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Using Peer-Mediated Fluency Instruction to Address the Needs of Adolescent Struggling Readers

Authors	Josephs, Nikki L.
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ACCEPTANCE

This dissertation, USING PEER-MEDIATED FLUENCY INSTRUCTION TO ADDRESS THE NEEDS OF ADOLESCENT STRUGGLING READERS, by NIKKI L. JOSEPHS, was prepared under the direction of the candidate's Dissertation Advisory Committee. It is accepted by the committee members in partial fulfillment of the requirements for the degree Doctor of Philosophy in the College of Education, Georgia State University.

The Dissertation Advisory Committee and the student's Department Chair, as representatives of the faculty, certify that this dissertation has met all standards of excellence and scholarship as determined by the faculty. The Dean of the College of Education concurs.

Kristine Jolivet, Ph.D.
Committee Chair

David E. Houchins, Ph.D.
Committee Member

L. Juane Heflin, Ph.D.
Committee Member

Philip Gagne, Ph.D.
Committee Member

Date

Peggy L. Gallagher, Ph.D.
Chair, Department of Educational Psychology and Special Education

R. W. Kamphaus, Ph.D.
Dean and Distinguished Research Professor
College of Education

AUTHOR'S STATEMENT

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Nikki L. Josephs

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All dissertations deposited in the Georgia State University library must be used in accordance with the stipulations prescribed by the author in the preceding statement. The author of this dissertation is:

Nikki L. Josephs
250 Romano Lane
Yonkers, New York 10701

The director of this dissertation is:

Dr. Kristine Jolivette
Department of Educational Psychology and Special Education
College of Education
Georgia State University
Atlanta, GA 30302-3979

VITA

NIKKI L. JOSEPHS

Address: 250 Romano Lane
Yonkers, New York 10701

EDUCATION

2010	Ph.D.	Georgia State University Education of Students with Exceptionalities Cognate: Emotional/Behavioral Disorders, Juvenile Justice
2002	M.Ed.	State University of New York at New Paltz Concentration: Special Education, Mild Disabilities Certification: Interrelated Special Education, P-12
1999	B.A.	State University of New York at Albany Majors: World History, Social Studies Education Certification: Social Studies, 7-12

PROFESSIONAL EXPERIENCE

2007- Present	Part Time Instructor, Georgia State University, Department of Educational Psychology and Special Education
2006 - Present	Graduate Research Assistant, Georgia State University, Department of Special Education
2004 - 2006	Special Education Teacher, Dr. Martin Luther King, Jr. Elementary School, College Park, Georgia
2003 - 2004	Social Studies Teacher, Kingston High School, Kingston, New York
1999 – 2003	Studies Teacher, J.W. Bailey Middle School, Kingston, New York

PUBLICATIONS

Jolivette, K., Scott, T. M., Alter, P., Josephs, N. L., & Swoszowski, N. C. (in press). Strategies to prevent problem behavior. M. Tankersley & B. Cook (Eds.), *Effective Practices in Special Education*.

Jolivette, K., Houchins, D. E., Josephs, N. L., Waller, K., Hall, T., & Nomvete, P. (2008). Providing educational services in secure settings. L.M. Bullock & R.A. Gable (Eds.), *Ensuring a brighter future for troubled children/youth: Challenges and*

solutions (pp. 193-263). Council for Children with Behavioral Disorders.
Arlington, VA: Council for Exceptional Children.

Swoszowski, N.C., Josephs, N.L., Griller Clark, H., & Jolivette, K. (in review).
Addressing the needs of females in juvenile justice settings. *Education and
Treatment of Children*.

CONFERENCES, STATEWIDE PRESENTATIONS, INSERVICES

Josephs, N. L., & Swoszowski, N. C. (2009, Oct.). The current state of gender-specific
programming for female court-involved youth. Teacher Educators for Children
with Behavior Disorders, Tempe, Arizona.

Josephs, N. L., Swoszowski, N. C., & Jolivette, K. (2008, Nov.). Addressing the needs of
female juvenile offenders: A review of the literature. Annual Conference of the
Teacher Education Division of the Council for Exceptional Children, Dallas,
Texas.

Nomvete, P., Josephs, N. L., Waller, K., & White, M. (2009, Apr.). Academic mentoring
of court-involved youth in a community setting: Lessons learned. Council for
Exceptional Children, Seattle, Washington.

White, M., & Josephs, N. L. (2007, Nov.) Behavior management: A positive approach to
discipline. Annual Conference of the Department of Juvenile Justice, Macon,
Georgia.

MEMBERSHIPS AND SERVICE ACTIVITIES

Member, Council for Exceptional Children (CEC) (2006-present)
Divisions: Council for Children with Behavioral Disorders, Teacher
Educator Division.

Executive Board Member, B'Fly Girls, Atlanta, Georgia (2009 -present).

Board Member, Educational Advocacy Coordinating Committee, Fulton County
Juvenile Justice Center, Atlanta, Georgia. (2006 – present).

ABSTRACT

USING PEER-MEDIATED FLUENCY INSTRUCTION TO ADDRESS THE NEEDS OF ADOLESCENT STRUGGLING READERS

by
Nikki L. Josephs

Teaching oral reading fluency is an important aspect of effective literacy instruction. Researchers have investigated a number of strategies shown to be effective with beginning readers; however, less empirical evidence is available for older, struggling readers. The secondary curriculum presents adolescent struggling readers with different challenges, including successful completion of higher level comprehension skill activities, high-stakes assessments, and limited classroom time with practice with oral reading fluency exercises. These conditions may lead to academic failure or school drop-out for students who have limited reading ability. An alternating conditions design (Kazdin, 1982) was used to examine the influence of peer-mediated fluency instruction (repeated reading and continuous reading) on the oral reading fluency and comprehension skills of five high school-aged struggling readers from an urban alternative high school setting. The three dependent variables measured were (a) words correct per minute, (b) number of errors, and (c) number of comprehension questions answered correctly. Results of the alternating treatments design indicate that all students increased their correct words per minute with implementation of peer-mediated repeated reading fluency instruction as compared to the peer-mediated continuous reading instruction. However, mixed results were found regarding accuracy of comprehension questions. Limitations

were noted with regard to working within an alternative high school setting, variability in student outcomes, and the use of narrative text. Future research suggestions for using peer-mediated oral reading fluency instruction with students with and without disabilities in alternative high school settings are provided.

USING PEER-MEDIATED FLUENCY INSTRUCTION OF ADOLESCENT
STRUGGLING READERS

by

Nikki L. Josephs

A Dissertation

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in
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Exceptionalities
in
the Department of Educational Psychology and Special Education
in
the College of Education
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ABBREVIATIONS

CR	Continuous Reading
IOA	Inter-Observer Agreement
NRP	National Reading Panel
PALS	Peer-Assisted Learning Strategies
PCR	Peer-mediated Instruction with Continuous Reading
PND	Percentage of Non-overlapping Data
PRR	Peer-mediated Instruction with Repeated Reading
RR	Repeated Reading
SRA	Scientific Research Associates
TABE	Test of Adult Basic Education
TOWRE	Test of Word Reading Efficiency
WCPM	Words Correct Per Minute
WJ-III	Woodcock-Johnson Test of Academic Achievement, 3 rd Edition

CHAPTER 1

ORAL READING FLUENCY INSTRUCTION FOR ADOLESCENT STRUGGLING READERS: A REVIEW OF THE LITERATURE

The ability to read effectively is an important skill for educational success. For those individuals who struggle with basic reading and comprehension skills there are many long-term outcomes which may include academic failure (Dudley, 2005; Rasinski et al., 2005), un-/underemployment, dependence on public assistance and social services (Katsiyannis & Archwamety, 1997; Quinn, Rutherford, Leone, Osher, & Poirier, 2005) as well as court-involvement (Brunner, 1993; Christle, Jolivette, & Nelson, 2005). To provide classroom teachers with a framework for effective literacy instruction, the National Reading Panel (NRP; 2000) released a report which emphasized the need for alphabetic, fluency, and comprehension instruction as the core components necessary for effective reading instruction. Since the release of the NRP, the number of studies investigating methods for addressing literacy skills has increased; with over 50% of those published having a core focus on fluency (Kostewicz & Kubina, 2008; Mastropieri, Leinart, & Scruggs, 1999).

The NRP (2000) defined reading fluency as “*the ability to read text quickly, accurately, and with proper expression*” (p. 3). Fluency has three basic components which include: decoding, automaticity, and prosody. All three components are necessary for students to be fluent readers. The evidence-based literature available to classroom educators is dense with regard to supplying fluency instruction (Mastropieri et al., 1999;

Rasinski, 2006; Samuels, 1997); however, much of the research conducted is in the area of basic fluency skills with elementary level students (Mastropieri et al.; O'Connor, White, & Swanson, 2007; Sindelar, Monda, & O'Shea, 2001; Staubitz, Cartledge, Yurick, & Lo, 2005). Further research is needed at the secondary level (middle and high school) because adolescents who struggle with reading fluency face a different set of challenges in attaining academic success (Denton & Vaughn, 2008; Wexler, Vaughn, Edmonds, & Reutebuch, 2008).

Characteristics of Adolescent Struggling Readers

Adolescent struggling readers face a host of obstacles in their attempt to successfully navigate the demands of the secondary level curriculum. By this level many adolescent struggling readers may not have received appropriate or adequate basic reading skill instruction (Denton & Vaughn, 2008). Also, high school level courses have a strong emphasis on effective reading fluency and comprehension skills. For students who have difficulties with basic reading skills, the process of reading can become laborious limiting the amount of opportunities students volunteer to read. This in turn may lead to decreased exposure in the amount of vocabulary words and limit the amount of content area knowledge (Chard, Ketterlin-Geller, Baker, Doabler, & Apichatabutra, 2009). Adolescents who struggle with reading may, in turn, avoid activities which involve reading (Dudley, 2005; Rasinski et al., 2005), due to a lack of adequate practice with reading, causing them to continue to fall further behind their peers (Dudley). Further challenging the situation, adolescent struggling readers face a host of high-stakes assessments (e.g., State-wide testing, end of course tests, graduation exams) which are used for accountability of academic progress (Dudley; Lebzelter & Nowacek, 1999). This

situation is especially challenging for adolescent students who are at-risk for or have a special education diagnosis, or who are at-risk for high school dropout (Roberts, Torgesen, Boardman, & Scammacca, 2008) and who are served in alternative settings. Additional considerations must be taken into account when working with older students who struggle with reading. For example, classroom time restrictions play an intricate role in the types of instruction classroom educators can accomplish. Unlike elementary level educators those who teach at the secondary level typically have class rolls of up to 150 students with a more definitive time limit of class periods and a heterogeneous mix of students. The challenge of time constraints, curriculum mandates, and heterogeneous student populations may create an environment where teachers have difficulty meeting standards while addressing the needs of this unique adolescent population.

For students educated within alternative educational settings (e.g., self-contained environments, juvenile facilities) the challenges are even more difficult. For these students, the stigma of being a struggling reader who receives instruction in more restrictive environments may add to additional task avoidance, classroom disruptions, or dropout (Christle et al., 2005; Foley, 2001; Rasinski et al., 2005; Roberts et al., 2008). Often alternative settings are the final placement for students who are at-risk of academic failure to receive an opportunity for educational success (Scott, Nelson, Liaupsin, Jolivette, Christle, & Riney, 2002; Shelley-Tremblay, O'Brien, & Langhinrichsen-Rohling, 2007; Quinn et al., 2005). Alternative settings also have administrative challenges which are not present in the public school arena. For example, transient populations, student bodies from different geographic regions or states, security concerns, day staff and night staff considerations, and high concentrations of students at-risk of

abuse, addictions, and academic failure (Christle et al., 2005; Katsiyannis & Archwamety, 1999). These challenges make it difficult to recruit and maintain long-term qualified faculty and staff who are knowledgeable about special education and manifestations of varying disabilities (Moody, 2003). Therefore, it is imperative to provide alternative educational settings with effective supplemental reading fluency strategies to address the needs of older struggling readers. One method which has been shown to be effective for improving overall reading achievement is by implementing reading fluency instruction within the classroom.

