These positive student comments could have resulted from having one-on-one attention on a regular basis from a caring adult who provided direct instruction and

positive reinforcement for progress made during the intervention time. Children benefit emotionally from having someone sit and read with them on a regular basis. Many times students with low reading ability come from either illiterate homes or homes with limited exposure to literature. Early exposure to literature and model reading in the home has been linked to student success in reading (Sénéchal, & LeFevre, 2002).

Students who received the HELPS intervention obviously gained self-confidence as they increased their skills in recognizing errors and correcting them, read more WPM, and increased Lexile scores. Students learned how to set goals for themselves and how to monitor progress toward reaching the goals. They learned that hard work pays off, not only in increasing skills, but sometimes there is also a reward, as was given to the students when they reached a goal. Students were eager to participate in the program and enjoyed coming to the tutor. Many indicated that they would like to come every day instead of every other day and that they wished they could read the story more times with the tutor. Students may possibly have made greater gains had they been able to receive the program daily rather than every other day.

Based on the student comments from this research, this program would be beneficial for students who are struggling with reading. It increases fluency and accuracy but also improves confidence, self-awareness of errors, and an understanding of setting goals and working toward attainment of those goals. This program is recommended to compliment any elementary reading program as the benefits have been substantiated through this research.

Summary of Major Findings

Overall, students in the control group and the intervention group improved their fluency and accuracy from the BOY to the EOY. Males and females within the control

and intervention groups experienced growth over time. While the female control group exhibited a higher mean fluency rate, they also began the year at a higher rate. Females traditionally are more loquacious and have been shown to have higher fluency rates in previous research. This may explain why the females had slightly higher fluency and accuracy rates than the males in this study.

Males and females both experienced increased accuracy rates. There was no significant difference between males and females with regard to accuracy. Males in the control group had greater increases from the MOY to the EOY than males in the intervention group, females in the control group, and females in the intervention group. However, they did begin at a lower mean accuracy rate than the other groups. Since both control groups, male and female, had higher rates than the intervention group, it would cause one to speculate if classroom teachers had higher expectations and monitored students more closely as they were providing classroom interventions and were responsible for assessing the students at benchmark. Perhaps the intervention group would have shown similar results had the tutor been allowed to administer the assessment. Children have a tendency to try harder when they want to please someone they care about.

No significant difference exists in mean fluency rates between the control group and intervention group with regard to grade. All grades increased similarly, whether in the control group or intervention group. Fourth graders experienced a significant increase in accuracy from the BOY to the MOY, and from the MOY to the EOY. Students in Grades 3 and 5 experienced significant increases from the BOY to the MOY but no significant change from the MOY to the EOY. This difference could possibly be due to the fact that third graders were focusing less time on fluency and more time in

preparing for the North Carolina portfolio assessment process and the Read to Achieve

test mandated by the General Assembly. Fifth-grade teachers were told by their principal

to increase performance on the NCEOG science test, which may have deterred them from

a greater emphasis on fluency as they prepared for the test.

A better indication of the effectiveness of the HELPS program may be obtained

by looking at the change in the mean scores from the BOY to the MOY and from the

MOY to the EOY as compared to expected change in norm scores. A comparison of

means yielded similar results for both the control groups and intervention groups.

According to the data, the mean fluency rate for those in the control group increased 25.9

WPM from the BOY to the EOY. The mean fluency rate for the intervention group

increased 24.9 WPM from the BOY to the EOY. The mean accuracy rate for those in the

control group increased 5.5%. The mean accuracy rate for the intervention group

increased 3.66%. This is significant because the typically developing student across

Grades 3-5 gains an average of 24.7 WPM from BOY to the EOY and an average of a

2% increase with regard to accuracy. These students exceeded the average growth rate

for fluency and exceeded the gain for accuracy, even though many of them were still

below the norm for their grade level by the EOY.

