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Repeated Reading Interventions for Students with Reading Disabilities

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Repeated Reading Interventions for Students with Reading Disabilities:

A Review of the Literature

by

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Chapter I: Introduction

Reading is considered one of the most essential skills needed to function effectively as students and as adults (Lo, Cooke, & Starling, 2011). However, reading scores published by the National Assessment of Educational Progress (NAEP, 2011) demonstrate that nearly 68% of fourth-grade students are reading at the basic level of proficiency or below. These students are at risk for academic failure unless targeted interventions are implemented (Wagner & Espin, 2015).

Fluency is one of the most important fundamental skills for becoming a good reader. The National Reading Panel (NRP; 2000) included it as 1 of 5 critical skills that effective reading instruction should include. Dysfluent readers read less than fluent readers do (Stanovich, 1986; Wagner & Espin, 2015). Consequently, less fluent readers have to spend more time completing assignments and have a hard time keeping up with the reading load in the content area as they enter into higher grades.

In addition, fluent reading serves as a strong predictor of reading comprehension, which is the ultimate goal of reading (LaBerge & Samuels, 1974). Many researchers found that text reading fluency is considered to be a link between word recognition and subsequent reading comprehension (e.g., Denton, Fletcher, Anthony, & Francis, 2006; Kim & Wagner, 2015; National Institute of Child Health and Human Development [NICHD], 2000; Pikulski & Chard, 2005).

One widely implemented intervention for increasing reading fluency is repeated reading (NRP, 2000). Unlike skilled readers, students with reading deficits require direct instruction and sufficient opportunities for intense practice to build reading fluency,

which the repeated reading strategies provide (Allinder, Dunse, Brunken, & Obermiller-Krolikowski, 2001). Thus, the purpose of this paper is to conduct a review of the literature that examines the effects of repeated reading interventions on the reading fluency of elementary students with reading difficulties.

Theoretical Framework for Fluency

Reading fluency is commonly defined as reading text with speed, accuracy, and appropriate expression (Hudson, Pullen, Lane, & Torgesen, 2009; NRP, 2000). It has received a significantly increased amount of attention since the publication of the NRP report (Therrien & Kubina, 2006). Historically, scholars and educators have neglected reading fluency as a goal of the reading program due to the ambiguous definitions of fluency (Rasinski, 2004). Pikulski and Chard (2005) also asserted that the focus on the oral aspect of fluency might have contributed to the lack of attention on this topic.

However, several scholars and researchers have elevated the importance of fluency. LaBerge and Samuels established the modern theoretical foundations for reading fluency in 1974. According to LaBerge and Samuels' (1974) automaticity theory, if attention is required for decoding words accurately, little attention remains for comprehension. Fluent readers use as little mental capacity as possible in the decoding process, so they can focus on making meaning. Increased automaticity in word recognition enables students to pay more attention to comprehend the materials they read (Stahl, 2004). Kim and Wagner (2015) find that text reading fluency is highly related to reading comprehension, with correlations from .67 to .91 for students in primary grades.

Reading fluency consists of three key elements: reading rate, accuracy, and proper expression (prosody) (Kuhn & Stahl, 2003; NICHD, 2000; Rasinski, 2004). Each element of reading fluency is greatly linked to reading comprehension (Hudson et al., 2009). First of all, without accurate word reading, the reader will not grasp the author's intended meaning, and will misinterpret the text. Moreover, slow and laborious reading leaves less attention for comprehension (Samuels, 1979). Lastly, poor prosody such as inappropriate grouping of words can also lead to confusion (Hudson et al., 2009). Although three elements—rate, accuracy, and prosody—are important, speed should be emphasized over accuracy for building fluency to prevent readers from feeling afraid of making errors (Samuels, 1979).

Given these data, there is no question that fluency is an essential component of effective reading instruction. Ehri (1998) created a four-stage theory to describe how children develop fluency: the pre-alphabetic stage, the partial alphabetic stage, the fully alphabetic stage, and the consolidated alphabetic stage.

Pre-alphabetic stage. Children at the pre-alphabetic stage have not acquired the alphabetic principle. Readers at this stage translate the unfamiliar visual forms of print into familiar oral language through visual clues in the print. For example, children read the word *monkey* by associating the descending shape of the last letter with a monkey's tail. This can cause students' errors because they would also read *my* and *pony* as *monkey* (Ehri, 1998).

Partial-alphabetic stage. Readers have learned the letter-sound relationships at this stage, so they can apply these phonics rules to reading unknown words. However,

children at this stage of development might make mistakes because they tend to identify the words by the initial letters and sounds. Although children make errors, they can become fluent at reading words by using the letter-sound associations (Ehri, 1998).

Fully-alphabetic stage. If children have utilized the letter-sound relationships proficiently, they enter the fully alphabetic stage. Children can attempt to read new words by sounding out the individual letters and blending them together (Ehri, 1998).

Consolidated alphabetic stage. Readers who identify words instantly have reached the consolidated alphabetic stage. When readers obtain the ability to decode words rapidly and accurately at this stage, they are ready to proceed with fluency. However, they need to obtain the automatic word-identification skills and develop vocabulary to reach fluent reading (Ehri, 1998).

Summary. As the children go through these stages, they integrate the knowledge of decoding to build fluency in reading (Stahl, 2004). Fluency depends upon well-developed word recognition skills, but such skills do not necessarily lead to fluency gains (NRP, 2000). Therefore, continued and sufficient reading practice is required to achieve automatic word recognition and fluent reading (NRP, 2000). The repeated reading strategies provide struggling readers with numerous chances to practice their oral reading with corrective feedback (Therrien & Kubina, 2006).

Repeated Reading Interventions

Although several types of reading fluency instruction have been implemented over the years, repeated reading has risen to the forefront as a way to improve reading automaticity (NRP, 2000). Repeated reading is a supplemental reading program that

“consists of rereading a short, meaningful passage several times until a satisfactory level of fluency is reached” (Samuels, 1979, p. 377). While rereading, students not only read rapidly, but also develop appropriate expressions (Vaughn & Linan-Thompson, 2004). Additionally, repeated reading can boost confidence and motivation for independent reading by transforming slow and halting readers into fluent readers (Samuels, 1979).

According to Therrien and Kubina (2006), there are a few essential components of a repeated reading instruction. First, monitoring students’ oral reading and providing effective feedback are the key to the success of the intervention (Stahl, 2004). Therrien and Kubina (2006) suggest that children read passages aloud so that adults or more competent peer tutors monitor their readings and provide feedback appropriately. When providing feedback, tutors can correct errors immediately or after the children have finished the whole passage based on the types of word errors. Moreover, feedback on prosodic features is critical as well as accurate and rapid word recognition (NRP, 2000). Presenting the progress visually can be a helpful motivating tool, encouraging students’ active participation (Therrien & Kubina, 2006).

Another critical instructional component of repeated reading is to read the same passage repeatedly until children meet the performance criterion (Samuels, 1979; Therrien & Kubina, 2006). A fixed number of words correct per minute (WCPM) is used as the mastery criterion (e.g., 85 correct words per minute; Samuels, 1979). WCPM has been proved to be a reliable and accurate indicator of overall reading proficiency (Fuchs, Fuchs, Hosp, & Jenkins, 2001). To identify at-risk readers and monitor students’

progress, the national oral reading fluency norms (Hasbrouck & Tindal, 2006) and benchmarks (Good & Kaminski, 2002) can be used.

