THE COMPARATIVE EFFECTS OF SUSTAINED SILENT READINGS AND
REPEATED READINGS ON READING FLUENCY AND COMPREHENSION OF
STUDENTS AT-RISK FOR READING FAILURE

A Thesis

Presented in Partial Fulfillment of the Requirements for

The Degree Master of Arts in the

Graduate School of The Ohio State University

By

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2005

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ABSTRACT

This study compared the effects of sustained silent readings and repeated readings on oral reading fluency and comprehension of at-risk students from a 2nd grade class in an urban school with low performance on WJ-III subtests and DIBELS fall benchmark assessments. A multiple baseline across subjects experimental design was used. Intervention was conducted over a 4-16 week period consisting of Repeated Reading. Variables measured were reading fluency: number of correct words read per minute and reading comprehension: number of comprehension items answered correctly. During baseline condition (sustained silent reading) students read grade level passages independently and silently for 10 minutes. They were tested in fluency and comprehension during one minute timings. During the interventions condition (paired repeated reading) students worked in pairs, taking turns reading the passage orally for 10 minutes. They were also tested in fluency and comprehension during one minute timings. The dependent variables in this study were number of words read per minute and the number of comprehension questions answered correctly. Results indicate that students’ oral reading fluency and comprehension skills stayed consistent with sustained silent readings, but improved with repeated readings.
ACKNOWLEDGMENTS

I wish to communicate my heartfelt appreciation to my advisor, Dr. Gwendolyn Cartledge, for the significant and sincere way that she has supported me and this research, and also for plenty of guidance and patience. Thank you to Dr. Ralph Gardner for serving as my second reader; Lefki Kourea, Shobana Musti and Amanda Yurick for being so incredibly giving of time and resources; and to Stephanie Hawkins for putting in time, effort and zeal to help collect data, listen, and be a great friend. Thanks to Nathan, Debbie, Erika, Kathy, Julie, Rodney, Rachel, Tera, Melissa, Angella, Erika, Stacy, Karen and Sarah for being a great study-buddy, support system, cohort or friend, I never would have made it without you. Finally, thanks to Mom, Dad, Nick, Scott, Brock, Grandma and Grandpa for your never-ending source of love, encouragement, laughter and above all a belief in me. As Elle Woods would say, “We did it!”
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CHAPTER 1

INTRODUCTION

According to Vaughn, Levy, Coleman & Bos (2002) school success is contingent on knowing how to read, and comprehending what is read. Vaughn, Levy, Coleman & Bos (2002) also suggest that 90% of students with a learning disability show trouble with learning to read. One reason may have been the lack of a chance to practice (Christenson, O’Sullivan, Thuriow, Ysseldyke, 1990). Many times it is found that students are off-task, working alone on remotely related activities such as worksheets, or waiting for teacher led academics to begin (Gelzheizer & Meyers, 1991). It was found by Mathes and Fuchs (1993) that 70% of students’ school time is spent watching and listening to the teacher without time to respond, and only a very small amount of time is actually spent on reading. One way to increase the number of opportunities to respond is to include peer-mediated activities in classroom instruction (Greenwood, Carta & Kamps, 1990; Mathes & Fuchs, 1993). During peer-mediated interventions, students actively engage in their learning more often than during traditional instructional methods. Thus, peer mediation may be a viable tool for increasing reading achievement.

Ability in phonemes, phonics, word analysis, fluency and comprehension is only possible with logical training of these elements (Vaughn, Levy, Coleman & Bos, 2002).
Most students who have some type of disability also have problems with learning to read fluently (Adams, 1990). According to the National Reading Panel reading fluency is defined as the ability to read with speed, accuracy and expression (NRP, 2000). Word reading skills and reading comprehension are repeatedly expressed as problems; however, a deficiency in reading fluency is a highly frequent trait of students who have difficulty reading (Adams, 1990). A decrease in fluency indicates that because a student will have a slower rate of reading, they will also have less of a chance to recognize words, understand meaning, or realize the importance what they are reading (Samuels, 1987). Henk, Helfeldt, & Platt (1986) stated that many programs have been constructed to work on comprehension but the failure to consider directly a fluency component directly makes these programs incomplete. They also note that comprehension instruction cannot balance a sluggish, awkward reading rate. Suggestions have been made that reading fluency can be increased by the processes of repeated readings. Repeated readings improve both fluency and comprehension (Samuels, 1997) and increase word recognition (Dowhower, 1994). A repeated reading intervention also leads to a decrease in errors of word recognition (Dowhower, 1994; Samuels, 1997).

Various methods have been employed to improve oral reading fluency, including combinations of contingent reinforcement, modeling, previewing, and performance feedback (Daly & Martens, 1994; Skinner, Cooper, & Cole, 1997). Educators should consider the instructional method that is most efficient and effective for dealing with student reading difficulties. Peer-mediated repeated reading instruction has been shown through research to be a promising method in this case (Samuels, 1979; Dowhower, 1989). Repeated readings (RR), typically entails students rereading a passage of text with
a partner or instructor, or independently. Fluency is measured during the first reading of the text. The student then practices rereading the passage independently (Samuels, 1997). Practice is maintained on the same passage until the student meets a preset fluency criterion. Speed is more important than accuracy in this method because fluency is expected to increase when the student pays more attention to speed (Samuels, 1997). With significant gains in speed and accuracy among each new passage, Samuels asserts that students' confidence was increased by their progress and they were partial to the repeated reading intervention.

Purpose of the Study

The purpose of this study was to assess the effectiveness of repeated reading and sustained silent reading on the oral reading fluency and comprehension of six urban second-grade students at risk for reading failure. Additionally, the study proposed to investigate the effects of repeated readings on the opinions of students, parents and classroom teacher. This study was a continuation of previous research by Amanda L. Yurick (2002) and John E. Staubitz (2004). A major difference in this study compared to those mentioned is the direct study of the relative effects of repeated reading and sustained silent reading. To this end, a control group was included who did not receive intervention. Experimental students were also compared to their classmates of who were performing at a higher reading level than the experimental students. An additional difference was the limit of number of repetitions for any grade level passage. This was done in order to more accurately assess the performance of the experimental and control students by controlling for the effects of memorization.
Review of Literature

A review of research literature is provided below with respect to the effects of sustained silent reading and repeated reading on student learning. The effectiveness of peer-mediated practices, and the qualities and reading abilities of urban learners are also examined.

Sustained Silent Reading

Meyers (1998) proposes that sustained silent reading is a widely used method to encourage reading in countless schools’ reading curriculums. Sustained silent reading was originally started by Dr. Lyman Hunt, Jr. in the 1960’s after selecting a goal of developing student ability to read silently without interruption (Fiaspeter, 1995). SSR was used in public schools to develop students who know how to read and will read (Meyers, 1998).

Reading Today (2001) depicted a school in Lincoln City, Indiana, where a parent survey showed that 82% of parents found their children reading for pleasure at home due to a school-wide sustained silent reading program. According to Meyers (1998) SSR gives students time to practice reading. Unfortunately, for learners with difficulties in decoding words and reading independently without error correction, sustain silent reading is not the most effective solution. Fuchs and Mathes (1993) indicated that fluency decreases, miscues increase, and comprehension became more difficult when text was at a frustration level for a student. Students who have read orally rather than just silently are more likely to utilize silent reading time because they are able to understand what they

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are reading (Dudley-Marling & Rhodes, 1996). It is also suggested that struggling readers need frequent opportunities to read and often times SSR does not meet this need (Dudley-Marling & Rhodes, 1996). Although there are some supportive data such as the study by Melton (1993) who reports SSR research showing a 4% increase in comprehension and a 7% increase in accuracy, a comprehensive review by the National Reading Panel (2000) failed to find a positive connection between sustained silent reading and advancement in reading success, including fluency.

For the most part SSR researchers argue that SSR programs improve reading capability in part because they are simple to implement (Dudley-Marling & Rhodes, 1996) and promote an improvement in reading attitude (Melton, 1993). However repeated reading has also been found to be easily implemented (Dowhower, 1989) and leads to a more in positive attitude toward reading occurs (Yurick, 2004). In contrast to the suggestion by Melton, Meyers (1998) suggests that there was no consequence on attitude with relation to reading and even went so far as to say that the SSR program demonstrated a less approving attitude toward reading than prior to the intervention.

Repeated Reading

In repeated reading practice a fluency criterion (e.g., 90 correct words per minute) is set and a passage of text is chosen. The student rereads the passage until the fluency criterion is met, then the procedure is repeated with a new selection of text. Research suggests that repeated reading increases students' oral reading rate and also increases comprehension (Dowhower, 1989; O'Shea, Sindelar, & O'Shea, 1987). Many studies have solidified Samuels' (1997) research of repeated reading in improving
fluency and comprehension (O'Shea, Sindelar, & O'Shea, 1987; Yurick, Robinson, Cartledge, Lo, & Evans, 2004). Samuels suggests in his 1997 study that students not only had a higher rate of fluency during repeated reading intervention, but they also achieved fluency criteria more quickly with each consecutive passage.

Practice in repeated reading has been found to improve students’ reading fluency (Therrien, 2004) as well as word recognition and comprehension skills (Samuels, 1979). Likewise, repeated reading has been shown to contribute to speed and accuracy gains, to improve phrasing and expression, and to enhance understanding for both good and poor readers (Dowhower, 1989). The National Reading Panel (2000) reported that repeated reading provides an important and constructive impact on fluency and comprehension with many skill levels.

Yurick et al. (in press) report findings in repeated readings interventions that are consistent with the findings made by the National Reading Panel (NRP). It was found that all students progressed in fluency and comprehension more during repeated reading than during sustained silent reading. The authors also provide evidence that the students read more words during all repeated reading phases than during SSR phases and increased their accuracy by 4.5% from SSR to RR. In addition, Yurick et al. (in press) found that during the RR condition, all but one student met the first fluency criteria set and continued on to master other passages. Staubitz, Cartledge, Yurick, Lo (in press) found that all target students displayed higher fluency during repeated reading than during the SSR condition.

Moyer (1982) states that, practice on a daily basis without fail results in a rise in the rate of reading new materials. Even though fluency and comprehension may be low
with a first reading of a passage, repeated reading increases fluency and comprehension (Samuels, 1997). By rereading a certain passage, students become more fluent and are able to comprehend it better (Therrien, 2004). Similarly Yurick et al. (in press) found that, the mean accuracy remained at about 95% even though the difficulty of the text increased. Similarly, Staubitz et al. (in press) found student accuracy at about 86% in SSR and increased to about 93% in RR.

Repeated reading affects the reading fluency and comprehension of both students with and without disabilities. A frequent characteristic of low level readers is an inability to read fluently (Leinart, Mastropieri, & Scruggs, 1999). The automaticity theory explains why students improve in comprehension after fluency has been achieved. Repeated reading enables a student to recognize words automatically, permitting them to focus attention on comprehension (O'Shea, 1988). O'Shea also contends that repeated reading focuses on whole passages rather than just single words. Hence, it facilitates students' ability to quickly identify words, and comprehend the passage. Samuels (1979) suggests that more fluent reading will result in increased comprehension. Student attention on decoding decreases, which allows for focus to be on comprehension of the passage. Yurick et al. (in press), in the first experiment, found that mean comprehension scores increased in the first passage of the RR condition, where they had been stagnant at less than four during SSR. In two targeted groups studied comprehension increased from SSR to RR, by 32% and 50%, respectively. The results of all three experiments undoubtedly verify Samuels' suggestion that increased fluency parallels with increased comprehension and that as reading becomes more automatic, the reader can devote greater attention to comprehension. These findings are consistent with those reported by
Staubitz, Cartledge, Yurick, & Lo (in press) after RR was implemented, all students answered a greater number of the comprehension questions correctly than during SSR. The comprehension data show that all of the students displayed inconsistent and variable data paths on the comprehension assessment during SSR.

According to Staubitz et al. (in press), all of the students in the study read with increased fluency and comprehension during the RR condition of the study than during the SSR condition. Also, the advances made were supported with an increase of scores on the WJ-III subtests of reading fluency and passage comprehension.

**Peer-mediated Instruction**

Peer-mediated instruction is composed of students teaching other students in targeted skills. It has been found to result in considerable gains in an array of subject areas (Dowhower, 1989; Falk & Wehby, 2001; Fuchs et al., 2001). Along with academic advancement, studies with peer-mediated strategies report an increase in self-esteem and social skills, and higher levels of on-task behaviors (Lo & Cartledge, 2004; Locke & Fuchs, 1995).

Many times teachers will use whole-class reading, where the whole class follows along in a passage while a student reads. This does not allow for much active involvement for all students. In order to increase the amount of time that students are engaged in reading a new approach should be considered. Peer-mediated instruction provides much more active learning time, and it is also simple to use.

Special education students do not always spend their reading instruction time engaged in active responding. Mathes & Fuchs (1993) indicate that students are regularly
waiting for the teacher, they are off-task, or they are working independently on activities like worksheets. Peer-mediated instruction is a way of providing additional reading practice to students in order to promote fluency building (Mastropieri, Leinart & Scruggs, 1999). When used in combination with repeated reading, peer-mediated instruction has been found to increase oral fluency and comprehension (Koskinen & Blum, 1986). Fuchs and Mathes (1993) found that when students read to peers orally, they were able to improve their reading achievement. Peer-mediated instruction is a practical method of using resources to increase active student responding.

There is little supervision involved, and once students have been trained, teachers have found that students are able to work independently without direct teacher regulation (Koskinen & Blum, 1986). Students, who use peer-mediated instruction, even with low reading skills, can practice repeated reading. Dowhower (1989) indicates that students are able to evaluate themselves and their partner during a small amount of time and use many types of reading materials.

**Urban Learners**

Many students are at risk for reading failure, and these students represent various backgrounds. They come from urban, suburban and rural areas, and they embody all cultural groups. However, according to Fleishman (2004), there are certain subgroups with significantly higher percentages of students reading below grade level (e.g., urban minority students with low socioeconomic status). Urban learners are the image of non-Caucasian, lower socio-economic status, usually from an inner city area. These factors,
as well as others, may affect a student’s learning ability, and possibilities for difficulty in life.

Three thousand students per day drop out of school and most of them are poor readers. One significant factor for dropping out of school is poor reading level. Students who read below grade level are two times as likely to drop out compared to students who are at or above grade level (Alliance for Excellent Education, 2003).

Although No Child Left Behind has increased the funding for improving students’ early literacy skills, there is still a significant number of students that do not receive appropriate and effective reading instruction. Less than one in five school districts across the country has reading specialists to serve those students at risk (Fleishman. 2004). There needs to be more investment in research-based reading interventions so that the likelihood of having students at risk for reading and school failure will be reduced.