Reading Fluency Instruction

Teaching fluency is important because it (a) increases a student's ability to read text; and (b) is a springboard to comprehension, an integral skill within the secondary curriculum (LaBerge & Samuels, 1974). Thus, it is imperative to continue to incorporate effective reading fluency strategies throughout an individual's educational experience. A substantial amount of research exists which supports the use of fluency instruction at the elementary level (e.g., Barton-Arwood, Wehby, & Falk, 2005; Kuhn, 2005; Rashotte & Torgesen, 1985); however, it is equally important to continue this instruction at the secondary level to provide adolescent struggling readers an opportunity for educational success (Wexler et al., 2008). Though there are conceptual articles which highlight the importance of fluency instruction with adolescent struggling readers (Archer, Gleason, & Vachon, 2003; Moats, 2001; Rasinski et al., 2005), few empirical articles have been published.

Researchers have successfully implemented supplemental oral reading instruction at the secondary level across a variety of settings for students with and without

disabilities using various methods. For example, Mercer, Campbell, Miller, Mercer, and Lane (2000) conducted an investigation using the Great Leaps Reading Program (Campbell, 1995) with middle school students with learning disabilities. The students were divided into three groups: Group 1 received instruction for 19–25 months, Group 2 received instruction for 10–18 months, and Group 3 received instruction between 6–9 months. Reading rates per minute on grade-leveled passages was the dependent variable measured. This intervention was a unique extension to the existing literature because the application was administered one-on-one by classroom paraprofessionals. Using the Great Leaps Reading Program five times a week, the results of the pre-/post-test design suggest that the group which showed the most significant gains in reading rate were those students who received between six and nine months of instruction, though all groups showed improvement.

Another investigation using the Great Leaps Reading Program (Campbell, 1995) with adolescent struggling readers was conducted by Scott and Shearer-Lingo (2002). The authors administered the reading intervention in a self-contained setting with students with emotional/behavioral disorders to examine the effects on the reading fluency and on-task-behavior of three boys in the seventh grade. The results of the multiple baseline design suggest that each participant increased their on-task classroom behavior as well as their reading rates.

Reading fluency also has been investigated using other reading programs. Shippen, Houchins, Steventon, and Sartor (2005) examined the effects of SRA Corrective Reading (Engelmann, Johnson, et al., 1999) and REWARDS (Reading Excellence: Word Attack and Rate Development Strategies; Archer, Gleason, & Vachon, 2000) on the

reading achievement of 55 urban middle school students with and without disabilities. After the 6-week intervention, the results indicated that all students made improvements in reading rate, accuracy, and fluency. This investigation supports the literature which states the need for structured fluency instruction with secondary-age struggling readers.

Lingo, Slaton, and Jolivette (2006) conducted another investigation using the Corrective Reading Program to examine its effect on the reading fluency skills and appropriate behaviors of seven middle school students with challenging behaviors. Using a multiple baseline design, the results of the study indicate that the reading program increased the number of words read per minute for each participant and the number of appropriate classroom behaviors.

Though there is a body of evidence which suggests that the use of explicit, structured fluency instruction contained in reading programs is beneficial for struggling readers, not all educational facilities have the classroom time, staff members, or financial resources to purchase entire reading programs. In this case, the research base should provide additional effective supplemental strategies which can be implemented in classrooms to address the needs of adolescent struggling readers. Two supplemental fluency strategies which have shown promise in addressing the fluency skills of adolescent struggling readers are repeated reading and continuous reading.

Repeated Reading. Repeated reading is an effective method that assists struggling readers in improving their reading skills by increasing fluency of written text. Repeated reading is a method where a student is assigned a short, meaningful passage to read multiple times (Samuels, 1997). While practicing repeated reading students read a timed passage until they read it to mastery. The process is then repeated with new passages that

are increasingly more difficult. The repeated reading strategy is based on the model of reading automaticity (LaBerge & Samuels, 1974). With this model the authors contend that a certain amount of mental energy is used in order for an individual to read and comprehend text simultaneously. In other words, in order for an individual to comprehend what they are reading, enough attention must be left for the brain to process the text while simultaneously reading accurately and automatically. Practice in reading fluency gives an individual time to develop basic reading skills while increasing their vocabulary. This way, more words become automatic and the reader can use more energy comprehending the connected text because they are not having difficulty with decoding individual words.

Repeated reading has been shown to increase the oral reading fluency of students in general education classes at the elementary level (Begeny, Daly, & Valleley, 2006; Kuhn, 2005; Martens et al., 2007; Mastropieri et al., 1999; Rashotte & Torgesen, 1985; Scammacca, Vaughn, Roberts, Wanzek, & Torgesen, 2007; Yurick, Robinson, Cartledge, Lo, & Evans, 2006) and with students with disabilities (Staubitz, Cartledge, Yurick, & Lo, 2005). Samuels (1997) first examined the effect of repeated reading on the fluency rate of average and poor elementary-aged readers with and without disabilities. The results showed the number of repetitions needed to reach automaticity decreased over time for all participants and that repeated reading of one passage transferred to other reading materials. Since then researchers have continued to extend the field of repeated readings as a method to improve reading achievement by examining its effect on fluency rate and comprehension skills (Herman, 1985; Knupp, 1988).

Staubitz and colleagues (2005) investigated the effects of repeated reading and peer-mediated instruction on the oral fluency of six elementary students with or at-risk for emotional/behavioral disorders. The passages used were books from the *Scholastics Biography Series* and the dependent variables measured were oral reading rate, accuracy, and comprehension. The results showed that oral reading rate, accuracy, and comprehension increased for all students. The authors noted one limitation to the study was that due to student absences, 53% of the intervention data were conducted with the teacher as the reading partner. The authors suggest future studies examine these effects with less teacher contact.

An extension in this line of research was conducted by Vadasy and Sanders (2008). The authors examined the use of the Quick Reads (Hiebert, 2003) reading fluency program on the oral reading fluency, vocabulary, and comprehension skills of 119 fourth and fifth grade students who struggled with reading. The students were randomly assigned to a control group, which received the typical reading/language arts instruction or the intervention group which received the Quick Reads program implemented by a paraprofessional as the tutor. In the intervention group, student dyads were created and each dyad worked with the tutor on Quick Reads program thirty minutes a day for a total of 18 weeks. During each session, a student read one passage three times and completed a vocabulary instruction activity with the tutor. Results from the hierarchical linear modeling analyses indicated that significant effects were found in the areas of vocabulary, word comprehension, and passage comprehension within the intervention group. But no significant effects were found for word-level reading or fluency rate. One limitation noted was the amount of time spent on the vocabulary activities when

compared with the amount of time spent on fluency development. The authors recommend more explicit instruction may be needed to address the gaps in alphabetic and decoding skills of elementary-age struggling readers.

Recently, research using repeated reading has been extended into use at the secondary level (Wexler et al., 2008). Research findings indicate that repeated reading may be beneficial for use at the secondary level because it is a supplemental strategy which usually is completed in 10-15 minutes and can be administered by the classroom teacher, paraprofessional, peer reader, or with the use of technology (Alber-Morgan, Ramp, Anderson, & Martin, 2007; Valleley & Shriver, 2003).

Repeated Reading with Adolescent Struggling Readers. O'Shea, Sindelar, and O'Shea (1987) examined the effects of repeated reading on 32 students diagnosed with learning disabilities in grades 5 through 8. The authors report that students who read the passages a total of seven times read more fluently than students who read the passages only one or three times. Comprehension improved for all students after three readings. An additional investigation conducted by Sindelar, Monda, and O'Shea (2001) found that repeated readings were effective in improving the reading fluency of struggling readers with and without disabilities in grades 5 through 8.

To examine the effect of word boxes and repeated reading on the oral reading fluency skills of high school age struggling readers, Devault and Joseph (2004) conducted an investigation with three students diagnosed with reading disabilities. The intervention was administered one-on-one, five days a week using a pull-out method. Each participant increased their total number of words read correctly on all final readings. Also, all participants increased their independent reading level by two grade levels. The

authors cited two limitations: (a) only the accuracy of each participant's reading fluency was measured, not comprehension; and (b) only three participants were included which made generalizations difficult.

An investigation was conducted which examined the effects of repeated reading with a question generating component on the oral reading fluency and comprehension skills of students across grades four through eight. Thierren, Wickstrom, and Jones (2006) completed a four-month investigation with 30 students diagnosed with or at-risk for reading disabilities. Using the supplemental RAAC (Reread-Adapt and Answer-Comprehend) strategy, students were trained to answer a generic set of comprehension questions after re-reading grade leveled passages between two and four times. This teacher-led intervention was administered one-on-one in a pull-out setting. The results of the pre-/post-test design indicate those students in the treatment group increased the instructional level of the text read by 2.07 grade levels and read an average of 22.16 seconds faster on the last passage reading when compared with the first. Also, students in the treatment group "answered an average 95 percent of factual and 92 percent of inferential questions correctly" (Thierren et al., p. 93). Only students reading between first and fourth grade levels were included. The authors suggest future investigations examine improvements in reading through measuring accuracy, speed, and prosody.

An extension of this line of research is provided by Alber-Morgan and colleagues (2007). These authors developed an intervention used in conjunction with SRA Corrective Reading divided into two phases: a) repeated reading and b) repeated reading and prediction. The participants were four students in grades six and seven who were diagnosed with either specific learning disabilities or emotional/behavioral disorders.

Each student read at least two years below their current grade placement. During the repeated reading segment each student was trained to re-read a passage three times after a prompt. Total words read correct (WCPM) and errors per minute were recorded. In the repeated reading and prediction segment, each student was asked to make a prediction, based on the title, as to what the story is about. Next, the student was asked to read the first few lines of the story and determine whether their prediction was correct. Then each student completed the passage two more times and answered comprehension questions. At the end of the 11-week intervention, all students increased their WCPM upon the introduction of the repeated reading segment and decreased the number of errors. However, no change was noted once the prediction component was added. In terms of comprehension, all participants showed an increase in the total number of questions answered correctly over time. However, the effect on the differences between inferential and literal comprehension questions could not be determined. The authors suggest future research include an examination of repeated reading across student populations and classroom settings in combination with various reading programs and methods. This investigation has provided the line of research with many advantages by exposing older struggling readers to basic reading instruction, providing supplemental instruction which is easy to implement through a variety of means, and improving reading comprehension in a short period of time. Future investigations should include different instructional arrangements for practical classroom application. Finally, this repeated reading segment was used in conjunction with pre-existing classroom reading instruction using SRA Corrective Reading. The authors mention that although fidelity of reading instruction was conducted during the baseline phase to determine the appropriate start of the intervention,

no fidelity of the Corrective Reading instruction was conducted during the intervention phases.

Strong, Wehby, Falk, and Lane (2004) incorporated a repeated reading strategy with the Corrective Reading curriculum to study the effects this combination would have on the oral reading fluency and reading comprehension skills of six junior high school students diagnosed with emotional/behavioral disorders. After seven weeks of teacher-led intervention the data suggests that the introduction of repeated reading, re-reading the check-out passages three times, along with the CR curriculum improved the oral reading rates of most of the participants on both functional reading level texts as well as grade leveled text. This study is an extension of the literature base in that it included a baseline component where the type of reading instruction was controlled for prior to the introduction of the intervention. Using this method ensured the authors that a functional relation was made between the reading intervention and the results obtained.