It is imperative to select the appropriate reading materials when implementing the repeated reading intervention. The reading passages should be at the students' instructional reading level, which students can read with 95% accuracy (Vaughn & Linan-Thompson, 2004). The appropriate lengths of the passages range 50-200 words that can be read within 1 to 2 minutes (Therrien & Kubina, 2006). While the types of text can include fiction, nonfiction, narrative stories and poetry passages are recommended to improve appropriate expressiveness (Staudt, 2009).

A number of studies have demonstrated that repeated reading is beneficial to both students with and without reading problems (Samuels, 1979). For instance, students who read haltingly and students who read between a first- and third-grade level can significantly benefit from repeated reading (Therrien & Kubina, 2006). However, Therrien and Kubina (2006) cautioned that students who have not acquired the fundamental reading skills such as sound-letter relationships and blending words should not participate in repeated reading.

Research Question

One question guides this literature review: Do repeated reading interventions improve oral reading fluency for elementary-age students with reading deficits?

Focus of the Review

This paper reviews research involving the efficacy of repeated reading for oral reading improvement. To be included in the review, participants must be in kindergarten

through grade 6. In addition, participants must be identified with learning disabilities in the area of reading or as students who manifest persistent reading deficits. The research I reviewed in Chapter II was published between the years of 2005 to 2015 in the United States.

I conducted a search of Academic Search Premier, ERIC, SAGE, and PsychINFO databases using a variety of keywords and keyword combinations such as *repeated reading intervention, research-based practices, oral reading fluency, reading fluency, Read Naturally, and reading fluency intervention*. I also searched the table of contents of the *Journal of Learning Disabilities, Learning Disabilities Research and Practice, Education and Treatment of Children, Cognitive Psychology, and Journal of Special Education*.

Importance of the Topic

Fluent reading skills are essential for academic success because it enables readers to concentrate on the meaning instead of trying to pronounce words. As Fuchs et al. (2001) reported, oral reading fluency is highly related to comprehension. According to Meisinger, Bloom, and Hynd (2010), dysfluent readers have difficulties comprehending what they read. Moreover, students with poor fluency often complete their schoolwork inaccurately (Archer, Gleason, & Vachon, 2003). Accordingly, they can fall behind in learning the information in content classes compared to the fluent readers. Given the importance of fluency, it is imperative to provide effective interventions before the academic gaps between fluent readers and struggling readers become greater.

Most of my students possess decoding skills, but they continue to struggle with fluency. The lack of fluency often tends to make their comprehension of text difficult. Therefore, I realized that I need to focus on improving students' reading fluency skills and help them become more confident. Thus, to determine if repeated reading should be implemented with struggling readers, I am studying the effectiveness of repeated reading, which is a recommended method for improving oral reading fluency.

Definitions of Terms

The following terms are used in this paper and a glossary of terms is presented alphabetically.

Automaticity refers to the ability of proficient readers to read the words in a text correctly and effortlessly so that they may use their cognitive resources to attend to meaning while reading (LaBerge & Samuels, 1974).

Connected texts are the unfamiliar passages that students read repeatedly for fluency. Passages should be chosen at the students' instructional level. Connected texts are also known as non-transfer or intervention passages (Lo et al., 2011).

Coral reading involves the reading of text by several students in unison (Vaughn & Linan-Thompson, 2004).

Decoding is to recognize the printed words accurately (Stahl, 2004).

Effect size refers to "a numerical way of expressing the strength or magnitude of a reported relation" (Gay, Mills, & Airasian, 2012, p. 101).

Listening passage preview (LPP) instruction provides students with the opportunity to listen to a model of fluent reading before reading the passage (Begeny & Martens, 2006).

Multiple exemplar (ME) instruction refers to the instruction where students learn skills by using exemplars, which represent all skills they are expected to perform (Silber & Martens, 2010).

Phonics refers to the relationship between letters and their corresponding sounds (NRP, 2000).

Phono-Graphix is a published research-based reading program, which emphasizes phonics and decoding skills (Denton et al., 2006).

Phrase drill (PD) intervention requires a student to repeatedly read a phrase including a word that the student previously misread (Begeny & Martens, 2006).

Prosody is to read a text with appropriate expression including stress, pitch, and intonation. Students can learn prosody through modeling and explicit instruction on appropriate phrasing and intonation (Vaughn & Linan-Thompson, 2004).

Question generation intervention is where readers create and answer questions to monitor their reading comprehension (Therrien & Hughes, 2008).

Read Naturally is a research-based reading program implementing repeated reading strategies (Denton et al., 2006).

Reread-Adapt and Answer-Comprehend (RAAC) is a supplemental reading program, which adapted essential components from both the repeated reading and question generation instructions (Therrien, Gormley, & Kubina, 2006).

Transfer passages refer to “the new passages that students have not practiced before” (Lo et al., 2011, p. 115). They are called generalization passages because they are used to assess generalization of skills that students have attained. There are two types of transfer passages: far and near transfer. *Far transfer* passages contain many untrained words compared to the practiced passages, whereas *near transfer* passages contain high overlapping words with the practiced passages (Wagner & Espin, 2015).

Chapter II: Review of the Literature

In this chapter, I review the findings of 10 studies that examined the effectiveness of a variety of repeated reading interventions on the oral reading fluency of elementary students. Interventions included individual- and small-group interventions that are organized by the type of intervention. Studies are presented in ascending chronological order.

A Group-Based Reading Fluency Intervention

Begeny and Martens (2006) evaluated the effects of a group intervention that combined several fluency-building strategies: the word-list training (WLT), phrase-drill (PD), listening passage preview (LPP), and repeated reading (RR) intervention. A total of 12 third-grade students from one urban school in the Northeast participated in the study: 2 read at first-grade level, 8 at second-grade level, and 2 at their current grade level.

The researchers employed a multiple-baseline design across groups. The 12 students were equally divided into two groups: Group A received the instructional intervention for 9 weeks and Group B for 11 weeks. During the baseline condition, students received the regular reading program from their general education teachers. For the combined reading fluency interventions, students initially participated in the word-list training (WLT) and phrase-drill (PD) interventions. For WLT, students chorally practiced the real and nonsense words at their instructional reading levels. Also during the WLT session, 1 to 3 students were separated from their groups to receive a phrase-drill intervention, in which students read each incorrectly read word within a phrase three times with an assistant. After completing WLT and PD, the students advanced to listening passage preview (LPP) intervention. During LPP, students read along silently by pointing at the words in the text while the instructor read the

passage outloud. For the final RR intervention, students were placed to dyads and took turns reading the passages twice in pair. While one student read aloud, the other student served as a tutor helping with words his or her partner did not know. The combined intervention lasted roughly 15-20 min per session.

At the end of the entire intervention program, students were assessed by fluency-based reading probes, word lists, and subtests of the *Woodcock-Johnson-III* (WJ-III; Woodcock, McGrew, & Mather, 2001). The researchers developed the fluency-based reading probes and word lists both for instructional intervention and assessment.

Paired *t*-tests evaluated outcome measures. On fluency-based passages, statistically significant differences were found (all $p < 0.01$). On third-grade materials, students who read an average of 53.2 words correct per minute (WCPM) at pretest ($SD = 21.9$) read an average of 67.3 WCPM at posttest ($SD = 24.3$). On the WJ-III subtests, results indicated statistically significant differences between pre- and posttests on the Letter-Word Identification subtest ($t_{(11)} = -2.69, p = .021$), Passage Comprehension subtest ($t_{(11)} = -2.37, p = .037$), and Broad Reading Composite ($t_{(11)} = -2.77, p = .018$). For word lists, statistically significant differences were revealed: Word List-1 WCPM ($t_{(11)} = -4.81, p = .001$), Word List-1 percentage accuracy ($t_{(11)} = -6.47, p < .000$), Word List-2 percentage accuracy ($t_{(11)} = -2.13, p = .056$).