Summary

Although the effectiveness of repeated reading on students’ achievements with reading fluency and comprehension has been analyzed for over thirty years there is still a need for additional research on students with disabilities. The current study is intended to broaden the existing repeated reading research by (1) assessing the effectiveness of RR as a reading intervention on reading fluency and comprehension with six urban second-grade students at-risk for reading failure, (2) assessing the effectiveness of SSR as a reading intervention on reading fluency and comprehension with six urban second-grade students at-risk for reading failure, (3) evaluating the opinions of students, parents and
teacher on RR and the effects on reading fluency and comprehension, and (4) verifying the intervention effects with a standardized test.

Research Questions

1. **What effect will sustained silent reading have on the number of correct words read orally per minute compared to repeated reading for at-risk second-grade students?**

2. **What effect will sustained silent reading have on the number of correctly answered comprehension questions compared to repeated reading for at-risk second-grade students?**

3. **What effect will repeated reading have on the opinions of at-risk second-grade students about repeated reading on reading fluency and comprehension?**

4. **What effect will repeated reading have on the opinions of parents of at-risk second-grade students about repeated reading on reading fluency and comprehension?**

5. **What effect will repeated reading have on the opinion of the classroom teacher of at-risk second-grade students about repeated reading on reading fluency and comprehension?**
CHAPTER 2

METHOD

Participants

This study was conducted within two general education classrooms consisting of thirty-seven students. Eleven second-grade students participated in this study. Participants were selected based on two criteria: (a) performance on the four subtests (reading fluency, passage comprehension, letter-word identification and word attack) of the Woodcock-Johnson Tests of Achievement (WJ-III) and (b) performance on the Dynamic Indicators of Basic Early Literacy Skills (DIBELS) benchmark passages. Six of the participants were included in the experimental group and five in the control group. The criterion used for assigning students in one of the two groups was participation in previous research studies. Therefore, most of the students in the experimental group were selected to receive the intervention because they had participated the previous school year in other research projects and they were chosen to be followed through.

Table 2.1 presents descriptive information for participants. Three of the participants were females: two African-Americans and one Caucasian. The other eight were males: one Caucasian and seven African-Americans. Two of the participants, one Caucasian male and one African-American male, had repeated a grade in school. All of
the students were eligible for the free and reduced lunch program. One of the students was previously identified as having Attention Deficit Hyperactivity Disorder (ADHD) but received no services. Another student was previously identified as needing speech therapy but her therapy was discontinued prior to the start of the study. Another student was identified as having a learning disability and received services from the special education resource room. The general education teacher requested an intervention involving reading because all of her students demonstrated reading problems. Parent consent (see Appendix B) was obtained prior to the beginning of the intervention.

<table>
<thead>
<tr>
<th>Student</th>
<th>Race</th>
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Table 2.1 Students characteristics based on gender, age, race, and disability and SES status
Setting

The study took place in an elementary school in a Midwest large urban school district. The school had a total pupil enrollment of 236 students, grades preschool through fifth for the 2004-2005 school year. Of the 236 students, 72% were African American, 21% were Caucasian, and less than 6% were Hispanic, Native American, or Asian. Forty-six percent of total school enrollment (N=109) received free and reduced lunch and 13% received special education services.

The study was conducted in the resource room. The room was approximately 20 feet by 10 feet with a door a one end of the 20’ and windows at the other end. The room contained a long conference table, approximately ten chairs, a smaller table, phone, refrigerator, sink, and eight cabinets.

Experimenter and Research Assistants

The experimenter is a graduate student in her Master’s program in special education at The Ohio State University. The researcher earned a Bachelor of Science degree and a two-year teaching license for grades preschool through third in Early Childhood Education from Bowling Green State University. Following graduation from Bowling Green State University in 2002, the experimenter substituted in public schools in and around Columbus, Ohio. During that period, she was responsible for implementing instruction in all academics for students grades K-12. Following this period as a special education teacher substitute, the experimenter was accepted as a graduate student to The Ohio State University, where she is currently completing her thesis for her Master’s in Special Education. She served as a graduate research associate
from 2004-2005 by assisting with academic and behavioral interventions at an urban elementary school.

Four graduate students in special education at The Ohio State University served as research assistants. Two of them were master’s students and two were doctoral students.

Definition and Measurement of Dependent Variables

Three dependent variables were measured in this study: (a) the number of words read in one minute, (b) the number of errors made in one minute, and (c) the number of comprehension questions answered correctly.

The number of words read in one minute was measured as the number of printed words from the first word read to the last word read within one minute. In this manner the dependent variable was held steady and was not affected by repetitions, insertions, omissions, or self-corrections.

The number of errors made in one minute was measured by analyzing the student’s oral reading and recording the sum of any error of the following type: (a) omissions (i.e., “The baby ___ slow like a turtle.” for “The baby was slow like a turtle.”), (b) substitutions (i.e., “The cat jumps like a frog.” for “The cat hops like a frog.”), and (c) said or sounded out incorrectly or incompletely (i.e., “It p-p-acks like a chicken.” for “It pecks like a chicken.”)

The number of comprehension questions answered correctly was measured by using the cloze procedure. The student was shown a copy of the reading passage with five words blanked out. The student was asked to provide one word that best fit in the blank space. For example, the student might encounter a sentence in a passage that read, “The
thief was knocked right ___ his feet.” The student would need to provide the word “off”. This arrangement was chosen because it was the arrangement used in the WJ-III passage comprehension subtest. The experimenter selected five words to be used in the comprehension assessment from every passage used in the study. All five of the words were from within the first ninety words (the fluency criterion). The words chosen for comprehension were selected based on three criteria: (a) the word must be meaningful to the passage, (b) the word was unlikely to be substituted with another word, and (c) the words chosen represented a range of grammatical functions (i.e. indefinite articles, nouns and verbs). In order to comply with the second criterion, adjectives and adverbs were not chosen for the comprehension assessments.

The dependent variables were measured in real time. The experimenter tallied the number of errors made. The experimenter then recorded the total number of complete words read in the passage by counting from the beginning of the passage to the last word read by the student in one minute. The experimenter would then record the number of correctly answered comprehension questions.

Interobserver Agreement

Interobserver agreement measures were collected for 30% of the sessions. Interobserver agreement was calculated by dividing the number of agreements by the sum of agreements and disagreements and multiplying that number by one hundred. The experimenter trained two graduate students at The Ohio State University on the scoring procedures used in this study. Each training session took approximately 25 minutes and practice tapes were scored until 100% agreement was attained on five consecutive trials.
The interobserver agreement checks were performed separately from the primary experimenter. On occasions during the study when the observer and the experimenter disagreed, the inconsistency was dealt with by repeating practice. The scoring procedures were discussed and the sessions were reevaluated until 100% agreement was reached.

Procedures to Ensure Accuracy of Data

Procedures were taken to verify the accuracy of data occasionally during the intervention phase of the study to ensure that treatment drift was not a substantial risk to procedural integrity. The procedures to ensure accuracy of data were evaluated using a checklist of the elements necessary to the treatment (Appendix G). An observer was present in the treatment setting while the repeated reading activity took place. She observed a student pair for the duration of the practice period and recorded whether or not each of the steps was present and applied correctly. The observer also assessed the experimenter and assistants’ behavior for procedural integrity periodically throughout the study (Appendix H).

Materials

Student folders

The experimenter prepared student folders by including a standard graph on which students recorded daily scores (appendix E), the scripted correction procedure (appendix C), the “Good Listener” card (appendix C), and steps for being a good listener (appendix D), all of which the experimenter’s assistant created in the Microsoft Word
program. Stickers were used as a positive reinforcers contingent upon appropriate good listening and reading behaviors at each session.

**Pencils**

Students used pencils provided to them for writing in the log and marking daily scores on their graphs.

**Passages**

The passages used for this study are listed in Table 2.2. All passages were taken from the remedial reading program of the Great Leaps curriculum (Campbell, 1998). This curriculum is designed to increase reading fluency and to motivate students to continue reading.
<table>
<thead>
<tr>
<th>Reading Passage</th>
<th>Grade Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>Red Dress, Long Out</td>
<td>Kindergarten</td>
</tr>
<tr>
<td>The Ticket, Turtle Beach</td>
<td></td>
</tr>
<tr>
<td>The Colt Game, Line Breaker</td>
<td></td>
</tr>
<tr>
<td>On and On, Koala Lou, Pets, Basketball,</td>
<td></td>
</tr>
<tr>
<td>Koala Lou (2), I Saw, Time to Go</td>
<td></td>
</tr>
<tr>
<td>Making the Team, Discovery</td>
<td>First</td>
</tr>
<tr>
<td>Choo Choo Train, Fives and Tens</td>
<td></td>
</tr>
<tr>
<td>Our Band (1), Our Band (2), Our Band (3)</td>
<td>Second</td>
</tr>
<tr>
<td>A Monkey's After Me, My Family,</td>
<td></td>
</tr>
<tr>
<td>I think I need, The Bullfrog and the Lion</td>
<td></td>
</tr>
<tr>
<td>The Frogs Rain, Roundball Rice</td>
<td>Third</td>
</tr>
<tr>
<td>Fantastic Shots, Roundball Hooks</td>
<td></td>
</tr>
<tr>
<td>Spaghetti Sauce, The Radio Monster</td>
<td>Fourth</td>
</tr>
<tr>
<td>Choosing A Pet Dog, Hammerin Hank</td>
<td></td>
</tr>
<tr>
<td>Discovery (1), Discovery (2)</td>
<td></td>
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<tr>
<td>How Come?, Discovery (3)</td>
<td>Fifth</td>
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<tr>
<td>Discovery (4), Discovery (6)</td>
<td></td>
</tr>
<tr>
<td>Cinderella</td>
<td>Sixth</td>
</tr>
</tbody>
</table>

Table 2.2 Title and grade level of passages
Experimental Design

A multiple baseline across subjects design was used in this study. A baseline of eleven data points over a period of 11 days was collected before the first pair of students began the intervention phase. Once the first student pair started intervention, successive student pairs continued in baseline until stable responding was observed in another pair of students. At that point the next student pair began intervention. The last student pair to start intervention spent approximately 37 sessions in baseline and 18 sessions in intervention.

Procedures

Pretest

The Woodcock-Johnson III Tests of Achievement (WJ-III) and the Dynamic Indicators of Basic Early Literacy Skills (DIBELS) winter benchmark assessments were used to assess students’ grade level in fluency and comprehension and also to determine their beginning reading grade level for baseline condition.

Sustained Silent Reading

Sustained silent reading (SSR) was the baseline condition used as a first intervention. Students were assigned to read a grade-level passage silently and independently for 10 minutes. When the 10-minute period was over, students were assessed in fluency and comprehension.
Repeated Reading Training

Training was conducted prior to the first intervention session. Based on the philosophy of the experimental design, the first student pair that had showed the lowest performance on the three dependent variables entered the training phase for intervention. Each student pair had three days of training. A scripted structured training plan was followed during the training (see Appendix F). The first training day consisted of teaching the steps of the good listening behavior. These included: alternating turns at the beginning of each paragraph, following along with finger, and following correction procedures when the partner makes a mistake. The second training day consisted of teaching the good reading behavior as well as reviewing the good listening behavior. The good reading behaviors included: taking turns, reading loud enough for partner to hear, and attempting to sound out unknown words. The third day of training involved teaching students the testing and graphing behaviors. This included: counting number of words read, counting errors made, and graphing the results.

Repeated Reading

During intervention, target students were pulled out from their general education classroom and brought to a separate room or to the hallway so that the repeated reading practice did not disturb the remainder of the class. Students worked in pairs with either a student partner or with the experimenter.

The pairs sat across from each other with their folders in front of them on the table. The students read their passage several times by alternating paragraphs. Student A read paragraph one, while student B followed along by pointing with his/her finger and
also checked for mistakes. Then student B read paragraph two, while student A followed along by pointing with their finger and also checked for mistakes. Then student A read the 3rd paragraph and so on. Students kept practicing on their reading passage until time was over.

When a mistake would occur, students were trained to follow a scripted corrective procedure to correct their partner. For instance, if student A made an error, student B would follow three steps to correct his partner’s mistake: (a) Say “Stop! The word is _____. Look at, point to and say ___.” (b) Say “Good, the group of words are _________. Look at, point to, and say the group of words.” The group of words was composed of three words: the word directly before the error, the incorrect word, and the word after the mistake. (c) Say “Excellent! Now, say the group of words three times fast forward.” After student A would correct his error, he continued reading the rest of his/her paragraph. Following the error correction, students wrote down the words that were incorrect and the corrected words on the Listener’s Log.

The pairs would continue in this manner for 10 minutes. Throughout the 10 minute time period the experimenter would go around the pairs and place stickers on their good listener cards when the students would demonstrate appropriate listening behaviors (i.e., taking turns, following along with finger and helping partner to correct mistakes using the correction procedure) and reading behaviors (i.e., taking turns, sounding out unknown words, and reading loud and clear). When the 10 minutes ended, students tested each other on their fluency in one-minute timings. During the one-minute timings the researcher/observer sat with the pair. The teacher explained to the students “You and your partner each have a copy of the same story. Your partner will read the story to you
for 1 minute, only this time you will read along with them silently, and you will not tell them if they miss any words. This time, if they say a word wrong or skip a word, you will only put an X on those words with your pencil. When the 1 minute is over, write a bracket ([)] to the right of the last word they read. Then you will count the total number of words they read in 1 minute and then also count the number of Xs. We will graph these numbers later. Then you will switch with your partner, and they will read silently with you as you read aloud.” The researcher/observer set a count-down timer for 1 minute and would tell the first student, “You will read the story to your partner for 1 minute. Read all the words as quickly and correctly as you can. When the 1 minute is up, you will hear the timer beep, and I will say “time.” Then, your partner will read the story for one minute. Begin reading when you are ready.” As soon as student A began to read, the researcher/observer would start the timer. If the student did not know a word, he or she was given three seconds to say the word. If the student did not say the word, the experimenter would tell the student to “continue” or “go on” with the paragraph. When the timer went off the student was told to stop. They (with the observer’s help when needed) marked the spot where they stopped with a bracket ([]). This allowed them to monitor their reading progress across sessions.

