

An Adapted Great Leaps Reading Intervention's Influence
on Letter Sound Fluency and Oral Reading Fluency

By

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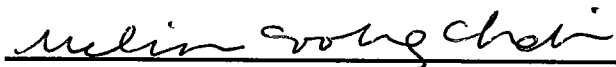
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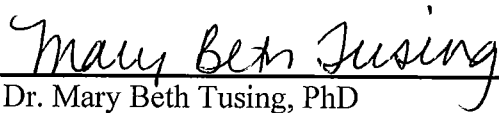
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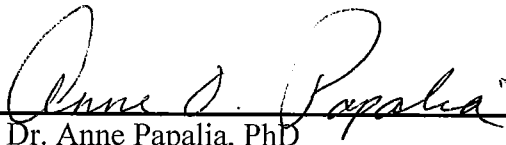
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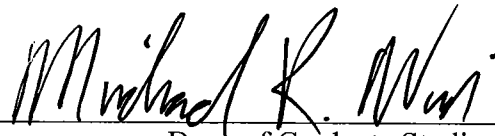


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By

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The University Of Wisconsin-Eau Claire, 2014
Under the Supervision of Dr. Melissa Coolong-Chaffin, PhD

Early intervention for struggling readers is essential for developing fluency and more complex reading skills. One supplemental reading program that demonstrates research support is the Great Leaps Reading Program (Mercer & Campbell, 1998). The current study implemented an adaptation of the Great Leaps K-2 Reading Program to provide targeted interventions to four participants in an individual setting to determine whether training in pre-reading skills would result in improvement in letter sound fluency (LSF) and oral reading fluency (ORF). In addition, this study examined whether changing the Great Leaps activities to incorporate practice reading connected text would increase students' ORF. Results suggest that the students' LSF skills benefitted from this modified intervention. Not all of the students demonstrated gains in ORF. Limitations, implications for practice, and directions for future research are discussed.

Keywords: reading intervention, letter sound fluency, oral reading fluency

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CHAPTER I

Introduction

Statement of the Problem

Reading fluency is defined as how quickly and accurately an individual can read with proper expression (National Institute of Child Health and Human Development, 2000). Students whose reading fluency skills fall behind their peers' in early grades require intervention in order to prevent a larger gap in skills from forming.

Kindergarteners who have poor reading prerequisite skills are most at risk for slower reading development and are less likely to be motivated to practice reading skills (Lepola, 2004). By fourth grade, 40 percent of students in the United States are nonfluent readers (Daane, Campbell, Grigg, Goodman, & Oranje, 2005). In addition, 67 percent of fourth graders in the United States cannot successfully read grade-level texts (National Center for Education Statistics, 2011).

In order to increase the percentage of fluent readers in the United States, effective early reading instruction and fluency intervention programs must be implemented in schools across the nation. The Response to Intervention (RTI) educational model is comprised of a multi-tiered system of support in which all students receive evidence-based core curriculum, and students who demonstrate skill deficits are supported through targeted and/or intensive, research-based interventions. Data-based decision-making is the foundation of this system and is used to inform instructional decisions. Staff must frequently monitor the progress of students receiving supplemental interventions in addition to the general curriculum in order to determine if their specific skill deficits are

on track to reach standards, or if intervention changes are warranted due to lack of sufficient progress (Tilly III, 2008).

Proactive intervention for struggling readers is necessary in order to remediate students' skill deficits before a larger discrepancy develops. A comprehensive review of reading research conducted by the National Reading Panel (2000) found that phonics instruction taught in Kindergarten and first grade was significantly more effective than phonics instruction initiated in second to sixth grade. There are many supplemental reading interventions available, but not all have strong research support, and their effectiveness varies. Research suggests that early reading interventions which utilize explicit instruction in phonemic awareness and systematic phonics instruction lead to the most benefits in phonological processing, word reading, and comprehension (Foorman, Francis, Fletcher, & Schatschneider, 1998; National Institute of Child Health and Human Development, 2000). Additionally, supplemental reading interventions must be appropriately matched to students' skill deficits, otherwise adequate progress will often not ensue (Christenson, Ysseldyke, & Thurlow, 1989).

Purpose of the Study and Research Questions

Purpose of the study. When young students' reading skills are not adequately developed, targeted reading interventions are warranted to remediate the skill deficit. These targeted reading interventions should supplement instruction in a comprehensive core curriculum. Early literacy research suggests that the development of pre-reading skills such as phonological awareness and phonics skills facilitate reading development. The current study explores the effect of an adapted phonological awareness and phonics intervention on four first-grade students' letter sound fluency (LSF) and oral reading

fluency (ORF), as well as the effect of an adapted high-frequency words and phrases and a connected text intervention on the students' ORF.

Research questions. Does implementing the Sound Awareness and Phonics components of the Great Leaps Reading Program: Grades K-2 two times per week increase students' LSF and ORF? Does implementing the High-Frequency Words and Stories components of the Great Leaps Reading Program result in gains in ORF?

CHAPTER II

Review of the Literature

This literature review will first discuss the importance of reading and the significance of one's amount of exposure to text in the development of reading skills. It will then explain the important skills in the development in reading, the shift toward Response to Intervention in education, and the supplemental reading program, Great Leaps Reading Program: Grades K-2. Single-case design research methodology and the present study will also be discussed.

Reading Experience

Not everyone must learn to love to read, but it is a necessity for children to learn how to read in order to be successful students, and to have more employment and career options later in life. After students begin school, more and more independence is required of them year after year so that they grow into capable, independent adults. As described by Chall, Jacobs, and Baldwin (1990), students tend to progress from learning to read, to reading to learn, although students' reading development continues as they use the skill to learn new information. This shift in focus occurs around third or fourth grade, as teachers require students to obtain knowledge from expository texts (Chall, Jacobs, & Baldwin, 1990; Reid, Lienemann, & Hagaman, 2013). Students who can read practice reading, improve their reading skills, and prosper. The reverse is true for those students for whom reading is a struggle (NICHD, 2000). This disparity persists as long as students do not receive adequate supplemental reading interventions (Shaywitz et al., 1995).

An important factor associated with developing reading skills is one's amount of exposure to text. Young children who grow up in print-rich environments and whose

parents read to them frequently develop more pre-reading skills prior to Kindergarten than children who lack these experiences (Snow, Burns, & Griffin, 1998). Biemiller (1977-1978) suggests a potential cause of reading difficulties may be due to a cyclical process in which students who have not developed reading fluency likely find reading arduous, therefore they read less, which consequently results in less practice reading, and therefore they have fewer opportunities to develop their reading skills.

A comparison of the highest and lowest performers on the National Assessment of Educational Progress (NAEP) in reading shows distinct differences between the groups in terms of exposure to text (National Center for Education Statistics, 2011). Among fourth-graders who scored below the 25th percentile in 2011, only 38 percent reported reading for fun almost every day, whereas 60 percent of students who scored above the 75th percentile reported reading for fun almost every day. Allington (1977) also found that the students who required the most practice in reading actually practiced reading in context very little. The more exposure to text children can experience, the more likely it is that they will develop better reading skills (Snow, Burns, & Griffin, 1998).

Important Reading Skills

In 1997, Congress requested that the Director of the National Institute of Child Health and Human Development (NICHD) consult with the Secretary of Education to develop the National Reading Panel (NRP) in order to evaluate the status of research-based knowledge of reading instruction and assess the effectiveness of different approaches used to teach children to read. This panel consisted of 14 highly qualified researchers and educators. Based on an extensive review of the literature, the National Reading Panel (2000) found that teaching children the basic skill of manipulating

phonemes in words was highly effective across all the literacy domains and outcomes. Additionally the NRP found that systematic phonics instruction, building fluency and vocabulary knowledge, as well as developing comprehension all benefit children's growth in reading (NICHD, 2000). Effective reading instruction is comprised of five key elements; the emphasis on each element changes over time as readings skills progress.

Phonemic awareness. Phonemic awareness (PA) refers to the ability to hear and manipulate the smallest units of sound in a language within spoken words. This auditory ability, along with letter knowledge, are the two best school-entry predictors of children's reading development in the first two years of instruction, according to correlational research (Share, Jorm, Maclean, & Matthews, 1984). PA involves a number of skills that tend to be taught in a hierarchy of easiest to most difficult: (a) first-sound comparison (e.g., identifying the names of pictures beginning with the same sound); (b) blending onset-rime units into real words (e.g., onset is the beginning sound in a word; rime is the ending sounds in a word); (c) blending phonemes into real words; (d) deleting a phoneme and saying the word that remains; (e) segmenting words into phonemes; (f) blending phonemes into nonwords (Schatschneider, Francis, Foorman, Fletcher, & Mehta, 1999).

Phonics. Harris and Hodges (1995) describe the method of teaching reading that emphasizes acquiring letter sound correspondences to read and spell words, which is known as phonics instruction. This technique of developing students' reading skills typically involves explicitly teaching them a prespecified set of letter sound relations, as well as requiring them to read text that provides practice using these relations to decode words. The importance of early intervention is evident in this domain, as systematic

phonics instruction taught early proved much more effective than phonics instruction introduced after first grade (NICHD, 2000).

Fluency. An important aspect of reading is one's ability to read quickly and accurately with proper expression, called reading fluency (NICHD, 2000). Just being able to read is not enough; one must also develop automaticity. If a student is not a fluent reader, it is theorized that the student must expend much of his or her mental energy and focus on simply decoding words, which limits his or her ability to comprehend the text (Leu, Deroff, & Simons, 1986). The National Center Education Statistics conducted a large study of American students' reading fluency and found a close relationship between fluency and reading comprehension (Pinnell et al., 1995).

Vocabulary. Vocabulary development is another essential aspect of reading, and is crucial for comprehension. Words are just sounds if they have no meaning. One's vocabulary knowledge is all the words to which one associates meaning. The NRP (2000) describes that the vocabulary one uses is often smaller than the vocabulary one recognizes. Oral vocabulary plays an important role for individuals developing their reading vocabularies. Oral vocabulary involves words that are recognized when listening or speaking, while reading vocabulary involves words that are recognized in text form. Furthermore, sight vocabulary involves words that are automatically identified rather than identified via using explicit decoding strategies when reading. The NRP explains that the benefits of reading only come about if the words one reads are in one's vocabulary (NICHD, 2000).

Comprehension. Reading comprehension is an active, complex process with many interpretations. One definition proposed by Durkin (1993) is as follows: reading

comprehension is the “intentional thinking during which meaning is constructed through interactions between text and reader” (p. 10). While vocabulary also involves understanding, it refers to comprehending individual words. Comprehension, on the other hand, involves processing individual words’ meanings and understanding the meaning of groups of words and sentences. The meaning one construes from text is essential for remembering and using the information that was read (NICHD, 2000). One’s prior knowledge also influences reading comprehension (Anderson & Pearson, 1984).

Response to Intervention

Since students develop many of their reading skills in school, a review of the school instructional system is necessary. Response to Intervention (RTI) is a progressive model of educational and behavioral support that many of the schools in the United States have implemented, or are in the process of implementing. The RTI model is a multi-tiered system of support that involves high-quality scientifically-based instruction and system-wide positive behavioral programs for all students, differentiated research-based interventions matched to students’ needs, and ongoing assessment of students’ progress to make decisions about changes in instruction or goals (National Center on Response to Intervention, 2010). This three-tiered service delivery model works as an early preventative and quick response system for both academic concerns and behavioral issues. In RTI, students receive services based on the intensity of their needs, immediately after those needs are identified. The National Research Council Committee on Minority Representation in Special Education concluded that, “there is substantial evidence in regards to both behavior and achievement that early identification and intervention is more effective than later identification and intervention,” (Donovan &

Cross, 2002, p. 6), which supports the use of the RTI system in schools to support students' development.

Tilly III (2008) describes elements of the RTI multi-tiered system of assessment and support as follows. Tier 1 is implemented school-wide and is primary prevention theorized as being successful for about 85 percent of students. Examples of this may be an effective, data-based curriculum, which is implemented with fidelity, or an anti-bullying campaign. Benchmark data are collected from these students three times per year. Tier 2 includes targeted interventions implemented in small groups or with individuals for approximately 10 percent of students whose needs are not being met at Tier 1. This level may involve using standard protocol interventions, has more frequent progress monitoring, and typically lasts for about 10 to 20 weeks before decisions are made about changing the level of support a student receives (i.e., more or less support based on progress). Valid and reliable assessment tools are necessary in order to make appropriate intervention adjustments. Tier 3 includes intensive interventions that serve approximately five percent of students who are most in need. These concentrated interventions may require a more comprehensive assessment of the students' specific skill deficits, be individualized to meet these needs, and may include special education services. Progress monitoring data is collected on a weekly basis in Tier 3. Problem-solving, evaluating fidelity, and data-based decision-making are essential in the RTI model (Tilly III, 2008).