Even though the results of this study are beneficial, a few limitations were noted. First, student attendance was sporadic. The authors mentioned student attendance may have attributed to a limited effect of the intervention on overall reading skills. Many of the students were absent from the study due to behavior problems and school discipline measures. The authors suggest future studies examine more effective ways to provide instruction for this student population. A second limitation noted was the amount of exposure that all students received of the intervention. This study included a multiple baseline design, therefore the last pair of participants had a shorter amount of time with the combined (repeated reading with CR) treatment phase. The authors posit that this limitation may have reduced the true effects of the treatment on the last pair and suggest

future research investigate other designs which may maximize exposure to treatment for all participants. Finally, a third limitation presented was the fact that this investigation occurred at the end of the school year, therefore there was a lack of maintenance of the repeated reading phase to measure the long-term effects of this treatment.

Overall, more research is needed to examine the effects of repeated reading on the oral reading skills of older struggling readers. More specifically, future investigations should include student populations with and without disabilities across academic settings. Also, future studies should investigate the effects of repeated reading with connected text. Many studies have been conducted to show the positive effects of reading text passages but little is known about its effects on narrative text or complete novels.

Continuous Reading. Continuous reading is another strategy shown to be effective in improving fluency skills of struggling readers (Lebzelter & Nowacek, 1999; O'Connor et al., 2007). During a continuous reading segment a student is given a specific number of short passages to read from the same text for one minute each. Researchers have investigated the effects of continuous versus repeated reading at the elementary level (Kuhn et al., 2006; O'Connor et al.). For example, Kuhn and colleagues examined the effects of continuous reading and assisted repetitive reading (e.g., choral reading, echo reading) on the oral reading fluency, sight word efficiency, and reading comprehension of 349 students in second grade. In this study all teachers involved in the intervention conditions received training on strategies to address reading fluency. Those teachers in the control group did not receive additional training and provided students with the school's traditional reading instruction. The results of the study suggest that teachers who received professional development in reading fluency were significantly more likely to

include fluency practice into their daily lesson plan. These teachers also were found to provide more variety in the types of instructional activities they performed with their students. For example, reading activities were delivered through whole class instruction, small group, pairs, and individually. The results of the students' pre-/post-test assessments indicate that those in the continuous reading group showed a significant improvement in text reading when compared with the repeated reading group scores. Also, all students showed a significant increase in comprehension skills but no significant differences were found between groups.

O'Connor and colleagues (2007) conducted a study which investigated the effects of continuous reading and repeated reading on the WCPM, errors, and number of comprehension questions answered correct of 37 participants in second and fourth grades with and without disabilities. Participants were divided into three groups (a) control, which received the school-provided supports; (b) repeated readings; or (c) continuous readings. Each of the two intervention groups received 15 minutes of practice reading aloud to an adult three times a week for a total of 14 weeks. Repeated reading (RR) was defined as reading a passage from the text three times. Continuous reading (CR) was defined as reading continuous pages from a selected text without repeating pages. Results indicated that both intervention conditions increased student growth in fluency faster than the control group. All students diagnosed with learning disabilities gained more than 10 words per minute within the 14 week intervention. However, no differences were noted between grade levels or across treatment groups as hypothesized. The authors suggested further investigations concentrate on specific measures that may impact word identification, vocabulary, and comprehension.

Two additional studies examined the effects of continuous reading (Rashotte & Torgesen, 1985; Homan, Klesius, & Hite, 1993). Rashotte and Torgesen found that oral reading fluency skills of middle school students did not increase with the introduction of non-repetitive reading when compared with repeated reading of unrelated non-overlapping passages and stories with a high degree of overlap. On the other hand, Homan et al. found that students who re-read a passage four times with a peer and teacher supervision did not improve their oral fluency rate when compared with those who were included in the assisted non-repetitive reading condition.

Future investigations should be conducted to examine the effect of continuous reading across student populations and settings. Also, studies should be conducted to investigate the effects of continuous reading versus repeated reading with older struggling readers. In addition, future investigation should examine the effect that continuous reading has on comprehension skills of struggling readers.

Researchers believe that one important benefit of continuous reading is that it is a strategy which allows for reading practice with exposure to a range of different text as opposed to reading the same text a number of times like in repeated reading (Denton & Vaughn, 2008; O'Connor et al., 2007; Wexler et al., 2008). It is for this reason that researchers believe continuous reading will present more of a benefit to adolescent struggling readers. To address the needs of adolescent struggling readers it is important to implement effective reading fluency strategies in the classroom. However, it is often difficult for a teacher to give one-on-one instruction to all students who need it at the secondary level. One way to address this challenge is to use the method of peer-mediated instruction.

Peer-Mediated Instruction

Peer involvement and acceptance have been shown to be an important aspect for individuals during adolescent development (Bandura, Adams, & Beyer, 1977). To capitalize on the use of peers in academic and social development, researchers have made use of various peer-mediated instructional techniques. One strategy used in the classroom to address the needs of adolescent struggling readers is peer-mediated instruction. This strategy has been used in a variety of subject areas at both the elementary level (Fuchs et al., 2001; Ryan, Reid, & Epstein, 2004) and secondary level (Bowman-Perrott, Greenwood, & Tapia, 2007; Marchand-Martella, Martella, Bettis, & Blakely, 2004).

Peer-mediated instruction promotes the use of structured cooperative learning which allows for an increase in opportunities for academic responding and reinforcement in small groups (Fuchs et al., 2001). Due to the limited time periods and large amount of content mandated to be covered at the secondary level, peer-mediated instruction can allow the classroom teacher greater opportunities to provide individual attention while students take greater responsibility for their own learning and the learning of their fellow classmates (Fuchs; Olmeda & Kauffman, 2003).

Peer-mediated instruction has its foundation in social cognitive theory (Bandura et al., 1977) which states individuals learn from their environment in a number of ways including from models. According to Social-Learning Theory, for a model to be effective the model must be deemed as competent and must relate to the learner. Peers can serve as models in the classroom in different ways. For example, peers can be used to model appropriate classroom behavior (Chen, 2006; Smith & Daunic, 2004) or social skills

(Gresham, 1981; Gresham, Cook, Crews, & Kerns, 2004). Several benefits of peer-mediated instruction have been noted in the research. For example, results suggest an improvement in relationships with peers (Maheady, Harper, Mallette, & Winstanley, 1991), improvements in academic self-esteem (Fantuzzo, King, & Heller, 1992), and improvement in reading achievement (Fuchs, Fuchs, Mathes, & Simmons, 1997). Peer-mediated instruction also allows for a small teacher-to-student ratio, individualized instruction, and provides for more immediate response and reinforcement for each student (Ryan, Reid, & Epstein, 2004).

One method of peer-mediated instruction is Class-wide Peer Tutoring (CWPT; Greenwood, Delquadri, & Hall, 1989) where students of all levels are paired to tutor one another. Using this model, students with and without disabilities have increased opportunity to practice responding to and giving feedback in different content areas. In fact, research using this method of peer-mediated instruction gave insight into the most effective ways of incorporating peers into the learning environments of students with special needs (Cook, Scruggs, Mastropieri, & Castro, 1985). Mathes and Fuchs (1994) used peer-tutoring with middle school students diagnosed with E/BD. The authors report that the peer tutoring method was more effective in improving the reading skills of all participants. However, peer-tutoring was not more effective than teacher-led interventions for this student population. In another investigation, Sutherland and Snyder (2007) used peer-tutors to improve the reading skills of middle school students with E/BD. By the end of this study the researchers found that classroom disruptive behaviors decreased simultaneously as academic gains were made. Also, the students reported to have enjoyed the peer-tutoring program.

Other investigations have been conducted to investigate the effects of peer-tutoring on reading skills of students with and without disabilities (Hawkins, 1988; Scruggs, Mastropieri, Veit, & Osguthorpe, 1986; Mather, 1984; Stowitschek, Hecimovic, Stowitschek, & Shores, 1982) and have reported positive results on reading achievement and increased on-task behavior. For example, one form of peer-tutoring is Peer Assisted Learning Strategies (PALS) developed by Fuchs, Fuchs, Mathes, and Simmons (1996). A variation of peer-mediated instruction similar to CWPT, PALS uses students matched on ability within the same classroom and provides structured training for systematic implementation of the tutoring sessions. Some key benefits of PALS are the increased opportunity for responding, positive reinforcement of effective tutoring, and an increase in reading practice (Fuchs et al.).

A number of studies have been conducted using PALS in a variety of classroom settings at the elementary level (Fuchs et al., 2001; Fuchs, Fuchs, Hamlett, & Phillips, 1994) for students with and without disabilities (Mathes, Howard, Allen, & Fuchs, 1998). However, few studies to date have been conducted with students at the secondary level. Fuchs, Fuchs, and Kazdan (1999) investigated the effects of PALS with high school aged students diagnosed with learning disabilities. The findings of the study indicate that there was no significant difference between the PALS group and those in the control group; however, students in the tutoring condition showed a greater increase in their reading comprehension skills. An extension of this line of research was completed by Mastropieri, Scruggs, and Graetz (2003) where the authors examined the effects of a peer tutoring program on the reading comprehension skills of 24 middle school students diagnosed as needing special education services. The results suggest that the students in

the peer tutoring condition outperformed those who received the traditional instructional method after only five weeks. Also, students and teachers noted the benefits of working within the PALS format at the middle school level within special education settings.

Limitations and Future Directions

The amount of information regarding reading fluency instruction and adolescent struggling readers is limited. Therefore, it is the goal of the present investigation to address the limitations noted in previous research. Authors have suggested that future studies continue to investigate methods to enhance the reading skills of older struggling readers (Dudley, 2005; Fuchs, Fuchs, & Kazdan, 1999). Since reading fluency is an essential component of literacy and the majority of school work at the secondary level is focused on student comprehension, it is imperative that educators be given a collection of options from which to choose to address a variety of reading levels. Also, previous researchers have suggested that providing adolescent struggling readers with interesting, age-appropriate material to practice fluency is essential for effective fluency instruction (Fuchs et al., 1999; Short, 1999). No study to date has used text passages from novels as the base from which passages are used for fluency instruction.

It is important that the body of evidence expand to include evidence-based strategies for secondary-level educators. To effectively address the needs of adolescent struggling readers, future investigations should continue to examine the effects of supplemental reading fluency strategies (e.g., repeated reading, continuous reading) across academic settings and with students with and without disabilities. Also, researchers should further investigate the use of peer-mediated strategies conducted with reading fluency methods to assess the effect of reading and comprehension.

To extend the current body of research, future studies should take note of the specific limitations cited in previous literature regarding fluency instruction with adolescent struggling readers. Specifically, authors have noted future investigations should examine the effects of less teacher contact with the intervention (Mercer et al., 2000), measure possible effects on comprehension skills (Homan et al., 1993), and conduct fidelity of throughout all intervention phases (Chard et al., 2009). Also, future studies should investigate the use of alternative text when implementing fluency instruction. Numerous studies have made use of isolate passages from a variety of sources; however, little evidence exists which examined the effects of fluency instruction with the use of connected text or novels.

Finally, future studies should extend the research to examine other student populations including alternative educational settings. Students who are educated in alternative settings need effective fluency interventions which can be used within the complex structure of non-traditional educational environments. These interventions should be structured so that faculty and staff at any ability level can implement them effectively. In addition, future studies for fluency instruction in these settings must consider classroom time constraints, various student ability levels, and possible absenteeism. These factors are important so that all students have the opportunity to gain as much exposure to fluency practice as possible.