The observer kept a tally count of errors made during the timing. The reader and listener both counted the number of words read and then told the observer the number. The observer checked the number of words read during the one minute timing. The reader graphed the number of words read and the number of errors in their folders. The number of words read was marked with a dot (.) and the errors were marked with an X.
The students switched roles, with the reader becoming the listener and vice versa. Once both have completed all steps, student A left the testing area (they sat in the hall, or in another part of the room) while student B was assessed with the CLOZE procedure. Student B was given the same passage with 5 words deleted. The student was asked to fill in the blanks with the word that they thought fit best. The observer told them if they needed to read the whole sentence or the phrase, they were allowed. As the student told the observer the words to go in the blanks the observer recorded a “1” if the student got it correct, a “0” if the student skipped or provided an incorrect response. If the student gave a word that is similar to the actual answer, the experimenter would ask them to give another word. If they gave another incorrect answer then the experimenter wrote both answers down (i.e., it/they) and counted it as incorrect. If the student got it correct with the second answer, the experimenter wrote down the similar word then a (1) one (i.e., it/1) and counted the answer as correct. When the student filled in all five blanks, the experimenter counted the number correct and wrote it on the record sheet. Student B was sent back to class, then Student A was tested with the CLOZE procedure in the same manner.

Procedures for Control Group

The control group was assessed twenty four times to the fifty nine times that the experimental group was assessed. They were assessed using passages from the remedial reading program of Great Leaps curriculum (Campbell, 1998). The passages used are listed in table 2.2.
The researcher/observer set a count-down timer for 1 minute and would tell the student, "You will read the story to me for 1 minute. Read all the words as quickly and correctly as you can. When the 1 minute is up, you will hear the timer beep, and I will say 'time.'" The observer placed the passage in front of the student then said, "Begin reading when you are ready." As soon as the student began to read the researcher/observer would start the timer. If the student did not know a word, he or she was given three seconds to say the word. If the student did not say the word, the experimenter would tell the student to "continue" or "go on" with the paragraph. When the timer went off the student was told to stop. The observer kept a tally count of errors made during the timing. The observer counted the number of words read then recorded the number on the data sheet. Next, the student was given the same passage with 5 words deleted. The student was asked to fill in the blanks with the word that they thought fit best. The observer told them if they needed to read the whole sentence or the phrase, they were allowed. As the student told the observer the words to go in the blanks the observer recorded a "1" if the student got it correct, a "0" if the student skipped or provided an incorrect response. If the student gave a word that is similar to the actual answer, the experimenter would ask them to give another word. If they gave another incorrect answer then the experimenter wrote both answers down (ie it/they) and counted it as incorrect. If the student got it correct with the second answer, the experimenter wrote down the similar word then a (1) one (ie it/1) and counted the answer as correct. When the student filled in all five blanks the experimenter counted the number correct and wrote it on the record sheet.
Social Validity Measures

Consumer satisfaction was measured by developing repeated reading questionnaires for teachers and students. Teachers completed the questionnaires. Student responses were obtained through interviews conducted by the experimenter. The teacher questionnaire consisted of ten 4-point Likert type scale statements and two open-ended questions (see Appendix I). Questions probed the degree to which the teachers felt the repeated reading aided students’ fluency and comprehension, the procedures were efficient, and the reward system motivated student performance. The student questionnaire consisted of six questions based on 3-point Likert scale and six open-ended questions. Specifically, students were asked to respond to each item by either choosing “like very much” “did not feel anything” or “didn’t like.” (see Appendix J) Students were asked, for example, how they felt about repeated reading, if they liked being a listener or reader, and what did they think how they felt about graphing in their folders.
CHAPTER 3

RESULTS

This chapter presents the results of the effects of repeated reading on reading fluency and comprehension for six urban learners. Various sets of data are represented for each participant in this chapter. These data include pretest and posttest grade equivalent scores on the four subtests of the Woodcock-Johnson III Tests of Achievement (WJ-III), mean number of correct words read per minute (CWPM), mean number of errors made, and mean cloze comprehension items answered correctly during baseline and intervention. Additionally, reading grade-level gains are reported.

Interobserver Agreement

Interobserver agreement data were collected by having a third observer record correct and incorrect performance of each skill during the baseline and intervention sessions. Interobserver agreement measures were collected for 14 sessions. Interobserver agreement was calculated by dividing the number of agreements by the sum of agreements and disagreements and multiplying that number by one hundred. Mean agreement for CWPM during repeated reading was 99.4% with a range from 96% to
100%. Mean agreement for comprehension during repeated reading was 99.7% with a range from 97% to 100%.

Procedural Integrity

Procedures were taken to ensure that treatment drift was not a substantial risk to procedural integrity. The procedures to ensure accuracy of data were evaluated using a checklist of the elements necessary to the treatment (see Appendix G). An observer was present in the treatment setting while the repeated reading activity took place. She observed a student pair for the duration of the practice period and recorded whether or not each of the steps was observed and applied correctly.

The observer also assessed the experimenter and assistants' behavior for procedural integrity periodically throughout the study (see Appendix H). Students, experimenter, and assistants were assessed and found to be in 100% agreement with the above procedures during all 14 sessions.

Individual Student Results on the Two Dependent Measures

Student 1: Damian

Baseline

Damian had 7 sessions in baseline and read 3 different kindergarten grade-level passages. The mean number of correct words read per minute (CWPM) during baseline was 53.3 words with a range between 34 and 76. The mean number of errors was 3.3 with a range between 2 and to 5. The ratio of mean number of errors to mean number of
words read correctly was approximately 1:16.2. The mean number of correct comprehension items was 3, (i.e., 60% accuracy) with a range between 2 and 5.

Repeated Reading

Damian read 8 grade-level reading passages during the repeated reading over 24 sessions.

**Passage A (Kindergarten level)**

Damian read a mean of 89.7 CWPM with a range between 81 and 105. The mean number of errors was 1.3 with a range between 1 and 2. The ratio of mean number of errors to mean number of words read correctly was approximately 1:69. The mean number of correct comprehension items was 4.3 with a range between 4 and 5. Damian reached the fluency criterion of 90 CWPM as well as the comprehension criterion of 5 correct comprehension items for the kindergarten grade-level passage in three sessions.

**Passage B (First grade level)**

Damian read a mean of 68.3 CWPM with a range between 57 and 90. The mean number of errors was 1 with a range between 0 and 2. The ratio of errors to number of words read correctly was approximately 1:68.3. The mean number of correct comprehension items was 3.7, with a range between 2 and 5. Damian reached both the fluency criterion of 90 CWPM as well as the comprehension criterion of 5 items for the first grade-level passage in three sessions.

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Passage C (Second grade level)

Damian read a mean of 80 CWPM with a range between 62 and 96. The mean number of errors was 1.3 with a range between 0 and 2. The ratio of mean number of errors to mean number of words read correctly was approximately 1:61.5. The mean number of correct comprehension items was 3 with a range between 3 and 3. Damian met the fluency criterion but did not reach the comprehension criterion for this passage.

Passage D (Second grade level)

Damian read a mean of 69.3 CWPM with a range between 40 and 101. The mean number of errors was .3 with a range between 0 and 1. The ratio of mean number of errors to mean number of words read correctly was approximately 1:231. The mean number of correct comprehension items was 3.3, with a range between 3 and 4. Damian met the fluency criterion but did not reach the comprehension criterion for this passage.

Passage E (Second grade level)

Damian read a mean of 55.3 CWPM with a range between 19 and 79. The mean number of errors was 1 with a range between 0 and 2. The ratio of mean number of errors to mean number of words read correctly was approximately 1:55.3. The mean number of correct comprehension questions was 3 with a range between 2 and 4. Damian did not meet the fluency criterion or the comprehension criterion for this passage.
Passage F (Second grade level)

Damian read a mean of 91 CWPM with a range between 65 and 120. The mean number of errors was 1 with a range between 0 and 2. The ratio of mean number of errors to mean number of words read correctly was approximately 1:91. The mean number of correct comprehension items was 4.3 with a range between 4 and 5. Overall, Damian reached the fluency criterion of 90 CWPM and the comprehension criterion of 5 correct comprehension items for the second grade-level passages in twelve sessions.

Passage G (Third grade level)

Damian read a mean of 61.7 CWPM with a range between 40 and 84. The mean number of errors was 1 with a range between 0 and 2. The ratio of mean number of errors to mean number of words read correctly was approximately 1:61.7. The mean number of correct comprehension items was 4 with a range between 2 and 5. Damian met the comprehension criterion but did not reach the fluency criterion for this passage.

Passage H (Third grade level)

Damian read a mean of 110 CWPM with a range between 96 and 120. The mean number of errors was .3 with a range between 0 and 1. The ratio of mean number of errors to mean number of words read correctly was approximately 1:366.7. The mean number of correct comprehension items was 5 with a range between 5 and 5. Overall, Damian reached both the fluency and comprehension criteria for the third grade-level passage in six sessions.
Damian’s average CWPM for the eight repeated reading passages was 78.1. His average for number of correct comprehension questions was 3.8.

Pretest and Posttest Results

Woodcock-Johnson Tests of Achievement (WJ-III)

According to Table 3.1, Damian’s performance on the Letter-Word Identification subtest during pretest was equivalent to the 1.7-grade level. During posttest his performance increased to the grade level of 2.4, for a 7-month gain. On the reading fluency subtest Damian was reading at the K.8-grade level during pretest. However, an increase of 1.1-grade level was evident on the posttest, where the student got a grade equivalent score of 2.0. On the word-attack pretest subtest Damian’s performance was equivalent to the 1.1-grade level. During posttest his performance increased to a 1.8, for a 7-month gain. Finally, on the Passage Comprehension subtest he obtained a grade equivalent of 1.1 during pretest. A 7-month increase was noted during posttest, where Damian got a grade equivalent score of 1.8.

DIBELS Benchmark assessments

Table 3.2 shows the results of Damian’s reading performance on the DIBELS benchmark assessments at the beginning, middle and at the end of the school year. Damian’s fall benchmark assessment score was 17 CWPM and he was placed at the at-risk status. His winter assessment score increased to 33 CWPM but his status was still considered at risk. His spring benchmark score decreased to 26 CMPM and his reading status was at risk.
Student 2: Tisha

Baseline

Tisha had 7 sessions in baseline and read 3 different kindergarten-level passages. The mean number of CWPM during baseline was 41.9 words with a range between 30 and 60. The mean number of errors was 5 with a range between 2 and 8. The ratio of mean number of errors to mean number of words read correctly was approximately 1:10.7. The mean number of comprehension items answered correctly was 3.9 with a range between 2 and 5.

Repeated Reading

Tisha read 10 grade-level reading passages during the repeated reading condition over 30 sessions.

Passage A (Kindergarten level)

Tisha read a mean of 65.3 CWPM with a range between 54 and 79. The mean number of errors was 1.6 with a range between 0 and 3. The ratio of mean number of errors to mean number of words read correctly was approximately 1:40.8. The mean number of correct comprehension items was 4.3 with a range between 4 and 5. Tisha did not reach the fluency criterion of 90 CWPM or the comprehension criterion of 5 correct comprehension items for this specific kindergarten-level passage.
Passage B (Kindergarten level)

Tisha read a mean of 55 CWPM with a range between 39 and 82. The mean number of errors was 0.67 with a range between 0 and 1. The ratio of mean number of errors to mean number of words read correctly was approximately 1:82.1. The mean number of correct comprehension items was 4.7 with a range between 4 and 5. Tisha did not reach the fluency criterion nor did she reach the comprehension criterion for this kindergarten-level passage.

Passage C (Kindergarten level)

Tisha read a mean of 80 CWPM with a range between 72 and 90. The mean number of errors was 0.67 with a range between 0 and 2. The ratio of mean number of errors to mean number of words read correctly was approximately 1:119.4. The mean number of correct comprehension items was 4.3, with a range between 4 and 5. Overall, Tisha reached both the fluency and comprehension criteria for the kindergarten-level passage in nine sessions.

Passage D (First grade level)

Tisha read a mean of 75.6 CWPM with a range between 67 and 90. The mean number of errors was 0.33 with a range between 0 and 1. The ratio of mean number of errors to mean number of correct words read correctly was approximately 1:229.1. The mean number of correct comprehension items was 4.3 with a range between 4 and 5. Tisha reached both the fluency and comprehension criteria for the first grade-level passage in three sessions.
Passage E (Second grade level)

Tisha read a mean of 67.7 CWPM with a range between 45 and 93. The mean number of errors was 1.3 with a range between 0 and 4. The ratio of mean number of errors to mean number of words read correctly was approximately 1:52.1. The mean number of correct comprehension items was 4 with a range between 4 and 4. Although Tisha met the fluency criterion for this second-grade level passage, she did not meet the comprehension criterion.

Passage F (Second grade level)

Tisha read a mean of 66 CWPM with a range between 44 and 86. The mean number of errors was 2.3 with a range between 1 and 4. The ratio of mean number of errors to mean number of words read correctly was approximately 1:28.7. The mean number of correct comprehension items was 4.3 with a range between 4 and 5. Tisha did not reach the fluency criterion but she did reach the comprehension criterion for this second grade-level passage.

Passage G (Second grade level)

Tisha read a mean of 72.3 CWPM with a range between 49 and 106. The mean number of errors was 1 with a range between 0 and 2. The ratio of mean number of errors to mean number of CWPM was approximately 1:72.3. The mean number of correct comprehension items was 4.7 with a range between 4 and 5. Overall, Tisha reached both the fluency and comprehension criteria for the second grade-level passage in nine sessions.
Passage H (Third grade level)

Tisha read a mean of 35 CWPM with a range between 26 and 60. The mean number of errors was 4 with a range between 1 and 8. The ratio of mean number of errors to mean number of CWPM was approximately 1:8.8. The mean number of correct comprehension items was 2 with a range between 1 and 3. Tisha did not reach the fluency criterion nor did she reach the comprehension criterion for this third grade-level passage.

Passage I (Third grade level)

Tisha read a mean of 56.7 CWPM with a range between 49 and 62. The mean number of errors was 5 with a range between 2 and 7. The ratio of mean number of errors to mean number of CWPM was approximately 1:11.3. The mean number of correct comprehension questions was 3.3 with a range between 3 and 4. Tisha did not reach the fluency criterion or the comprehension criterion for this specific third grade-level passage.

Passage J (Third grade level)

Tisha read a mean of 88 CWPM with a range between 62 and 109. The mean number of errors was 2.7 with a range between 0 and 4. The ratio of mean number of errors to mean number of CWPM was approximately 1:32.6. The mean number of correct comprehension questions was 4.3 with a range between 4 and 5. Overall, Tisha reached both the fluency and comprehension criteria for the third grade-level passage in nine sessions.
Trisha's average CWPM for the ten repeated reading passages was 66.7. Her average for number of correct comprehension questions was 4.2.

Pretest and Posttest Results

*Woodcock-Johnson Tests of Achievement (WJ-III)*

According to Table 3.1, Tisha's performance on the Letter-Word Identification subtest during pretest was equivalent to the 1.5-grade level. During posttest her performance increased to the grade level of 2.3, for an 8-month gain. On the Reading Fluency subtest, Tisha was reading below K.7-grade level during pretest. However, an increase of 1.6-grade level was evident on the posttest, where the student got a grade equivalent score of 2.3. On the word-attack subtest Tisha's performance was equivalent to the 1.4-grade level. Posttest gain was 1-grade level with a performance of 2.4. Finally, on the Passage Comprehension subtest she obtained a grade equivalent of 1.4 during pretest. A 10-month increase was noted during posttest, where Tisha got a grade equivalent score of 2.4.