These data demonstrated that the group-based reading fluency intervention improved students' oral reading fluency and comprehension skills of trained passages compared to baseline conditions. Results also showed positive impacts of the intervention on students' reading of unpracticed materials. Begeny and Martens (2006) concluded repeated reading can be effective when combined with other fluency interventions to address groups of three or

more struggling readers. They recommended future research be conducted with students from different grades because their sample included only third-graders.

Phono-Graphix and Read Naturally

Denton et al. (2006) examined the effects of two reading interventions: *Phono-Graphix* program (McGuiness, McGuiness & McGuiness, 1996) and *Read Naturally* (Ihnot, Mastoff, Gavin, & Hendrickson, 2001). The study took place at four urban schools in the Southwest. A total of 27 first- through third-grade students participated in the study, including 8 with learning disabilities, one with emotional behavior disabilities, and 2 with other health impairments. All of the 5 first-grade students were repeating first grade and had failed to respond to the primary or secondary reading interventions provided during the previous year.

Students were randomly assigned into two groups and participated in two 8-week interventions. While Group 1 received the first 8 week of *Phono-Graphix* intervention, Group 2 received no intervention as baseline condition. For the first 8 weeks, students engaged in the phonetic-based *Phono-Graphix* intervention for two 50-min sessions each day to receive explicit phonics and decoding instructions. During the *Phono-Graphix* phase, students learned letter-sound relationships and practiced blending, segmenting, and manipulating sounds. Students then participated in the *Read Naturally* repeated reading program for 1 hour a day for another 8 weeks. For the *Read Naturally* intervention, students read non-fiction texts repeatedly with modeling and answered comprehension questions. While reading, students were encouraged to apply decoding strategies that they had learned in *Phono-Graphix* phase.

Assessments were conducted four times at 8-week intervals using subtests from the WJ-III, *Test of Word Reading Efficiency* (TOWRE; Torgesen, Wagner, & Rashotte, 1999),

and the *Gray Oral Reading Test-Fourth Edition* (GORT-4; Wiederholt & Bryant, 2002). The researchers used an ANOVA to analyze the interventions' effects on decoding, spelling, fluency, and comprehension.

Results revealed that students made significant gains during the *Phono-Graphix* intervention on measures of decoding ($F_{(1, 25)} = 72.64, p < .0001$), spelling ($F_{(1, 25)} = 14.48, p < .008$), fluency ($F_{(1, 25)} = 33.00, p < .0001$), and comprehension ($F_{(1, 25)} = 25.98, p < .0001$) compared to baseline data collected by Group 2. On the other hand, the *Read Naturally* intervention resulted in significant improvement in fluency ($F_{(1, 24)} = 43.45, p < .0001$) with moderate to large effect sizes. However, no significant effects were reported for decoding and spelling. On comprehension measures, the *Read Naturally* intervention yielded minor to moderate gains, but differences were not significant across all the comprehension measures.

Denton et al. (2006) concluded students with persistent and severe reading difficulties could improve their reading performance through the *Phono-Graphix* and *Read Naturally* programs. Although the *Phono-Graphix* was superior to promote students' decoding, spelling, and comprehension skills than the *Read Naturally*, the *Read Naturally* program was more effective at increasing reading fluency than the *Phono-Graphix*. The researchers recommended additional research in order to examine the long-term effectiveness of repeated reading interventions.

Practicing Repeated Reading in Context

In 2007, Therrien and Kubina examined the importance of context and connected text in repeated reading. Sixteen students in Grades 3 to 5 from one elementary school in Pennsylvania participated in two conditions arranged in a counterbalanced order: repeated

reading a passage and repeated reading words out of context. All students in the study read below their current grade levels, and two of them were diagnosed with LD.

As reading materials, the researchers used the *Ekwall Reading Inventory* (ERI, Shanker & Ekwall, 2000), two first-grade passages, two third-grade passages, and two transfer passages. Graded word lists from ERI were used to determine students' reading levels. While two first-grade passages served as easy practice materials, two third-grade passages were used as complete passages and wordlists. The wordlists were created by putting words in a random order after taking them from the two third-grade practice passages. Lastly, the two transfer passages included a 55% of word overlap with the practice materials. The implementation of intervention took place for 3 days: pretests were conducted on first day, students were randomly assigned to begin in Condition 1 or Condition 2 on the second day, and on the third day students switched conditions and repeated Day 2 procedures.

Students in both conditions were asked to read the words quickly and accurately. Students in Condition 1 orally read the words in context, whereas students in Condition 2 repeatedly read the randomized words in the list until they read 93 CWPM or unless they read the passage/wordlist six times, whichever came first. After mastering a fluency criterion or completing six trials, the students read a transfer passage. In both conditions, students received corrective feedback regarding mispronounced or omitted words. The researchers recorded number of word errors and the number of readings needed to achieve the pre-established criterion.

A dependent t -test was conducted to determine if repeated reading words in context differed from reading words out of context. Results indicated that reading words out of

context required significantly more rereadings ($t_{(15)} = 8.47, p < .0005$) than reading contextual words in practice materials. Moreover, all students met the fluency criterion when reading words in context, but only about a third of the students met the criterion when reading randomized words. Results also revealed students made significantly fewer errors when reading contextual words than students reading words out of context ($t_{(15)} = 2.36, p < .032$). Although reading words in context improved the reading speed and reduced the number of errors on transfer passages compared to reading words out of context, the differences were not statistically significant.

The authors concluded that reading contextual words repeatedly improved reading fluency and word recognition more than reading isolated words. The findings supported the importance of context in repeated reading to improve reading fluency. Therrien and Kubina (2007) also suggested that further studies investigate whether the contextual reading is effective for more unknown words.

Repeated Reading versus Continuous Reading

O'Connor, White, and Swanson (2007) compared the effects of repeated reading intervention on reading fluency to those of continuous reading intervention. The researchers identified 37 low-skilled reading participants by screening four second- and fourth-grade classes. Of the 16 second graders and 21 fourth graders who participated in the study, 16 were receiving special education services in the learning disability (LD) category. Moreover, 7 of the 37 participants were English language learners with Spanish as their first language.

The researchers randomly assigned the groups of three participants to 1 of 2 interventions or the control group. The two interventions—repeated reading (RR) and

continuous reading (CR)—took place for 15 min three times a week over 14 weeks in one-on-one settings. In the RR treatment, students read aloud each page of text three times to a trained adult tutors, while students in the CR read more pages from the same reading materials as the repeated readers without repeating pages. Students in both groups received error correction when needed. Students in the control group did not receive any intervention from the researchers, but 5 students in the control received special education in place of their general class reading time and 2 for Title I services.

The researchers assessed students' reading rate, word identification, and reading comprehension using three reading assessment tools: the *Woodcock Reading Mastery Tests-Normative Update* (WRMT-NU; Woodcock, 1998), the GORT-4, and the *Analytic Reading Inventory* (ARI; Woods & Moe, 1999).