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CHAPTER 2
USING PEER-MEDIATED INSTRUCTION TO ADDRESS THE NEEDS OF
ADOLESCENT STRUGGLING READERS

Educators of all levels have been faced with the challenge of implementing effective reading fluency strategies. In 2000 the National Reading Panel (NRP) deemed fluency to be an essential aspect of literacy instruction. Since its release, a variety of instructional methods have been used including the use of word boxes, repeated reading strategies, and word lists. All of the above mentioned strategies have been shown to be effective in improving the basic reading skills of elementary-aged readers with and without disabilities (Kuhn, 2005; Kuhn et al., 2006; Mastropieri, Leinart, & Scruggs, 1999; Sindelar, Monda, & O’Shea, 2001). However, few studies have shown equal benefits with adolescent struggling readers (Wexler, Vaughn, Edmonds, & Reutebuch, 2008). It is imperative that the research-base be extended to include the knowledge of fluency instruction for providing secondary level educators with effective ways to address the needs of older students who struggle with basic reading skills.

Reading is an essential skill for individual independence. Having the ability to read fluently and effectively has the potential to open the doors for academic success and economic independence (Brunner, 1993). On the other hand, for those students who struggle with basic reading concepts (e.g., decoding, fluency), the chances increase for academic failure (Dudley, 2005; Hudson, Lane, & Pullen, 2005), school dropout (Neal & Kelly, 2002; Short, 1999), and court involvement (Christle, Jolivette, & Nelson, 2005;

Katsiyannis & Archwamety, 1999). For many struggling readers, high school is the final chance to obtain the basic life skills needed for future independence.

To successfully complete the standards of the high school curricula, students also must have effective comprehension skills. Researchers have linked effective reading fluency to an increase in comprehension skills. Because of this link, it is important to provide adequate instruction in the area of reading fluency to give students the resources they need to become knowledgeable, successful, and productive citizens. The secondary level curriculum is structured to do just that; however, for those students who have reached the high school level without basic reading skills, achieving academic success in high school can be extremely difficult. To add to the challenge of having poor reading fluency skills, education at the secondary level has a different structure than that of the elementary level. Time constraints, mandatory classes, end of course exams, and high-stakes testing compound the already challenging environment. Therefore, it is necessary for researchers to continue to investigate reading fluency strategies that are effective for adolescent struggling readers.

Adolescent Struggling Readers

Adolescent struggling readers have unique characteristics that should be taken into account when planning reading fluency instruction. Unlike elementary school, where the emphasis is on literal and factual recall questions with simple decoding of text, secondary level students are required to think critically and apply higher level thinking skills to reading text. English/language arts classes become environments where students are expected to easily apply the phonemic, decoding, and fluency skills taught to them at the elementary level. However, many students enter the secondary level without the

adequate level of skills either because of chronic absences, ineffective teaching methods, or learning disabilities (Lange, 1998). For those students who have limited skills in basic reading, the secondary curriculum presents many challenges because fluency is an essential step toward comprehension of text (LaBerge & Samuels, 1974). Also, at this level peer influence is important for individuals. It is difficult to provide adequate levels of instruction in basic skills without presenting stigma or isolating the individuals in need, which is especially important for students with disabilities who already may be separated for instruction. Students who have been diagnosed with disabilities often are already academically years behind their typically developing peers. Since high school is the last step where educators can make substantial change to prepare students for post-school transition, it is critical to provide effective literacy instruction to help these students catch-up.

Fluency Instruction

Two strategies which have shown to be effective in improving the reading fluency skills of struggling readers are repeated reading and continuous reading. Both strategies have been used at the elementary level with students with and without disabilities in a variety of settings.

Repeated Reading

Repeated reading, a process where students are given a short meaningful passage at their instructional reading level and instructed to read it multiple times (Samuels, 1997) has been demonstrated to be an effective instructional strategy. A number of researchers have investigated the effects of different numbers of readings (Sindelar et al., 2001; Valleley & Shriver, 2003) in conjunction with direct instruction programs (Steventon &

Frederick, 2003; Strong, Wehby, Falk, & Lane, 2004) and with modeling (Shapiro & McCurdy, 1989; Skinner, Cooper, & Cole, 1997). For example, Rashotte and Torgesen (1985) examined the effects of repeated reading versus non-repetitive reading on the fluency and comprehension skills of 12 elementary level students in grades 2 through 5 diagnosed with learning disabilities. In the intervention phase, students were placed into pairs matched on reading ability and trained to use Reader's Digest Skill Builders (Berke, 1977) for repeated reading instruction. The results can be interpreted to suggest that there was a minimal difference among the fluency scores of those students who read passages with a lot of word overlap. Also, the overall level of comprehension did not change significantly for these students pre- to post-testing. The authors posit that the students' level of comprehension was already high at the start of the study and suggest that further investigations contain both literal and inferential questions when examining comprehension. Martens et al. (2007) used repeated reading to improve the words correct per minute (WCPM) of students in second through third grades (N =30) on curriculum based measures. After 5 weeks, the authors noted significant gains in the overall reading achievement of students in the repeated reading group. This study was an extension of the current literature in that it took place in an after-school setting as a supplemental aspect of the students' current reading instruction.

Repeated reading also has been used with students with and without disabilities at the secondary level. For example, Rose and Sherry (1984) investigated the effects of repeated reading using two preview components: a) silent read; and 2) teacher modeling, on the WCPM and errors of five students with learning disabilities in grades 8 and 9. Using passages from the *Interesting Reading Series* published by the Follett Educational

Corporation, the authors found that the addition of a preview component is important in improving oral fluency skills of students with disabilities. Also, this study is an extension of previous literature because it showed that providing a model of effective reading was beneficial for students with learning disabilities.

Scott and Shearer-Lingo (2002) facilitated a reading fluency program in a self-contained classroom setting with three boys diagnosed with emotional/behavioral disorders. The authors used repeated reading combined with the Great Leaps Reading Program (Campbell, 1995) to improve the students' reading rates and on-task behavior. The results of the intervention suggest repeated reading had a positive effect on both reading fluency and on-task behavior of all participants. Similar effects were found by Valleley and Shriver (2003) who used repeated reading with four boys ages 15-18 who had disabilities and were housed in a residential facility. The authors examined the effects of repeated readings of *Timed Reading Series* (Spargo, 1989) passages on reading fluency and comprehension scores for 20 minutes per day for 10 weeks. The results of this investigation indicate that the WCPM and number of comprehension questions answered correctly increased for all participants with only ten additional hours of fluency practice. The authors suggested future investigations examine the effects of sustained reading and repeated reading for a longer period of time.

Although only a few published studies exist on repeated reading for secondary-age struggling readers, the results are promising (a) across settings (Mercer, Campbell, Miller, Mercer, & Lane, 2000; Rose & Sherry, 1984), (b) when using curriculum-based measures (Freeland, Skinner, Jackson, McDaniel, & Smith, 2000), and (c) in conjunction with peer-mediated instructional strategies (Marchand-Martella, Martella, Bettis, &

Blakley, 2004; Strong et al., 2004). Future investigations using repeated reading should highlight more effective ways to use the method to address the needs of adolescent struggling readers in alternative educational settings. Repeated reading as a supplemental fluency strategy may provide older struggling readers with the adequate amount of practice needed for them to increase their reading fluency and subsequently their comprehension. Students enrolled in alternative high schools may be at greater risk of academic failure so implementing an effective and efficient fluency strategy like repeated reading may promote reaching achievement.

Continuous Reading

Another strategy used to improve reading fluency skills is continuous reading. During continuous reading a student is assigned three different passages from grade leveled text to read for one minute. Less research is available on the effective use of continuous reading when compared with the literature base supporting repeated reading. However, there are a few studies of note that support the use of continuous reading in improving reading fluency skills.

Homan, Klesius, and Hite (1993) examined the effects of repeated reading and assisted continuous reading on the oral reading and comprehension skills of 26 sixth grade students. All participants read at least 1-year behind their current grade placement and were randomly assigned to either the repeated reading condition or continuous oral reading condition. The results of the 7-week study could be used to conclude that all students improved their reading rate and number of comprehension questions answered correctly with no significant differences between groups.

Another investigation using continuous reading was conducted by O'Connor, White, and Swanson (2007). In this study the authors examined the effects of continuous reading versus repeated reading on the word identification, vocabulary, and reading comprehension skills of 37 participants in grades 2 and 4 with 16 participants diagnosed with specific learning disabilities. The participants were divided into three groups: 1) control (received the school-provided literacy instruction), 2) repeated readings, and 3) continuous readings. The results of the 14-week study indicate that both intervention conditions increased fluency rates faster than the control condition. However, no significant differences were found between the grade levels or across treatment groups. The authors suggest future investigations continue to examine the effects of repeated reading versus continuous reading with similar populations and across settings and disability groups.

Unlike repeated reading, continuous reading fluency strategies expose students to a larger amount of text in a short amount of time (Homan et al., 1993). Older struggling readers may benefit from the use of continuous reading because its structure provides students with practice reading a wide amount of text and may increase comprehension skills. Future researchers should examine the effects of repeated reading versus continuous reading on the oral reading fluency and comprehension skills older struggling readers enrolled in alternative education settings.

Special considerations should be taken in to account when implementing reading fluency instruction with older struggling readers in alternative settings: a) variable student reading levels, b) behavioral difficulties, and c) prior experience with academic

failure. One research-based strategy shown to be effective with a variety of students in different settings is peer-mediated instruction.

Peer-Mediated Reading Interventions

Addressing the needs of adolescent struggling readers enrolled in alternative educational settings can be difficult. Encouragingly, including peer-mediated instructional strategies has been shown to increase the amount of academic responding for secondary-aged students with and without disabilities (Bowman-Perrott, Greenwood, & Tapia, 2007; Calhoun, 2005). Peer-mediated instruction has been shown to have a positive impact on student on-task behavior (Sutherland & Snyder, 2007), overall reading fluency (Fuchs, Fuchs, & Kazdan, 1999), and social behavior (Franca, Kerr, Reitz, & Lambert, 1990) for adolescent-age students. Peer-mediated instruction also has been used in conjunction with structured reading programs (Fuchs, Fuchs, Mathes, & Simmons, 1997; Marchand-Martella et al., 2004). Researchers have shown that when students have the opportunity to work together, they are able to support the learning of their peers (Fuchs et al., 2001). In an extension of Peer-Assisted Learning Strategies (PALS), Fuchs and colleagues trained high school students to use peer-mediated instruction and structured reinforcement systems to improve academic achievement in life skills courses and social relationships. The authors state that students reported “working harder with their peers” than in other classroom situations (p. 18). For adolescent struggling readers in alternative educational settings, peer-mediated instruction may provide peer support and greater opportunities for successful academic responding needed to keep students engaged in participating in academic tasks.

Peer-mediated instruction also has benefits for the classroom teacher. Vaughn, Klingner, and Bryant (2001) found that peer-mediated instructional strategies provided teachers with the opportunity to “arrange instruction so that all students benefit” (p. 72). The structure of peer-mediated instruction allows teachers the chance to scaffold instruction for a variety of academic levels within one classroom. Also, teachers can tailor instruction for individual groups of students when needed. With peer-mediated instruction, the teacher assumes the role of the classroom facilitator, with the flexibility to assist a greater number of students when compared with traditional classroom teaching techniques (Vaughn et al., 2001). Teachers in alternative education settings can benefit from peer-mediated instructional strategies because of the variability of student levels, inclusion of students with and without disabilities, and the potential for challenging behaviors. Future researchers should investigate the effects of peer-mediated instruction in alternative educational settings.

Previous research has focused on the implementation of repeated reading and/or continuous reading in increasing both reading fluency and reading comprehension skills of struggling readers (Marchand-Martella et al., 2004; Ryan, Reid, & Epstein, 2004). Given the challenges presented at the secondary level (e.g., comprehension, critical thinking skills), more supplemental oral fluency strategies need to be investigated using older struggling readers. Authors suggest future research examine the effects of repeated versus continuous reading on oral reading fluency and comprehension skills of older struggling readers with and without disabilities. Also, peer-mediated instructional strategies have been used with students with and without disabilities across a variety of

settings, but limited research has been conducted using peer-mediated instruction in alternative high school settings.