*DIBELS Benchmark assessments*

Table 3.2 shows the results of Tisha's reading performance on the DIBELS benchmark assessments at the beginning, middle and at the end of the school year. Tisha's fall benchmark score was 20 CWPM and she was placed at the at-risk status. Her winter benchmark score increased to 21 CWMP and her reading status was still at risk. Finally, her spring benchmark assessment score increased to 39 CWMP but she was still considered at the at-risk status.
Student 3: Dathan

Baseline

Dathan had 11 sessions in baseline and read 4 different kindergarten-level passages. The mean number of CWPM during baseline was 66.6 words with a range between 15 and 95. The mean number of errors was 4.4 with a range between 2 and 8. The ratio of mean number of errors to mean number of CWPM was approximately 1:20.2. The mean number of comprehension items answered correctly was 3.3 with a range between 2 and 5.

Repeated Reading

Dathan read 11 grade-level reading passages during the repeated reading over 32 sessions.

Passage A (Kindergarten level)

Dathan read a mean of 115.7 CWPM with a range between 86 and 162. The mean number of errors was 0.33 with a range between 0 and 1. The ratio of mean number of errors to mean number of CWPM was approximately 1:350.6. The mean number of correct comprehension items was 4.7 with a range between 4 and 5. Dathan reached both the fluency and comprehension criteria for the kindergarten-level passage in three sessions.
Passage B (First grade level)

Dathan read a mean of 75.3 CWPM with a range between 62 and 87. The mean number of errors was 4 with a range between 3 and 5. The ratio of mean number of errors to mean number of CWPM was approximately 1:18.8. The mean number of correct comprehension items was 3.3 with a range between 3 and 4. Dathan did not meet the fluency criterion or the comprehension criterion for this first grade-level passage.

Passage C (First grade level)

Dathan read a mean of 100.7 CWPM with a range between 68 and 133. The mean number of errors was 2.3 with a range between 0 and 7. The ratio of mean number of errors to mean number of CWPM was approximately 1:43.8. The mean number of correct comprehension items was 3 with a range between 0 and 5. Overall, Dathan reached the fluency criterion of 90 CWPM as well as the 5 comprehension items for the first grade-level passage in six sessions.

Passage D (Second grade level)

Dathan read a mean of 111.7 CWPM with a range between 72 and 145. The mean number of errors was 3.7 with a range between 2 and 7. The ratio of mean number of errors to mean number of CWPM was approximately 1:30.2. The mean number of correct comprehension items was 4.3 with a range between 3 and 5. Dathan reached both the fluency and comprehension criteria for the second grade-level passage in three sessions.
**Passage E (Third grade level)**

Dathan read a mean of 133 CWPM with a range between 90 and 122. The mean number of errors was 0.67 with a range between 0 and 2. The ratio of mean number of errors to mean number of CWPM was approximately 1:198.5. The mean number of correct comprehension items was 3.3 with a range between 1 and 5. Dathan reached the fluency and comprehension criteria for the third grade-level passage in three sessions.

**Passage F (Fourth grade level)**

Dathan read a mean of 70.7 CWPM with a range between 52 and 90. The mean number of errors was 4.3 with a range between 3 and 7. The ratio of mean number of errors to mean number of CWPM was approximately 1:16.4. The mean number of correct comprehension items was 2 with a range between 0 and 5. Overall, Dathan reached the fluency and comprehension criteria for the fourth grade-level passage in three sessions.

**Passage G (Fifth grade level)**

Dathan read a mean of 34.7 CWPM with a range between 27 and 42. The mean number of errors was 10.3 with a range between 8 and 15. The ratio of mean number of errors to mean number of CWPM was approximately 1:3.4. The mean number of correct comprehension items was 1.7 with a range between 0 and 3. Dathan did not meet the comprehension criterion nor did he reach the fluency criterion for this specific fifth grade-level passage.
Passage H (Fifth grade level)

Dathan read a mean of 47.7 CWPM with a range between 36 and 66. The mean number of errors was 4.7 with a range between 2 and 7. The ratio of mean number of errors to mean number of CWPM was approximately 1:10.1. The mean number of correct comprehension items was 1 with a range between 0 and 2. Dathan did not meet the comprehension criterion nor did he reach the fluency criterion for this fifth grade-level passage.

Passage I (Fifth grade level)

Dathan read a mean of 79 CWPM with a range between 63 and 102. The mean number of errors was 4 with a range between 1 and 6. The ratio of mean number of errors to mean number of CWPM was approximately 1:19.8. The mean number of correct comprehension items was 1.7 with a range between 1 and 2. Dathan met the fluency criterion but he did not reach the comprehension criterion for this fifth grade-level passage.

Passage J (Fifth grade level)

Dathan read a mean of 102.3 CWPM with a range between 79 and 121. The mean number of errors was 0 with a range between 0 and 0. The mean number of correct comprehension items was 3.3 with a range between 1 and 5. Dathan reached both the fluency and comprehension criteria for the fifth grade-level passage in twelve sessions.
Passage K (Sixth grade level)

Dathan read a mean of 91.3 CWPM with a range between 63 and 108. The mean number of errors was 2.3 with a range between 0 and 6. The ratio of mean number of errors to mean number of CWPM was approximately 1:39.7. The mean number of correct comprehension items was 2.3 with a range between 1 and 3. Dathan met the fluency criterion of 90 correct words per minute but did not reach the comprehension criterion for this sixth grade-level passage.

Dathan’s average CWPM for the eleven repeated reading passages was 87.6. His average for number of correct comprehension questions was 3.1.

Pretest and Posttest Results

*Woodcock-Johnson Tests of Achievement (WJ-III)*

According to Table 3.1, Dathan’s performance on the Letter-Word Identification subtest during pretest was equivalent to the 1.6-grade level. During posttest his performance increased to the grade level of 2.5, for a 7-month gain. On the Reading Fluency subtest, Dathan was reading below <K.7-grade level during pretest. However, an increase of 1.9-grade level was evident on the posttest, where the student got a grade equivalent score of 2.6. On the word-attack subtest Dathan’s performance was equivalent to the 1.1-grade level. During posttest his performance increased to a 1.7, for a 6-month gain. Finally, on the Passage Comprehension subtest he obtained a grade equivalent of 1.1 during pretest. A 6-month increase was noted during posttest, where Dathan got a grade equivalent score of 1.7.
**DIBELS Benchmark assessments**

Table 3.2 shows the results of Dathan's reading performance on the DIBELS benchmark assessments at the beginning, middle and end of the school year. Dathan's fall benchmark score was 22 CWMP, a score that placed him at the at-risk status. His winter benchmark score was 36 CMPM with an at-risk status. Finally, his spring assessment score increased to 43 CWPM but his reading status was still at the at-risk status.

**Student 4: Matthew**

**Baseline**

Matthew had 11 sessions in baseline and read 4 different kindergarten-level passages. The mean number of correct words read per minute (CWPM) during baseline was 41.9 words with a range between 30 and 60. The mean number of errors was 3.9 with a range between 2 and 8. The ratio of mean number of errors to mean number of CWPM was approximately 1:10.7. The mean number of comprehension items answered correctly was 3.9 with a range between 2 and 5.

**Repeated Reading**

Matthew read 10 grade-level reading passages during the repeated reading over 31 sessions.

**Passage A (Kindergarten level)**

Matthew read a mean of 90 CWPM with a range between 81 and 101. The mean number of errors was 1 with a range between 0 and 1. The ratio of mean number of
errors to mean number of CWPM was approximately 1:127.9. The mean number of correct comprehension items was 4.3 with a range between 4 and 5. Matthew reached both the fluency criterion of 90 CWPM and the comprehension criterion of 5 correct comprehension items for the kindergarten-level passage in three sessions.

**Passage B (First grade level)**

Matthew read a mean of 97.7 CWPM with a range between 72 and 118. The mean number of errors was 0.33 with a range between 0 and 1. The ratio of mean number of errors to mean number of CWPM was approximately 1:296. The mean number of correct comprehension items was 4.3 with a range between 4 and 5. Matthew reached both the fluency and comprehension criteria for the first grade-level passage in three sessions.

**Passage C (Second grade level)**

Matthew read a mean of 85.7 CWPM with a range between 64 and 99. The mean number of errors was .67 with a range between 0 and 2. The ratio of mean number of errors to mean number of CWPM was approximately 1:128. The mean number of correct comprehension items was 3.7 with a range between 3 and 4. Matthew met the fluency criterion but he did not reach the comprehension criterion for this second grade-level passage.

**Passage D (Second grade level)**

Matthew read a mean of 105 CWPM with a range between 93 and 125. The mean number of correct comprehension questions was 4.7 with a range between 4 and 5.
Overall, Matthew reached the fluency criterion of 90 correct words per minute and the comprehension criterion of 5 correct comprehension questions for the second grade-level passage in six sessions.

**Passage E (Third grade level)**

Matthew read a mean of 134.3 CWPM with a range between 88 and 178. The mean number of correct comprehension questions was 5. Matthew reached the fluency criteria of 90 correct words per minute and 5 comprehension questions for the third grade-level passage in three sessions.

**Passage F (Fourth grade level)**

Matthew read a mean of 64 CWPM with a range between 44 and 78. The mean number of errors was 1.3 with a range between 0 and 4. The ratio of mean number of errors to mean number of CWPM was approximately 1:38. The mean number of correct comprehension items was 1.7 with a range between 1 and 2. Matthew did not meet the comprehension criterion nor did he reach the fluency criterion for this fourth grade-level passage.

**Passage G (Fourth grade level)**

Matthew read a mean of 65 CWPM with a range between 52 and 81. The mean number of errors was 4.3 with a range between 2 and 7. The ratio of mean number of errors to mean number of CWPM was approximately 1:61.7. The mean number of
correct comprehension items was 4. Matthew did not meet the comprehension criterion nor did he reach the fluency criterion for this fourth grade-level passage.

**Passage H (Fourth grade level)**

Matthew read a mean of 69 CWPM with a range between 57 and 81. The mean number of errors was 1.3 with a range between 0 and 3. The ratio of mean number of errors to mean number of CWPM was approximately 1:53. The mean number of correct comprehension items was 2.3 with a range between 1 and 3. Matthew met none of the criteria for this specific fourth grade-level passage.

**Passage I (Fourth grade level)**

Matthew read a mean of 71 CWPM with a range between 57 and 80. The mean number of errors was 0. The mean number of correct comprehension items was 2.3 with a range between 2 and 3. Matthew did not meet the comprehension criterion nor did he reach the fluency criterion for this fourth grade-level passage.

**Passage J (Fourth grade level)**

Matthew read a mean of 69.3 CWPM with a range between 57 and 90. The mean number of errors was 0.33 with a range between 0 and 1. The ratio of mean number of errors to mean number of CWPM was approximately 1:210. The mean number of correct comprehension items was 2.7 with a range between 2 and 3. Matthew reached the fluency criterion of 90 CWPM but did not reach the criterion for comprehension for this fourth grade-level passage.
Matthew’s average CWPM for the ten repeated reading passages was 83.9. His average for number of correct comprehension questions was 3.5.

Pretest and Posttest Results

*Woodcock-Johnson Tests of Achievement (WJ-III)*

According to Table 3.1, Matthew’s performance on the Letter-Word Identification subtest during pretest was equivalent to the 2.4-grade level. During posttest his performance increased to the grade level of 3.3, for a 9-month gain. On the Reading Fluency subtest, Matthew was reading at the 1.5-grade level during pretest. However, an increase of 1.1-grade level was evident on the posttest, where the student got a grade equivalent score of 2.6. On the word-attack subtest Matthew’s performance was equivalent to the 1.8-grade level. During posttest his performance increased to a 2.2, for a 4-month gain. Finally, on the Passage Comprehension subtest he obtained a grade equivalent of 1.8 during pretest. A 4-month increase was noted during posttest, where Matthew got a grade equivalent score of 2.2.

*DIBELS Benchmark assessments*

Table 3.2 shows the results of Matthew’s reading performance on the DIBELS benchmark assessments at the beginning, middle and at the end of the school year. Matthew’s fall benchmark score was 26 CWMP, placing him at the at-risk status. His winter benchmark assessment score was 51 CWMP with an at-risk status. Although his spring benchmark score increased to 55 CWMP, his reading status did not change.
Student 5: Mason

Baseline

Mason had 30 sessions in baseline and read 11 different kindergarten-level passages. The mean number of CWPM during baseline was 54.9 words with a range between 40 and 84. The mean number of errors was 3.1 with a range between 0 and 9. The ratio of mean number of errors to mean number of CWPM was approximately 1:17.7. The mean number of correct comprehension items was 2.9 with a range between 0 and 5.

Repeated Reading

Mason read 5 grade-level reading passages during the repeated reading over 15 sessions.

Passage A (Kindergarten level)

Mason read a mean number of 104.6 CWPM with a range between 98 and 111. The mean number of errors was 0. The mean number of correct comprehension questions was 5. Mason reached the fluency criterion of 90 CWPM and the comprehension criterion of 5 correct comprehension items for the kindergarten-level passage in three sessions.

Passage B (First grade level)

Mason read a mean of 89.3 CWPM with a range between 78 and 97. The mean number of errors was 2 with a range between 1 and 3. The ratio of mean number of
errors to mean number of CWPM was approximately 1:44.7. The mean number of correct comprehension items was 4 with a range between 3 and 5. Overall, Mason reached both the fluency and comprehension criteria for the first grade-level passage in three sessions.

**Passage C (Second grade level)**

Mason read a mean of 86 CWPM with a range between 79 and 94. The mean number of errors was 0.7 with a range between 0 and 1. The ratio of mean number of errors to mean number of CWPM was approximately 1:122.9. The mean number of correct comprehension items was 5. Mason met the comprehension criterion but did not reach the fluency criterion for this second grade-level passage.

**Passage D (Second grade level)**

Mason read a mean of 70 CWPM with a range between 52 and 87. The mean number of errors was 1 with a range between 0 and 3. The ratio of mean number of errors to mean number of CWPM was approximately 1:70. The mean number of correct comprehension items was 3.3 with a range between 3 and 4. Mason met none of the two criteria for this second grade-level passage.

**Passage E (Second grade level)**

Mason read a mean of 95.6 CWPM with a range between 83 and 103. The mean number of errors was 1.3 with a range between 0 and 3. The ratio of mean number of errors to mean number of CWPM was approximately 1:73.5. The mean number of
correct comprehension items was 1.3 with a range between 1 and 2. Mason did not meet the comprehension criterion but he did meet the fluency criterion for this second grade-level passage.