Fluency rates for females in the control group increased 28 WPM on average

from the BOY to the EOY. Fluency rates for females in the intervention group increased

28.92 WPM on average. Fluency rates for males in the control group increased 13.1

WPM. Fluency rates for males in the intervention group increased 20.84. Accuracy rates

for females in the control group increased 3.5%. Accuracy rates for females in the

intervention group increased 3.92%. Accuracy rates for males in the control group

increased 6.35%. Accuracy rates for males in the intervention group increased 3.42%.

This correlates with the study done by Morgan and Sideridis (2006) which indicated that females read more WPM than boys. Girls tend to use more words in a day and talk faster than males which could account for the greater WPM for both the female control group and intervention group. Goal setting in the male intervention group with feedback and reward probably influenced them to increase their WPM more than the control group.

These data are important because the girls in both the control group and the intervention group exceeded the average WPM gain and average accuracy rate gain for typically developing students. The boys did not meet the average growth rate for fluency as compared to typically developing students; however, both the male control group and male intervention group exceeded the average growth rate for accuracy. This increase with regard to accuracy could be due to the goal setting, performance feedback, and reinforcement components of the HELPS program. These strategies were indicated by Morgan and Sideridis (2006) as being the most effective intervention strategies within their study.

Typically developing third graders are expected to increase their fluency rate by 30 WPM and 2% in accuracy from BOY to EOY. The fluency rates for third graders in the control group increased an average of 28.75 WPM. Fluency rates for third graders in the intervention group increased an average of 26.25 WPM. Accuracy rates for third graders in the control group increased an average of 8.13%. Accuracy rates for third graders in the intervention group increased an average of 4.5%. While both groups achieved similar growth in average fluency rates close to the expectation, the control group achieved a much higher accuracy rate than expected. This could be due in part to the fact that classroom teachers routinely give students multiple opportunities for success. Since the control group was not pulled out of class, the teacher had more time within the

day for correction of errors and to allow for students to repeat passages multiple times. The tutor is limited by the number of slots available per time period; therefore, the opportunities to reemphasize and correct errors were not as good.

The normal fourth grader is expected to increase his/her fluency rate by 25 WPM and 2% in accuracy from BOY to EOY. Fluency rates for fourth graders in the control group increased an average of 25.38 WPM. Fluency rates for fourth graders in the intervention group increased an average of 24 WPM. Accuracy rates for fourth graders in the control group increased an average of 5.19%. Accuracy rates for fourth graders in the intervention group increased an average of 5.12%. According to the principal, the fourth-grade teachers are a very strong team. They embrace fluency building strategies and regularly implement them during their I/E block. This may have contributed to the similar results earned by both the control group and the intervention group with regard to fluency and accuracy rates.

An average fifth grader is expected to increase his/her fluency rate by about 19 WPM and 2% in accuracy from BOY to EOY. Fluency rates for fifth graders in the control group increased an average of 21.75 WPM. Fluency rates for fifth graders in the intervention group increased an average of 24.37 WPM. Accuracy rates for fifth graders in the control group increased an average of 3.38%. Accuracy rates for fifth graders in the intervention group increased an average of 1.38%. Students in the study school are cluster grouped by their EOG reading scores so that the range of ability is not so broad. Several of the fifth-grade students in the control and intervention group are taught by the same teacher who consistently used timed RRs and error correction with her students during their reading instruction. This could account for the rate increases greater than expectation.

According to the results, both groups exceeded the average expectation of WPM gained from BOY to EOY; however, the control group performed higher with regard to accuracy. Vocabulary is more difficult for fifth graders, and more difficult words increase in the number syllables. This explains the reduced expectation for the number of words read per minute and may explain the reduced accuracy rates. The benefits of this program cannot be explained merely by analyzing the mean scores for each of the groups. By looking at the change from the BOY to the EOY, it is obvious that most students made adequate growth in fluency and accuracy but may have not ever reached grade-level status. It would be interesting to continue monitoring these students to see if they are able to eventually meet benchmark status in coming years.