Over the 14 weeks of the treatments, the students participating in RR and CR made greater gains than the students in the control on measures of reading rate and comprehension, with effect sizes of near 1 on all measures. Students in RR group obtained a mean fluency effect size (ES) of .972 and a mean comprehension ES of 1.034. Likewise, students in CR obtained a mean fluency ES of 1.039 and a mean comprehension ES of 1.006. Additionally, the rate of growth for the two treatments was significantly faster than in the control group of struggling readers on measures of fluency. However, no significant differences emerged between RR and CR on fluency growth (all $p > .01$). Table 1 shows the pre- and posttest data means for both intervention groups and the control group.

Table 1

Pre- and Posttest Data for Treatments and Control Groups

Measure	RR Pretest	PR Posttest	CR Pretest	CR Posttest	Control Pretest	Control Posttest
WRMT-NU Word Identification	84.00	88.33	84.40	87.20	81.40	81.40
WRMT-NU Word Attack	83.33	92.23	80.82	88.40	83.60	83.20
WRMT-NU Passage Comprehension	83.38	92.50	83.40	90.40	82.20	78.40
GORT-4 Fluency	17.00	34.83	15.20	25.80	17.40	21.80
GORT-4 Comprehension	9.67	20.00	8.43	15.00	10.60	13.20
ARI Fluency (words correct per minute:WCPM)	42.17	74.33	44.80	65.40	41.20	47.20

Note. Adapted from O'Connor et al., 2007, p. 38.

O'Connor et al. (2007) concluded low-performing readers benefited from both repeated reading and continuous reading interventions by improving oral reading fluency, word identification, and comprehension skills. The researchers explained that continuous reading also served as repeated reading due to the highly redundant words across passages, which resulted in no significant effects between the conditions. Because no comprehension instruction was delivered over the intervention session, findings of the study supported that increased fluency had a positive impact on enhancing struggling readers' comprehension.

Repeated Reading and Question Generation

Therrien and Hughes (2008) compared repeated reading and question generation interventions with fourth- through sixth-graders to determine effects on reading fluency and comprehension skills. The study was conducted in a central Pennsylvania school district. After the initial eligibility screening and selection process, 32 students were randomly assigned to either the repeated reading or question generation intervention: 18 students were qualified as having reading disabilities and 14 students were two or more grade levels below

in reading. All students read at a second- or third-grade instructional level. The intervention lasted for 4 consecutive days.

Therrien and Hughes (2008) created the reading passages and comprehension questions used in this study. For the repeated reading condition, students read aloud short narrative passages at their instructional reading level until they read either a predetermined number of CWPM or made four attempts. In order to provide purpose for reading, students in the question generation condition were told to answer the story structure questions after reading a story. Students read the questions on a cue card before they orally read the passage once, and tutors provided corrective feedback if students made errors or omitted words while reading. Students answered the questions from the card and were guided to look for the answer in the passage if they answered incorrectly. After 10- to 15-min intervention sessions, data for CWPM and comprehension questions were collected to measure students' reading achievement.

An ANCOVA was conducted to determine the effect of interventions on reading fluency, and the results revealed that repeated reading intervention significantly increased reading rate ($F_{(1, 29)} = 43.0, p < .005$). The average difference in CWPM of 22.7 was .94, indicating that students participating in the repeated reading read a 200-word passage 25 seconds faster than students in the question generation. However, data was not significant regarding fluency transfer to unpracticed passages for repeated reading. ANOVA results indicated that the repeated reading students answered significantly more factual comprehension questions than the question generation group ($F_{(1, 30)} = 6.20, p < .019$),

although no statistically significant differences were reported between interventions on inferential comprehension questions.

The researchers concluded repeated reading was more effective at increasing students' reading fluency than the question generation intervention. Additionally, the students in the repeated reading group performed significantly better than the question generation students on factual comprehension measures. Therrien and Hughes (2008) recommended standardized measures be administered for pre- and posttest to examine whether gains in fluency and factual comprehension skills transferred to readings outside of the study.

Quick Reads

Vadasy and Sanders (2008) conducted a study in a Northwestern city to evaluate the effectiveness of the *Quick Reads* (Hiebert, 2003) program for low-skilled fourth and fifth graders. A total of 140 students were randomly assigned to dyads, which were subsequently assigned to either the *Quick Reads* group or the control group at random. At the end of the study when data were analyzed, 54 students remained in the treatment group and 65 for control groups.

Quick Reads was implemented as a supplementary fluency treatment and consisted of short expository science and social science texts that required students to engage in repeated reading procedures. While students in control groups participated in regular classroom reading instruction, students in *Quick Reads* group were pulled out to receive the 30-min intervention per day from trained tutors for 4 days per week over 18 weeks.

During the *Quick Reads* instruction, dyads read each passage four times. At first, the teacher triggered students' prior knowledge about the topic and asked them to locate two

difficult words. After they learned vocabulary by pronouncing and generating the definitions of the words, students read the text aloud or silently and took notes about the main ideas. For the second reading, students read aloud with the teacher modeling of fluent reading and were asked to retell one thing that the writer wanted readers to remember. After reading the passage as fast as they could within one min for the third time, they completed a 1-min timed reading. Then, they answered the two comprehension questions. After reviewing the words from the passage they read, they progressed to the next reading passage. Students read at least two passages per session.

Several pre- and posttests were administered to assess word reading accuracy, word reading efficiency, word comprehension, fluency rate, and passage comprehension: the Word Identification and Word and Passage Comprehension subtests of the WRMT-NU, the Sight Word subtest from the TOWRE, and oral reading fluency as assessed by the *Dynamic Indicators of Basic Early Literacy Skills* (DIBELS; Good & Kaminski, 2002).

Significant treatment effects were reported for word comprehension and passage comprehension. Results revealed that the treatment group students outperformed the control group students ranking in the 30th percentile at the posttests of both word comprehension and passage comprehension, whereas the control group averaged in the 25th and 10th percentiles, respectively. However, no significant differences were found for oral reading fluency.

Vadasy and Sanders (2008) noted that students did not increase their reading fluency skills significantly through the *Quick Reads* program. The analysis of correlations revealed that the lack of treatment effects for fluency rate was attributed to the low word-level reading skills of the participants ($r = .42, p < .001$). To promote reading fluency for students with

deficiencies in basic word-level reading, the researchers suggested implementation of explicit word-level reading instruction targeting the alphabetic principle and decoding skills along with repeated reading practices.

Peer-mediated Repeated Reading

Musti-Rao, Hawkins, and Barkley (2009) examined the effects of a peer-mediated repeated reading intervention on oral reading fluency. The participants included 12 African American students at-risk for reading failure from an urban fourth-grade classroom; 6 students were receiving special education services in a special education classroom.

The peer-mediated reading intervention was conducted in the general education classroom during independent reading time. The 12 students were divided into three groups, and only the first group participated in the intervention initially. The intervention lasted 17, 12, and 6 weeks for each group, respectively. When the third group of the target students engaged in the intervention sessions, the whole class participated in the intervention. Although some of the target students were paired with their classmates, data were collected only for the target students.

For the intervention, the students sat across from their partners and read each paragraph of the passage for 10 min by taking turns. The students then read the passage again for another 10 min correcting their partners' errors. Prior to the intervention, all students were trained how to implement tutoring procedures. After the repeated reading, individual students read the practiced text for 1 min and counted the number of words read correctly.

The authors calculated individual effect sizes and the percentage change by comparing the mean level of performance during baseline with the mean level of performance during

intervention. The mean percentage change was 39.8%; effect sizes indicated that the intervention had a moderate-to-large effect on oral reading fluency.

Overall, the results indicated all students made gains in oral reading fluency on trained passages. The study supported the idea that the repeated reading intervention was beneficial for the struggling students in an inclusive urban classroom setting. The researchers suggested that implementing RR instruction along with vocabulary- and comprehension-building interventions would contribute to achievement of ultimate goal of reading programs, reading comprehension.