Mason’s average CWPM for the five repeated reading passages was 87. His average for number of correct comprehension questions was 3.9.

Pretest and Posttest Results

*Woodcock-Johnson Tests of Achievement (WJ-III)*

According to Table 3.1, Mason’s performance on the Letter-Word Identification subtest during pretest was equivalent to the 2.2-grade level. During posttest his performance increased to the grade level of 3.6, for a 1.4-month gain. On the Reading Fluency subtest, Mason was reading at the 1.2-grade level during pretest. However, an increase of 1.2-grade level was evident on the posttest, where the student got a grade equivalent score of 2.4. On the word-attack subtest Mason’s performance was equivalent to the 1.5-grade level. During posttest his performance increased to a 1.6, for a 1-month gain. Finally, on the Passage Comprehension subtest he obtained a grade equivalent of 1.5 during pretest. A 1-month increase was noted during posttest, where Mason got a grade equivalent score of 1.6.

*DIBELS Benchmark assessments*

Table 3.2 shows the results of Mason’s reading performance on the DIBELS benchmark assessments at the beginning, middle and end of the school year. Mason’s fall assessment score was 21 CWPM and his reading status was at risk. His winter benchmark
score was 36 CWPM, which placed him at the at-risk status. Finally, his spring benchmark assessment increased to 40 CWMP but his status did not change.

Student 6: Triston

Baseline

Triston had 25 sessions in baseline and read 11 different kindergarten-level passages. The mean number of CWPM during baseline was 48.4 words with a range between 40 and 84. The mean number of errors was 2.7 with a range between 0 and 9. The ratio of mean number of errors to mean number of CWPM was approximately 1:17.9. The mean number of correct comprehension items was 3.0 with a range between 0 and 5.

Repeated Reading

Triston read 5 grade-level reading passages during the repeated reading over 15 sessions.

Passage A (Kindergarten level)

Triston read a mean of 99.7 CWPM with a range between 80 and 117. The mean number of errors was 0.7 with a range between 0 and 2. The ratio of mean number of errors to mean number of CWPM was approximately 1:142.4. The mean number of correct comprehension items was 4.3 with a range between 4 and 5. Triston reached the fluency criterion of 90 CWPM and the comprehension criterion of 5 correct comprehension items for the kindergarten-level passage in three sessions.
Passage B (First grade level)

Triston read a mean of 72.3 CWPM with a range between 54 and 92. The mean number of errors was 1 with a range between 0 and 2. The ratio of mean number of errors to mean number of CWPM was approximately 1:72.3. The mean number of correct comprehension items was 4 with a range between 3 and 5. Triston reached the fluency and comprehension criteria for the first grade-level passage in three sessions.

Passage C (Second grade level)

Triston read a mean of 60.7 CWPM with a range between 49 and 77. The mean number of errors was 0.7 with a range between 0 and 2. The ratio of mean number of errors to mean number of CWPM was approximately 1:86.7. The mean number of correct comprehension items was 4.3 with a range between 4 and 5. Triston met the comprehension criterion but he did not reach the fluency criterion for this particular second grade-level passage.

Passage D (Second grade level)

Triston read a mean of 58.3 CWPM with a range between 37 and 78. The mean number of errors was 0.33 with a range between 0 and 1. The ratio of mean number of errors to mean number of CWPM was approximately 1:176.7. The mean number of correct comprehension items was 2.3 with a range between 1 and 4. Triston did not meet the fluency criterion or the comprehension criterion for this second grade-level passage.
Passage E (Second grade level)

Triston read a mean of 60 CWPM with a range between 56 and 65. The mean number of errors was 0. The mean number of correct comprehension items was 2.3 with a range between 2 and 3. Triston did not meet the fluency criteria or the comprehension criteria for this passage.

Triston's average CWPM for the five repeated reading passages was 71. His average for number of correct comprehension questions was 3.5.

Pretest and Posttest Results

Woodcock-Johnson Tests of Achievement (WJ-III)

As seen in Table 3.1, Triston's performance on the Letter-Word Identification subtest during pretest was equivalent to the 2.8-grade level. During posttest his performance increased to the grade level of 3.3, for a 5-month gain. On the Reading Fluency subtest, Triston was reading at the 1.5-grade level during pretest. However, an increase of a 5-month gain was evident on the posttest, where the student got a grade equivalent score of 2.0. On the word-attack subtest Triston's performance was equivalent to the 1.8-grade level. During posttest his performance increased to a 2.6, for an 8-month gain. Finally, on the Passage Comprehension subtest he obtained a grade equivalent of 1.8 during pretest. A 2-month increase was noted during posttest, where Triston got a grade equivalent score of 2.0.
<table>
<thead>
<tr>
<th>Experimental Students</th>
<th>DOB</th>
<th>Pre/Post</th>
<th>Letter-Word Identification</th>
<th>Reading Fluency</th>
<th>Passage Comprehension</th>
<th>Word Attack</th>
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<td>9/24/2004</td>
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<td>1.8</td>
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<td>5/17/2005</td>
<td>3.3</td>
<td>2</td>
<td>2.6</td>
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<tr>
<td>Damian</td>
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<td>10/6/2004</td>
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<td>GE</td>
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Table 3.1 Pre- and Posttest Grade Equivalent Scores of the Experimental Students and Control Students on the Four Subtests of the Woodcock-Johnson Tests of Achievement
**DIBELS Benchmark assessments**

Table 3.2 demonstrates the results of Triston’s reading performance on the DIBELS benchmark assessments. Triston’s fall benchmark score was 18 CWMP and his reading status was at risk. His winter benchmark score increased to 34 CWPM but his status did not change. Finally, his spring assessment score was 42 CWPM and his reading status was still at risk.

<table>
<thead>
<tr>
<th>Student Name</th>
<th>Fall Benchmark</th>
<th>Winter Benchmark</th>
<th>Spring Benchmark</th>
<th>Increase Fall to Spring</th>
</tr>
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<tbody>
<tr>
<td>Damian</td>
<td>17</td>
<td>33</td>
<td>20</td>
<td>17.6%</td>
</tr>
<tr>
<td>Tisha</td>
<td>20</td>
<td>21</td>
<td>39</td>
<td>95%</td>
</tr>
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<td>Matthew</td>
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<td>111.5%</td>
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<tr>
<td>Dathan</td>
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<td>36</td>
<td>43</td>
<td>95.5%</td>
</tr>
<tr>
<td>Mason</td>
<td>21</td>
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<td>40</td>
<td>90.5%</td>
</tr>
<tr>
<td>Triston</td>
<td>18</td>
<td>34</td>
<td>42</td>
<td>133.3%</td>
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<tr>
<td>Experimental Group Mean</td>
<td>20.7</td>
<td>35</td>
<td>39.8</td>
<td>92.3%</td>
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<table>
<thead>
<tr>
<th>Student Name</th>
<th>Fall Benchmark</th>
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<th>Spring Benchmark</th>
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<td>Control Group Mean</td>
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Table 3.2: Experimental and Control Students’ Performance on the DIBELS Benchmark Assessments
Group Results for Each Dependent Variable

Experimental students are the six students who were provided intervention throughout the study and assessed every time they were provided this intervention. The control students were not provided intervention. They were assessed 42.4% of the time that the experimental group was assessed (1:2.4) throughout the study as well as being assessed with WJ-III and DIBELS. The non-experimental group was composed of the control students, and the remainder of the experimental students’ classmates. Other than the control students, they were not assessed, except with WJ-III and DIBELS.

Reading Fluency and Comprehension

The experimental students’ mean number of CWPM for first intervention (SSR) was 57.7, with a range from 41.9 to 70.2. The mean number of correct comprehension items was 3.3, with a range from 2.4 to 3.6. The experimental students mean number of CWPM during intervention was 78.8, with a range from 66.7 to 87.6. This was a 36.5% increase from baseline. The mean number of correct comprehension items was 3.7, with a range from 3.1 to 4.2. This was an 8.8% increase from baseline.

The control group students’ mean number of CWPM for reading fluency was 40, with a range from 10.2 to 63. The mean number of correct comprehension items was 2.0, with a range from 0 to 3.0. During the second intervention phase (RR) the control students’ mean number of CWPM for reading fluency was 46.1, with a range from 17.7 to 68.9. The mean number of correct comprehension items was 2.2, with a range from .2 to 3.0.
DIBELS

Dynamic Indicators of Basic Early Literacy Skills (DIBELS) fall, winter and spring benchmark assessments were used to assess students’ grade level in fluency and to determine their ending reading performance (Appendix L). DIBELS is a standardized, individualized, short measure of the development and monitoring of reading skills. This is a reliable and valid indicator of literacy development. It is also prognostic of future results. The DIBELS offered raw scores and status of ability. Total testing time for each student was three to five minutes.

Data provided from a norming sample, showed that reliability scores of all the subtests (Initial Sounds Fluency, Phonemic Segmentation Fluency, Nonsense Word Fluency, and Oral Reading Fluency) fell in the high .80s and the mid .90s with one-half above .90.

Test-retest reliability for elementary students ranged from .92 to .97. Criterion-related validity coefficients ranged from .52 to .91. Correlations between DIBELS scores and criterion measures of phonological awareness, standardized achievement measures, and teacher ratings of achievement yielded concurrent validity coefficients ranging from .60 to .70.

Table 3.3 compares experimental students with the control-group and non-experimental group mean scores and ranges for each benchmark assessment. Table 3.4 compares the percent gains of experimental, control and non-experimental students.

The experimental students mean fall benchmark assessment was 20.7, with a range from 17 to 26. Their mean winter benchmark was 35, with a range from 21 to 51.
This was a 69.1% increase from fall to winter. Their mean spring benchmark was 39.8, with a range from 20 to 55. This was a 13.7% increase from winter. The increase from fall to spring was 92.3%.

The control-group mean fall benchmark assessment was 23, with a range from 10 to 37. Their mean winter benchmark was 27.2, with a range from 12 to 39. This was an 18.3% increase from fall to winter. Their mean spring benchmark was 40.6, with a range from 15 to 68. This was a 49.3% increase from winter. The increase from fall to spring was 76.5%.

The non-experimental-group mean fall benchmark assessment was 46.7, with a range from 10 to 77. Their mean winter benchmark was 67.5, with a range from 12 to 121. This was a 44.5% increase from fall to winter. Their mean spring benchmark was 72.7, with a range from 15 to 132. This was a 7.7% increase from winter. The increase from fall to spring was 55.7%.

<table>
<thead>
<tr>
<th>DIBELS Benchmark Assessments</th>
<th>Experimental Students (n=6)</th>
<th>Control Students (n=5)</th>
<th>Non-experimental Students (n=15)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean</td>
<td>Range</td>
<td>Mean</td>
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<tr>
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<td>39.8</td>
<td>20-55</td>
<td>40.6</td>
</tr>
</tbody>
</table>

Table 3.3 Experimental, Control and Non-experimental Students' Performance on the DIBELS Benchmark Assessments
<table>
<thead>
<tr>
<th>% Increase Fall to Spring</th>
<th>Experimental</th>
<th>Control</th>
<th>Non-experimental</th>
</tr>
</thead>
</table>

Table 3.4 Experimental, Control, and Non-experimental Students' Percent Increase from Fall to Spring on the DIBELS Benchmark Assessments

**WJ-III**

The Woodcock-Johnson III Tests of Achievement (WJ-III) was used to assess students' grade level in fluency and comprehension and to determine their ending reading performance (Appendix M). The Woodcock-Johnson III offered raw scores, age equivalent, and grade equivalent scores. Total testing time for each student was approximately 30 minutes.

Letter-word identification, word-attack, oral reading fluency and passage comprehension, Woodcock-Johnson III subtests, were used in this study. Several scoring possibilities exist such as comparison; but for the purpose of this study, raw scores, age and grade equivalent scores were used.

Data provided from a norming sample, showed that reliability scores of all the subtests fell in the high .80s and the low .90s. Construct, concurrent and content validity verification is also provided.

Construct validity gives information about the correlations the WJ-R III tests at chosen age levels. There were higher correlations between within same curricular areas that than differing areas.
Concurrent validity shows effectiveness of a test in comparing an independent criterion to a student’s behavior. Measures are given for ages three, nine and seventeen. Correlations reported mostly in the .50s and .60s for age three and in the .60s for ages nine and seventeen.

Content validity was determined through the method of questions presented. Each item was comprehensive, and a broad assortment of abilities was included.

Table 3.5 illustrates the performance of the experimental students, control students and the non-experimental students on the 4 subtests of the WJ-III. Experimental students as a group showed a mean of 31.2 in the Letter-Word Identification pretest. During posttest, they achieved a mean of 40.7, for a 23.3% increase. Experimental students as a group showed a mean of 3.2 in the Reading Fluency pretest. During posttest, they achieved a mean of 17.8, for a 456.3% increase. Experimental students as a group showed a mean of 14.2 in the Passage Comprehension pretest. During posttest, experimental students as a group achieved a mean of 20.2, for a 42.3% increase. Experimental students as a group showed a mean of 11 in the Word-Attack pretest. During posttest, they achieved a mean of 17, for a 54.5% increase.

Control students as a group showed a mean of 28.8 in the Letter-Word Identification pretest. During posttest, they achieved a mean of 33.4, for a 16% increase. Control students as a group showed a mean of 2.6 in the Reading Fluency pretest. During posttest, they achieved a mean of 19, for a 630.8% increase. Control students as a group showed a mean of 13.6 in the Passage Comprehension pretest. During posttest, control students as a group achieved a mean of 19.4, for a 42.6% increase. Control students as a
group showed a mean of 8.4 in the Word-Attack pretest. During posttest, they achieved a mean of 9, for a 7.1% increase.

Non-experimental students as a group showed a mean of 35.3 in the Letter-Word Identification pretest. During posttest, they achieved a mean of 41.4, for a 17.3% increase. Non-experimental students as a group showed a mean of 15.1 in the Reading Fluency pretest. During posttest, they achieved a mean of 27, for a 78.8% increase. Non-experimental students as a group showed a mean of 18.5 in the Passage Comprehension pretest. During posttest, they achieved a mean of 22.7, for a 22.7% increase. Non-experimental students as a group showed a mean of 16.5 in the Word-Attack pretest. During posttest, they achieved a mean of 15.5, for a 6.5% decrease.