It is apparent from the teacher focus group data that teacher awareness and skill set with regard to improving fluency and accuracy increased throughout the duration of this study. From the first focus group to the second, teachers made more comments related to students using timed activities, awareness of difficulty with comprehension as a result of poor fluency, setting goals, graphing, informing parents, recordings, and RRs. This could have resulted from conversations with the tutor regarding student progress; feedback provided by the tutor in the form of graphs, charts, and notes; suggested activities from the Reading 3D program after each benchmark assessment; and shared strategies during grade-level meetings among teachers. There is a correlation between this increased knowledge and the progress of students in both the control group and the intervention group, as both groups improved considerably from the BOY benchmark assessment to the EOY assessment.

Prior to the implementation of the HELPS Program and the implementation of Reading 3D assessments, teachers only remarked about a handful of strategies; very little

about assessing fluency and accuracy, strategies for increasing fluency and accuracy, or

involving parents in increasing fluency and accuracy. Since the implementation of

HELPS and Reading 3D, there has been a marked increase in fluency increasing

strategies that correlate to some of the eight researched-based strategies utilized in

HELPS. Such examples are noted in Figure 9. These increases demonstrate more

knowledge and comfort of teachers with assessment and prescription of appropriate

fluency increasing strategies. Improvements were noted in timed readings, reading

passages, assessments, recordings, and RRs. Effects of these increases are indicated by

both the control group and intervention group exceeding expected growth in fluency and

accuracy.

Comments from the student questionnaire and the postintervention focus group

indicated that not only did student fluency and accuracy increase, but their sense of

confidence improved as well. Teachers indicated that students returned to the classroom

excited about their performance, eager to share the results of their progress, and tended to

volunteer more in class to read aloud. Research has shown that having one-on-one

attention from a caring adult in a consistent manner is beneficial to students. In this

particular research, that has proven to be true through the implementation of the HELPS

Program.

Students reported that they enjoyed going to tutoring because they could read

better, read more WPM than before, and they were reading more. They stated that the

most effective strategy from the HELPS program was having their errors pointed out to

them and how to correct them. All students indicated that the HELPS program was

beneficial to them and most stated that they would not change anything about the

program. HELPS is a systematic, structured program that has been proven to increase

student fluency and accuracy rates as well as improve student self-confidence with regard to oral reading.

Recommendations

This study has value for elementary school principals, district and state leaders, and those professionals who train teachers. All of these groups can apply the results of this study to improve student learning and achievement. The overall implication of this study is that by utilizing fluency-increasing strategies in the classroom and with individual students, a positive difference is observed. While the HELPS program did not yield significant positive mean differences as compared to classroom reading instruction alone, it did produce increases in both fluency and accuracy similar to classroom instruction and did not detract from the fluency and accuracy rates. It would be beneficial as a remedial program used in the regular classroom instruction or as a pull-out tutorial program as it produces growth in both fluency and accuracy across gender and grade levels.

Teachers would benefit by having professional development in the HELPS program for exposure to the eight research-based strategies to include in their classroom reading instruction and during their remediation time with students. According to the comments from students, they not only benefitted with regard to reading improvement but they also increased their confidence and positive outlook toward reading. One student stated, "It (HELPS) helped me be a better reader because Mrs. Church always helped me read. I could read more words than I did before. I wouldn't change HELPS because you get better at reading each year." The school should definitely continue utilizing the HELPS program as a tutoring program for at-risk students and consider providing staff development for teachers.

Suggestions for Further Study

It would be interesting to know if reduction of class size had an effect on the results as regular classroom teachers were able to provide interventions to smaller numbers of students due to the HELPS intervention groups being pulled out of the class. A researcher could examine the differences in fluency and accuracy rates between classrooms with no pullouts during the I/E period and those that implemented pull-out groups. Using class size as a variable would determine if it could have been a factor in the similar results between the control and intervention groups involved in this study.

Larger sample groups of students would be advisable to determine if similar results would be obtained. This study was limited to eight students from each grade level in both the control group and the intervention group due to only having one tutor in the school to provide the intervention.

A useful quantitative study would be to examine the EOG test scores from the control groups and the intervention groups to determine the impact HELPS had on those summative assessments. It would also be curious to replicate this study in a school where emphasis had not been placed on increasing ORF to see if similar results were obtained.