Repeated Reading of Entire Text versus Multiple Exemplars

Silber and Martens (2010) compared a multiple exemplar (ME) approach to a listening passage preview/repeated reading (LPP/RR) intervention to determine whether practicing exemplars was an effective method for generalizing students' oral reading fluency. The study was conducted in three urban schools in the Northeast with 111 first- and second-grade students who scored between 15 and 65 CWPM on the screening reading passages. Participants were randomly assigned to either a control group or 1 of 2 intervention conditions: multiple exemplar or listening passage preview/repeated readings. Approximately 10 min interventions took place in a small-group format in separate rooms.

The reading passages used for listening passage preview/repeated reading intervention consisted of 16 sentences that emphasized four key words and four sentence structures. For the LPP/RR, the primary author read the intervention passage to 3-4 students to provide a model of fluent reading. Students pointed to each word with their finger to show that they followed along as it was read, and then they read the same intervention passage three times by

reading chorally. If a student made an error, the researcher stopped and taught how to pronounce the word. All students in the small group repeated the word three times in unison. During the ME intervention, students went through the same intervention procedures as the LPP/RR condition except that students practiced four representative sentences taken from the intervention reading passage. For the control group, 3-4 students completed math worksheets in a small group setting.

While the first author led all intervention sessions, the second author and the other researchers administered pre- and posttests to monitor students' growth. Immediately after implementing intervention, the researchers assessed students' reading on the intervention and generalization passages, which was designed to measure generalization from trained passages to unfamiliar passages. The generalization reading material included 16 sentences with four identical sentence structures to those used in the intervention passage, but with different four key words; 70% of the generalization passage overlapped the intervention passage.

Results of the one-way ANOVA revealed that the multiple exemplar approach was effective at improving fluency on the practiced passage ($F_{(2,108)} = 19.62, p < .008$). The students in the LPP/RR group also significantly outperformed the control group ($p < .008$) although the mean gain score for the LPP/RR was not statistically different from the ME group ($p = .363$).

Results of another one-way ANOVA indicated a significant ME intervention's effect on fluency improvement on the generalization passage ($F_{(2,108)} = 6.91, p < .008$). The mean gain score for the ME group was statistically different from the control group ($p < .008$), but

not statistically different from the LPP/RR group; no significant differences were found between the LPP/RR and the control group ($p = .017$).

In this study, all participants benefited from both interventions, increasing their oral reading rates on the practiced passages whereas only the multiple exemplar intervention resulted in significant fluency gains on the generalization passage. The authors recommended that future research should conduct a delayed assessment to evaluate maintenance of gained skills. Moreover, they also noted that results could be strengthened by using far transfer passages because they used near transfer passages which contain 70% of word overlap with the intervention passage.

Reread-Adapt and Answer-Comprehend (RAAC)

Therrien, Kirk, and Woods-Groves (2012) compared the repeated reading strategy of the *Reread-Adapt and Answer-Comprehend* (RAAC; Therrien, Gormley, & Kubina, 2006) intervention to the non-repetitive RAAC reading strategy to determine whether rereading is critical to improve reading performance. The study was conducted in southeastern Iowa school district, and 30 students in Grades 3 to 5 served as the participants. The students were randomly assigned to the repeated reading ($n = 10$) or the nonrepetitive reading ($n = 20$) conditions. During a 4-month study period, students completed fifty 15-min intervention sessions with two trained paraprofessionals in a one-on-one format under the response to intervention (RTI) framework. In addition to the supplemental instruction provided through the treatment, all participants also received Tier 1 reading instruction in their general education classroom.

Students in the repeated RAAC group read the passage as quickly as they could and then answered the cue card questions. Students received performance feedback on speed, accuracy, and prosody as well as error corrections during repeated reading sessions. After answering the cue card questions orally with the paraprofessional's scaffolded assistance, students answered four factual and four inferential comprehension questions about what they read. The researchers adjusted the difficulty of reading passages so that students could read the pre-established number of correct words per min within two to four reading trials in the subsequent session.

Students in the non-repeated RAAC condition received a modified version of the RAAC program. The nonrepetitive RAAC instructional procedures were the same with the following exceptions: students read each passage only one time, and they read two different passages and did related activities while students in repeated reading condition completed their intervention.

Two pre- and post-measures were used: the Oral Reading Fluency (ORF) measure of the *Dynamic Indicators of Basic Early Literacy Skills* (DIBELS; Good & Kaminski, 2002) and the *Broad Reading* subtests of the *Woodcock-Johnson III* (WJ-III; Woodcock et al., 2001). The pretests were administered during the 2 weeks prior to intervention, and the posttests were administered after the completion of the interventions.

Dependent *t* tests were conducted to examine the interventions' effects on reading fluency. Results indicated students in both the repeated RAAC and the non-repeated RAAC groups made significant gains from pretest to posttest on the oral reading fluency measures ($t = 3.39, p = .007$ and $t = 6.05, p < .005$, respectively). ANCOVA results were not

significantly different between two groups. Similarly, students in the repeated reading group demonstrated statistically significant improvement in their general reading skills from pretest to posttest, as measured by the WJ-III ($t = 2.89, p = .01$). Students in the nonrepeating reading condition also had statistically significant increases ($t = 5.53, p < .0005$). However, ANCOVA results found no statistically significant differences between the conditions.

The findings of the study revealed both RAAC programs led to significant fluency improvement and increased overall reading achievement of students with reading deficits. Therrien et al. (2012) concluded oral reading practice with feedback and providing reading materials based on students' reading abilities resulted in the maximized students' reading achievement. The researchers recommended additional studies be conducted to investigate when and with whom passage repetition should be practiced.

Fluency Approaches

Wagner and Espin (2015) conducted a study to evaluate the relative effects of four different intervention approaches on reading fluency performance: word-oriented, fluency-oriented, comprehension-oriented, and multi-component interventions. Of four interventions, the fluency-oriented approach used repeated reading procedures. A total of 29 fifth- and sixth-grade students from two suburban schools in the Midwest participated in the study. Twelve students received special education services and all had reading goals on their individualized education plans: eight for learning disabilities, two for emotional and behavior disorders, and two for attention deficit hyperactivity disorder. Students participated in all four types of interventions (fluency-oriented, word-oriented, comprehension-oriented, multi-component, and control) over a 2-week time frame. The author delivered 45 min of instruction for each

intervention in a one-on-one format. Reading fluency was assessed with both instructional and transfer passages immediately and 1 week following instruction.

The study used a within-participant design in which all participants received all interventions. All interventions were compared with a control condition where no intervention was implemented. First, a MANOVA was conducted to determine the relative effects of the four intervention conditions compared with the control condition on immediate instructional fluency, immediate transfer fluency, delayed instructional fluency, and delayed transfer fluency. ANOVAs were then conducted four times to examine whether each intervention was effective on improving generalization. To examine the relative effects of each intervention, each ANOVA was followed with a pairwise *t* test.