<table>
<thead>
<tr>
<th>WJ-III Subtest</th>
<th>Experimental (n=6)</th>
<th>Control (n=5)</th>
<th>Non-experimental (n=15)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Pre-test</td>
<td>Post-test</td>
<td>% Increase</td>
</tr>
<tr>
<td>Letter-Word Identification</td>
<td>31.2</td>
<td>40.7</td>
<td>30.4</td>
</tr>
<tr>
<td>Reading Fluency</td>
<td>3.2</td>
<td>17.8</td>
<td>456.3</td>
</tr>
<tr>
<td>Passage Comprehension</td>
<td>14.2</td>
<td>20.2</td>
<td>42.3</td>
</tr>
<tr>
<td>Word Attack</td>
<td>11</td>
<td>17</td>
<td>54.5</td>
</tr>
</tbody>
</table>

Table 3.5 Experimental, Control and Non-Experimental Students’ Mean Raw Score and Percent Increase or Decrease on Four Subtests of the Woodcock-Johnson Tests of Achievement
Social Validity

Following intervention, a social validity questionnaire was given to students, the classroom teacher, and the parents. The purpose of the questionnaire was to evaluate their satisfaction on the repeated reading procedures. The questionnaire presented statements to which the subjects agreed or disagreed on a Likert-type scale. All six experimental students and the classroom teacher completed the questionnaire. Questionnaires were sent to the six parents but only two of the questionnaires were returned. Unsolicited thank you letters were also sent from the students to the experimenter and associates following the study (Appendix K).

Students' Satisfaction Results

Table 3.6 demonstrates a summary of student responses on the social validity questionnaires. According to the social validity questionnaires, the students liked the repeated reading very much. One student felt that the hard words were the most difficult part. However, another student said that the repeated reading helped him with the hard words. Most of the students, 83%, liked trying to win a prize and some, 50%, felt that the one-minute timings really showed how well they were doing. Another student, after all sessions were completed, asked for passages and a folder to use at home with her mother over the summer.

Parent’s Satisfaction Results

Table 3.7 demonstrates a summary of parent responses on the social validity questionnaires. Based on the two completed parent questionnaires, they felt that repeated
reading was helpful to their child and their achievements in reading. One parent said that “repeated reading helped [her] child become more interested in reading.” Both parents strongly agreed that learning to correct reading errors is an important skill for their child and that they felt that their child enjoyed the repeated reading. Both parents agreed that they would like their child to continue participating in the repeated reading program at school.

Teacher’s Satisfaction Results

Based on the classroom teacher’s responses, she was not very satisfied with the results of the repeated reading intervention implemented with six of her students. She thought that the most lacking component was comprehension and disagreed with all but three of the questions asked. She agreed that reading fluency is a critical skill for her students to acquire for their future life, that the repeated reading program was easy for her students to understand and that her students enjoyed participating in the program. She strongly disagreed with the amount of time (i.e. 15 minutes) being an appropriate and adequate amount of time for repeated reading. She thought that her students would be able to read a story fluently if they had been exposed to it several times but she did not feel that this enhanced their comprehension. She also thought that “in the results it may show improvement in reading skills, but what about the instruction that took place in the classroom. [She] did not see students’ comprehension increasing.”
<table>
<thead>
<tr>
<th>Questions</th>
<th>😊 Like very much</th>
<th>😞 Didn’t feel anything</th>
<th>😞 Didn’t like</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. How do you feel about repeated reading?</td>
<td>5</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>2. How do you like being a listener (i.e. teacher)?</td>
<td>6</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. How do you like being a reader (i.e. student)?</td>
<td>5</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>4. What do you think about practicing the words you didn’t know during repeated reading?</td>
<td>3</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>5. How do you like graphing in your folder?</td>
<td>6</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. What do you think of the prizes?</td>
<td>6</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7. Which part of repeated reading did you like the best?</td>
<td>-the stories</td>
<td>-working on words I didn’t know</td>
<td></td>
</tr>
<tr>
<td></td>
<td>-1-minute timings, they made me feel like I really knew it best</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>-filling up the stars and getting the prizes</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>-when I was sounding out the words</td>
<td></td>
<td></td>
</tr>
<tr>
<td>8. Which part of repeated reading didn’t you like?</td>
<td>-correcting someone</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>-hard words (but practicing helped to learn them)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>-reading fast</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>-reading a long time</td>
<td></td>
<td></td>
</tr>
<tr>
<td>9. Did you learn more words when you were the listener or when you were the reader?</td>
<td>-reader (2)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>-listener (4)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>10. If you were to change anything about repeated reading, what would you change?</td>
<td>-nothing (5)</td>
<td>-less time to read (1)</td>
<td></td>
</tr>
<tr>
<td>11. Is there anything else you would like to tell me about repeated reading?</td>
<td>-really liked getting the prizes</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>-reading fast was fun</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 3.6: Summary of Student Responses on the Social Validity Questionnaire
<table>
<thead>
<tr>
<th>Statements</th>
<th>Disagree Strongly (DS)</th>
<th>Disagree (D)</th>
<th>Agree (A)</th>
<th>Agree Strongly (AS)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Learning to correct reading errors is an important skill for my child.</td>
<td>DS</td>
<td>D</td>
<td>A</td>
<td>AS</td>
</tr>
<tr>
<td>2. I feel that repeated reading helped my child to become a better reader.</td>
<td>DS</td>
<td>D</td>
<td>A</td>
<td>AS</td>
</tr>
<tr>
<td>3. My child was able to explain the program to me in a positive way.</td>
<td>DS</td>
<td>D</td>
<td>A</td>
<td>AS</td>
</tr>
<tr>
<td>4. I feel that my child enjoyed the repeated reading.</td>
<td>DS</td>
<td>D</td>
<td>A</td>
<td>AS</td>
</tr>
<tr>
<td>5. I would like my child to continue participating in the repeated reading program at school.</td>
<td>DS</td>
<td>D</td>
<td>A</td>
<td>AS</td>
</tr>
<tr>
<td>6. I feel that repeated reading is important and beneficial because it helps my child to learn to read more quickly and comprehensively.</td>
<td>DS</td>
<td>D</td>
<td>A</td>
<td>AS</td>
</tr>
<tr>
<td>7. I am glad my child participated in the repeated reading program.</td>
<td>DS</td>
<td>D</td>
<td>A</td>
<td>AS</td>
</tr>
</tbody>
</table>

Table 3.7 Summary of Parent Responses on the Social Validity Questionnaire
CHAPTER 4

DISCUSSION

This study examined the effects of repeated reading on the oral reading fluency and comprehension of six second-grade urban learners. During baseline, students engaged in sustained silent reading. During intervention, students were involved in repeated readings, where they read one grade-level passage per three sessions until a predetermined criterion was achieved. The dependent measures were the number of correct words per minute and the number of correct comprehension questions. A discussion of the results follows in relation to the research questions presented in Chapter 1. Furthermore, limitations of this study, implications for classroom use, and directions for future research are incorporated into this chapter.

Research Question 1

What is the effect of repeated reading (RR) on the number of correct words read per minute compared to sustained silent reading (SSR) for at-risk second-grade students?

The results noticeably showed that the second-grade students read more words per minute during the repeated reading phase of the study than during the sustained silent
reading phase. Specifically, experimental students as a group increased their fluency rate during repeated reading by 36.5%. Each of the six students reached fluency criteria on at least two grade-level passages. One student, Dathan, reached the fluency criterion six times. For four participants, the final reading level was four or more grade-levels above their reading level, compared to the beginning of intervention. All students began on a kindergarten reading level. At the end of intervention, Damian, Tisha, and Matthew had reached the fourth-grade reading level. Mason and Triston had reached a third-grade reading level while Dathan had reached a sixth-grade reading level.

During repeated reading, experimental students as a group increased their number of CWPM through each subsequent grade-level passage. Similar increase in fluency rate was evident for each experimental student. This result suggests that students can become fluent readers on higher grade-level passages during repeated reading practice. Experimental students’ performance varied in the number of sessions and passages required to reach fluency criterion. As it was mentioned in Chapter 2, students were given three sessions for each grade-level passage. All six students required only one to two passages (i.e., three to six sessions) to reach kindergarten and first-grade reading levels. Most of the students required three passages (i.e., 9 sessions) to meet the fluency and comprehension criteria for the second-grade reading level. However, there were two students, Matthew and Dathan, who needed only one passage (i.e., 3 sessions) before advancing to the third-grade level. This evidence lends support to previous research findings that students become more fluent in reading and they often times need less practice time on higher grade-level passages during repeated readings (Moyer, 1982; Samuels, 1979; O'Shea, 1988). Along the same line, Dathan and Matthew required only
three sessions to reach the fluency and comprehension criteria on the third-grade level passage. Interestingly, Dathan needed only three sessions (i.e., one passage) for progressing from the fourth-grade level to the fifth-grade level passage. However, he needed nine sessions (i.e., three passages) for moving from the fifth- to the sixth-grade level passage. This indicates that Dathan experienced considerably more difficulty with 6th grade material. Tisha and Damian required nine sessions (i.e., three passages) on the third-grade level passage. Trisha and Damian evidenced the lowest reading performance of the experimental students. They apparently had a lower frustration threshold and needed additional time to meet criteria. In short, the experimental students increased their reading fluency by progressing from lower to higher grade-level passages throughout the study.

During the sustained silent reading, experimental students needed 9 to 24 sessions on kindergarten level passage. None of the students were able to advance to the following reading grade-level based on the preset criteria. During the repeated readings, Damian and Tisha, who were the first pair that entered intervention, were able to advance by four grade-levels by the end of the study. The next pair to enter the intervention phase was Dathan and Matthew. Matthew was able to advance by four reading grade-levels while Dathan progressed by six reading grade-levels. The last pair to enter intervention was Mason and Triston. Mason and Triston were both able to advance by two grade levels during only five sessions of repeated reading. In comparison, all five control students remained on a kindergarten grade-level throughout the study. In a study completed by Dahl and Samuels (n.d) findings were that in comparison to the control group, the
experimental students, with who repeated reading was used, made significant gains in fluency and comprehension.

A review of the standardized assessments presents a portrait of the differences between the control and experimental students. Control students, for example, show on the WJ-III greater percentage gains on reading fluency and comparable gains in passage comprehension. The assessment differences possibly might be explained by the fact that two of the control students, Constance and Carlos, were receiving intervention through the school's speech and hearing teacher and intervention specialist, respectively, during the time of the study. The dramatic increase for these control students (Constance=300% increase and Carlos=50% increase) could be attributed to school related interventions. The small number of students per group makes it hard to factor out individual differences. In this case with two out of five children receiving intervention, it is not a precise control group, and would only have been if they were only receiving intervention from the study. Therefore, the non-experimental group has also been addressed in order to allow for these differences.

Data for the control group indicate higher gains (630.8%) than then the experimental group (456.3%) on WJ-III possibly because the students were assessed differently between the WJ-III, intervention and on DIBLES. During the study the students were assessed in a similar manner to DIBELS using whole passages for the students to read during one-minute timings. WJ-III assesses using sentences that are either true or false. The student must circle yes or no to indicate that the answer is correct or not. This assessment is given over a period of three-minutes. The differences in assessment styles may account for the difference in percent increase gains between the
WJ-III, DIBELS, and the study. DIBELS percent increase was more commensurate with the study’s findings as compared to the WJ-III, where the experimental groups’ percent gains come out on top of the control and non-experimental groups’.

The 3rd pair of the study possibly could have also exceeded their percent gains had they had more time in intervention. The study began in January allowing the 1st pair just 16 weeks, the 2nd pair 14 weeks, and the 3rd pair only 4 weeks in intervention. It is possible then that had any of these pairs, but especially the last pair, had more time in intervention, that their scores would have increased on WJ-III, DIBELS and in RR intervention.

Research Question 2

What is the effect of repeated reading on the number of correct comprehension questions compared to sustained silent reading for at-risk second-grade students?

According to Samuels (1997), comprehension may not be strong during the first reading of text. However, when further readings are made, the student is able to comprehend more easily because decoding barriers are slowly overcome. Based on the automaticity theory (Samuels, 1979), a fluent reader decodes text without attention, allowing for more attention to be brought toward comprehension. One way of assessing comprehension is using a cloze procedure in conjunction with the passage currently being read (O’Shea & O’Shea, 1988). Experimental students’ performance during baseline showed a group mean of 3.4 (i.e., 68% accuracy) on a kindergarten level passage. Once intervention had begun, students’ group mean increased to 5 correct comprehension items.
on the same kindergarten level passage; a 47% increase on only one passage. Each grade level the students read produced comparable results with comprehension. For first grade a mean score of 4.7, a 38% increase from baseline and 94% accuracy. The second grade and third grade passages had a mean score of 4.5, a 32% increase from baseline and 90% accuracy. The fourth grade passage had a mean score of 5, a 47% increase from baseline and 100% accuracy. The fifth grade passage had a mean score of 3, which is a 13% decrease from baseline and 60% accuracy. The sixth grade passage had a mean score of 5, a 47% increase from baseline and 100% accuracy.

The comprehension of experimental students increased more during repeated readings than during sustain silent reading. Specifically, Triston answered on an average of 3 comprehension questions correctly during baseline. After intervention had begun, his comprehension increased to an average of 3.5 correct questions. Tisha answered on average of 3.9 correct comprehension questions during baseline while her comprehension increased to an average of 4.2 correct questions during repeated reading. Likewise, Mason’s comprehension averaged 2.9 correct questions in baseline, but 3.9 correct comprehension questions in intervention. Damian’s mean comprehension was 3.4 correct questions during baseline and 3.8 during intervention. Conversely, Dathan and Matthew showed a mean comprehension decrease from baseline to intervention. Dathan’s mean comprehension decreased from 3.3 to 3.2 and Matthew’s mean comprehension reduced from 3.6 to 3.5. A possible explanation for Dathan’s and Matthew’s comprehension decrease might have been that the students’ performance on advance grade-level repeated reading passages (e.g. fourth and above) lowered their overall comprehension performance during intervention.
Assessments in passage comprehension on the WJ-III revealed comparable performances between the experimental and control students with a slight advantage to the controls (i.e. .3%). The difference might possibly be due to the differences in informal and formal assessments. During the study the students were assessed by up to seven different people from beginning to end. For the WJ-III there would have only been one to two assessors.

The control group had a greater percent (42.6%) of progress in passage comprehension compared to the experimental group (42.3%), though for all intents and purposes there is no difference between the two groups. This may be due to the way that the students were assessed during the study and during WJ-III. During the study the students were given five cloze comprehension questions. Would there have been more questions to answer the students may not have had ceiling effects, and therefore would have had a higher score that was more consistent with the WJ-III.

The non-experimental group started with a higher average on the WJ-III passage comprehension subtest, but the increase was a much lower percent gain (22.7%) compared to both experimental and control.
Research Question 3

What are the opinions of at-risk second-grade students about repeated reading on their reading fluency and comprehension?