Curriculum-Based Measures

As mentioned previously, screening and progress monitoring are essential components of an RTI model. One type of measurement tool that has frequently been

used for these purposes is curriculum-based measurement (CBM) of academic skills. Initially described by Deno (1985), CBMs are brief assessments that provide a snapshot of students' basic academic skills. CBMs are quick and efficient, have numerous parallel forms, have acceptable validity and reliability, and are sensitive to small changes in growth, thus they are excellent for screening and progress monitoring purposes (Shinn, 2008).

CBMs allow for the quantification of students' rate of learning (Fuchs, 2004). They provide an excellent method of data collection to promote data-based decision-making and accountability (Shinn, 2008). CBMs may be used in all three tiers of RTI. CBMs may be used at a systems level to determine whether schools' curriculums are effective, or whether group interventions are working. They are easy to administer, interpret, and score. As screeners, these tools may be used to identify students with an "at-risk" status who may require academic intervention in a specific academic domain. As a progress monitoring tool, they may be used to determine whether an intervention is effective, if the intervention needs to be modified, if the student no longer requires intervention, and whether the student continues to make sufficient progress after being exited from an intervention (Shinn, 2008). Some CBMs act as general outcome measures, since they have been standardized and correlate in expected ways with other measures of reading proficiency. Data has been collected nationwide for a number CBMs so they may be used in a norm-referenced manner, too. Additionally, by analyzing their predictive validity, CBMs may also be used to compare a student's performance to a benchmark cut-score (criterion-referenced; Shinn, 2008). Examples of specific skills CBMs measure are letter sound fluency (LSF; i.e., how quickly and accurately children can say the

sounds of letters) and oral reading fluency (ORF; i.e., how quickly and accurately children can read connected text).

Fuchs, Fuchs, Hosp, and Jenkins' (2001) research suggests a strong positive relationship between ORF and comprehension (.91). Marston (1989) described how ORF CBMs relate to other measures of reading proficiency, such as standardized test scores and teacher ratings of reading performance. These criterion-related validity studies of ORF primarily resulted in coefficients above .80, with a range from .63 to .91. AIMSweb is a popular CBM assessment method used in schools for early identification of at-risk students, progress monitoring, and data management. The AIMSweb benchmark cutoff scores for their ORF measure, Reading Curriculum-Based Measurement (R-CBM), effectively predict future achievement on high-stakes tests (Hintze & Silberglitt, 2005).

Challenges in Implementing Response to Intervention

Along with the benefits the RTI system offers come some difficulties with implementation. These may include staff buy-in, curriculum choice, scheduling complications, need for additional staff development, having adequate evidence-based interventions and progress monitoring tools, checking fidelity of interventions, and intervention preparation time (Galvin, 2007). One problem related to intervention selection is that there is a lack of evidence-based interventions available. Many commercially available intervention programs claim to be evidence-based, however much of the research on these products does not meet the high-quality research design standards necessary to determine these interventions' efficacy (Institute of Education Sciences, 2013; National Center on Response to Intervention, 2013; Slavin, Lake, Davis, & Madden, 2009).

John's Hopkins University Center for Data-Driven Reform in Education reviewed the research on over 190 reading programs targeted for students struggling with reading. Their report suggests that only eight of the programs have strong evidence of effectiveness, and that there are no qualifying studies for over 140 of the reading programs that measure their effectiveness with struggling readers (Slavin, Lake, Davis, & Madden, 2009). More research is needed to identify effective reading programs.

Great Leaps Reading Program

There is a plethora of reading programs available for purchase that advertise the ability to help struggling readers develop their skills. One of the most current popular and widely used interventions is the Great Leaps Reading Program (Begeny et al., 2010). The Great Leaps Reading Program is a one-on-one intervention developed to help students build reading fluency, while specifically targeting developing students' phonological awareness, phonics, and ORF through timed practice with immediate corrective feedback. The Great Leaps Program is used across the United States and in over 40 additional countries (Great Leaps, n.d.). No doubt contributing to its popularity are its easy-to-follow manual, minimal intervention time requirement, and low cost (Great Leaps, n.d.). The Great Leaps Reading Program could be used as a Tier 2 intervention in the RTI model due to the standardized format of the intervention. If this supplemental reading program were individualized to students' specific skill deficits, instead of addressing them in a broader approach, then it might be appropriately used as a Tier 3 intervention. It is likely that for some students, the one-to-one aspect of the program increases their attention and motivation (Mercer & Campbell, 1998). This setting also allows students to build their skills in an environment that allows them to develop a

positive relationship and increases their participation, facilitating the development of confidence in their reading skills (Warren-King & Rutledge, 2011). One-on-one tutoring has proven to be an effective method for helping struggling readers develop their reading skills (Slavin, Lake, Davis, & Madden, 2009).

As described by the program's developers, Mercer and Campbell (1998), the Great Leaps Reading Program: Grades K-2 is designed to help boost the reading progress of primary grade students. It is intended to be a supplemental program to a comprehensive reading curriculum. The Great Leaps Reading K-2 program is divided into four sections: Sound Awareness, Letter Recognition and Phonics, High-Frequency Words and Phrases, and Stories. Great Leaps K-2 does not focus on vocabulary building and comprehension. Mercer and Campbell (1998) suggest that the program be completed in the order designed, one page of an activity per day, with each subsequent goal on the following page. They maintain that the sections were not designed to be co-related, however, they also suggest that if instructors believe that a different order would be appropriate after working with the materials over a period of time, instructors should try what they feel would be most beneficial. Following the Sound Awareness activity, the remaining activities should be conducted in one minute once the student reaches proficiency (Mercer & Campbell, 1998).

Sound Awareness. The Sound Awareness component of the Great Leaps K-2 Reading Program helps emergent readers develop phonological awareness (Mercer & Campbell, 1998). Phonological awareness is an understanding of spoken units of language. Simple phonological awareness tasks involve rhyming, identifying how many words are in a sentence, and distinguishing how many syllables are in a word.

Phonological awareness also involves phonemic awareness, which is a more complex skill that involves understanding phonemes. Phonemes are the smallest units of sound in spoken language that combine to form syllables and words (NCHID, 2000). The Great Leaps K-2 activity Sound Awareness teaches the following phonological awareness skills: (a) blending syllables into words; (b) learning to distinguish individual words in language; (c) learning to distinguish individual syllables in words; (d) selecting words with similar and different onset and rime units; (e) blending onset-rime units into real words; (f) blending phonemes into real words; (g) deleting a phoneme and saying the word that remains; (h) identifying the beginning, middle, or ending phoneme in a word; (i) identifying the number of phonemes in words; (j) segmenting words into phonemes (Mercer & Campbell, 1998). The Sound Awareness activities range from 12 to 20 items per page. The interventionist reads the items aloud and students respond orally. There is no time limit for these activities, but it is suggested that the administration time may take 75 seconds. The interventionist provides clear instructions for the task as provided by the manual, then provides practice items for the child before beginning the task. The Sound Awareness activity helps students develop phonological awareness through practice and modeling (Mercer & Campbell, 1998).

Letter Recognition and Phonics. The Great Leaps' Letter Recognition tasks teach students letter names. The authors' rationale for including it is that students' knowledge of letter names, along with their ability to discriminate between phonemes, are the two best predictors of beginning reading achievement (Mercer & Campbell, 1998). The Letter Recognition activity consists of five pages of evenly-spaced letters, and each page consists of 48 letters. The first page begins with primarily high-frequency,

lower-case levels, and the subsequent pages progress to including more upper-case letters, and then low-frequency letters. The fifth page of the Letter Recognition activity intermixes letter-names taught by the previous four pages.

Similar to Adams' (1990) recommendations, Great Leaps reading teaches phonics in an explicit and systematic manner. In order to accomplish this, the Phonics section includes tasks teaching letter sound correspondence, incorporating practice connecting letters (graphemes) with sounds (phonemes) and feedback to build fluency, as well as blending the sounds into recognizable words (Mercer & Campbell, 1998). Phonics instruction has often been portrayed as involving "dull drill," and in order to combat students' boredom with this task and build intrinsic motivation, Great Leaps suggests rewarding students with small external rewards paired with genuine verbal praise for successfully achieving goals (Mercer & Campbell, 1998). The Phonics component consists of 25 pages of evenly-spaced letter sounds or decodable words, ranging from 44 to 60 per page. The early pages focus on letter sounds and two or three-letter decodable words (44 total), and the later pages build up to two to four-syllable words requiring more complex phonics skills (60 total). The Phonics activity helps students develop their letter sound correspondence and sound-blending skills through repeated practice and immediate corrective feedback to build fluency.

High-Frequency Words and Phrases. According to Adams (1990), approximately 100 words account for 50 percent of the text in children's school books. If students were able to recognize these words automatically without needing to spend time sounding them out, it would greatly increase their reading fluency. Thus, Great Leaps incorporates learning these words that students should recognize on sight (i.e., sight

words) into their program. Mercer and Campbell (1998) also suggest that since “sight words always appear in context while reading, the strategy of learning or practicing these words in phrases rather than in isolation appears feasible to promote generalization” (p. 4). High-Frequency Words and Phrases consists of 30 pages of evenly-spaced, commonly used, regular and irregular words and phrases, ranging from 48 to 60 items per page. The beginning pages in this section consist of two to four-letter words (48 total), and the later pages progress to common phrases ranging from two to four words long (60 total). Repeated practice and feedback with high-frequency words and phrases helps students develop automaticity and reading fluency.

Stories. The Great Leaps authors describe that the purpose of the short Stories texts is to motivate young students to read. The 47 pages of Stories texts progress by increasingly difficult reading levels from preprimer to grade two, and range in length from 35 words to 173 words. This activity gives students practice reading and helps develop their fluency in reading connected text.

The Great Leaps section Stories is similar to a combination of the reading interventions Repeated Reading and Error Word Drill. Many studies have demonstrated empirical support for the Repeated Reading intervention’s positive impact on ORF (Herman, 1985; Samuels, 1997; Sindelair, Monda, & O’Shea, 1990; Therrien, 2004). Additionally, many researchers have investigated the effects of error correction interventions. When learning how to read, it is important to correct the learning students’ errors in order to help them learn from their mistakes (Begeny, Daly, & Valleley, 2006). Previous research suggests that error correction interventions can improve students’

reading accuracy and increase rates of reading fluency (Jenkins & Larson, 1979; Jenkins, Larson, & Fleisher, 1983; Rosenberg, 1986).

While the Great Leaps Reading Program (Mercer & Campbell, 1998) is not currently listed on the What Works Clearinghouse website, a database of reviews of the different programs available in the field of education, some studies have examined its effectiveness (Institute of Education Sciences, 2013). One group-design study by Mercer, Campbell, Miller, Mercer, and Lane (2000) demonstrated that the Great Leaps Reading program helped middle school students with learning disabilities make significant gains in oral reading fluency and reading level. Numerous single-case design studies have shown that using adaptations of the Great Leaps Reading program increases middle school students' reading fluency (Scott & Shearer-Lingo, 2002; Shearer-Lingo, 2014; Strong, Wehby, Falk, & Lane, 2004). These studies include students with and without learning disabilities and emotional and behavioral disorders who struggle with reading.

Another group design study by Begeny, Laugle, Krouse, Lynn, Tayrose, and Stage (2010) compared Great Leaps Reading K-2 Program with the Helping Early Literacy with Practice Strategies Program (HELPS) for second graders struggling with reading. Only the HELPS program exhibited statistically significant gains in students' improvement in oral reading fluency and comprehension measures over the control group. Trout, Epstein, Mickelson, Nelson, and Lewis (2003) conducted a smaller-scale study in which they compared the effects of three supplemental reading programs (i.e., Direct Instruction, Reading Mastery I, and Great Leaps K-2) for kindergarten students who were at risk for emotional disturbance and reading problems. This study found that the Direct Instruction intervention lead to the most gains in letter sound fluency, blending

skills, and high-frequency sight word knowledge. A study by Patton, Crosby, Houchins, and Jolivet (2010) failed to find statistically significant findings for first to third-grade students participating in an adaptation of the Great Leaps K-2 Reading program that was administered twice per week for 15 weeks. This may be due to the fact that their outcome measures used standard scores, which lack sufficient ability to measure smaller increments in the development of students' oral reading fluency skills over a short period of time. Walker, Jolivet, and Lingo (2005) carried out a case study with a third-grade boy with a specific learning disability in reading and their results suggested that the Great Leaps K-2 reading intervention lead to gains in his oral reading fluency.