The supplemental strategies under investigation, peer-mediated instruction using repeated reading and continuous reading of narrative text, are interventions which focus on reading fluency development and comprehension skills of adolescent struggling readers with minimal effort required by classroom teachers. The effects of using peer-mediated oral reading fluency instruction on the reading fluency and comprehension skills of high school-aged struggling readers in an alternative high school were examined. The research questions for this study were: (1) which peer-mediated fluency strategy, repeated reading or continuous reading, is more effective on improving the oral reading skills of adolescent struggling readers, 2) which peer-mediated fluency strategy, repeated reading or continuous reading, is most effective for improving the reading comprehension skills of adolescent struggling readers; and 3) how did the participants perceive the effectiveness of the interventions?

Method

Participants

Seven students, aged 16-17 years in grades 9-11, were selected from the total population (N = 8) of students enrolled in an instructional focus class at an alternative high school in a Southeastern urban environment. The instructional focus class was offered during an assigned study hall for students who scored less than grade six on the *Test of Adult Basic Education* assessment (Triegs & Clark, 1976). Inclusion criteria for participation included: (1) placement in the instructional focus class, (2) reading scores between grade levels 4.0 to 7.0 as determined by the *Test of Word Reading Efficiency*

(TOWRE: Torgeson, Wagner, & Rashotte, 1999) with a standard score less than 100, and (3) scores between 2.5 to 6.5 on the *Woodcock Johnson-III* (WJ-III: Woodcock, McGrew, & Mather, 2001) reading subtests (word reading fluency, word attack, letter-word identification, and passage comprehension). Exclusion criteria for participation were: (1) students not enrolled in the instructional focus class, (2) students reading on or above grade level, or (3) students reading below grade 3.0. From the total population of eight, seven students who returned signed parental consent forms and provided assent were selected to participate. The eighth student was out of school on maternity leave throughout the duration of the study. Refer to Table 1 for student demographics.

Setting

The alternative high school is a privately-funded institution housed in a local religious building with a mission to provide opportunities for students who are at-risk of dropping out of high school to earn a diploma. The school had approximately 120 students enrolled and contained a credit recovery program designed for students who needed to make-up necessary credits to earn a high school diploma. The school had five programs that served a variety of student needs. The in-house program was the site for the intervention and functioned like a typical high school with seven academic periods designed to meet the daily instructional needs of students across all academic areas in multi-grade level, heterogeneous classrooms. The intervention was conducted during an assigned and structured study hall period, named instructional focus class, created to enhance the reading achievement of struggling readers. The intervention occurred during the instructional focus third period class three times a week for 45 minute sessions. This class was not held two days a week.

Table 1
Participant Demographics

Participant	Leon	Carl	Joel	Toby	Sasha
Age	16	16	17	17	16
Gender	male	male	male	male	female
Grade	9	10	10	11	11
Ethnicity	African American	Latin	Mixed	Asian	African American
SST status	Yes	No	Yes	No	In progress
Disability	Learning Disability (reading)	n/a	n/a	n/a	Eligibility process
Number of previous high schools	2	1	2	1	3
Challenging Behaviors	off-task	noncompliance	noncompliance	noncompliance	noncompliance, disruptive behaviors
Involvement in Juvenile Justice	No	No	No	Yes	Yes
AIMSweb (Pre/Post)	53/69	150/168	64/62	130/*	96/*
TOWRE (Pre/Post)	61/69 < 1 percentile	94/168 35 th percentile	56/54 < 1 percentile	75/* 5 th percentile	57/* < 1 percentile
WJ-III Reading Fluency	2.6	3.8	3.0	5.0	5.2
WJ-III Word Attack	5.7	5.5	6.3	6.1	2.7
WJ-III Letter-Word Identification	6.1	6.0	6.0	6.0	4.6
WJ-III Passage Comprehension	4.7	4.5	5.4	5.2	3.4

Note. SES: For each student, family income was less than \$20,000 per year. SST status as part of eligibility for special education services. AIMSweb: mean WCPM of grade-leveled text. TOWRE Standard Score based on grade level; Toby and Sasha were not available for post-assessment. WJ-III scores based on grade level equivalents.

Initial Screening

Pre- and post-assessments were conducted. To determine the current reading performance of each participant the TOWRE, the WJ-III subtests (letter-word identification, word reading fluency, word attack, and passage comprehension), and the Oral Reading Fluency rate of AIMSweb Assessment were individually administered to each student. These assessments were given to determine each student's reading fluency, reading comprehension, decoding skills, and letter identification skills. Pre-assessments occurred at least seven days prior to the beginning of the study. Post-assessments, TOWRE and AIMSweb, occurred two weeks after the last day of the intervention phase. All assessments were conducted during flexible instruction time in the school by the researcher.

Creating Student Dyads

To facilitate effective peer-mediated instruction, students were placed into dyads. Prior researchers have shown the benefit of matching pairs across ages (Fuchs et al., 2001). Though pairing younger students with older ones has shown to be effective at the elementary level, a true-age pairing method with all student participants (Lapp & Fisher, 2009) was used in this investigation. True-age pairing is defined as a procedure where students are matched with others of the same or similar age (Mastropieri et al., 2001). Unlike researchers who used cross-age pairing in which students are matched with someone who is younger or older, true-age pairings allow adolescent struggling readers the opportunity to learn from each other in a practical and natural classroom environment (Mastropieri et al., 2001). To maintain minimal differences between the reading levels of

the dyads, each student's reading level was established by conducting Oral Reading Fluency Assessments.

Current student oral reading levels were determined using the Oral Reading Fluency Target Rate Norms Placement Chart adapted from AIMSweb materials (Shinn & Shinn, 2002). The following steps were included in this procedure: (1) three grade-level passages of approximately 250 words each written at the student's pre-test assessment level were located from AIMSweb passages, (2) each student was asked to read each passage for one minute, and (3) all errors made by the student were recorded. Errors included mispronunciations, substitutions, reversals, omissions, or words not pronounced within 3 seconds. The accuracy of each student's oral reading fluency was determined by dividing the number of words read correctly per minute by the total number of words read. This number was the percentage which was then compared with targeted norms. According to Rasinski (2004) students who read between 97-100% of the passage without error are reading at their independent reading level. Students who read a passage between 90-96% are reading at their instructional level and those reading less than 90% of the passage accurately are at their frustration level. At this point during the study, each student's current reading level was established. If the student did not read at the independent level, the above steps were repeated with passages at the previous grade level. Student rate of accuracy also was calculated. To determine accuracy, each student's total number of words correct per minute (WCPM) were compared with target norms. According to AIMSweb, at the beginning of the third grade school year, students should read between 50-90 words fluently; at grade 4, between 70-110 words; and by grade 5 students should read between 80-120 words fluently.

The final oral reading fluency target rate score was used to rank students in the class according to their current reading levels. Dyads were created by placing a line through the middle of the class list and matching the first student above the line with the first student below the line and continuing until each student was placed into a dyad. The unique population of adolescent struggling readers within an alternative setting posed challenges creating student pairs. Therefore, additional considerations were taken to match dyads by gender and maintain those with existing positive working relationships whenever possible per school administration's request. Whenever possible, student gender was a secondary factor of dyad creation to promote teamwork among gender groups. In case of an absence, each student was trained to continue with another partner (e.g., classroom teacher or researcher). At the beginning of the study, three student dyads were created (Leon and Carl, Toby and Joel) with one dyad being a student (Sasha) paired with the teacher due to an uneven number of students. A fourth student dyad (Tara and Leah) was created later, but due to student absence and unstable baseline performance coupled with a finite nine-week grading period, the data from that dyad will not be reported.

Dependent Variables and Data Collection

The dependent variables for this study included: (a) words correct per minute (WCPM), (b) number of errors per minute, and (c) number of comprehension questions answered correctly. WCPM was defined as the total words read minus the number of errors made in a one minute reading. Errors were defined as omissions, substitutions, line skipping, mispronunciations, and non-pronunciations (the student paused, but did not produce a response and the implementer gave the word). Repetitions, self corrections

(within 3 seconds), and insertions were not counted as errors. Comprehension was defined as the percentage of correct answers the student completed for the four comprehension questions.

Data were collected for each dependent variable for each participant after each session. Each student was trained on the components of recording the WCPM and errors for each one-minute reading. WCPM was calculated by subtracting the errors read from the total words read per minute for each reading that the student completed. In short, each student had three WCPM for each session. However, only the third reading was graphed.

Comprehension questions were graded and calculated at the end of each session. To calculate the comprehension scores for each participant, the classroom teacher tallied the number of questions answered correctly and divided by the number possible and multiplied by 100 for a percentage.

During each peer-mediated fluency instruction session, each student served as the reader and the listener. While the first student conducted his/her three one-minute readings the other student served as the listener and recorded the reader's total words read, number of errors, and calculated the WCPM on their Listener's Log (see Appendix A) for that session. The reader graphed his/her WCPM from the third reading on an individual Progress Graph (see Appendix B) each session. The students then switched roles and the steps were repeated. The comprehension questions were completed individually after the three one-minute readings were complete. At the end of each session, each student's comprehension responses were collected and graded, then recorded on the student's Listener's Log. To limit the possibility of one student becoming the first reader the majority of the time, the readers took turns being first. For example, in

the Leon and Carl dyad, on Tuesday Leon read first, on Wednesday Carl read first, and the pattern continued.

Materials and Equipment

A Daily Work Folder was created for each student. The Daily Work Folder housed the Listener's Log (Appendix A), Progress Graph (Appendix B), Fidelity Checklist (Appendix C), Reader's Copy of daily readings (Appendix D), Listener's Copy (Appendix E), directions for peer-mediated instruction with error correction procedure (Appendix F), and comprehension worksheets (Appendix G). The Reading Folders were collected and kept in a locked file cabinet in the classroom. Folders were not permitted to leave the classroom and could not be used outside of the instructional focus class period.

Two books were selected for use during the study. The book selection process consisted of compiling a list of narrative text read nationwide in grades 5–7. From that list, the books recommended by the American Library Association, which also were on the school district's approved list of required reading, were selected for use. Only books that the English/Language teacher was not planning to use in the students' other classes during the time of the study were selected. Prior to the start of the study a number of books spanning a variety of levels were set aside for use. The final texts were determined by the range of grade levels each student participant tested into at the pre-assessment phase. Books deemed to be of high interest to the student sample were chosen. Each student was assigned to the same narrative text for the entire study.

Passages for both conditions (repeated reading and continuous reading) were selected from the narrative text for the intervention phases. Passages were taken from the chapters at the end of the book. The selected passages were text that the students had not

read previously. All passages were approximately 250 words in length because researchers have suggested this length of text exceeds the number of words read by elementary age students who can read on grade level (Brown-Chidsey, Davis, & Maya, 2003). Readability of the passages was determined by typing each passage from the book as a Microsoft Word (2007) document and conducting a Flesch-Kincaid readability analysis. These analyses yielded a grade level for each document. Each narrative text contained a range of reading levels, for example 2.8–10.2, therefore text were selected at or immediately above each student's current reading level.

Comprehension was measured through worksheets that students completed independently at the end of each session. Students answered 4 questions, two literal and two inferential. Literal comprehension questions were defined as questions that have answers found directly in the text (e.g., character names, locations, actions that occurred). Inferential questions were defined as those which require the student to add information outside what was provided in the text (e.g., prediction, new vocabulary review).