Often times, teachers express concerns that repeated reading becomes boring and tedious to the student as opposed to sustained silent reading (Johnson et al., 1972). Moyer (1982) states just the opposite. She suggests that children and adults, who used the repeated reading procedure, have expressed excitement about their increase in fluency over a brief period of time. Moyer also noted that timing and graphing prompts enhance the maintenance of repeated reading practice. Likewise, Johnson (1972) also points out that teachers find that children are excited when advancing from one story to another. Thus, they get the chance of reading many stories.

Student responses given to the social validity questionnaires of this study give support to the positions made by Moyer and Johnson. All six students responded positively to the social validity questions. All students liked taking the role of the listener, graphing their scores and earning prizes. Five out of six students liked the repeated readings very much as well as being the readers. Three out of six of the students liked very much practicing the words they didn’t know during repeated reading.

Some students offered additional comments such as liking the reading passages as well as the stars that would help them earn prizes, and sounding out the words. One student, Tisha, asked if the experimenter could bring her copies of grade-level passages so that she could work on repeated reading at home with her mother over the summer.
break. In general, the students’ reactions to the repeated reading were positive and did not specify dissatisfaction for any part of the intervention.

**Research Question 4**

What are the opinions of parents of at-risk second-grade students about repeated reading on their child’s reading fluency and comprehension?

Only two out of the six parents/guardians returned the social validity questionnaires. Both parents felt that repeated reading was helpful to their child and their achievements in reading. Both parents strongly agreed that learning to correct reading errors is an important skill, and they felt that their child enjoyed the repeated reading program. Both found it beneficial and they wanted their child to continue in the program for next year. One parent wrote, “Repeated reading helped my child become more interested in reading.” Chomsky (1976) found that repeated reading with third grade children included gains not just in fluency and comprehension, but also in the students’ motivation level.

**Research Question 5**

What is the opinion of the classroom teacher of at-risk second-grade students about repeated reading on her students’ reading fluency and comprehension?

Unfortunately the majority of the responses gathered from the classroom teacher were negative. Although the teacher generally agreed that fluency was important for
students and that the RR was fairly easy to implement, the teacher was rather negative about the method of intervention for her students and its beneficial effects. It should be noted; however, that the teacher completed the questionnaire prior to meeting with the researcher and receiving the results of the study. After receiving the findings, she stated that she believed that the students did make progress. This teacher’s comments may have been based more on the logistics related to implementing the study, and some misconceptions of the relative impact of fluency on comprehension. For example, she stated that “The students could read a story fluently if they have been exposed to it several times. I don’t feel that this enhanced comprehension, which is the reason for reading.” Comments such as these suggested that this teacher believed that comprehension is taught only through specific comprehension exercises. There seems to be little understanding of the important role that fluency plays in comprehension. Indeed, the students receiving repeated reading instruction met or exceeded their non RR peers in the percentage increase in passage comprehension on the WJ-III. This finding is consistent with other research with RR (e.g., Yurick et al., in press). Furthermore, the teacher’s comments appeared to be based on the face value of repeated readings rather than the research literature. That is, if students are repeatedly reading the same passages, they must simply be memorizing rather than comprehending the content, a belief that is not at all supported by the research findings.

Another apparent concern of the teacher was the amount of time involved in removing the students from the classroom. The interventions occurred five times per week for approximately 15 to 20 minutes per session. Since the teacher initially believed that the RR was of no value, the removal of students daily for this time period also was
questioned. The fact that the RR students out performed their classmates (non-experimental students) on percentage increases for every subtest on the WJ-III subtests fail to support this teacher concern. What is indicated is a greater need for teachers to have a thorough understanding of what evidence-based practices are and how to interpret, with understanding, research findings.

Limitations of the study

Setting

Applied settings for research naturally cause limitations to the study. Space in the school was very limited and did not allow for a quiet, undistruptive environment throughout the study. More than half of the sessions were conducted at tables located in the hallway near stairs and many classrooms. The hallway provided for many disturbances and noise produced from the goings-on of other students. During the excessive interruption, the experimenter would stop the timer for a while and then would have the students continue their practice time. However, it might be possible that such changes might have reduced students’ attention during the repeated reading practice.

Students

Absences of the experimental and control students were a major limitation to this study. Often times, students missed more than two days during a week. There were various reasons for the students’ absences. One student missed an entire week, and a portion of the next due to a death in his family. During the winter, many students were sick. Furthermore, disciplinary suspensions accounted for many absences. One student was suspended out of school multiple times, and suspended in school even more
regularly. This specific student had been previously diagnosed with ADHD but he was not receiving any medication nor was he receiving any treatment for his disorder.

**Lack of word-attack skills**

It is possible that the students' word attack skills might have reduced their ability to decode words easily during the repeated reading practice. Despite the fact that four of the experimental students performed at grade level on the word attack skills subtest of the Woodcock-Johnson during pretest, the experimenter observed that the participants were having difficulties in word attack skills during the repeated reading sessions.

**Design**

The comprehension assessment used in this study was a modified cloze procedure in order to maintain impartiality of scoring. The small number (i.e., 5) of items in each passage created a limited number of possible correct answers with which a student could respond. It is a probable scenario that many students could have exceeded this expectation, given the opportunity.

According to the multiple-baseline design utilized in this study, the students were entered intervention in a systematic manner. However, such an arrangement presented a limitation because two students had to be switched in order to pair an already-advanced-in intervention student with another partner. Had these students not been switched, it may have provided more opportunities to the low-achieving student for increasing his reading scores and thus improving his fluency.
Another limitation was setting the criterion only on the 3rd trial. This measure was holding back some of the students who were able to meet both criteria on either the 1st or 2nd trial.

Experimenters failed to compare the experimental and control groups among the students' reading fluency and passage comprehension on second grade passages pretest and posttest. Experimental students read higher level passages than the control students throughout the repeated reading intervention. The students were assessed prior to intervention but were not assessed on similar grade-level passages following intervention. An additional measure of how well the experimental students performed compared to control peers is needed to make a comparable assessment.

Lack of generalization and maintenance measures

This study was not designed for generalization or maintenance of the fluency or comprehension skills developed through the intervention. Data could have been collected on previous passages in order to determine maintenance of skills developed. Data could also have been collected on equivalent grade-level passages in order to determine generalization.

Future Directions in Research

There are many possibilities for future research with repeated reading. A replication of the current study with students of differing background, age, race and grade levels would be valuable. While the attendance of students cannot be controlled, it is
possible to help with their word attack skills by including a component about this into their training prior to the beginning of intervention.

The design could be modified to include a reversal in order to magnify the results. Including a more comprehensive comprehension component could bolster the results the students could produce if given the chance.

In order to successfully compare the experimental students and the control students reading fluency and passage comprehension on second grade passages pretest and posttest, a supplementary assessment is required. A comparison of progress that experimental students' made, an average of all passages read, compared to the control students', also an average of all passages read throughout intervention, is considered necessary.

A generalization measure could be added in order to demonstrate resilience of the effects of repeated reading. Data could be collected on previously read passages or collected on equivalent grade level passages.

Implications for Practice

There are numerous benefits for incorporating the paired repeated reading activity into classroom settings. First, the repeated reading program only takes a small amount of time. Second, it is a low-tech activity in which students are given many opportunities for active student responding. Third, repeated reading is cost-effective and the materials needed already exist in the school. Fourth, reading text books and working with a partner during a learning period gives classroom teacher the time to provide individual attention to students that present reading difficulties. Finally, students can be paired together from
other classes to make the change of grade levels more easily adaptable. Variations of repeated reading are unlimited.

Summary

The findings of this study are consistent with others reported in the RR research literature for both typically developing students and those with disabilities (e.g. Dowhower, 1989; O'Shea et al, 1987; Samuels, 1997; Yurick et al., 2004).

The purpose of this study was to investigate the effects of repeated reading compared to the effects of sustained silent reading on the oral reading fluency and comprehension of six urban second-grade students. The study also examined the effects of repeated reading on the students’, parents’, and teacher’s opinions. Six second-grade students reading at least one year below their classroom grade level participated in this study. Another five students were included as a control group.

During the sustained silent reading condition, experimental students read passages of approximately 130 words for ten minutes. No error correction or feedback was given by the experimenter. One-minute testing followed the practice session. The students’ performance was measured on the number of words read per minute and the number of errors made per minute. During repeated reading practice, experimental students worked in pairs. Students read the grade-level passage of approximately 130 words repeatedly for ten minutes. One-minute time trials would follow the repeated reading practice sessions. The students were told they would be timed while they were reading and that errors would be counted. At the end of the testing time, students graphed the results in their folders. Then, five cloze comprehension questions would be answered.
Throughout the study, the control students were given one-minute tests of fluency. The students’ performance was measured on the number of words read per minute and the number of errors made per minute. Then, five cloze comprehension questions would be answered. Both would be recorded by the experimenter.

Results showed that experimental students increased their reading rates significantly and decreased the number of errors made during repeated reading. All of the experimental students demonstrated higher fluency and comprehension performance during intervention than during baseline. In comparison control students maintained low levels of fluency and comprehension throughout the study. Students and parents responded positively to the social validity measurement while the classroom teacher did not respond in the same manner.
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August 1, 2005, from ERIC database: ED397569.

from ERIC database: ED418379.


APPENDIX A

DATA COLLECTION SHEETS
<table>
<thead>
<tr>
<th>Date:</th>
<th>Student Name</th>
<th>Fluency</th>
<th>Errors</th>
<th>CWPM</th>
<th>Compreh.</th>
<th>SSR/RR/T</th>
<th>Cloze Words</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Timothy</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td></td>
<td>Tamia</td>
<td></td>
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<tr>
<td></td>
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<tr>
<td></td>
<td>Marquan</td>
<td></td>
<td></td>
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<tr>
<td></td>
<td>Martin</td>
<td></td>
<td></td>
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</tr>
<tr>
<td></td>
<td>Derrick</td>
<td></td>
<td></td>
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</tr>
<tr>
<td></td>
<td>Justin</td>
<td></td>
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<td></td>
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</tr>
<tr>
<td></td>
<td>Stephanie</td>
<td></td>
<td></td>
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</tr>
<tr>
<td></td>
<td>Carrie</td>
<td></td>
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</tr>
<tr>
<td></td>
<td>Cory</td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td></td>
<td>Isaiah</td>
<td></td>
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</tr>
</tbody>
</table>

**SSR and RR Data Collection Sheet**

CWPM: correct words per minute  Compreh.: comprehension
APPENDIX B

PARENT LETTER AND CONSENT FORM
October 18, 2004

Dear Parent:

I am a professor in the college of education at The Ohio State University. My research assistants and I will be conducting a research project in your child's school. We wish to see if intensive periods of reading instruction will increase reading performance. Our instructional strategies will include: (1) peer tutoring, where students work in pairs to practice their academic skills, and/or (2) timed and repeated readings, where students reread passages to improve their reading fluency and comprehension. Your child will be working with the researchers, the classroom teacher, and their peers in the classroom three times a week for 30 minutes each time.

We also are requesting permission to videotape/photograph your child. The purpose of these pictures is to demonstrate specific teaching strategies used by the researcher. They will not be used to identify your child in any way. The tapes will be used in our teaching seminars to show other teachers how to implement these strategies. We need to demonstrate the use of these strategies with groups of children. If you do not consent to the photographs, we will locate your child outside the range of the camera but your child will remain in the room and continue with the instructional activities.

Data collected on your child will include word attack skills, number of sight words, reading rate, and reading comprehension. All information collected about your child will be confidential. No one other than the researchers will use this information and your child will not be identified in any way to others.

Both at the middle and before the end of the school year, we will ask parents to complete a questionnaire on how effective you feel this project was on your child's academic and social performance. We expect the questionnaire to take about 10 minutes to complete. We will also ask your child in the form of an interview to express how he/she feels about the reading intervention. This informal interview will take approximately 10 minutes to complete and it will not take away any of your child's academic learning time.

We are requesting your permission so that we might use your child's classroom performance as data in this study. We also are asking permission to include your child in our classroom videotapes or photographs. Permission is purely voluntary and the decision not to permit this access will not affect the way your child will be treated or graded at school. Should you consent, please know that you can choose to withdraw your permission at any time during this project. If you have questions, please feel free to contact me at (614) 292-7629.

Thank you for your attention and cooperation.

Sincerely,

Gwendolyn Cartridge, Ph.D.
Professor

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Special Education • Sport & Exercise Education, Humanities, Management & Science
Counselor Education, Rehabilitation Services & School Psychology • Workforce Development & Education

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October 20, 2004

CONSENT FOR PARTICIPATION IN SOCIAL AND BEHAVIORAL RESEARCH

Protocol title: "Improving the School Success for Urban Learners."

Protocol number: Pending

Principal Investigator: Gwenolyn Cartridge

I consent to my child's participation in research being conducted by Dr. Gwenolyn Cartridge of The Ohio State University and her assistants and associates.

The investigators have explained the purpose of the study, the procedures that will be followed, and the amount of time it will take. I understand the possible benefits, if any, of my child's participation.

I know that my child can choose not to participate without penalty to me and/or my child. If I agree to participate, I can withdraw my child from the study at any time, and there will be no penalty.

I consent to the use of videotapes and photographs. I understand that these pictures will only be used to demonstrate classroom teaching practices. My child will not be identified by name and my child will be depicted in these tapes in positive ways.

I consent to the use of the following information from my child's school records and academic records: attendance, individualized education plan (if any), medical reports (if any), classroom test scores, and benchmark evaluations.

I have had a chance to ask questions and to obtain answers to my questions. I can contact the investigators at (614) 292-7822. If I have questions about my rights as a research participant, I can call the Office of Research Risks Protection at (614) 688-4792.

I have read this form. I sign it freely and voluntarily. A copy has been given to me.

Print the name of the participant:

Date: ______________________ Signed: ____________ (Participant)

Signed: ______________________ (Principal Investigator or his/her authorized representative)

Signed: ______________________ (Person authorized to consent for participant, if required)

Witness: ______________________ (When required)

---

Workforce Development & Education
School of Physical Activity and Educational Services
1945 North High Street
Columbus, OH 43210-1120
FAX: 614-292-0102

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Special Education 292-8348
Sport & Exercise Sciences 292-2304
Counselor Education 292-8307
Rehabilitation Services & School Psychology 292-8133

College of Education

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APPENDIX C

GOOD LISTENER CARD AND CORRECTION PROCEDURES
Good Listener Card and Correction Procedures

How to correct your partner:

1. "Stop! The word is ____. Point to and say ______."  

2. "Good! The group of words is ____ ____ ____. Point to and say the group of words."

3. "Excellent! Say the group of words: three times fast or backward and forward."
APPENDIX D

STEPS FOR BEING A GOOD LISTENER AND A GOOD READER
Steps for being a Good Listener and a Good Reader

I am a Good Listener when I:
1. take turns.
2. follow along in the book.
3. help my partner correct mistakes.