This limited research suggests that implementing Great Leaps Reading can lead to gains in oral reading fluency for students with reading deficits, but further research is needed regarding its effectiveness with elementary students in developing pre-reading skills and oral reading fluency. While research regarding its effectiveness is limited at this point, the Great Leaps K-2 Reading Program does align with National Reading Panel's recommendations regarding essential elements in early reading instruction.

Alignment with the National Reading Panel's recommendations. The following four Great Leaps Reading intervention activities map well onto three of the domains of reading identified by the National Reading Panel: phonemic awareness, phonics, and ORF.

Phonemic awareness. As described above, the Great Leaps' Sound Awareness activity teaches phonemic awareness, but it approaches the task in an order that differs from the difficulty hierarchy suggested by Schatschneider, Francis, Foorman, Fletcher, and Mehta (1999). Schatschneider and colleagues (1999) suggest teaching phonemic

awareness in the following order, from easiest to more difficult skills, dependent upon what skills the students have not yet developed: (a) first-sound comparison – identifying the names of pictures beginning with the same sound; (b) blending onset-rime units into real words; (c) blending phonemes into real words; (d) phoneme elision – deleting a phoneme and saying the word that remains; (e) segmenting words into phonemes; (f) blending phonemes into nonwords. These phonemic awareness skills' difficulty level varies within each task as well, due to features such as the number and position of linguistic units to be manipulated (Schatschneider et. al, 1999). The Great Leaps Reading Program's sequence of pre-reading skills instruction includes the phonological tasks of rhyming, and identifying words and syllables when a sentence or word was verbally stated, which the NRP suggests is equivalent to teaching phonics in the synthetic method described by Schatschneider and colleagues (Mercer & Campbell, 1998; NICHD, 2000). The NRP (2000) also suggests that it is beneficial to include letters while teaching PA in order to help them develop alphabetic principle. The NRP (2000) found that teaching PA improved students' reading and spelling achievement more than teaching letter names and sounds in isolation.

Phonics. The Great Leaps' Phonics activities teach phonics in an explicit and systematic manner, as is recommended by the NRP (NICHD, 2000). As described, Great Leaps suggests reinforcing students with small tangible rewards paired with genuine verbal praise for successfully achieving Phonics activity goals, since students might view this intervention component as a boring activity and therefore may lack intrinsic motivation to continue the task (Mercer & Campbell, 1998). This method is consistent with advice from the NRP to address students' motivation for completing phonics tasks

in order to increase students' interest in this type of skill development. However, the NRP suggests that the research is lacking with regard to effective motivational factors in the design of phonics programs, and therefore further research in this domain is warranted in order to determine which approaches teachers prefer and are most likely to be used effectively (NICHD, 2000).

Oral reading fluency. Following the Sound Awareness tasks, all of the remaining components of the Great Leaps Reading Program have timed goals in order to help students develop reading fluency. Students must meet the goal time criteria of reading a page in one minute or less with few or no errors before proceeding to the next page in the sequence. The Great Leaps' High-Frequency Words and Phrases and Stories provide opportunities for students to develop their ORF through repeated practice of commonly used words and reading connected text, and students receive immediate corrective feedback on their performance. The use of repeated reading and error correction interventions is supported by the NRP as techniques to improve students' reading accuracy and fluency (NICHD, 2000).

As described previously, the Great Leaps Reading Program is in line with the NRP's recommendations for effective methods of teaching reading, but it has not been extensively researched. The widespread use of the Great Leaps Reading Program and its strong alignment with the NRP's recommendations for teaching reading make it a reasonable choice for adaptation to meet schools' scheduling and resource constraints. However, it is not known how this adaptation will influence students' reading skill acquisition. One potential way to examine adaptations to the program is through the use of single-case design research.

Single-Case Design Research

One method of determining an intervention's effectiveness for individual students is through the use of single-case design methodologies (SCD). SCD methodologies were developed as a method to determine scientifically the effect of different environmental variables on an individual's behavior, or academic interventions' effects on an individual's skill acquisition (Plavnick & Ferreri, 2013). In SCD studies, data is collected prior to the implementation of an intervention on relevant performance variable(s); this is known as the baseline condition. This serves as the control to which the participant's performance after implementing the intervention is compared. SCD data is analyzed through visual analysis of graphed performance. In addition, measures of effect size, such as percentage of non-overlapping data, can be calculated (Scruggs, Mastropieri, Cook, & Escobar, 1986). It is important to use single-case experimental design for students receiving interventions in order to determine whether the children are responding to the intervention, or whether the intervention requires modification (Riley-Tillman & Burns, 2009). Utilizing SCD allows the researcher to: (a) determine whether the outcome variable (e.g., ORF) changed after the intervention was implemented; (b) determine whether experimental control was demonstrated. That is, determine whether the observed change was caused solely by the implementation of the intervention; (c) conduct the study across subjects, settings, or outcome variables in order to determine the generalizability of the academic or behavioral intervention to similar students, environments, or targeted skills or behaviors. Single-case design studies are important for determining the effectiveness of interventions in both Tier 2 and 3 of the RTI model (Riley-Tillman & Burns, 2009).

In order to assess whether only the intervention accounts for changes in the outcome variable, the effects of the intervention must be replicated to demonstrate experimental control. In ideal research settings, single-case design formats with greater experimental control can be implemented. Multiple-baseline design is one form of single-case design which has the potential to demonstrate high levels of experimental control via replications that are accomplished through staggered implementation of the intervention across setting, conditions, stimuli, or participants (Riley-Tillman & Burns, 2009).

In an applied school setting, researchers often must work within constraints, thus, practical SCD methods such as AB and ABAB designs are often used. Riley-Tillman and Burns (2009) describe AB designs as “the most basic design to monitor intervention effectiveness” (p. 34). In an AB design, A represents baseline data and B represents the data collected in the intervention phase. Data from the intervention phase is compared to baseline data in order to determine if there was a change in the targeted behavior or academic skill (Riley-Tillman & Burns, 2009). An AB design does not provide sufficient evidence to determine a causal relationship between the intervention and outcome data since at most only one demonstration of the intervention’s effect can be seen (Riley-Tillman & Burns, 2009).

An ABAB reversal design expands upon an AB design, providing more opportunities to determine the effectiveness of the intervention. In an ABAB design, baseline data is collected (A), followed by intervention implementation (B). Then the intervention is removed (A) either to check for skill maintenance, or to provide data to show a return to baseline levels. If data suggests that the skill or behavior has returned to baseline levels, the intervention is once again implemented (B), thus completing the

ABAB sequence. This design allows the effect of the intervention to be demonstrated up to three times, through comparisons across conditions (e.g., comparing A to B, B to A, and A to B). Research conventions suggest three demonstrations of the intervention's effects are needed to demonstrate experimental control and thus feel confident in the internal validity of the study (Riley-Tillman & Burns, 2009).

Present Study

When students' reading skills are falling behind their peers' in first grade, intervention is necessary in order to help close the achievement gap before it widens further. While the research literature describes numerous effective approaches to intervention, more research is needed. In addition, more research is needed about the effectiveness of modifying existing programs to meet the needs of particular school settings. One supplemental reading intervention that shows promise is the Great Leaps Reading Program: Grades K-2 (Mercer & Campbell, 1998). In the current study, the Great Leaps K-2 Reading Program's materials were adapted to fit within a 15-minute intervention block in first-grade students' schedules, and the activities which best addressed the students' skill deficits were utilized. In the first phase, students' phonemic awareness and letter-sound correspondence abilities were targeted. The second phase targeted development of their oral reading fluency.

CHAPTER III

Method

Participants and Setting

Four first-grade students (2 males, 2 females) attending a public elementary school in the Midwest served as participants in this study. The participants' teachers referred these general education students to a supplemental reading intervention program which was delivered by a local university at their school because their performance in reading was discrepant from their peers. All of the selected students scored below the 25th percentile on a nationally-normed reading fluency screening tool used in the school (i.e., AIMSweb R-CBM). The reading intervention sessions were conducted at the students' elementary school on a biweekly basis from November to April. Two students, George and Erin, participated from late November to late April and received 17 to 24 intervention sessions, respectively; George received fewer sessions (i.e., 17 sessions) due to absences and school discipline procedures. The other two students, Ashley and Brandon, participated from late February through late April, for a total of 10 sessions each. The interventionists worked with the students on an individual basis in small rooms used for intervention sessions. The interventions were scheduled in the afternoon and lasted approximately 15 minutes.

George was a male student who also received behavior intervention services including a weekly social skills group and a daily behavior monitoring and reinforcement program. His initial AIMSweb LSF score was 48 correct letter sounds per minute (CLSM) with 91% accuracy. George read 11 words correctly per minute (WRCM) with 52% accuracy when asked to read from an AIMSweb R-CBM first-grade assessment

probe. Erin was a female student who struggled with attention at times. Her initial LSF score was 27 CLSM with 73% accuracy. She read 4 WRCM with 19% accuracy when assessed with a R-CBM first-grade assessment probe. Ashley was a female student whose initial LSF score was 25 CLSM with 96% accuracy. Ashley read 5 WRCM with 36% accuracy when asked to read from a R-CBM first-grade assessment probe. Brandon was a male student who also received behavioral intervention services including a weekly social skills group and daily behavior monitoring with reinforcement program. His initial LSF score was 49 CLSM with 96% accuracy. Brandon read 17 WRCM with 77% accuracy when assessed with a R-CBM first-grade assessment probe. According to local norms, a score of 28 CLSM on the LSF measure and 13 WRCM on the R-CBM measure fall below the 15th percentile, indicating intensive reading intervention services are needed.

The school used the reading curriculum, "Good Habits, Great Readers," (Klein, Fisher, & Frey, 2007) and provided a daily 30-minute intervention block targeting students' reading skills. All four of these students received Title 1 services during the intervention block that consisted of small group guided reading interventions.

According to data from the 2010/2011 school year, the school served 437 students in pre-K through fifth grade, 84% of whom were White, 13% were Asian or Pacific Islander, 1% were Black, 1% were Hispanic, and <1% were American Indian or Alaska Native. The percentage of students receiving free or reduced price lunches was 41%. The school's demographics consisted of 6% of students with limited English proficiency, and 6% of students were enrolled in Special Education. The first-grade average class size was 24 students.

Measures

Baseline and progress monitoring. Baseline and progress monitoring data for LSF and ORF were collected using AIMSweb LSF probes and AIMSweb R-CBM probes. These tools were also used by the school for screening and progress monitoring purposes.

Letter sound fluency probes. LSF is one's ability to quickly and accurately read sounds from a list of individual letters. LSF is measured by the number of correct letter sounds per minute (CLSM) on AIMSweb LSF probes. CLSM is calculated by subtracting the number of errors from the total number of sounds read in one minute. Individuals must pronounce sounds correctly or self-correct within three seconds for a letter sound to be considered correct (AIMSweb, 2010). AIMSweb LSF probes have a median alternate form reliability of .90 (National Center on Student Progress Monitoring, 2007). LSF probes' predictive validity of children's performance on the Woodcock Johnson Tests of Achievement Broad Reading composite is .63, and their predictive validity of students' performance on AIMSweb R-CBM is .68 (Elliott, Lee, & Tollefson, 2001; Howe, Scierka, Gibbons, & Siberglitt, 2003).

Oral reading fluency probes. ORF is one's ability to quickly and accurately read words from a grade level reading passage. ORF is measured by the number of words read correctly per minute (WRCM) on AIMSweb R-CBM probes. WRCM is calculated by subtracting the number of errors from the total number of words read in one minute. Individuals must pronounce words correctly or self-correct within three seconds for a word to be considered correct (AIMSweb, 2010). First-grade AIMSweb R-CBM benchmark probes have an alternative form reliability of .90 and a predictive validity of

.54 for students' performance on the Minnesota Comprehensive Assessment, a state measure of achievement (Hintze & Silbergitt, 2005). AIMSweb R-CBM's predictive validity increases in second and third grade (.61-.69) (Hintze & Silbergitt, 2005).

Great Leaps placement activities. Each student was administered the Great Leaps activities placement materials for end of Kindergarten to beginning first-grade readers. These included Sound Awareness activity number 14, which assessed a variety of phonological awareness skills, Phonics page 86, which assessed LSF of lower-case and upper-case letters, and basic blending skills, and High-Frequency Words page 108, which assessed fluency reading common regular and irregular one-letter to five-letter words in isolation. If students made one or more errors on the Sound Awareness placement material, the program suggested that they start earlier in the sequence. If students made two or more errors on the Phonics and High-Frequency Words placement materials, the program suggested that they start earlier in the sequence (Mercer & Campbell, 1998).