Training of Teacher and Student Participants

Training sessions on the components of the peer-mediated fluency instruction for the classroom teacher as well as for the student participants occurred prior to the start of the study. The classroom teacher attended a two-day training for a total of four hours where she was instructed on the components of peer-mediated fluency instruction, monitoring sessions, grading the comprehension questions, and maintenance of the student Daily Work Folders. This procedure was monitored and reviewed daily by the researcher to ensure appropriate implementation. The students participated in training sessions that were conducted during the instructional focus class over the course of three

consecutive days for a total of 2 ¼ hours. During the student training sessions, the students were introduced to the components of peer-mediated fluency instruction, including repeated reading and continuous reading conditions, the use of the timers, the error correction procedure, recording data, and appropriate listening skills. All students remained in the training mode until all students had the ability to conduct all components of the peer-mediated fluency instruction with 90% or higher fidelity (See Appendix C).

Design

An alternating treatments design (Kazdin, 1982) was used to examine the effects of the peer-mediated repeated reading or continuous reading interventions on student's WCPM, number of errors, and percentage of comprehension questions answered correctly. This design allowed for the assessment of which method was more effective for increasing the reading fluency rates and comprehension questions answered correctly for each participant.

To account for threats to external validity the following steps were taken: 1) intervention conditions were counterbalanced prior to the start of the study to account for multiple-treatment interference; and 2) peer-mediated fluency instruction occurred only during the instructional focus class period, so as to prevent spillover effects.

To account for threats to internal validity the following steps were taken: 1) students were paired based on gender, when possible, to reduce biases among the participants; 2) passages were selected from the same book for each intervention condition to limit the effects of instrumentation differences; and 3) the selection of narrative text was from high interest material to increase student motivation.

Independent Variables

Two interventions, peer-mediated repeated reading and continuous reading of narrative text, were the independent variables for this study.

Baseline Condition. During the baseline condition, the instructional focus class consisted of individual silent, sustained reading for 15 minutes followed by a comprehension worksheet. During this condition, the teacher and researcher conducted daily one-minute reading probes at the student's current reading level. Baseline reading probes were passages chosen from the end chapters of one narrative text. Students were asked to read only one passage one time for one-minute. The teacher or researcher then provided the student with corrective feedback (total words read, number of errors, and WCPM), and the student graphed their WCPM on their Progress Graph. Once each student presented a stable baseline as indicated by at least three consecutive data points within 50% of the mean (Alberto & Troutman, 2009), students were paired and assigned to begin one of the peer-mediated instruction conditions. Pairs were randomly assigned to one of the fluency strategies (the first pair began with repeated reading, the second pair began with continuous reading, or vice versa) to control for possible effects of starting all pairs with the same condition. Each fluency strategy condition was counter balanced prior to the start of the study and consisted of at least 10 sessions each or until fractionation occurred.

Intervention 1: Peer-Mediated Instruction with Repeated Reading (PRR). During peer-mediated fluency instruction, two students sat across from each other. One student began reading from the narrative text that had been selected for each dyad. Each dyad read together (alternating paragraphs or pages) during 'pair-reading time' which

consisted of 15 minutes at the beginning of the class period. During the ‘pair-reading’ time, one student read aloud for 5 minutes; after 5 minutes the other student read, continuing in the text. During the ‘pair-reading’ time, each peer-tutor followed the outlined error-correction procedure: “*Stop. That word is _____. What word? Yes, _____. Please read that sentence again.*” Following the ‘pair-reading’ time, the student reader was given the same passage to read three times, each for one-minute. First the peer-tutor prompted their partner by saying “*Read this section the best that you can. During your last reading you read ____ words correctly. I will time you and after 1 minute I will tell you to stop. Do your best reading and try to beat your last score! Ready? Begin.*” After each one-minute reading, the student was provided with corrective feedback from their partner, if necessary, and the WCPM and the number of errors were recorded. The total number of words read correctly was supplied to the student immediately after each reading. Corrective feedback included a review of the errors made by giving the correct word and having the student repeat the word then re-read the entire sentence, with the error correction procedure “*That word is _____. What word? Yes, _____. Please read that sentence again.*” The students then switched roles and the second reader continued through the above mentioned steps with a different passage. For each session, the students were given a new passage selected from the narrative text. Each student recorded their reading fluency progress in their Daily Work Folders. To record their progress, each student transferred their WCPM score onto their Reader’s Log onto the Progress Graph. Immediately following the third reading of the second peer-tutor each student was given comprehension questions on a worksheet to independently complete. The dyads were monitored, provided corrective feedback and assistance as needed. The teacher and

researcher worked with students and reviewed each student's work folder to verify correct data collection.

Intervention 2: Peer-mediated Instruction with Continuous Reading (PCR).

During this condition, the above steps were repeated, however during the passage readings each student in a dyad was instructed to read three different passages of text for one minute each.

Intervention 3: The Most Effective Condition. The most effective intervention was determined when fractionation occurred between the two interventions: repeated reading and continuous reading. Fractionation was defined as three consecutive data points of fracture between the conditions. Once fractionation had occurred the final phase was conducted with the most effective condition for each participant. If fractionation did not occur after 10 sessions, the condition with the highest mean was used to determine the most effective condition.

Social Validity

Social validity was defined as the perceived importance, effectiveness, appropriateness, and/or satisfaction of an individual's experience as a result of a particular intervention (Kazdin, 1982). The social validity of the experimental conditions of this investigation were assessed through the use of a questionnaire revised from the Treatment Acceptability Rating Form-Revised (TARF-R: Reimers & Wacker, 1988) which the teacher completed one week immediately following the last session of the study for each student (Appendix H). The students independently completed the questionnaire two weeks following the completion of the intervention phase

(Appendix I). The questionnaire was read aloud to the students. The three constructs of the TARF-R include willingness, effectiveness, and disadvantages.

Fidelity

To ensure accurate implementation of the peer-mediated instruction of repeated reading and continuous reading conditions, fidelity checks were conducted by the researcher and trained researcher assistant. A checklist of the components for each intervention was assessed for each of these fidelity sessions (see Appendix C). To calculate the procedural fidelity percentage, the total number of observed implementer behaviors divided by the total number of planned implementer behaviors multiplied by 100. Inter-observer agreement (IOA) was conducted on fidelity for each student as well. For Leon, fidelity was conducted for 35% of his total sessions, with fidelity at 88.4% (range, 72.73 to 100). Of Leon's 35% of sessions, 67% were assessed for IOA with 82.4% of agreement (range, 92.7 to 100). For Carl, fidelity was conducted for 33% of his total sessions, with fidelity at 88% (range, 70 to 100). Of Carl's 33% of sessions, 100% were assessed for IOA with 98.5% of agreement (range, 94.25 to 100). For Joel, fidelity was conducted for 35% of his total sessions, with fidelity at 91.36% (range, 63.33 to 96.8). Of Joel's 35% of sessions, 100% were assessed for IOA with 98.2% of agreement (range, 92.7 to 100). For Toby, fidelity was conducted for 45% of his total sessions, with fidelity at 84.3% (range, 71 to 96.78). Of Toby's 45% of sessions, 67% were assessed for IOA with 98.7% of agreement (range, 95 to 100). For Sasha, fidelity was conducted for 37.5% of her total with 97.1% of agreement (range, 76.7 to 100). Of Sasha's 37.5% of sessions, 100% were assessed for IOA with 98.5% of agreement (range, 94.25 to 100).

Inter-observer Agreement

Inter-observer agreements for WCPM and errors, and percentage of comprehension questions answered correctly were conducted. The point-by-point formula was used with the agreements divided by the number of agreements plus number of disagreements multiplied by 100 (see Appendix I). For Leon, 38% of his total sessions IOA was conducted for WCPM and errors with 97.6% (range, 93.54 to 100) of agreement and comprehension was 100% agreement. With 97.51% agreement (range, 92.4 to 100), IOA was conducted for WCPM and errors for 45% of Carl's total sessions, with comprehension at 100% agreement. With 95.4% agreement (range, 92.42 to 100), IOA was conducted for WCPM and errors for 45% of Joel's sessions, and comprehension was 100% agreement. With 97.89% agreement (range, 95.42 to 100), IOA was conducted for WCPM and errors for 50% of Toby's total sessions, comprehension was 100% agreement. For Sasha, IOA of 37.5% of her total sessions was conducted for WCPM and errors with 98.27% (range, 94.25 to 100) agreement, and comprehension was 100% agreement.

Results

The adolescent struggling readers involved in peer-mediated instruction increased their rate of WCPM, with mixed results in terms of errors, and comprehension questions answered correctly during the repeated reading condition rather than during the continuous reading segment. Each participant's results are summarized below.

Leon

Figure 1 shows the WCPM across conditions for Leon who was paired with Carl. During baseline, his WCPM mean was 55.25 (range, 43 to 67). While during intervention

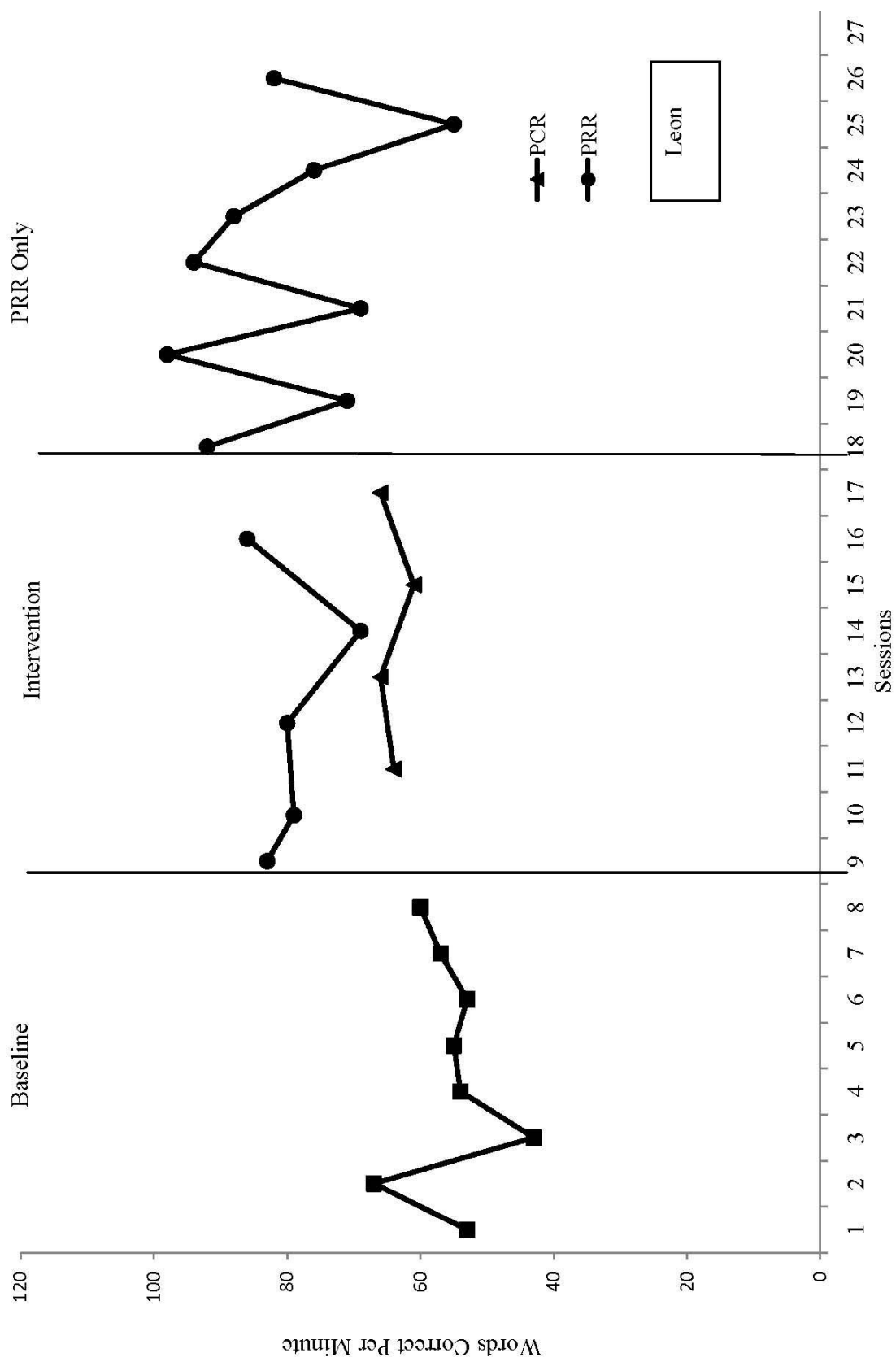


Figure 1. Leon's Words Correct per Minute.

his mean WCPM for PRR was 79.4 (range, 69 to 86) and his mean WCPM for PCR was 64.25 (range, 61 to 66). During the most effective intervention, PRR, Leon's mean number of WCPM was 80.6 (range, 55 to 98). From baseline to the most effective intervention, PRR, Leon made a mean gain of 25.4 WCPM. Errors across conditions were low and stable while the percentage of comprehension decreased across conditions (see Table 2). A total of 5 out of 5 PRR intervention data points were non-overlapping with baseline for 100% PND. A total of 0 out of 6 PCR intervention data points were non-overlapping with baseline for 0% PND. A total of 8 out of 9 PRR Only data points were non-overlapping for 80.6% PND.