I am a Good Reader when I:
1. take turns.
2. sound out the unknown words.
3. read loud and clear.
APPENDIX E

STUDENT GRAPHS
Reading Graph

Goal Line
90 words

How many words do I read in one minute?

Date

Student Graph
APPENDIX F

REPEATED READING TRAINING PROCEDURES
Repeated Reading
Training Plan

Student Objectives:
1. List and perform accurately the three steps of the good listening behavior.
2. List and perform accurately the three steps of the good reading behavior.
3. Perform one-minute timing assessment.
4. Plot number of words read per minute and errors on graph.

Length: 3 days

Materials: Student Folders
Passage for practice
1 transparency with the passage
1 transparency with the graph
Timer
List of student pairs
Stamps/stickers
2 posters with the rules of good listening and reading behaviors

Training Outline:

Day 1: Teach the three steps of a good listening behavior:
   (1) taking turns
   (2) following the text with finger
   (3) helping partner correct mistakes and writing mistakes down on the
       listener's log

Day 2: Teach the three steps of a good reading behavior:
   (1) taking turns
   (2) reading loud enough for partner to hear
   (3) attempting to sound out unknown words

   Review the good listening and reading behavior.

Day 3: Teach the one-minute assessment and graphing.
   Put into practice all the components of the repeated reading procedure
   (good listening behavior, good reading behavior, testing and graphing).

Training cont'd
### Training day 1: Good listening behavior

<table>
<thead>
<tr>
<th>Time</th>
<th>Activity</th>
<th>Teacher behavior</th>
<th>Student behavior</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 min</td>
<td>Introduction</td>
<td>Teacher introduces the new activity by saying: “You are going to learn a new game. With this game you are going to become better readers and teach each other to read correctly and quickly. Here is what you are going to learn to do.”</td>
<td></td>
</tr>
<tr>
<td>3 min</td>
<td>Modeling</td>
<td>Teacher and assistant model the procedure briefly. Select a short passage to demonstrate all aspects of repeated reading (reader alternation, following along, corrections, filling in listener log).</td>
<td>Observe</td>
</tr>
<tr>
<td>5 min</td>
<td>Discussion</td>
<td>Ask students: “What behaviors do you see when it’s the teacher’s turn to be a good listener?” Model the procedure again. Write student observations on the chalkboard.</td>
<td>Responses:</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>1. taking turns</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>2. following the text with finger</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>3. helping partner correct mistakes</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>4. writing mistakes down on the listener log</td>
</tr>
<tr>
<td>5 min</td>
<td>Clarification</td>
<td>Expand good listener behaviors on the chalkboard; discuss each of the 3 good listener behaviors individually. (1) Alternating turns at the beginning of each paragraph—explain that a paragraph begins with the indentation of a sentence. Have each student to provide the first word of a new paragraph in a text to ensure understanding. (2) Following along with finger—tell the students that this is a way to know where their partner is reading so that they can correct their partners. Practice by reading orally to the students and asking them to follow with their fingers. Alter reading speed to check for accurate following. (3) Following correction procedures when the partner makes a mistake and writing mistakes down in the listener log—direct students to the correction procedure pasted inside the folders. Model the use of the correction procedure and write the incorrect word on the listener log sheet.</td>
<td>Respond to questions, follow along in text with oral reading, locate the correction procedure in the student folder</td>
</tr>
</tbody>
</table>

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Training cont’d
<table>
<thead>
<tr>
<th>Time</th>
<th>Activity</th>
<th>Teacher behavior</th>
<th>Student behavior</th>
</tr>
</thead>
<tbody>
<tr>
<td>8 min</td>
<td>Student practice</td>
<td>Direct this activity by selecting a student in each pair to begin reading. Provide opportunity for student to practice each of the good listener behavior. For example, tell students that you are looking for the good listening behavior of taking turns. Tell students to begin reading and when students are observed to take turns correctly, place a sticker on the good listener card. Allow enough turns to provide an opportunity for each student to receive a sticker.</td>
<td>Listen to teacher instructions, practice specific good listening behaviors</td>
</tr>
<tr>
<td>2 min</td>
<td>Reward procedure and questions</td>
<td>Explain the reward system: tell students that the stickers you have been placing on their cards will help them work toward earning prizes for being good listeners. The reinforcement procedure can vary according to specific classroom needs. For example, teacher may incorporate the group-oriented contingency into the repeated reading reward system. Take student questions regarding any confusion with good listener behaviors. Always include in your response (and end with) a demonstration of the desired behavior.</td>
<td>Listen, ask specific questions</td>
</tr>
<tr>
<td>6 min</td>
<td>Student practice</td>
<td>Direct students to practice reading a passage together. Observe each pair. Deliver specific praise and corrective feedback (i.e. “Yes! You followed the correction procedure exactly! I like the way you remembered to write the mistake in the listener log”. Or, “You are not following along in the text. Show me how you follow along.”)</td>
<td>Practice reading with partners, demonstrate all components of good listening behavior</td>
</tr>
</tbody>
</table>

Training cont’d
### Training day 2: Good reading behavior and Good listening behavior

<table>
<thead>
<tr>
<th>Time</th>
<th>Activity</th>
<th>Teacher behavior</th>
<th>Student behavior</th>
</tr>
</thead>
<tbody>
<tr>
<td>5 min.</td>
<td>Review</td>
<td>Ask students to recall the component behaviors of good listening (taking turns, following text with finger, correcting partner’s mistakes, writing mistakes in the listener log). Write the responses on the board. Ask students to demonstrate each behavior.</td>
<td>Recall good listening behavior, demonstrate good listening behaviors.</td>
</tr>
<tr>
<td>2 min.</td>
<td>Modeling</td>
<td>Teacher and assistant model the procedure briefly. Select a short passage to demonstrate all aspects of repeated reading (reader alternation, following along, corrections, filling in listener log).</td>
<td>Observe</td>
</tr>
</tbody>
</table>
| 5 min. | Discussion  | Ask students: **“What behaviors do you see when it’s the teacher’s turn to be a good reader?”** Model the procedure again. Write student observations on the chalkboard. | Responses  
1. taking turns  
2. reading loud enough for partner to hear  
3. attempting to sound out unknown words                                                                 |
| 3 min. | Clarification | Expand good reading behaviors on the chalkboard; discuss each of the 3 good reading behaviors individually.  
1. *Alternating turns at the beginning of each paragraph*—have each student to provide the first word of a new paragraph in a text to ensure understanding.  
2. *Reading loud and clear enough*—tell the students that they have to read loud and clear enough for their partner to hear with no whispering or yelling. Show students examples and non-examples of reading loud and clear.  
3. *Sounding out unknown words*—tell students that they should always try to sound out unknown words, but not wait for their partner to tell them the word. | Respond to questions, observe                                                                                                                                   |
| 5 min. | Student practice | Select a student in each pair to begin reading. Allow students to practice each of the good reading behaviors. For example, tell the readers that you are looking for the good reading behavior of reading audibly. When students are observed reading audibly, place a sticker on the good listener cards. | Listen to teacher instructions, practice specific good reading behaviors                                                                                      |

Training cont’d
<table>
<thead>
<tr>
<th>Time</th>
<th>Activity</th>
<th>Teacher behavior</th>
<th>Student behavior</th>
</tr>
</thead>
<tbody>
<tr>
<td>5 min.</td>
<td>Modeling examples and non-examples</td>
<td>Tell the students that you will be playing a short game. Tell them that when you and your partner model repeated reading there may be some parts of the procedure that are right and some that are wrong. Tell them to raise their hands when they see something that is being done incorrectly. Provide a sticker for each correct answer. Vary the demonstrations to include examples and non-examples of both good reading and good listening behavior.</td>
<td>Observe and recognize correct and incorrect reading and listening behaviors</td>
</tr>
<tr>
<td>10 min.</td>
<td>Student practice</td>
<td>Direct students to practice reading a passage together. Observe each pair. Deliver specific praise and corrective feedback (i.e. “Yes! You followed the correction procedure exactly! I like the way you remembered to write the mistake in the listener log.” Or, “You are not following along in the text. Show me how you follow along.”)</td>
<td>Practice reading with partners, demonstrate all components of good reading and good listening behavior</td>
</tr>
</tbody>
</table>

Training cont’d
Training day 3: Timing and graphing

<table>
<thead>
<tr>
<th>Time</th>
<th>Activity</th>
<th>Teacher behavior</th>
<th>Student behavior</th>
</tr>
</thead>
<tbody>
<tr>
<td>10 min.</td>
<td>Student practice</td>
<td>Direct students to practice reading a passage together. Observe each pair. Deliver specific praise and corrective feedback. This activity may be preceded with a brief review if necessary.</td>
<td>Practice reading with partners, demonstrate all components of good reading and good listening behavior</td>
</tr>
<tr>
<td>5 min.</td>
<td>Timing and graphing</td>
<td>- Display a transparency of text. Tell students: “I am going to test myself to see how many words I can read in one minute.” Have your partner count the errors you will make.</td>
<td>Listen</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Start timer. Begin reading rapidly.</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>- When timer stops, put a bracket (1) after the last word read.</td>
<td></td>
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<tr>
<td></td>
<td></td>
<td>- Ask students to help you count how many words you read.</td>
<td></td>
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<tr>
<td></td>
<td></td>
<td>- Present a transparency of a graph and plot the number.</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Tell students that the final step is to ask your partner how many errors were made during the practice session. Denote errors on the same graph by plotting them with an x.</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Tell students that during testing time partners do not correct any errors or give any answers.</td>
<td></td>
</tr>
<tr>
<td>5 min.</td>
<td>Timing and graphing practice</td>
<td>Tell students you will play a graphing game. Ask each student to come to the overhead projector and plot the information you give. Orally give a variety of examples such as: 135 words on day 16; 13 errors on day 2; 167 words and 7 errors on day 5, etc. Give praise and corrective feedback as necessary. Provide a sticker for each correct response.</td>
<td>Plot information on transparency</td>
</tr>
<tr>
<td>15 min.</td>
<td>Demonstration</td>
<td>Conduct an entire repeated reading session.</td>
<td>Independent demonstration of repeated reading procedures</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Set timer for ten minutes</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Monitor reading and listening behavior during practice session</td>
<td>Training cont’d</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- At the end of the practice set the timer for one minute. Students take turns to test each</td>
<td></td>
</tr>
</tbody>
</table>
other. One student reads and the other one counts the errors.
- Direct students to graph words read per minute and errors.
- Monitor graphing and provide stickers during both practice and timing sessions.
APPENDIX G

PROCEDURAL INTEGRITY - STUDENT BEHAVIOR
**Student Behavior Procedural Checklist:**

<table>
<thead>
<tr>
<th>Did the student:</th>
<th>YES</th>
<th>NO</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. follow along in the passage with his/her partner?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. take turns reading and listening?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. help his/her partner correct mistakes?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. sound out unknown words?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. read loud and clear?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. count his/her partner’s CWPM and errors?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7. graph his/her CWPM and errors?</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
APPENDIX H

PROCEDURAL INTEGRITY – EXPERIMENTER/OBSERVER BEHAVIOR
**Experimenter's Behavior Procedural Checklist**

<table>
<thead>
<tr>
<th>Did the teacher:</th>
<th>yes</th>
<th>no</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Prompt students to get their folders</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Prompt students to go to their reading spots</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Prompt students to take out and display the reading cards</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Prompt students to set the timers for 10 minutes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. Announce “Practice begins now”</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. Circulate the room and monitor students’ behavior</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7. Provide positive reinforcement and/or corrective feedback</td>
<td></td>
<td></td>
</tr>
<tr>
<td>8. Once timers ring, monitor students doing timings/recordings</td>
<td></td>
<td></td>
</tr>
<tr>
<td>9. Monitor students’ graphing of scores</td>
<td></td>
<td></td>
</tr>
<tr>
<td>10. Once timed recordings and graphing is complete, prompt students to clean up the area and put away repeated reading materials</td>
<td></td>
<td></td>
</tr>
<tr>
<td>11. Direct remainder of students in the next class activity</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Procedural Integrity – Experimenter/Observer Behavior**

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APPENDIX I

SOCIAL VALIDITY – TEACHER
<table>
<thead>
<tr>
<th>Questions</th>
<th>Disagree Strongly 1</th>
<th>Disagree 2</th>
<th>Agree 3</th>
<th>Agree Strongly 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Reading comprehension is a critical skill for my students to acquire for their future life.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>2. Repeated reading improved my students’ oral reading skill.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>3. Repeated reading improved my students’ reading fluency.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>4. Repeated reading improved my students’ comprehension skills.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>5. Repeated reading has benefited my students’ overall reading skills.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>6. The Repeated reading program was easy for my students to understand.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>7. The amount of time given for Repeated reading was appropriate and adequate.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>8. The procedures of Repeated reading helped students to actively engage in their learning.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
</tbody>
</table>

Social Validity – Teacher cont’d
<table>
<thead>
<tr>
<th></th>
<th>The reward system of the program helped to promote my students’ academic and social performance.</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
</tr>
</thead>
<tbody>
<tr>
<td>10</td>
<td>I would recommend this program to other teachers.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>11</td>
<td>I think my students enjoyed participating in this research project.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>12</td>
<td>I am planning to implement the program in my class next year.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
</tbody>
</table>

13. If you were to use the repeated reading program, which component(s) of the program would you modify to make it more appropriate for your students?

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14. Please feel free to share additional comments and thoughts about the Repeated reading program.

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**Social Validity - Teacher**

**APPENDIX J**

**SOCIAL VALIDITY - STUDENT**
<table>
<thead>
<tr>
<th>Questions</th>
<th>😊</th>
<th>😐</th>
<th>😞</th>
</tr>
</thead>
<tbody>
<tr>
<td>How do you feel about peer tutoring?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>How do you like being a tutor (i.e. teacher)?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>How do you like being a tutee (i.e. student)?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>What do you think about practicing the words during peer tutoring?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>How do you like coloring boxes on your chart?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>What do you think of the prizes?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Which part of peer tutoring did you like the best?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Which part of peer tutoring didn’t you like?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Did you learn more words when you were the tutor or when you were the student?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Would you rather have peer tutoring or be in a small group of kids working with the teacher to learn words?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>If you were to change anything about peer tutoring, what would you change?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Is there anything else you would like to tell me about peer tutoring?</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Social Validity - Student
APPENDIX K

STUDENT THANK YOU LETTERS
Dear OSU, Thank you for the books. Thank you for teaching us now things. Thank you for helping. I am glad you came. You did the best in Colombia.
Dear OSU,

Thank you for testing. I'm so happy you did. Now I read better! We're pleased.
Now I'm 7th level reader. Thank you again.

6-7-05
APPENDIX L
MULTIPLE BASELINE DESIGN