Intervention

Great Leaps Reading K-2 is divided into four sections: Sound Awareness, Letter Recognition and Phonics, High-Frequency Words and Phrases, and Stories. Mercer and Campbell (1998) suggest that the screening pages be used to find an appropriate starting point for each child. Following this process, then the program should be completed in the order designed, one page of an activity per day, with each subsequent goal on the following page. They maintain that the sections were not designed to be co-related, however, they also suggest that if instructors believe that a different order would be appropriate after working with the materials over a period of time, instructors should try what they feel would be most beneficial. Following the Sound Awareness activity, the

remaining activities should be conducted in one minute once the student reaches proficiency (Mercer & Campbell, 1998). The program provides graphing materials and suggests providing students with verbal praise and a small tangible incentive when they successfully achieve their goals. Modifications to the order and structure of the Great Leaps activities were made in order to fit the time slots available in the school. The procedures used are described below.

Sound Awareness. Students completed two untimed repetitions of the Sound Awareness activity per intervention session. If a student made an error, the interventionist immediately said the correct response, and then the student repeated the item. The interventionists also reviewed errors with the participants after all the items on the page had been completed. The student was required to achieve 100 percent accuracy on the Sound Awareness activity on the second repetition in order to move onto the next page during the next session, otherwise the student repeated the same page. Refer to the protocol checklist in Appendix A for the Sound Awareness activity's specific procedural instructions.

Phonics. Students completed three one-minute repetitions of the Phonics activity per intervention session. If a student made an error, the interventionist immediately said the correct response and asked the student to repeat it. The interventionists also reviewed errors with the participants after each minute-long reading. After each repetition of the Phonics activity, the student's score was graphed and shown to the student. If a student outperformed his or her first score on the Phonics activity with either of his or her subsequent scores, he or she earned a prize. The students were able to select the prize of their choice from a box filled with low-priced objects of interest to children. Students

were required to read each page with 100 percent accuracy in one minute in order to proceed to the next page, otherwise the student repeated the same page. Refer to the protocol checklist in Appendix A for the Phonics activity's specific procedural instructions.

High-Frequency Words and Phrases. Students completed three one-minute repetitions of the High-Frequency Words and Phrases activity per intervention session. The students were required to read each page with 100 percent accuracy in one minute in order to be allowed to progress to the next page. The same immediate error correction procedure was used, and interventionists reviewed errors at the end of each one-minute read. The same graphing and reward procedures were utilized. Refer to the protocol checklist in Appendix A for the High-Frequency Words and Phrases activity's specific procedural instructions.

Stories. Students completed three one-minute repetitions of the Stories activity per intervention session. The students were required to read each page with 100 percent accuracy in one minute in order to be allowed to progress to the next page. The same immediate error correction procedure was used, and interventionists reviewed errors at the end of each one-minute read. The same graphing and reward procedures were utilized. Refer to the protocol checklist in Appendix A for the Stories activity's specific procedural instructions.

Procedure

Prior to beginning the study, the four participants were assessed on LSF and ORF to establish baseline levels of performance. Participants were initially administered first-grade AIMSweb R-CBM passages to compute ORF and reading accuracy. Initial

placement in the intervention materials using the Great Leaps reading skills placement material suggested that all the participants begin with the first page of the Sound Awareness and Phonics activities. The Great Leaps manual suggests that students should master reading 48 three-letter words with continuous (e.g., fit, mad, nut) and stop (e.g., bat, can, did) beginning sounds correctly per minute before moving on to more complex reading skills (Mercer & Campbell, 1998).

During each intervention session in phase B, students repeated each Sound Awareness activity twice, followed by three repetitions of the Phonics activity. At each intervention session, students earned a sticker for their participation. After completing most sessions, LSF and ORF were measured with the AIMSweb LSF and R-CBM probes. Errors were not corrected during these one-minute reads.

The phase C intervention change involved switching to three repetitions of the High-Frequency Words activity followed by three repetitions of the Stories activity. The interventionists stopped measuring LSF and continued to measure ORF using AIMSweb R-CBM probes, since the students demonstrated age-appropriate LSF skills by this time.

The final phase A was a return to baseline conditions in which the student no longer received a supplemental Great Leaps reading intervention in addition to their general reading curriculum and daily Title I services.

Experimental Design

This study used an AB design for each participant in order to examine the effects of the adapted supplemental Great Leaps Reading Program's Sound Awareness and Phonics interventions on students' LSF. An ABCA design was utilized for each participant in order to examine the effects of these interventions, as well as Great

Leaps' High-Frequency Words and Phrases and Stories, on students' ORF. An ABCA describes a single-case design procedure in which baseline data are collected (A), an intervention is implemented (B), an altered or different intervention is implemented (C), and then the intervention is removed (A). ABCA is a SCD method for assessing the influence of two interventions and the maintenance of skills gained following the removal of the intervention.

Training and Fidelity

The principal researcher and three undergraduate students served as interventionists. The interventionists received training regarding Great Leaps Reading intervention's procedures, the importance of treatment integrity, the measurement of LSF, and the measurement of ORF.

Procedural Integrity. A total of 53-78% of the intervention sessions for each interventionist was audio recorded and monitored with an implementation checklist in order to assess procedural integrity. Interventionists were provided specific directions with checklists and were given feedback on their performance in order to increase intervention implementation fidelity. Two graduate students trained in the reading interventions listened to the audio recordings of the interventionists' reading intervention sessions. Using the protocol checklists (see Appendix A), they determined if each step of the intervention was implemented correctly, and then computed a procedural integrity percentage. This value was calculated by dividing the number of steps correctly implemented by the total number of steps on the protocol checklist, multiplied by 100. Table 1 shows the procedural integrity across participants; procedural integrity during the sessions observed was 94.3 percent.

Table 1

<i>Procedural Integrity</i>		
Participant	Percent of Steps Correctly Followed	Percentage of Sessions Reviewed
Erin	87.8%	53.3%
George	98.6%	54.5%
Ashley	97.7%	66.7%
Brandon	95.3%	77.8%
Overall Integrity	94.3%	61.4%

Inter-rater Reliability. Two graduate students trained in the outcome measures evaluated the inter-rater reliability (IRR) of the LSF and ORF data by listening to the audio recordings of the sessions (21-33% of outcome measures monitored for IRR per participant). Using the Assessor Copy from each intervention session recorded, the evaluators followed along word-by-word to ensure that the words read correctly per minute (WRCM) and errors were accurately computed. IRR was computed by dividing the number of agreements between the interventionist and the evaluator listening to the audio recording divided by the total number of agreements and disagreements, multiplied by 100. Table 2 shows IRR recorded across participants; overall IRR was 98.9 percent.

Table 2

<i>Inter-rater Reliability (IRR)</i>		
Participant	IRR Percentage	Percentage of Sessions Reviewed
Erin	99.5%	30.8%
George	97.6%	20.8%
Ashley	98.8%	26.1%
Brandon	99.6%	33.3%
Overall IRR	98.9%	27.8%

CHAPTER IV

Results

The first research question inquired as to whether delivering the Sound Awareness and Phonics activities in the Great Leaps Reading Program twice a week would increase students' LSF and ORF. The four methods of visual analysis for single-case design data were utilized: level, trend, variability, and immediacy (Riley-Tillman & Burns, 2009). Additionally, effect sizes were calculated: percentage nonoverlapping data points (PND).

Letter Sound Fluency

Figure 1 through Figure 4 represent participants' LSF; the AB design reflects the students' performance in baseline (A), and during the Great Leaps Sound Awareness and Phonics intervention (B). All four students demonstrated gains in this pre-reading skill in this AB design. Ashley demonstrated an immediate rise in level of LSF scores following intervention implementation. Ashley's baseline LSF was 25 CLSM, and her mean LSF score during the intervention phase was 33.6 CLSM (range = 26-40 CLSM). Ashley's LSF scores plateaued after her initial gain. Brandon also demonstrated an immediate rise in level of LSF scores during the intervention phase. Brandon's baseline LSF was 49 CLSM, and his mean LSF score during the intervention phase was 78.6 CLSM (range = 62-94 CLSM). After an increasing trend for one week, Brandon's LSF performance plateaued above the expected LSF performance for first graders. Erin demonstrated an immediate rise in level of LSF scores following intervention implementation. Erin's baseline LSF was 27 CLSM, and her mean LSF score during the intervention phase was 45.6 CLSM (range = 34-60 CLSM). Erin demonstrated an increasing trend in her LSF

scores, but also had variability in her scores. George's baseline LSF was 48 CLSM, and his mean LSF score during the intervention phase was 60.3 CLSM (range = 33-83 CLSM). George demonstrated an increasing trend in his LSF scores, but also had more variability in his scores.

At the end of the intervention phase, Erin, George, and Brandon all exceeded the district's target LSF score of 46 CLSM for the end of first grade. Ashley's LSF (40 CLSM) was slightly below the spring target for first grade. Improvements in all students' LSF were pronounced. Percentage of non-overlapping data points (PND) scores were 100% for Ashley, Brandon, and Erin, and 73% for George.

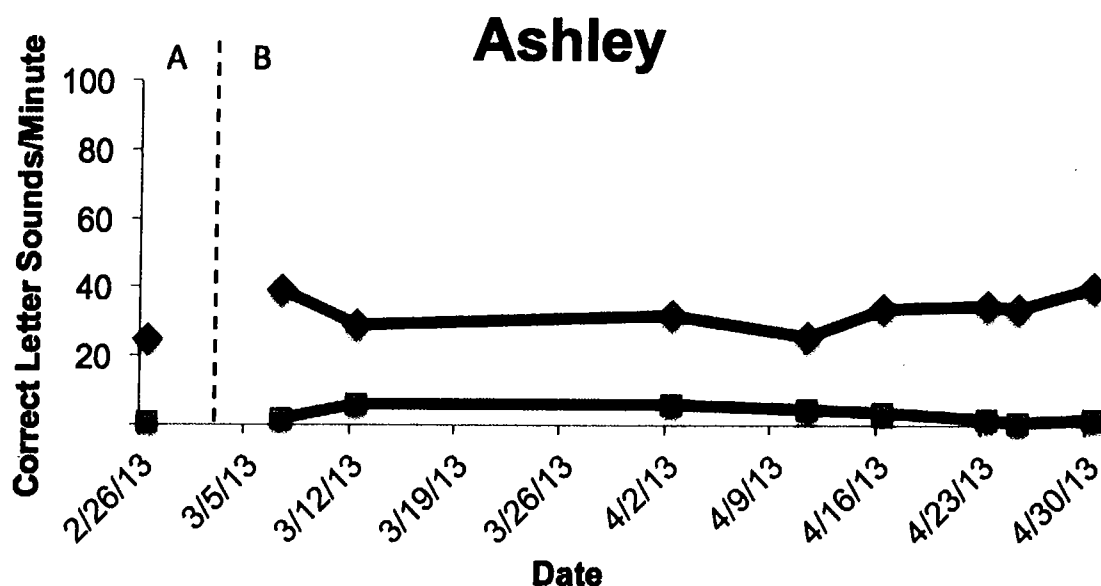


Figure 1. Ashley's Letter Sound Fluency (LSF). Line graph depicting Ashley's LSF prior to and during the implementation of Great Leaps Reading Program's Sound Awareness and Phonics activities.

Note. Lower lines on graphs represent number of letter sound errors per minute.

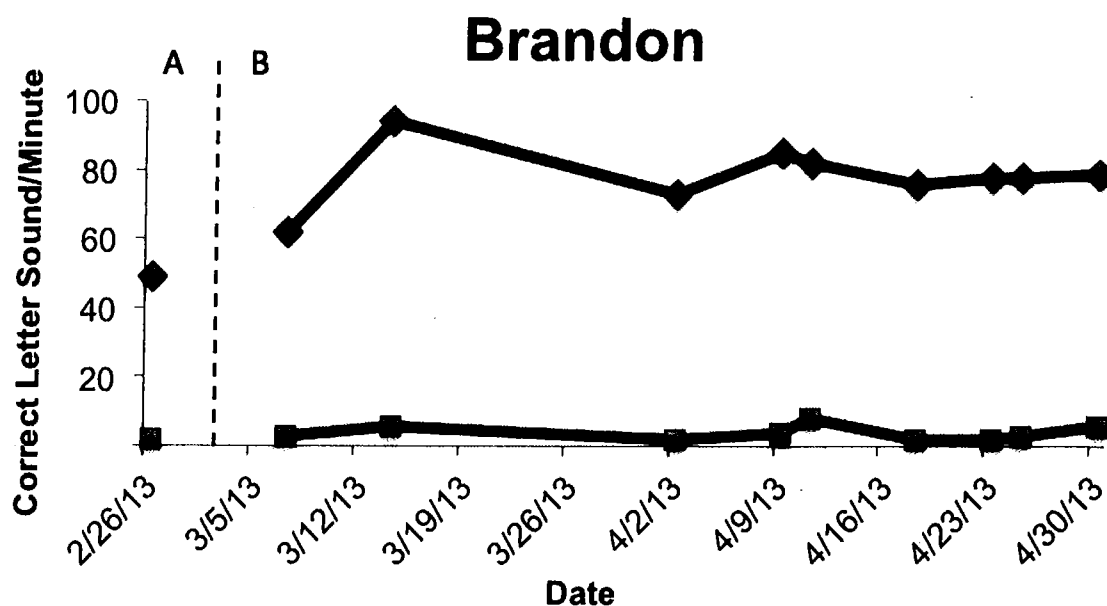


Figure 2. Brandon's Letter Sound Fluency (LSF). Line graph depicting Brandon's LSF prior to and during the implementation of Great Leaps Reading Program's Sound Awareness and Phonics activities.