Based on the comments of the students in the intervention group, an interesting qualitative study would be to examine student motivation and confidence as a reader prior to and after receiving the HELPS Program. Most students reported that it improved the number of words read per minute and helped improve their reading ability and speed.

Due to the small sample sizes regarding ethnicity, a study was not completed using ethnicity as a variable. Future studies with high populations of diversity could determine if HELPs has increased benefits in that capacity.

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Appendix A

Consent to Use Student Data

Parental Permission to use Child's anonymous

Reading 3D Fluency and Accuracy Scores

Dear Parents,

As a doctoral candidate at Gardner-Webb University, I will be conducting a study of the effects of the Helping Early Literacy with Practice Strategies (HELPS) at your child's school. This study will be conducted to ascertain the effects of implementing a research-based strategy on students' oral reading fluency rates and accuracy rates. The study will compare students in grades 3, 4, and 5, as a whole who participated in HELPS to students who did not. Fluency and accuracy rates of males and females will be compared as well as a grade level comparison. I will be using student data from benchmark assessments occurring in the fall, winter, and spring. No students names or identification numbers will be used to disclose the identity of any students. Please indicate below if you give permission for your child's anonymous score to be used in this study. All responses will be kept confidential to protect the integrity of the study. Thank you for your participation.

Sincerely,

Susan C. Blackburn

_____

Child's Name:_____

Parent's Signature: _____

Check one:

_____ Yes, I give permission for my child's anonymous score to be included in this study.

_____ No, I do not give permission for my child's anonymous score to be included in this study.

Appendix B

Teacher Consent to Participate in Focus Group

Consent to Participate in Focus Group

You have been asked to participate in a focus group regarding your opinions about the skill of oral reading fluency as it relates to students' reading achievement. The purpose of the focus group is to gain knowledge of teachers' understanding of fluency, gauge its importance to teachers, and determine how it is addressed in classrooms.

The information learned in the focus group will be used in a dissertation study completed by Susan Blackburn, doctoral candidate with Gardner-Webb University. Although the focus group will be tape recorded, your responses will remain anonymous, and no names will be mentioned in the report.

There are no right or wrong answers to the focus group questions. We want to hear many different viewpoints and would like to hear from everyone. We hope you can be honest even when your responses may not be in agreement with the rest of the group. In respect for each other, we ask that only one individual speak at a time in the group and that responses made by all participants be kept confidential. Please state the code number provided for you prior to your response.

I understand this information and agree to participate fully under the conditions stated above:

Signed:_____

Date:_____

Appendix C

Focus Group Questions

Questions for Focus Group

Facilitator Say: *After each question is read aloud, if you wish to respond, please say, "My code is _____," and insert the code. If one person answers the question, and you have a different response, please answer with your response. Multiple responses are acceptable and requested for each question.*

1. What is reading fluency?

2. Is your fluency instruction a part of your guided reading lessons, or do you intentionally teach fluency separately from guided reading?
   If separate, describe the instructional strategies you use to teach fluency.

3. What materials do you have or need to teach fluency?

4. Think about your students. Is there a relationship between reading fluency and how a student performs in other areas of the curriculum?

5. How do you assess fluency? How do you use the information you gain from that assessment?

6. How often are your students provided the opportunity to practice fluent oral reading? For how long during each opportunity? What do they read? What do they do after reading?

7. Is fluency relegated to the language arts block, or do you incorporate fluency instruction into the content areas? Describe a content area lesson that incorporated fluency instruction.

8. Have you communicated with parents about fluency and how they can help their child? How?

Appendix D

Student Interview Questions

Random Student

Anonymous Questionnaire

1. What was the most helpful part of the HELPS Program? Repeated readings? Listening to someone read to you? Being shown what your errors were and how to correct them? Charting your progress? Setting a goal?

2. Did it help you to become a better reader? What were you able to do better after having HELPS that you had trouble with before?

3. If you could change anything about the HELPS Program, what would you change?

4. How did HELPS affect your reading fluency? Were you able to read more words per minute after having HELPS?