MANOVA results were significant ($F_{(13, 16)} = 33.51, p < 0.001$). ANOVAs demonstrated that all the four reading interventions were effective: immediate instructional fluency ($F_{(4,112)} = 75.43, p < 0.001$); immediate transfer fluency ($F_{(4,112)} = 34.05, p < 0.001$); delayed instructional fluency ($F_{(4,112)} = 54.21, p < 0.001$); and delayed transfer fluency ($F_{(4,112)} = 21.6, p < 0.001$). These results indicated that word-oriented, fluency-oriented, and multi-component interventions resulted in significantly greater reading fluency scores on the instructional passage when compared with the control group. Moreover, the effects transferred to non-instructional passages and were maintained over a 1-week period. Effect sizes were large, ranging from 1.26 to 1.84. Fluency-oriented intervention (repeated reading) had the largest ES of 1.84. On the transfer passages, the fluency-oriented and multi-component interventions significantly increased greater reading fluency rates compared with the control

group. The ES was moderate for the fluency-oriented (0.7) and large for the multi-component intervention (1.02). Effects were also maintained at delayed measurements.

The researchers concluded that while the fluency-oriented approach had the largest effect on the instructional passages, the multi-component approach resulted in the largest effect on the immediate and 1-week delayed transfer passages. The study provides more support for a fluency-oriented or a multi-component intervention for improving reading fluency for struggling readers over a word- or comprehension-oriented approach.

Summary

In this chapter, I reviewed 10 studies that examined the effectiveness of repeated reading on oral reading fluency. Table 2 summarizes the findings of these studies, which are discussed in Chapter II.

Table 2

Summary of Chapter II Findings

AUTHORS	PARTICIPANTS /SETTINGS	PROCEDURE	FINDINGS
Begeny & Martens (2006)	12 third-grade students from one urban school in the Northeast	Students participated in a small group fluency-building intervention consisting of several strategies: the word-list training (WLT), phrase-drill (PD), listening passage preview (LPP), and repeated reading (RR).	Repeated reading can be effective when combined with other fluency interventions to address groups of three or more struggling readers.
Denton, Fletcher, Anthony, & Francis (2006)	27 first-, second- and third-grade students from four Southwest urban schools	The participants with severe reading impairments received an intensive decoding (<i>Phono-Graphix</i>) program and modeled repeated reading strategies (<i>Read Naturally</i>) for 8 weeks, respectively.	While the <i>Phono-Graphix</i> significantly improved students' decoding, spelling, fluency, and comprehension, the <i>Read Naturally</i> yielded significant growth in fluency. After the 16-week intervention, both groups significantly improved their decoding, fluency, and comprehension skills.
Therrien & Kubina (2007)	16 students in Grades 3 to 5 from one elementary school in Pennsylvania	After the students attended two conditions for 3 days: repeatedly reading connected passage aloud and repeatedly reading words in isolation, the number of word errors and the number of readings required to achieve the pre-established criterion were documented.	The researchers concluded that when implementing repeated reading, reading words in context was superior to reading randomized words for improving reading fluency.
O'Connor, White, & Swanson (2007)	37 students (16 second graders and 21 fourth graders) from eight classes	Struggling readers were randomly assigned to a control group or 1 of 2 reading interventions: repeated reading and continuous reading. The students received 15 min intervention 3 days per week for 14 weeks. Three reading measures were administered as pre-, midway, and posttests.	Both repeated reading and continuous reading were effective at improving oral reading fluency. Corrective feedback was an important factor for improving students' reading fluency.

Table 2 (continued)

AUTHORS	PARTICIPANTS /SETTINGS	PROCEDURE	FINDINGS
Therrien & Hughes (2008)	32 students in Grades 4 to 6 from a central Pennsylvania school district	Students participated either in the repeated reading or the question generation intervention groups for 4 consecutive days. Number of CWPM and number of comprehension questions answered correctly were collected.	Repeated reading was more effective at increasing reading fluency than a question generation intervention. Repeated reading students significantly outperformed question generation students on factual comprehension measures.
Vadasy & Sanders (2008)	119 fourth- and fifth-graders in a Northwestern school district	The students were randomly assigned to dyads, which were then randomly assigned to either the <i>Quick Reads</i> treatment or the control groups.	<i>Quick Reads</i> program did not increase students' reading fluency outcomes significantly because many of students struggled with basic word-reading skills.
Musti-Rao, Hawkins, & Barkley (2009)	12 fourth-grade students in an urban charter school in the Midwest	Three groups of 12 participants participated in the peer-mediated repeated reading interventions for 17, 12, and 6 weeks respectively in the general education classroom.	The peer-mediated repeated readings in an inclusive setting improved all 12 students' oral reading fluency.
Silber & Martens (2010)	111 first- and second-grade students from three urban schools in the Northeast	Students participated in 10 min multiple exemplar or listening passage preview/repeated readings intervention three days per week. For the control group, students completed a math worksheet. Immediately after intervention, students' reading performances on the intervention and generalization passages were assessed.	Data demonstrated (a) both multiple exemplar and listening passage preview/repeated readings intervention were effective for increasing oral reading fluency on the intervention passages and (b) practicing representative sentences of the passage was more efficient than practicing the entire passage for generalizing fluency skills.

Table 2 (continued)

AUTHORS	PARTICIPANTS /SETTINGS	PROCEDURE	FINDINGS
Therrien, Kirk, & Woods- Groves (2012)	30 students in Grades 3 through 5	Students participated in the <i>Reread-Adapt and Answer- Comprehend (RAAC)</i> intervention with and without passage repetition for 4 months. To measure students' reading growth, DIBELS-ORF and the WJ-III <i>Broad Reading</i> subtests were used for pre- and posttest.	After participating in 50 intervention sessions, all participants improved their oral reading fluency rates and general reading achievement. Despite the lack of significant differences, non-repetitive RAAC condition was more effective at increasing CWPM than the repeated reading condition.
Wagner & Espin (2015)	11 fifth- and 18 sixth-grade students from two suburban schools in the Midwest	After implementing four interventions (fluency-oriented, word-oriented, comprehension- oriented, and multi-component), the reading fluency performance was measured by the immediate and the 1-week delayed test.	The fluency-oriented intervention had greater generalization than word- oriented intervention. The multi-component intervention had more consistent effects than the fluency-oriented intervention.

Chapter III: Conclusions and Recommendations

Fluency is one of the most important fundamental skills for becoming a good reader. Thus, the purpose of this paper was to examine the effects of repeated reading intervention on the reading fluency skills of elementary grade students with reading difficulties. In Chapter I, I addressed the importance of fluency as a critical reading skill and discussed historical and theoretical background information. In Chapter II, I summarized the findings of 10 studies that evaluated the effectiveness of repeated reading interventions. In this chapter, I discuss the conclusions that I drew from the findings of the research studies presented in Chapter II in addition to recommendations for future research and implications for current practice.

Conclusions

The repeated reading interventions described in Chapter II were implemented in different ways across 10 studies. Four studies used repeated reading as the primary and supplemental instruction to aid in students' fluency (O'Connor et al., 2007; Therrien & Hughes, 2008; Therrien & Kubina, 2007; Wagner & Espin, 2015). Six studies implemented repeated reading interventions in combination with other reading strategies or programs (Begeny & Martens, 2006; Denton et al., 2006; Musti-Rao et al., 2009; Silber & Martens, 2010; Therrien et al., 2012; Vadasy & Sanders, 2008).

Five studies that investigated repeated reading combining several other approaches indicated that repeated reading produced gains for more balanced reading skills as well as reading fluency. Specifically, the repeated reading package program including word-listing training, phrase drill, and listening passage preview was beneficial for small groups of

struggling readers by addressing varying students' weak skills (Begeny & Martens, 2006). Moreover, Denton et al. (2006) demonstrated that even readers with persistent and severe reading impairments who had not responded to previous interventions improved their word recognition, fluency, and comprehension skills following the repeated reading practice along with *Phono-Graphix*—an intensive decoding program.