Note. Lower lines on graphs represent number of letter sound errors per minute.

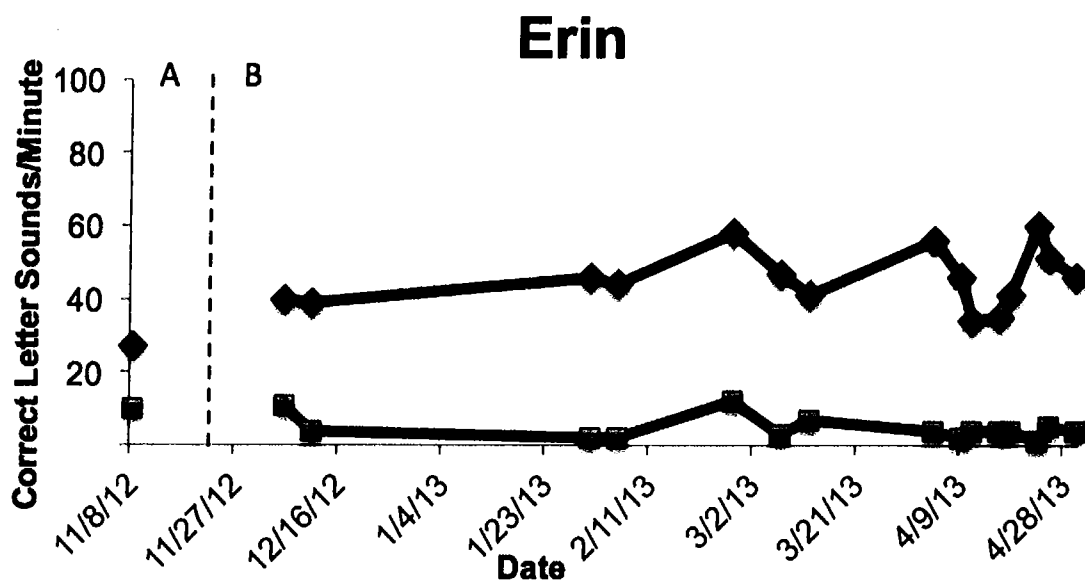


Figure 3. Erin's Letter Sound Fluency (LSF). Line graph depicting Erin's LSF prior to and during the implementation of Great Leaps Reading Program's Sound Awareness and Phonics activities.

Note. Lower lines on graphs represent number of letter sound errors per minute.

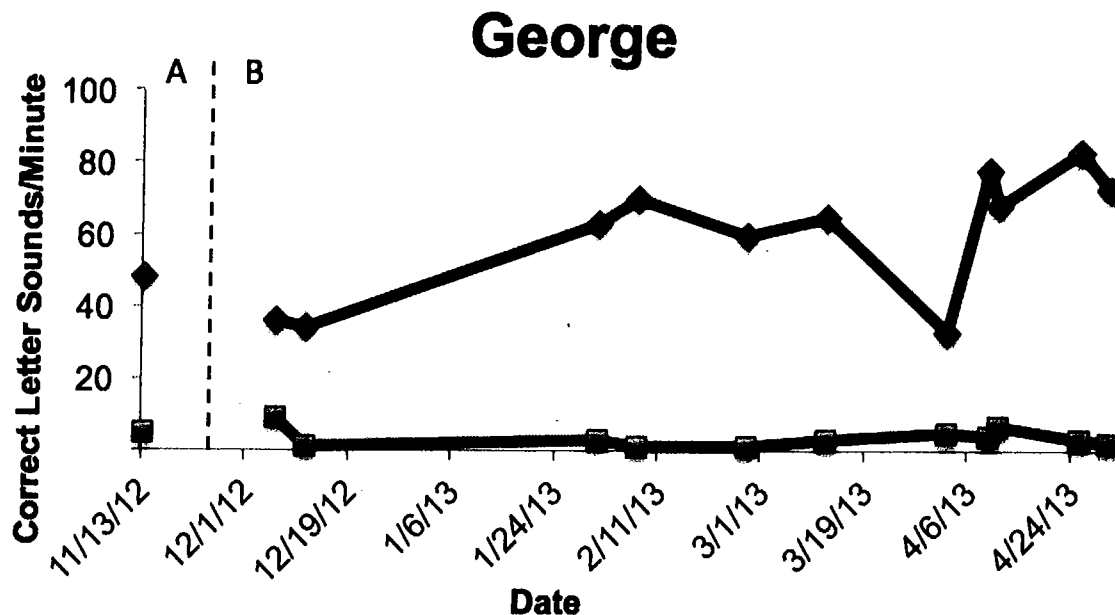


Figure 4. George's Letter Sound Fluency (LSF). Line graph depicting George's LSF prior to and during the implementation of Great Leaps Reading Program's Sound Awareness and Phonics activities.

Note. Lower lines on graphs represent number of letter sound errors per minute.

Oral Reading Fluency

Figure 5 through Figure 8 represent participants' ORF; the ABCA design reflects baseline (A), Great Leaps Sound Awareness and Phonics intervention (B), Great Leaps High-Frequency Words and Stories intervention (C), and post-intervention (A), respectively. Results varied by participant for ORF. As previously described, all participants were selected for this additional reading intervention in part due to their significantly low ORF scores. During baseline, Ashley read an average of 7 WRCM (range = 5-14 WRCM) with 44 percent accuracy; Brandon read an average of 21 WRCM (range = 17-26 WRCM) with 84.6 percent accuracy; Erin read an average of 4.7 WRCM

(range = 4-6 WRCM) with 21 percent accuracy; and George read an average of 10.7 WRCM (range = 9-12 WRCM) with 52 percent accuracy. Refer to Table 3 for a summary of participants' WRCM across conditions, and refer to Table 4 for a summary of participants' accuracy across conditions.

During phase B, the implementation of the Great Leaps Sound Awareness and Phonics intervention, George demonstrated significant gains in ORF, whereas Ashley's, Brandon's, and Erin's gains in ORF were limited. Although there was no immediate jump in level, George exhibited a clear increasing ORF trend in phase B, and his mean ORF was 22.8 WRCM (range = 5-49 WRCM). Brandon also demonstrated an increasing ORF trend in phase B, but due to an initial drop in his ORF performance, his mean ORF level (i.e., 21.9 WRCM; range = 14-29 WRCM) was similar to his baseline level. Erin demonstrated a slight increasing trend in ORF during phase B, and a corresponding increase in mean level to 13.1 WRCM (range = 7-22 WRCM). However, she showed significant variability in her performance during this phase. Also, she did not demonstrate an immediate change in level. Ashley's trend during phase B was nearly flat and she demonstrated consistently low accuracy (mean = 54.7 percent). Ashley's mean ORF level during this phase was 11.1 WRCM (range = 8-15 WRCM). She did not demonstrate an immediate change in level.

The Great Leaps Reading intervention activities High-Frequency Words and Stories were introduced during phase C in an attempt to further increase participants' ORF. Due to scheduling preferences of the school staff, the study ended before the effects of phase C were clear. When Erin began High-Frequency Words and Stories, she demonstrated a higher level of ORF (mean = 21.2 WRCM; range = 19-23 WRCM) with

more consistency than she had demonstrated in the previous phase, however she continued to make a high rate of errors (68% average accuracy). When Brandon and George began High-Frequency Words and Stories, they both increased in ORF level immediately (i.e., 36 WRCM and 60 WRCM), but their reading accuracies were 86% and 82%, respectively. Their consistency and trend with this intervention cannot be evaluated since the researcher collected just one data point in phase C because the study ended before more data could be collected. Ashley's ORF trend initially increased and her error trend decreased (mean = 12 WRCM; range = 8-19 WRCM), although her last two ORF data points in this phase regressed to a level similar to her performance in phase B.

Once the intervention was withdrawn, all of the participants' ORF level decreased, except for Ashley's (mean = 13 WRCM; range = 10-20 WRCM). Ashley demonstrated a slight increasing trend in her ORF scores, however, her ORF skills at the end of first grade did not even meet the 15th percentile of first graders' ORF skills in the winter of first grade, and she read with only 53% accuracy. During the final phase, Erin once again demonstrated greater variability in her performance (mean = 19.8 WRCM; range = 12-28 WRCM), similar to her performance in phase B. Erin read with only 77% accuracy at the end of the year. Initially, George's ORF trend decreased after the withdrawal of the High-Frequency Words and Stories intervention, but the last two data points suggested an increasing trend (mean = 48.2 WRCM; range = 39-56 WRCM). George was the only participant who met the school's end-of-the-year ORF target of 53 WRCM, yet his accuracy (84%) was still lower than accepted standards (i.e., $\geq 93\%$; Shaprio, 2010). Brandon also demonstrated an immediate drop in level following the removal of the intervention, however his trend suggests he might soon reach the ORF

benchmark and he read with 93% accuracy at the end of the year (mean = 31 WRCM; range = 22-41 WRCM).

Overall, George made significant gains in ORF over the duration of the interventions. Brandon and Erin also demonstrated improved ORF. Although Erin demonstrated an increasing trend in her ORF scores, her performance was inconsistent, and her skills did not increase at a rate fast enough to catch up to her peers' reading level in the near future. Ashley did not make significant gains in ORF.

Table 3 shows participants' PND across conditions. PND comparing participants' ORF baseline and maintenance phases were 100% for Erin and George, 75% for Brandon, and 40% for Ashley. PND comparing participants' ORF performance in phase B to phase C were 100% for Brandon and George, 40% for Erin, and 20% for Ashley. PND is interpreted using criteria proposed by Scruggs, Mastropieri, Cook, and Escobar (1986) in which PND greater than 90% indicates a large effect, PND between 70.1% and 90% indicates a moderate effect, PND between 50.1% and 70% indicates a low or small effect, and PND of 50% or below is classified as not effective. PND is affected by the number of data points collected per phase. Overall, the findings support improvement in ORF for most participants.

Table 3

Participants' ORF PND for Each Phase Comparison

Participant	Intervention Phase Comparison				
	A-B Baseline – SA and Ph ^a	A-C Baseline – HFW and St ^b	B-C SA and Ph – HFW and St	C-A ² HFW and St – Maintenance	A-A ² Baseline – Maintenance
Erin	100%	100%	40%	25%	100%
George	78%	100%	100%	0%	100%
Ashley	12.5%	40%	20%	20%	40%
Brandon	27%	100%	100%	25%	75%

^aSA and Ph = Sound Awareness and Phonics activities.

^bHFW and St = High-Frequency Words and Phrases and Stories activities.