Carl

Figure 2 shows the WCPM across conditions for Carl who was paired with Leon. During baseline, his WCPM mean was 156.4 (range, 148 to 166). While during intervention his mean WCPM for PRR was 193.8 (range, 181 to 236) and his mean WCPM for PCR was 171.2 (range, 153 to 206). During the most effective intervention, PRR, his mean number of WCPM was 190.4 (range, 180 to 217). From baseline to the most effective intervention, PRR, Carl made a mean gain of 34 WCPM. Errors across conditions were low and stable while the percentage of comprehension questions answered correctly decreased across conditions (see Table 2). A total of 6 out of 6 PRR intervention data points were non-overlapping with baseline for 100% PND. A total of 3 out of 6 PCR intervention data points were non-overlapping with baseline for 50% PND. A total of 6 out of 6 PRR Only data points were non-overlapping for 100% PND.

Table 2

Mean Percentage of Comprehension Questions Answered Correctly and Errors

Participant	Intervention							
	Baseline		PRR		PCR		PRR Only	
	Comp* Mean (range)	Oral Reading Errors (range)	Comp* Mean (range)	Oral Reading Errors (range)	Comp* Mean (range)	Oral Reading Errors (range)	Comp* Mean (range)	Oral Reading Errors (range)
Leon	56.25% (0 to 75)	3.5 (1 to 6)	25% (0 to 100)	1.33 (0 to 4)	43.75% (0 to 100)	1 (0 to 5)	34.4% (0 to 100)	2.5 (0 to 5)
Carl	70% (0 to 100)	3 (1 to 4)	37.5% (0 to 75)	0.17 (0 to 1)	41.67% (0 to 75)	0.5 (0 to 3)	37.5% (0 to 75)	1 (0 to 5)
Joel	39.29% (0 to 75)	2.86 (0 to 7)	70% (25 to 100)	2.4 (1 to 4)	68.75% (0 to 100)	1.25 (0 to 3)	70% (25 to 100)	1.6 (1 to 2)
Toby	54.17% (0 to 100)	2.5 (1 to 6)	65% (0 to 100)	0.6 (0 to 2)	68.75% (0 to 100)	1 (0 to 3)	65% (0 to 100)	0.6 (0 to 1)
Sasha	71.9% (0 to 100)	2.75 (0 to 9)	81.25% (50 to 100)	0 (0 to 9)	75% (25 to 100)	4 (1 to 9)	50% (0 to 75)	0.38 (0 to 2)

Note: Comp = percentage of comprehension questions answered correctly and range.

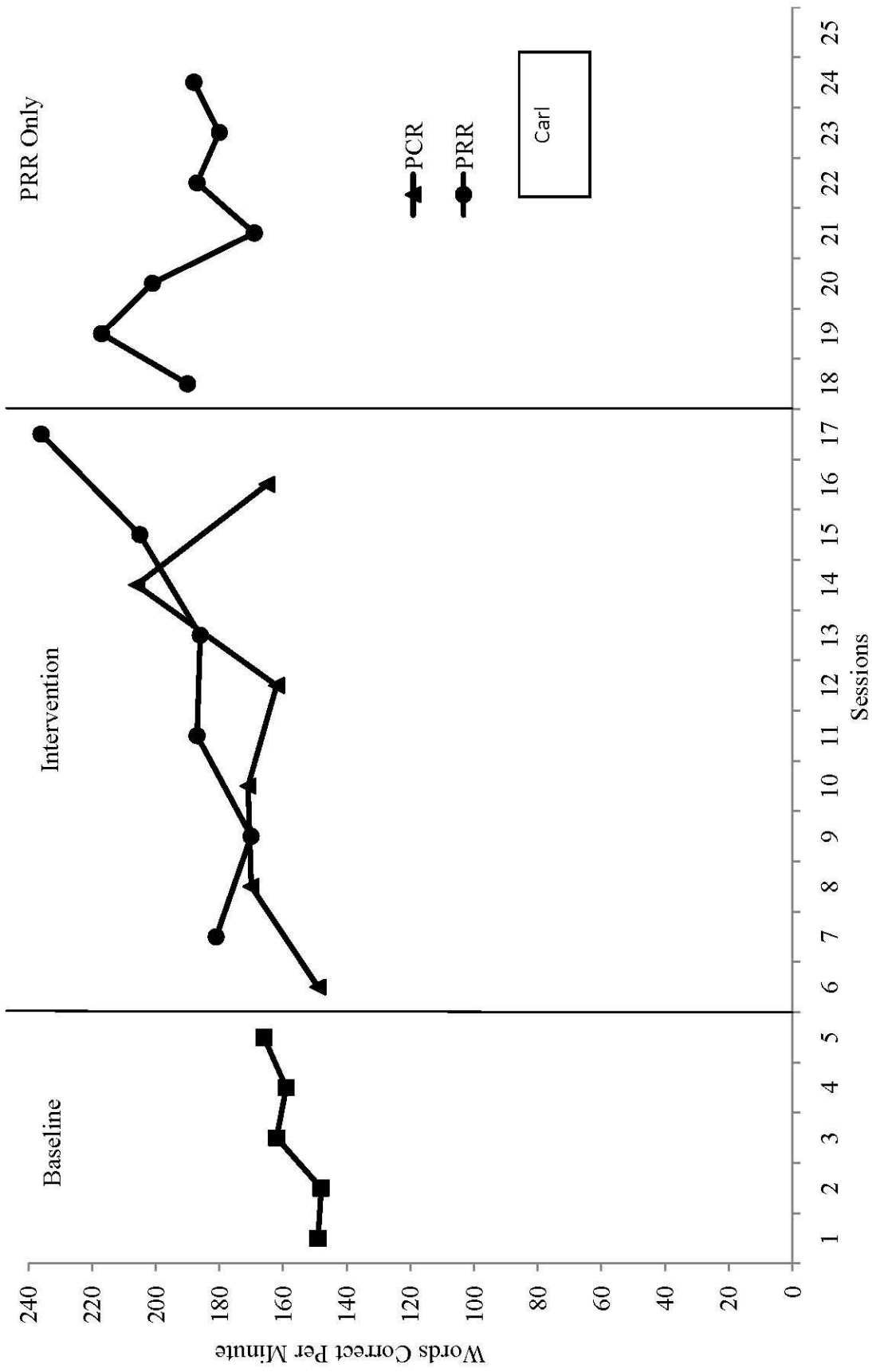


Figure 2. Carl's Words Correct per Minute.

Joel

Figure 3 shows the WCPM across conditions for Joel who was paired with Toby. During baseline, his WCPM mean was 77 (range, 66 to 103). While during intervention his mean WCPM for PRR was 89.75 (range, 86 to 87) and his mean WCPM for PCR was 56.75 (range, 28 to 85). During the most effective intervention, PRR, his mean number of WCPM was 78.8 (range, 46 to 92). From baseline to the most effective intervention, PRR, Joel made a mean gain of 1.7 WCPM, although he had a mean gain of 12.75 WCPM from baseline to PRR for the first condition. Errors across conditions were low and stable while the percentage of correct comprehension questions increased across phases (see Table 2). A total of 0 out of 4 PRR and PCR intervention data points were non-overlapping with baseline for 0% PND across both conditions. A total of 0 out of 6 PRR only data points were non-overlapping for 0% PND.

Toby

Figure 4 shows the WCPM across conditions for Toby who was paired with Joel. During baseline, his WCPM mean was 136.5 (range, 115 to 163). While during intervention his mean WCPM for PRR was 165.5 (range, 157 to 189) and his mean WCPM for PCR was 148.75 (range, 124 to 181). During the most effective intervention, PRR, his mean number of WCPM was 164.5 (range, 146 to 174). From baseline to the most effective intervention, PRR, Toby made a mean gain of 28 WCPM. Errors across conditions were low and stable while the percentage of correct comprehension questions increased across phases (see Table 2). A total of 1 out of 4 PRR intervention data points was non-overlapping with baseline for 25% PND. A total of 1 out 4 PCR intervention

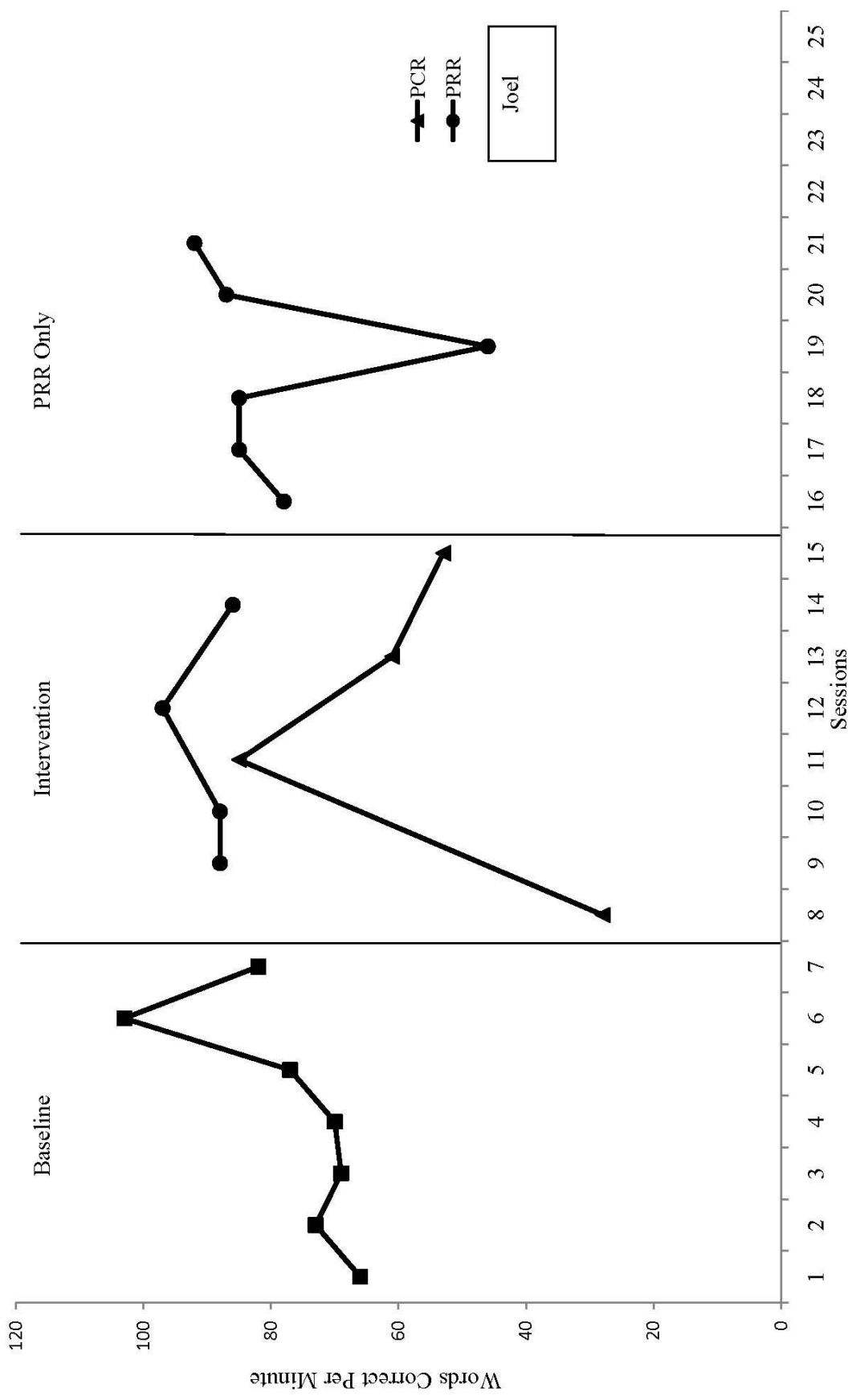


Figure 3. Joel's Words Correct per Minute.