Nine of 10 research studies produced statistically significant gains in fluency on practiced passages for low-skilled readers at the elementary level. Only one study did not result in significant gains using the *Quick Reads* program (Vadasy & Sanders, 2008). The researchers explained that participants' initial word-level reading skills were too low to allow them to develop reading fluency. However, an analysis of the findings reveals several critical components of repeated reading that enhanced students' fluency. Reading words in connected text (Therrien et al., 2006; Wagner & Espin, 2015), modeling fluent reading (Denton et al., 2006; Musti-Rao et al., 2009; Silber & Martens, 2010; Wagner & Espin, 2015), error correction and performance feedback (O'Connor et al., 2007; Therrien & Hughes, 2008; Therrien et al., 2012; Wagner & Espin, 2015), and adjusting difficulty of reading passage (O'Connor et al., 2012) all contributed to the success of the repeated reading intervention.

Two of the studies directly compared repeated reading to nonrepetitive reading conditions and found no significant differences between conditions. Specifically, O'Connor et al. (2007) reported no treatment effects between the repeated reading and continuous reading conditions. The researchers explained no significant differences between two groups may be attributed to the highly redundant words across passages. Additionally, Therrien et al. (2012) also found no significant differences between the repetitive *Reread-Adapt and Answer-*

Comprehend (RAAC) and the nonrepetitive *RAAC*. They concluded that oral reading practice with error correction and performance feedback improved the students' fluency in the nonrepetitive condition.

Although fluency transfer is one of the characteristics of fluent readers (Hudson, Lane, & Pullen, 2005), six of the studies included generalization measures assessing whether fluency gains obtained through repeated reading transferred to subsequent passages and mixed results were found. The repeated reading intervention positively influenced students' reading fluency outcomes on unpracticed materials (Begeny & Martens, 2006; Silber & Martens, 2010; Wagner & Espin, 2015). In particular, a group-based fluency-building package including repeated reading (Begeny&Martens, 2006), modified repeated reading using a multiple exemplar strategy (Silber & Martens, 2010), and reading words in context rather than in isolation (Wagner & Espin, 2015) promoted generalization of oral reading fluency. In contrast, findings were not significant regarding fluency transfer to unpracticed passages for repeated reading in three studies (Musi-Rao et al., 2009; Therrien & Hughes, 2008; Therrien & Kubina, 2007).

In addition to fluency achievement, several studies confirmed previous findings that increased fluency skills had a positive impact on comprehension skills. In the Begeny and Martens' study (2006), students significantly improved comprehension skills from pre- to posttests (Begeny & Martens, 2006), and students in the repeated reading group outperformed the control group on comprehension measures (O'Connor et al., 2007). The repeated reading group also answered significantly more factual comprehension questions than the question generation group (Therrien & Hughes, 2008).

Overall, results for repeated reading interventions have been positive both alone and in combination with other interventions. Repeated reading improved students' reading fluency on practiced passages, but these gains did not always generalize to new readings. Moreover, these results are consistent with previous findings that fluency is positively related to comprehension.

Recommendations for Future Research

Repeated reading can be an effective intervention to improve students' reading fluency skills and enhance reading comprehension of elementary-aged students with reading difficulties. However, repeated reading should be implemented with caution because there are a number of limitations that should be addressed in future research studies.

In order to determine the benefits of repeated reading for students with different disabilities, research should be conducted with elementary students across other disability categories because most of the students referred to special education have reading deficits (Therrien et al., 2012).

Many researchers recommended future research explore how repeated reading interventions can be implemented during general class instruction in inclusive classroom settings to provide low-achieving readers with early reading interventions (O'Connor et al., 2007) because the interventions were mostly conducted as a one-on-one or small group instruction in pulled-out settings.

Several studies were conducted over 3-4 days (Therrien & Hughes, 2008; Therrien & Kubina, 2007). Because the shorter time period may have led to limited treatment effects, many researchers recommended extended time periods for future studies.

Silber and Martens (2010) also mentioned additional research is needed to examine whether students can maintain their fluency gains over time. Only 1 of 10 studies conducted the 1-week delayed test to measure the long-term effect of the intervention (Wagner & Espin, 2015). In terms of fluency transfer, most studies used near transfer passages which contained many word overlap with the instructional passages; thus, future research should examine far transfer effect by using passages with varying difficulties and unknown words.

None of the studies used measures of reading prosody. Therefore, it is unknown if repeated reading practice impacted students' proper expression achievement (Therrien & Hughes, 2008). Because fluency consists of accuracy, rate, and prosody (NRP, 2000), future research needs to investigate the effects of repeated reading on this component of fluency.

Several researchers recommended further research be conducted to decide when and/or with whom repeated reading interventions are necessary in order to provide effective guidance for teachers implementing reading fluency programs (Silber & Martens, 2010; Therrien et al., 2012).

Implications for Current Practice

Non-fluent readers need good modeling to learn how to read fluently and must be provided with opportunities to practice reading. From this literature review, I have found that struggling readers at elementary level made progress in their reading fluency through the repeated reading method. I have also learned a number of implications for my own teaching.

To promote the development of fluency, I will implement repeated reading along with other reading interventions. Implementing repeated reading will take about 10 to 20 minutes, so I can easily implement it as one activity of my reading instruction such as word

recognition, high-frequency words, spelling patterns, and comprehension. Because fluency is highly dependent on the reader's vocabulary as well as on decoding skills (Pikulski & Chard, 2005), I will decide whether I implement repeated reading alone or incorporate other reading interventions targeting different skills based on my students' needs. Additional interventions addressing students' skill deficits in reading would maximize students' reading outcomes.

Another way to implement repeated reading is through independent reading time if possible. The school where I worked has allocated time for independent reading, called Drop Everything and Read (DEAR) time, during which time students engage in silent reading. Despite the merit of silent reading that students can build a habit for independent reading, I found repeated reading would be more beneficial for students who need to build their oral reading fluency.

Given these positive results of the studies, I will implement the repeated reading intervention in my future career. I would love to see students achieve their reading fluency.

Summary

Reading fluency—particularly oral reading fluency—is critical for developing the comprehension skills necessary to becoming a good reader. The results of the studies reviewed in Chapter II support the hypothesis that repeated reading intervention should be included with other reading programs to help readers build balanced reading skills. Given the fact that building fluency skills requires coordination of various subskills (Wagner & Espin, 2015) and that students have a wide range of skills, implementing repeated reading along with additional instruction in phonics, vocabulary, and comprehension will allow struggling

readers to become more fluent readers who are better able to comprehend the material they read.

References

- Allinder, R. M., Dunse, L., Brunken, C. D., & Obermiller-Krolikowski, H. J. (2001). Improving fluency in at-risk readers and students with learning disabilities. *Remedial and Special Education, 22*, 48-54.
- Archer, A., Gleason, M. M., & Vachon, V. L. (2003). Decoding and fluency: Foundation skills for struggling older readers. *Learning Disability Quarterly, 26*, 89-101.
- Begeny, J. C., Daly, E. J., & Vallely, R. J. (2006). Improving oral reading fluency through response opportunities: A comparison of phrase drill error correction with repeated readings. *Journal of Behavioral Education, 15*, 229-235.
- Denton, C. A., Fletcher, J. M., Anthony, J. L., & Francis, D. J. (2006). An evaluation of intensive intervention for students with persistent reading difficulties. *Journal of Learning Disabilities, 39*, 447-486.
- Ehri, L. C. (1998). Grapheme-phoneme knowledge is essential for learning to read words in English. In J. L. Metsals & L. C. Ehri (Eds.), *Word recognition in beginning literacy* (pp. 3-40). Mahwah, NJ: Erlbaum.
- Fuchs, L. S., Fuchs, D., Hosp, M. D., & Jenkins, J. (2001). Oral reading fluency as an indicator of reading competence: A theoretical, empirical, and historical analysis. *Scientific Studies of Reading, 5*, 239-259.
- Gay, L. R., Mills, G. E., & Airasian, P. W. (2012). *Educational research: Competencies for analysis and applications* (10th ed.). Upper Saddle River, NJ: Prentice Hall.