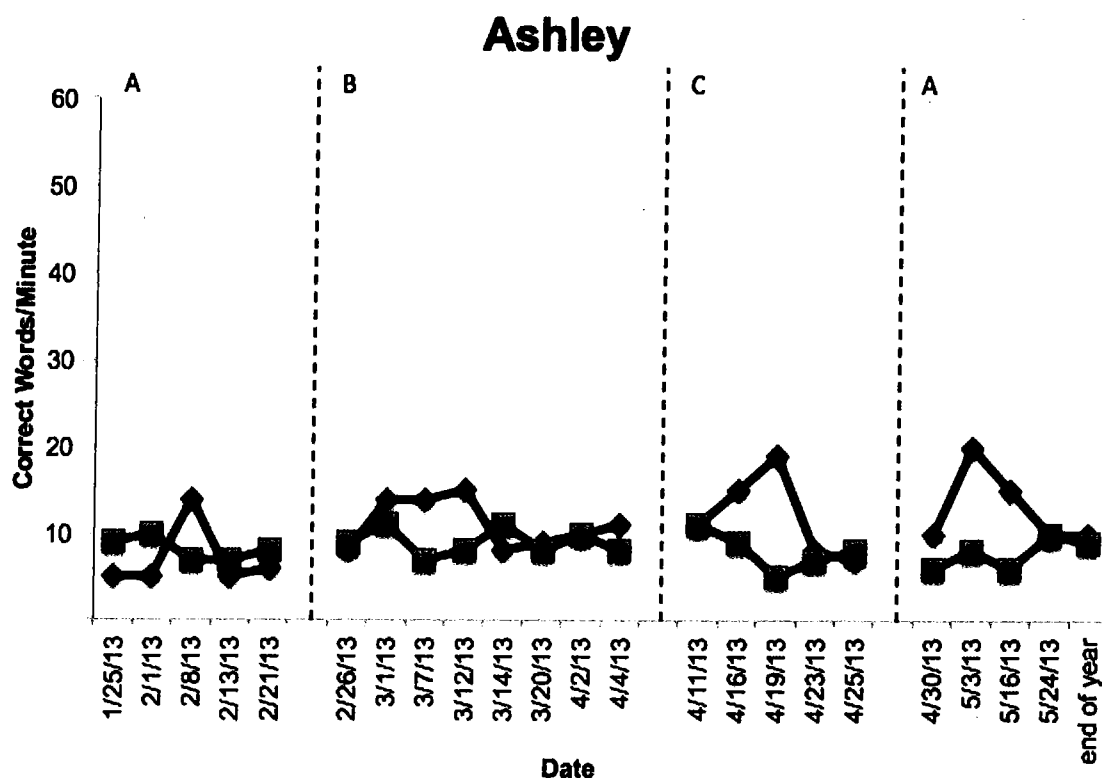


Figure 5. Ashley's Oral Reading Fluency (ORF). Line graph depicting Ashley's ORF prior to, during, and after the implementation of Great Leaps Reading Program's Sound Awareness and Phonics activities, and High-Frequency Words and Stories activities.

Note. Lower lines on graphs represent number of reading errors per minute.

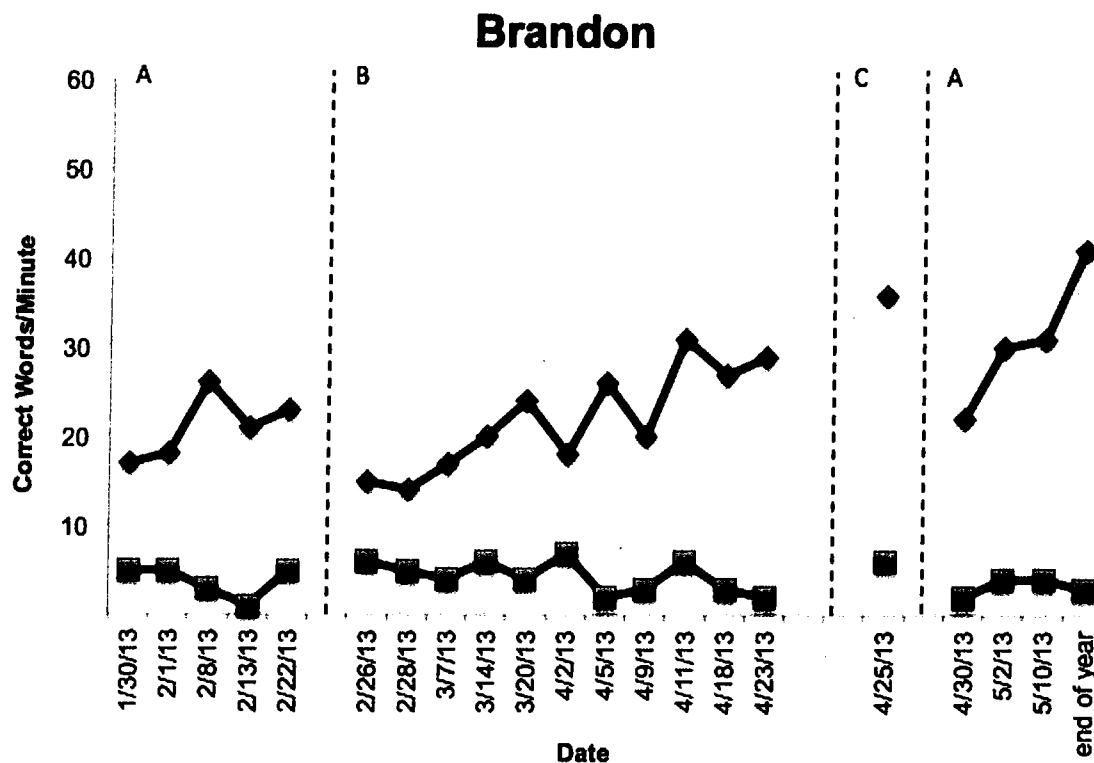


Figure 6. Brandon's Oral Reading Fluency (ORF). Line graph depicting Brandon's ORF prior to, during, and after the implementation of Great Leaps Reading Program's Sound Awareness and Phonics activities, and High-Frequency Words and Stories activities.

Note. Lower lines on graphs represent number of reading errors per minute.

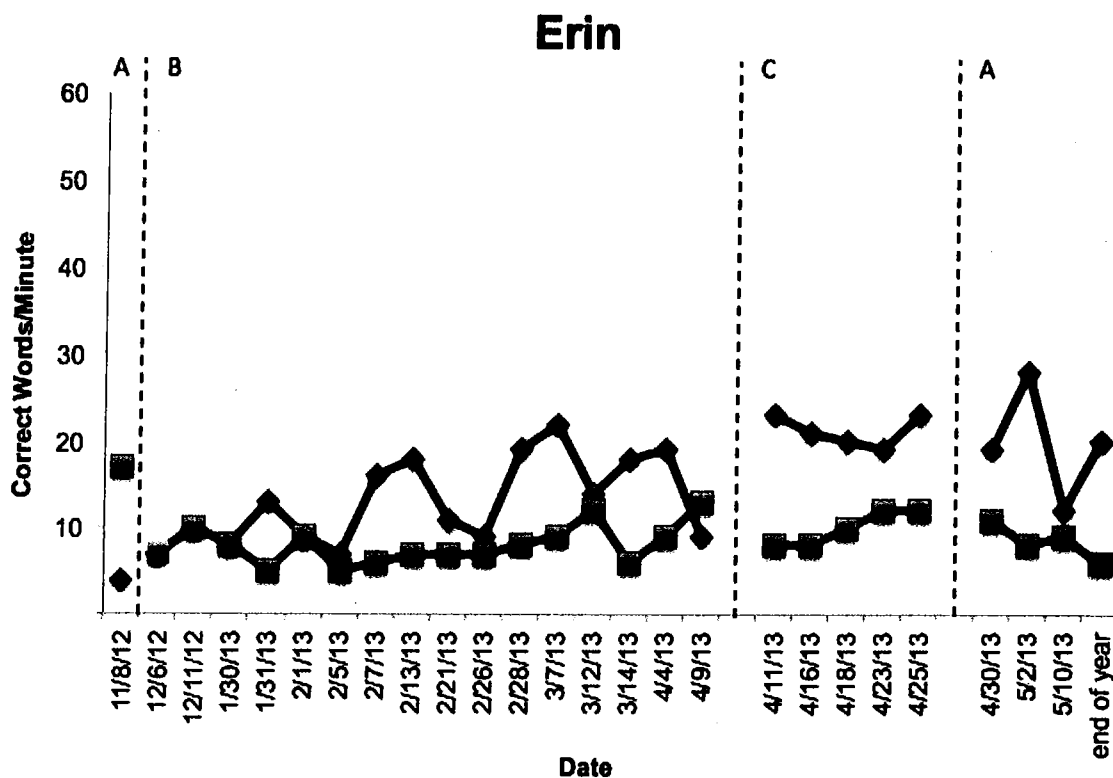


Figure 7. Erin's Oral Reading Fluency (ORF). Line graph depicting Erin's ORF prior to, during, and after the implementation of Great Leaps Reading Program's Sound Awareness and Phonics activities, and High-Frequency Words and Stories activities.

Note. Lower lines on graphs represent number of reading errors per minute.

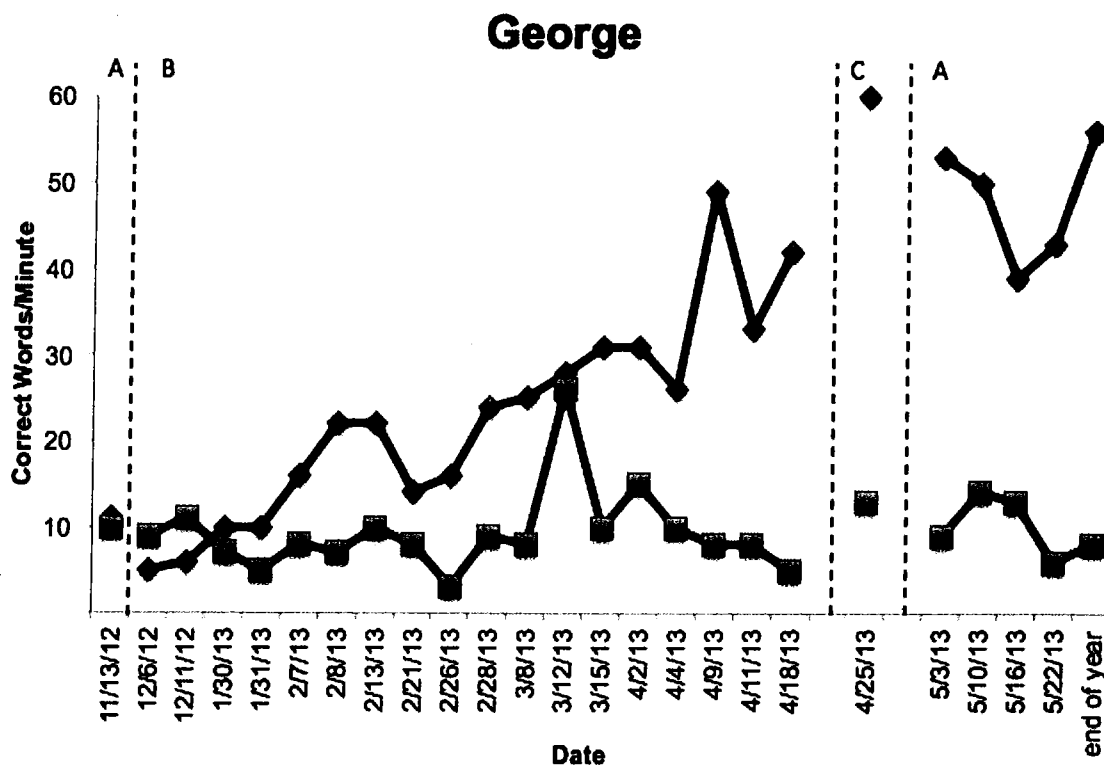


Figure 8. George's Oral Reading Fluency (ORF). Line graph depicting George's ORF prior to, during, and after the implementation of Great Leaps Reading Program's Sound Awareness and Phonics activities, and High-Frequency Words and Stories activities.

Note. Lower lines on graphs represent number of reading errors per minute.

Table 4

Mean WRCM for Each Phase

Participant	Intervention Phase			A
	A	B	C	
	Baseline (Range)	SA and Ph ^a (Range)	HFW and St ^b (Range)	Follow-Up (Range)
Erin	4.7 (4-6)	13.1 (7-22)	21.2 (19-23)	19.8 (12-28)
George	10.7 (9-12)	22.8 (5-49)	60.0 (N/A)	48.2 (39-56)
Ashley	7.0 (5-14)	11.1 (8-15)	12.0 (8-19)	13.0 (10-20)
Brandon	21.0 (17-26)	21.9 (14-29)	36.0 (N/A)	31.0 (22-41)

^aSA and Ph = Sound Awareness and Phonics activities.

^bHFW and St = High-Frequency Words and Phrases and Stories activities.

Table 5

Mean Reading Accuracy for Each Phase

Participant	Intervention Phase			A Follow-Up (Range)
	A Baseline (Range)	B SA and Ph ^a (Range)	C HFW and St ^b (Range)	
Erin	21% (19-22)	61% (41-73)	68% (61-74)	69% (57-77)
George	52% (45-57)	67% (35-89)	82% (N/A)	83% (75-88)
Ashley	44% (33-67)	55% (42-67)	58% (47-79)	62% (50-71)
Brandon	85% (77-95)	83% (71-94)	86% (N/A)	90% (88-93)

^aSA and Ph = Sound Awareness and Phonics activities.

^bHFW and St = High-Frequency Words and Phrases and Stories activities.

CHAPTER V

Discussion

The current study investigated two early reading interventions implemented in succession with four first-grade students. The researcher sought to determine whether implementing the Sound Awareness and Phonics components of the Great Leaps Reading Program: Grades K-2 two times per week would increase students' LSF and ORF, and whether implementing the High-Frequency Words and Stories components of the Great Leaps Reading Program would result in students making gains in ORF.

First, the students completed the Great Leaps Reading program's Sound Awareness and Phonics activities to determine this intervention's influence on their LSF and ORF. Three participants made sufficient gains in LSF, such that their performance met or exceeded available benchmark standards, while the remaining participant's performance (40 CLSM) was just below the benchmark (i.e., 46 CLSM at the end of kindergarten). These findings are not surprising, given that the skills targeted in the initial intervention phase (B) focused on developing letter sound correspondence. These results are consistent with previous research and add to the literature supporting the idea that interventions comprised of explicit instruction in letter sound correspondence increase students' LSF (Duhon, House, Poncy, Hastings, & McClurg, 2010; Gyovai, Cartledge, Kourea, Yurick, & Gibson, 2009; Petursdottir et al., 2009).

Secondly, students participated in the Great Leaps Reading Program's High-Frequency Words and Stories activities to assess this intervention's influence on participants' ORF. After participants were introduced to High-Frequency Words and Stories during the second intervention phase (C), only one participant (i.e., George) met

the benchmark standard for ORF (i.e., 53 WRCM at the end of first grade). However, this result should be interpreted with caution since only one data point was available during that phase for George. Duhon et al. (2010) describe LSF proficiency as likely being a keystone skill, indispensable for developing more complex reading skills such as oral reading fluency. Ashley's failure to make notable gains in ORF may have been due to insufficient foundational reading skills in LSF proficiency.

Three of the four students made notable gains in ORF during phase C. These results correspond with research findings suggesting that practice with isolated word reading and repeated reading with corrective feedback contribute to students' gains in oral reading fluency (Lane, Little, Redding-Rhodes, Phillips, & Welsh, 2007; Lo, Cooke, & Starling, 2011; NICHD, 2000). The results of this study also align with Vaughn, Linan-Thompson, and Hickman's (2003) findings, suggesting that perhaps the student who did not make sufficient gains may have if the intervention were implemented for a longer duration, and that a small percentage of children do not respond to standard protocol interventions and require more individualized approaches.

Consistent with findings in the literature about strategies to increase performance, the Great Leaps reading intervention program utilizes monitoring, charting, and rewarding student progress (Mercer & Campbell, 1998). These are elements shown to increase motivation and performance on challenging academic tasks (Schunk, 1982; Schunk, 1984), and the results of this study show that with the implementation of the Great Leaps Stories intervention, three fourths of the students made notable gains in ORF. Anecdotally, the participants in the current study typically appeared motivated to improve their scores to earn prizes, though at times they seemed to tire of the multiple

replications of the same page per day. Even though two of the participants demonstrated behavioral challenges in their regular classroom settings, no significant behavior issues arose with our participants during the intervention sessions. This is probably due in part to the 1:1 ratio of instruction and the frequent opportunities to respond that the Great Leaps activities provide students. Similarly, Scott and Shearer-Lingo (2002) found that students identified with emotional-behavioral disabilities demonstrated significantly higher levels of academic engagement in reading tasks when engaging in the 1:1 Great Leaps Reading intervention. Despite these beneficial aspects of the program, one student in the current study, Erin, still exhibited attention difficulties. However, she was still able to make gains in LSF and ORF.

Unique to the current study, the Great Leaps reading interventions were adapted to fit within 15-minute intervention sessions during the participants' school day, and were conducted twice per week. Although the Great Leaps K-2 reading program manual recommends progressing through the program one page at a time on a daily basis, beginning with the more basic activities before moving on to the more challenging ones, in this study, participants moved through the program at a faster rate in an effort to introduce the more challenging tasks sooner. This was deemed necessary in order to hasten these struggling readers' ORF development. Results suggest participants' ORF skills may benefit from implementing the Great Leaps reading program in this streamlined manner, as evidenced by the students' higher ORF scores in phase C. It is best to use multiple sources of reliable and valid data to inform instructional decisions. Teachers and practitioners must find a balance between achieving mastery as defined by an intervention's instructions to ensure intervention fidelity, and streamlining the

intervention to allow students to make faster gains in ORF. Best practices suggest using a continuous problem-solving process in order to identify most accurately students' skill deficits and appropriate interventions targeting those deficits (Tilly III, 2008). More research is needed regarding the appropriate timing of the introduction of the different intervention components within Great Leaps, and to identify the most effective way to modify existing intervention programs to meet students' needs more efficiently.

One issue the current study raises is the importance of proactively responding to intervention data. Throughout the implementation of the Great Leaps reading interventions, progress monitoring data showed that one participant (i.e., Ashley) did not make sufficient gains in LSF or ORF. Progress monitoring data is collected not only to quantify students' rate of learning and to provide data for peer comparisons, but it is also essential in informing whether interventions are appropriate or require modification. Guidance on how best to use data to inform instructional decision varies (see for example Martin, n.d.; Minnesota Department of Education, n.d.; National Center on RtI, n.d. for examples). School professionals need more guidance in this area.

Additional factors to consider regarding why not all participants made sufficient gains in ORF by the end of the year benchmark involve evaluation of the school's Tier 1 curriculum and instruction and Tier 2 interventions, as well as the standard treatment protocol approach. In order to ensure that students have adequate opportunities to respond to standard protocol interventions, interventions must be implemented with fidelity (Minnesota Department of Education, n.d.). Although many students respond to evidence-based Tier 2 interventions that are implemented with high fidelity, as demonstrated in the current study by George, Brandon, and Erin's progress in LSF and

ORF, Vaughn, Linan-Thompson, and Hickman's (2003) findings suggest that approximately one-fourth of struggling readers will require more individualized approaches in order to be successful (e.g., similar to Ashley's lack of sufficient progress in the current study). Furthermore, as emphasized by the RTI model, research suggests that students who struggle acquiring reading skills tend to make more gains when receiving data-based interventions and scientifically-supported Tier 1 instruction (Vaughn, Wanzek, Woodruff, & Linan-Thompson, 2007). An in-depth discussion of the core and supplemental curricula used by the school in this study is beyond the scope of this paper. It is important to note that neither the core reading program, Good Habits, Great Readers, nor the supplemental program used in the school, Leveled Literacy Intervention (Fountas & Pinnell, 2007; Klein, Fisher, & Frey, 2007), demonstrate strong research support of effectiveness (Institute of Education Sciences, 2013; Slavin, Lake, Davis, & Madden, 2009). No information was available at the time of this study regarding the fidelity with which either instructional approach was delivered.

Limitations and Directions for Future Research

Limitations of the current study include that little information was available about the students' core and supplemental reading instruction during the study. Changes in performance may have been due to changes in instruction during other parts of the day. Due to logistical challenges in the school setting, an ABCA design was used instead of a more powerful design such as a multiple baseline across participants design. Additionally, there were limited data points in some phases, and there was a rising trend in ORF prior to the introduction of the High-Frequency Words and Stories intervention in phase C. Therefore, the researchers cannot be confident that intervention is responsible

for change since experimental control was not achieved. This is often the case in school settings. Although there was a rising trend in ORF prior to the introduction of High-Frequency Words and Stories, this trend tended to increase during phase C. Duhon et al. (2010) noted that a degree of spontaneous generalization from LSF to sound blending may occur, and this may have contributed to the rising trend in ORF which students demonstrated in phase B.

Since this study utilized SCD, generalization of findings to a greater population is limited. More research is needed with other populations of students and in other settings. Practitioners may use this information and the participants' characteristics to determine if this is an intervention they want to try with other individual students.

Most research available on the Great Leaps Reading Program focuses on how implementing the program influences students' reading fluency without identifying which components of the program lead to gains (e.g., phonics, sight words, or stories) (Mercer, Campbell, Miller, Mercer, & Lane, 2000). Future research could isolate the effects of these activities to determine the most efficient teaching method, instead of focusing on the effects of the three activities combined. In addition, the current research base for the Great Leaps Reading Program utilizes primarily single-case design tactics (Hacker, 2008; Scott & Shearer-Lingo, 2002; Walker, Jolivet, & Lingo, 2005), thus, further research of the program's effects using group designs is warranted. Furthermore, most research targets Great Leap's influence on reading fluency, so replication of the intervention's Sound Awareness and Phonics activities influence on students' LSF is recommended (Patton, Crosby, Houchins, & Jolivet, 2010).

The current research study also raises the question for a future vein of reading intervention research: would implementing Great Leaps K-2 High-Frequency Words and Stories earlier than the prescribed method when used with struggling 1st and 2nd graders lead to greater ORF gains over a shorter period of time? Careful exploration of this topic may lead to the development of improved early reading intervention strategies.

Students' development of reading fluency may be further improved with goal-setting and by encouraging students to have an internal locus of control (Carden, Bryant, & Moss, 2004; Crandall, Katkovsky, & Crandall, 1965; Gordon, Jones & Short, 1977; Morgan, Sideridis, & Hua, 2012; Nowicki & Strickland, 1973). Additionally, students may benefit from greater individualization of the program, such as conducting brief reinforcer preference assessments to ensure that the rewards the students can earn are actually desired, adding an additional reward for on-task behavior, or adapting the reading program to allow for more targeted practice of specific skill deficits (Green, Alderman, & Liechty, 2004). More research is needed to explore these ideas.

Implications for Practice

This study highlights several important implications for the school setting. First, schools must use evidence-based curriculum and interventions with fidelity, considering teacher and student acceptability, in order for students to make necessary gains. This requires a process to monitor the integrity and provide feedback to enhance fidelity. One supplemental evidence-based intervention is not sufficient to remedy curriculum deficiencies, nor is widespread implementation of interventions a sustainable practice.

Secondly, the intervention must target specific skill deficits. The Great Leaps reading intervention Sound Awareness and Phonics components demonstrated promise as

a Tier 2 intervention to help struggling readers develop the pre-reading skill of LSF, but it did not generalize to promoting the development of students' ORF. Repeated reading of Great Leaps High-Frequency Words and Stories components with immediate corrective feedback and performance-contingent rewards corresponds with the limited research base regarding this intervention's positive influence on increasing students' ORF.

Thirdly, although the decision-making criteria for determining whether an intervention change is warranted are not black and white, schools would benefit from having set clear data-based decision-making criteria for when intervention changes are warranted, and promptly follow through with implementing intervention changes when the criteria have been met. Specific decision rules may vary by state or district if the intervention is being used as a prereferral intervention for a specific learning disability. A collaborative school team trained in data analysis and interventions would support this entire problem-solving process. School psychologists possess these skills and should be members of these teams, or provide consultation to these teams. This team must consider how frequently to meet in order to ensure that all students' intervention data is reviewed in a timely manner.

Summary

Participants in the study made gains in LSF; however, they did not all make sufficient gains in ORF. This suggests that the reading subskills targeted did not generalize to a more global measure of reading fluency (ORF). These results highlight the need for schools to match interventions to specific skill deficits to promote the desired outcome, to monitor students' progress frequently, and to make changes in the intervention if the desired results are not achieved. The findings also emphasize the

importance of quality core instruction, since not all of the students made sufficient gains in ORF while they received instruction in the core curriculum, participated in a daily small-group reading intervention, and received the adapted Great Leaps Reading Program: Grades K-2 intervention.

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Appendix A

Protocol Checklists for Reading Interventions

Start recording. Say your name, the date, the student's name, the activity, and the page number. Pause recorder between activities. **Remember to start it again before beginning the next activity.**

Great Leaps Intervention – Sound Awareness

- ☐ Have one copy of the Sound Awareness activity and a pencil – Begin each session with the Sound Awareness activity. No sheet for student since these activities are done orally.
- ☐ Follow the directions for each activity verbatim from activity sheet.
- ☐ If a student makes a mistake, Say, ***“I’ll do it”*** (model the correct response). Then say, ***“Your turn”*** and repeat the item. Make sure the student says the correct response before moving on.
- ☐ Record correct responses on the first try with a check mark, and incorrect responses with a 0.
- ☐ Complete this activity two times each session. Once the student is able to complete the activity with zero errors, move on to the next activity at the next session.

Great Leaps Intervention – Phonics

☐

Place the Phonics activity in front of the student. Mark your copy with pencil so you can erase.

☐

Say, ***“I want you to read the sounds and words on this page. Start here*** (point to the first sound/word) ***and read across the page. Keep reading until I tell you to stop. You may not know all the sounds or words and that’s ok, just do your best. Begin.”***

☐

Start timing for ONE minute when the student reads the first sound/word.