- Good, R. H., & Kaminski, R. A. (Eds.). (2002). *Dynamic indicators of basic early literacy skills* (6th ed.). Eugene, OR: Institute for the Development of Education Achievement.
- Hasbrouck, J., & Tindal, G. A. (2006). Oral reading fluency norms: A valuable assessment tool for reading teachers. *International Reading Association, 10*, 636-644.
- Hiebert, E. H. (2003). *Quick reads*. Parsippany, NJ: Pearson Learning.
- Hudson, R., Lane, H., & Pullen, P. (2005). Reading fluency assessment and instruction. *International Reading Association, 10*, 702-714.
- Hudson, R., Pullen, P., Lane, H., & Torgesen, J. (2009). The complex nature of reading fluency: A multidimensional view. *Reading and Writing Quarterly, 25*, 4-32.
- Ihonot, C., Mastoff, J., Gavin, J., & Hendrickson, L. (2001). *Read naturally*. St. Paul, MN: Read Naturally.
- Kim, Y. G., & Wagner, R. K. (2015). Text reading fluency as a construct in reading development: An investigation of its mediating role for children from grades 1 to 4. *Scientific Studies of Reading, 19*, 224-242.
- Kuhn, M. R., & Stahl, S. A. (2003). Fluency: A review of developmental and remedial practices. *Journal of Educational Psychology, 95*, 3-21.
- LaBerge, D., & Samuels, S. (1974). Toward a theory of automatic information processing in reading. *Cognitive Psychology, 6*, 293-323.

- Lo, Y., Cooke, N. L., & Starling, A. L. (2011). Using a repeated reading program to improve generalization of oral reading fluency. *Education and Treatment of Children, 34*, 115-140.
- McGuiness, C., McGuiness, D., & McGuiness, G. (1996). Phono-graphix: A new method for remediating reading difficulties. *Annals of Dyslexia, 46*, 73-96.
- Meisinger, E., Bloom, J., & Hynd, G. (2010). Reading fluency: Implications for the assessment of children with reading disabilities. *Annals of Dyslexia, 60*, 1-17.
- Musti-Rao, S., Hawkins, R.O., & Barkley, E. A. (2009). Effects of repeated readings on the oral reading fluency of urban fourth-grade students: Implications for practice. *Preventing School Failure, 54*, 12-23.
- National Assessment of Educational Progress (NAEP). (2011). *National assessment of educational progress at grade 4, reading assessment*. Washington, DC: U.S. Department of Education.
- National Institute of Child Health and Human Development (NICHD). (2000). *Report of the National Reading Panel. Teaching children to read: An evidence-based assessment of the scientific research literature on reading and its implications for reading instruction* (NIH Publication No. 00-4769). Washington, DC: U.S. Government Printing Office.
- National Reading Panel (NRP). (2000). *Teaching children to read: An evidence-based assessment of the scientific research literature on reading and its implications for reading instruction*. Retrieved from [http://www. Nichd.nih.gov/publications/nrp/smallbookhtm](http://www.Nichd.nih.gov/publications/nrp/smallbookhtm).

- O'Connor, R. E., White, A., & Swanson, H. L. (2007). Repeated reading versus continuous reading: Influences on reading fluency and comprehension. *Exceptional Children, 74*, 31-46.
- Pikulski, J. J., & Chard, D. J. (2005). Fluency: Bridge between decoding and reading comprehension. *International Reading Association, 58*, 510-519.
- Rasinski, T. V. (2004). Creating fluent readers. *Educational Leadership, 61*, 46-51.
- Read Naturally, Inc. (2009). *Read Naturally* (Software ed). St. Paul, MN. Retrieved from www.ReadNaturally.com.
- Samuels, S. J. (1979). The method of repeated readings. *The Reading Teacher, 32*, 403-408.
- Shanker, J. L., & Ekwall, E. E. (2000). *EKwall/Shanker Reading Inventory* (4th ed.). Boston: Allyn and Bacon.
- Silber, J. M., & Martens, B. K. (2010). Programming for the generalization of oral reading fluency: Repeated readings of entire text versus multiple exemplars. *Journal of Behavior Education, 19*, 30-46.
- Stahl, S. A. (2004). What do we know about fluency? Findings of the National Reading Panel. In P. McCardle & V. Chhabra (Eds.), *The voice of evidence in reading research* (pp.187-211). Baltimore: Brookes Publishing Co.
- Staudt, D. H. (2009). Intensive word study and repeated reading improves reading skills for two students with learning disabilities. *The Reading Teacher, 63*, 142-151.
- Stanovich, K. E. (1986). Matthew effects in reading: Some consequences in individual differences in the acquisition of literacy. *Reading Research Quarterly, 21*, 360-407.

- Therrien, W. J., Gormly, S., & Kubina, R. M. (2006). Boosting fluency and comprehension to improve reading achievement. *Teaching Exceptional Children, 38*, 22-34.
- Therrien, W. J., & Hughes, C. (2008). Comparison of repeated reading and question generation on students' reading fluency and comprehension. *Learning Disabilities, 6*, 1-16.
- Therrien, W. J., & Kubina, R. M. (2006). Developing reading fluency with repeated reading. *Intervention in School and Clinic, 41*, 156-160.
- Therrien, W. J., & Kubina, R. M. (2007). The importance of context in repeated reading. *Reading Improvement, 44*, 179-188.
- Therrien, W. J., Kirk, J. F., & Woods-Groves, S. (2012). Comparison of a repeated fluency intervention with and without passage repetition on reading achievement. *Remedial and Special Education, 33*, 309-319.
- Torgesen, J. K., Wagner, R. K., & Rashotte, C. A. (1999). *Test of word reading efficiency*, Austin, TX: PRO-ED.
- Vadasy, P. F., & Sanders, E. A. (2008). Benefits of repeated reading intervention for low-achieving fourth- and fifth-grade students. *Remedial and Special Education, 29*, 235-249.
- Vaughn, S., & Linan-Thompson, S. (2004). *Research based methods of reading instruction: Grades K-3*. Alexandria, VA: Association for Supervision and Curriculum Development.

Wagner, D. L., & Espin, C. A. (2015). The reading fluency and comprehension of fifth- and sixth-grade struggling readers across brief tests of various intervention approaches.

Reading Psychology, 36, 545-578.

Wiederholt, J. L., & Bryant, D. R. (2002). *Gray Oral Reading Test-Fourth Edition*. Austin, TX: PRO-ED.

Woodcock, R. (1998). *The Woodcock Reading Mastery Tests-NU*. Circle Pines, MN: American Guidance Service.

Woodcock, R. W., McGrew, K. S., & Mather, N. (2001). *Woodcock-Johnson III*. Itasca, IL: Riverside Publishing.

Woods, M. L., & Moe, A. J. (1999). *Analytical Reading Inventory-Sixth Edition*. New York: Prentice Hall.