☐

Correct errors as they are made. Tell the student the correct sound/word and ask him to repeat it.

- Errors are incorrect letter sound, omissions, and sounds not read within 3 seconds.
- If a student hesitates for 3 seconds, mark that letter as an error.

☐

Mark all errors on the examiner copy using the pencil. Use a bracket (]) to mark where the student ended after one minute.

- If the student finishes before the minute is up, ask him to begin again at the top and continue reading.

☐

After reading the probe, review errors again. Point to the first error and say, ***“Look at this sound/word. This sound/word is (tell the sound/word). What sound/word?”*** Continue for each error making sure the student reads each sound/word correctly.

☐

Add up the number of sounds/words read correctly and errors in one minute.

☐

Tell the student his score, and mark it on the graph (or have the student mark it on the graph). Record corrects with a dot, and errors with an x. Write page number(s) and date on graph.

☐

Say, ***“Let’s read again and see if you can beat your score.”***

☐

Repeat this process three times each session. Make sure to erase marks each time on your copy so you can easily record errors each time.

☐

When the student reads an activity better than his/her first try, he/she earns a prize from the prize box (only 1 prize per session).

☐

When the student reads all the words/sounds with zero errors in less than a minute, move on to the activity on the next page.

☐

Student always earns a sticker for participating, whether or not he/she earns a prize. (Give student sticker).

Great Leaps Intervention - High Frequency Words and Phrases

☐ Place the High Frequency Words activity in front of the student. Place your copy in the protected sleeve.

☐ Say, ***"I want you to read the words on this page. Start here (point to the first word) and read across the page. Keep reading until I tell you to stop. Begin"***.

☐ Start timing for ONE minute when the student reads the first word.

☐ Correct errors as they are made. Tell the student the correct sound/word and ask him to repeat it.

- Errors are incorrect letter sound, omissions, and sounds not read within 3 seconds
- If a student hesitates for 3 seconds, mark that letter as an error.

☐ Mark all errors on the examiner copy. Use a bracket (]) to mark where the student ended after one minute.

- If the student finishes before the minute is up, ask him to begin again at the top and continue reading.

☐ After reading the probe, review errors again. Point to the first error and say, ***"Look at this word. This word is (tell the word). What word?"*** Continue for each error making sure the student reads each word correctly.

☐ Add up the number of words read correctly and errors in one minute.

☐ Tell the student his score, and mark it on the graph (or have the student mark it on the graph). Record corrects with a dot, and errors with an x.

☐ Praise student for working hard.

☐ Say, ***"Let's read again"***.

☐ Repeat this process three times each session. Make sure to erase marks each time on your copy so you can easily record errors each time.

☐ Once the student is able to read a page in one minute or less with zero errors, he earns a prize from the prize box. Move on to the next page.

Great Leaps Intervention- Stories

☐

Place the Stories Sheet in front of the student. Place your copy in the protected sleeve.

☐

"I want you to read the story on this page. Start here (point to the first word) and read across the page. Keep reading until I tell you to stop. Begin".

☐

Start timing for ONE minute when the student reads the first word.

☐

Correct errors as they are made. Tell the student the correct sound/word and ask him to repeat it.

- Errors are incorrect letter sound, omissions, and sounds not read within 3 seconds
- If a student hesitates for 3 seconds, mark that letter as an error.

☐

Mark all errors on the examiner copy. Use a bracket (]) to mark where the student ended after one minute. If the student finishes before the minute is up, ask him to begin again at the top and continue reading.

☐

After reading the probe, review errors again. Point to the first error and say, ***"Look at this word. This word is (tell the word). What word?"*** Continue for each error making sure the student reads each word correctly.

☐

Add up the number of words read correctly and errors in one minute.

☐

Tell the student his score, and mark it on the graph (or have the student mark it on the graph). Record corrects with a dot, and errors with an x.

☐

Praise student for working hard.

☐

Say, ***"Let's read again".***

☐

Repeat this process three times each session. Make sure to erase marks each time on your copy so you can easily record errors each time.

☐

Once the student is able to read a page in one minute or less with zero errors, he earns a prize from the prize box. Move on to the next page.

Letter Sound Progress Monitoring

- ☐ Place Letter Sound sheet in front of the student. Place the examiner's copy in front of you, shielded from the student's view.
- ☐ Say, ***"Here are some letters*** (point to the student copy). ***Begin here*** (point to first letter) ***and tell me the sounds of as many letters as you can. If you come to a letter you don't know, I'll tell it to you. Do you have any questions?*** (Answer any questions the student may have and re-read directions if necessary). ***Put your finger under the first letter. Ready, begin.***
- ☐ Start timing for ONE minute when the student says the first letter sound.
- ☐ If a student does not say a letter sound after 3 seconds, say the letter sound. Mark the letter sound you provided as incorrect. If the student does not continue the activity instinctively, point to the next letter and say, ***"What sound?"***
- ☐ Do not correct errors. Mark all errors on the examiner copy. If the student self-corrects within 3 seconds, mark the self-correction with an "SC."
- ☐ The first time the student says the letter name rather than the letter sound, say, ***"Remember to tell me the sound the letter makes, not its name."*** Mark the letter as incorrect. You may provide this prompt only once during administration.
- ☐ At the end of 1 minute, place a bracket (]) after the last letter sound made and say, ***"Stop."***
- ☐ Score the probe, subtracting errors from total letter sound read to find the student's letter sound score.
- ☐ Ensure that you have written the student's name and the date on the paper.

R-CBM Progress Monitoring

- ☐ Place R-CBM sheet in front of the student. Take out examiner copy to score student's performance.

-
- ☐ Say, *"When I say 'Begin,' start reading aloud at the top of this page. Read across the page (demonstrate by pointing across the page). Try to read each word. If you come to a word you don't know, I'll tell it to you. Be sure to do your best reading. Are there any questions?"* (Answer any questions the student may have.)

OR

- ☐ You may use the following abbreviated directions in progress monitoring after the student has become familiar with the task:
"When I say 'Begin,' start reading aloud at the top of this page."

-
- ☐ Start timing for ONE minute when the student says the first word.

- ☐ If a student does not say a word after 3 seconds, say the word. Mark the word you provided as incorrect.

Do not correct errors. Mark all errors on the examiner copy.

- ☐
 - Errors are when the student mispronounces or substitutes for a word,
 - omits or skips words, including an entire line,
 - hesitates or struggles to correctly produce a word, for more than 3 seconds, or
 - transposes the order of two words – both count as errors

- ☐ At the end of one minute, place a bracket (]) after the last word the student attempted. You can let the student finish the sentence before saying, *"Stop."*

- ☐ Score the probe, subtracting errors from total words read to find the student's oral reading fluency score.

- ☐ Ensure that you have written the student's name and the date on the paper.

Appendix B

Sample Great Leaps Reading Intervention Passages

Great Leaps Sound Awareness

Activity 14: Review

	Tutor Says:	Correct Response:	Score (✓,0)
1.	Tell me a word that sounds like: dad	lad, pad, fad...	_____
2.	Tell me the word that these sounds make: l - ate	late	_____
3.	Tell me if these three words sound alike: sang, song, gang	No	_____
4.	Tell me the word that these sounds make: y - ell	yell	_____
5.	Tell me a word that sounds like: mast	fast, last, past...	_____
6.	Tell me if these three words sound alike: rake, bake, cake	Yes	_____
7.	Tell me a word that sounds like: pine	fine, dine, line...	_____
8.	Tell me the word that these sounds make: cl - ap	clap	_____
9.	Tell me if these three words sound alike: down, town, brown	Yes	_____
10.	Tell me the word that these sounds make: ch - ip	chip	_____
11.	Tell me a word that sounds like: lent	tent, sent, bent...	_____
12.	Tell me if these three words sound alike: bell, shell, same	No	_____

Great Leaps K-2 Phonics

All vowel sounds are short

Combinatio

z	x	qu	y	
j	p	w	e	
v	k	n	b	
c	u	h	l	(16)
g	o	r	d	
f	I	s	t	
a	m	buzz	x	
lox	qu	quit	y	(32)
yep	a	e	I	
o	u	Q	B	
G	H	L	E	
D	R	N	Z	(48)

Great Leaps K-2 High-Frequency Words

				Soundable combination
and	for	at	had	
an	has	its	man	
well	in	on	from	
not	if	her	did	(16)
work	help	is	as	
I	but	will	him	
first	get	must	went	
it	his	or	can	(32)
up	just	word	off	
in	for	on	at	
from	up	off	it	
his	I	her	him	(48)

Great Leaps K-2 Stories

The Lake

We went to the lake. The water was cool. The day was hot. I jumped in. (18)

It did not feel good at first. It felt cold. I am glad I jumped in. I got used to the cold fast. Then it felt good. (45)

I put on my mask. I looked for fish. I saw two fish. Then it was time to get out. It was time for lunch. (70)

Great Leaps Reading Progress Chart

Student Name: _____ ID: _____ Date: _____

Teacher: _____ School: _____

Section: _____ Notes: _____

	Date			Date			Date			Date			Date			Date		
	M	W	F	M	W	F	M	W	F	M	W	F	M	W	F	M	W	F
200																		
100																		
50																		
20																		
10																		
5																		
2																		
1																		

Floor _____

	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6
S.	pg.#	pg.#	pg.#	pg.#	pg.#	pg.#
M.	pg.#	pg.#	pg.#	pg.#	pg.#	pg.#
T.	pg.#	pg.#	pg.#	pg.#	pg.#	pg.#
W.	pg.#	pg.#	pg.#	pg.#	pg.#	pg.#
T.	pg.#	pg.#	pg.#	pg.#	pg.#	pg.#
F.	pg.#	pg.#	pg.#	pg.#	pg.#	pg.#
S.	pg.#	pg.#	pg.#	pg.#	pg.#	pg.#

Appendix C

Sample Student and Assessor Dependent Measure Forms

a d e g t o p w y c

z u i l j o k t b c

s n r i t v z k p o

h b l e z t j n p m

a d s j f i b r n e

s c m w y e l h z j

d m t l z g s c f r

g f y e h d n m v r

b t j s y z d w m e

z d g e f s r w o v

AIMSweb® Letter Sound Fluency - Progress Monitor Assessment #6

Given To: _____ Given By: _____ Date: _____

a d e g t o p w y c / 10 (10)

z u i l j o k t b c / 10 (20)

s n r i t v z k p o / 10 (30)

h b l e z t j n p m / 10 (40)

a d s j f i b r n e / 10 (50)

s c m w y e l h z j / 10 (60)

d m t l z g s c f r / 10 (70)

g f y e h d n m v r / 10 (80)

b t j s y z d w m e / 10 (90)

z d g e f s r w o v / 10 (100)

Bill, Pete, and Joe liked to go to the playground. It was a big, open space. The playground had lots of room for running and playing.

One day at the playground, the three friends saw some children flying kites.

"I sure wish I had a kite," Bill said.

"I had one once," said Pete.

"Mine got caught in a tree," Joe said.

The three friends stood by the kite flyers. They watched the colorful kites bob and dip and spin in the wind.

At home Bill said to his mom, "I sure wish I had a kite."

"I can show you how to make one," she said.

"Oh, boy!" Bill said. "Let me call Pete and Joe. They will want to make kites too."

Mom got all the things they needed. She showed the boys how to cut shapes from thick paper. They colored the paper with markers and paint. Bill made a frog kite. Pete drew a dragon. Joe cut a dinosaur kite. They taped on straws for support. Strips of newspaper became tails. They tied string to the kites to hold them.

"Thanks, Mom," Bill said.

"Let's fly our kites!" said Pete and Joe.

The boys ran to the playground. They lifted their kites to the wind. Up, up, up flew the kites. Soon the kites went up and down and spun in the wind.

"We made good kites," Bill, Pete, and Joe said.

Bill, Pete, and Joe liked to go to the playground. It was a big, open space. The playground had lots of room for running and playing.	13 24 26
One day at the playground, the three friends saw some children flying kites.	36 39
"I sure wish I had a kite," Bill said.	48
"I had one once," said Pete.	54
"Mine got caught in a tree," Joe said.	62
The three friends stood by the kite flyers. They watched the colorful kites bob and dip and spin in the wind.	72 83
At home Bill said to his mom, "I sure wish I had a kite."	97
"I can show you how to make one," she said.	107
"Oh, boy!" Bill said. "Let me call Pete and Joe. They will want to make kites too."	119 124
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"Thanks, Mom," Bill said.	188
"Let's fly our kites!" said Pete and Joe.	196
The boys ran to the playground. They lifted their kites to the wind. Up, up, up flew the kites. Soon the kites went up and down and spun in the wind.	207 221 227
"We made good kites," Bill, Pete, and Joe said.	236