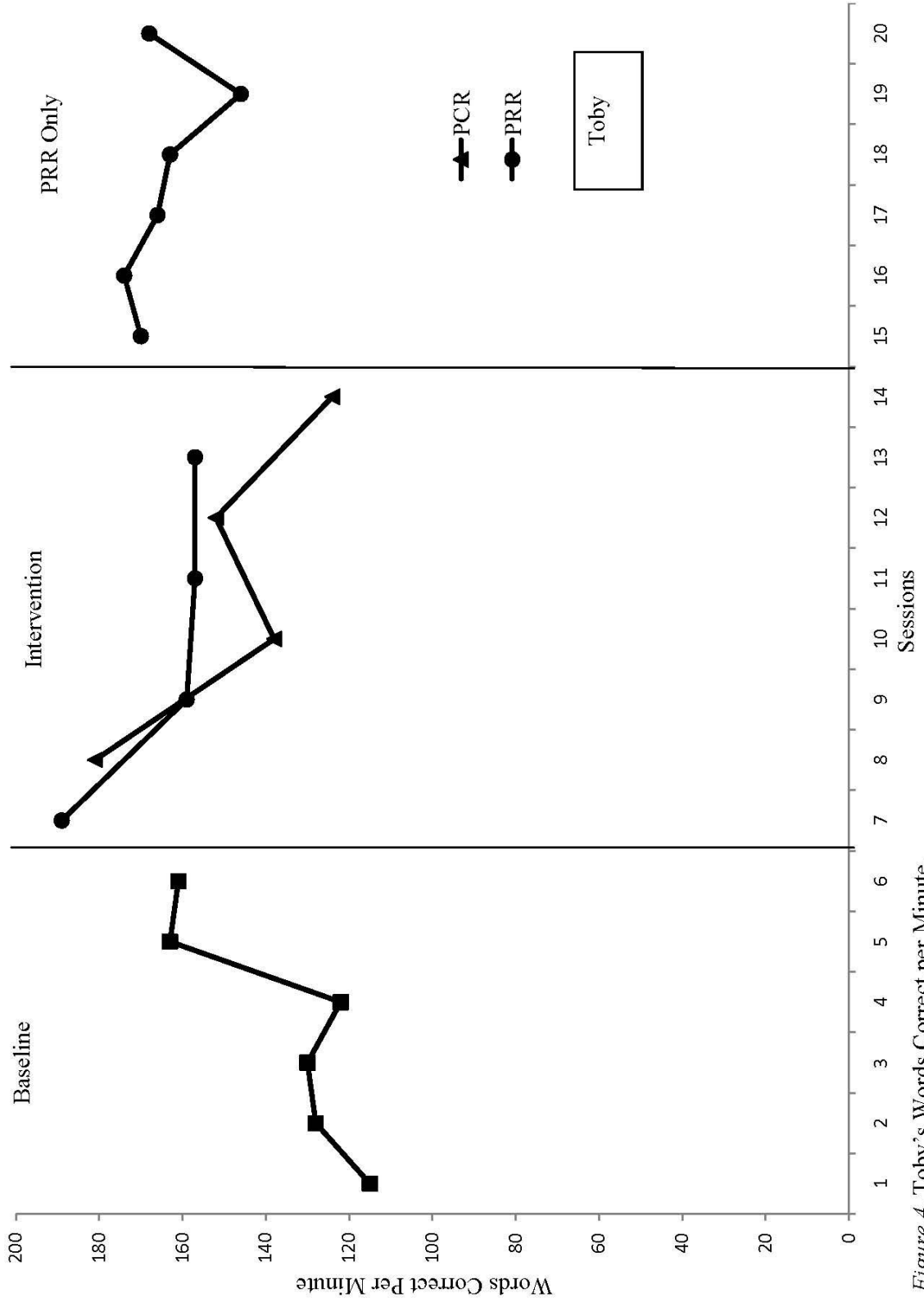


Figure 4. Toby's Words Correct per Minute.

data points was non-overlapping with baseline for 25% PND. A total of 4 out of 6 PRR Only data points were non-overlapping for 67% PND.

Sasha

Figure 5 shows the WCPM across conditions for Sasha who was paired with the teacher. During baseline, her WCPM mean was 98.4 (range, 81 to 113). While during intervention her mean WCPM for PRR was 119.25 (range, 108 to 139) and her mean WCPM for PCR was 87.25 (range, 69 to 100). During the most effective intervention, PRR, her mean number of WCPM was 122.75 (range, 111 to 135). From baseline to the most effective intervention, PRR, Sasha made a mean gain of 24.35 WCPM. Errors across conditions were low and stable while the percentage of comprehension questions answered correctly were inconsistent across phases (see Table 2). A total 3 out 4 PRR intervention data points were non-overlapping with baseline for 75% PND. A total of 0 out of 4 PCR intervention data points was non-overlapping with baseline for 0% PND. A total of 5 out 8 PRR only intervention data points were non-overlapping for 62.5% PND.

Participant Perceptions

To address the third research question (i.e., how did the participants perceive the effectiveness of the interventions?), the teacher answered the Treatment Acceptability Rating Form-Revised (TARF-R: Reimers & Wacker, 1988) specific to each intervention (peer-mediated instruction, continuous reading, repeated reading) for each student. Overall, the teacher rated an overall willingness to implement the peer-mediated instructional strategies at 83%, expected effectiveness of peer-mediated instructional strategies at 78%, and the disadvantages for peer-mediated instruction at 66%. With regard to the repeated reading intervention, the teacher rated her overall willingness to

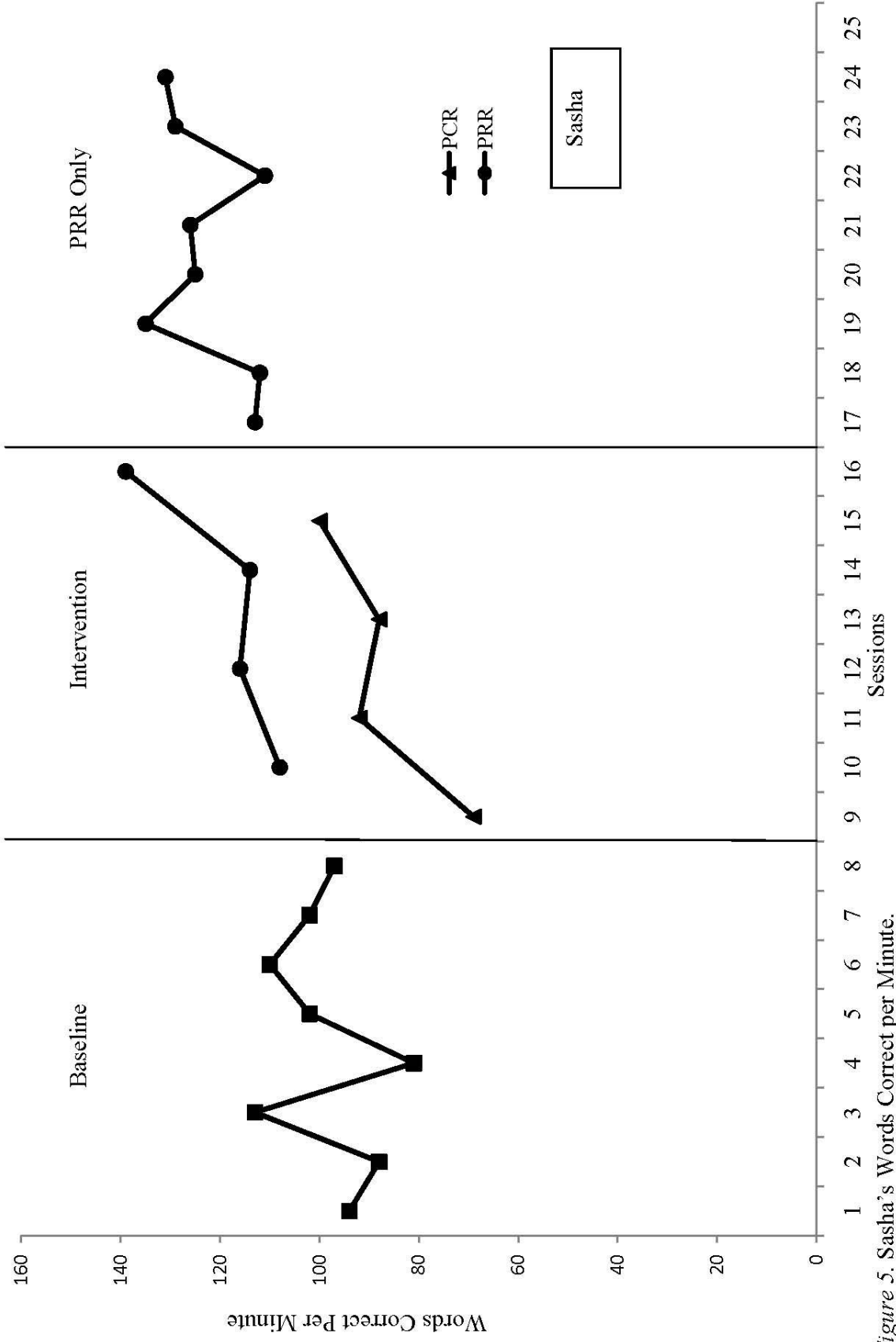


Figure 5. Sasha's Words Correct per Minute.

implement at 81%, expected effectiveness of repeated reading instruction at 86%, and disadvantages for repeated reading instruction at 65%. The teacher rated her overall willingness to implement the continuous reading intervention at 82%, expected effectiveness of continuous reading at 83%, and disadvantages for continuous reading at 62%. See Table 3 for the specific ratings per student.

Post-assessment occurred two weeks after the end of the study. Three out of the five participants (60%) were located for post-assessment. Toby was detained in a juvenile justice facility and Sasha was transferred out of the alternative high school the last day of the study for disruptive behavior; therefore, they were not available for post-assessment. Overall, students decreased on the TOWRE post-assessment. However, increases in WCPM were shown for Leon and Carl on AIMSweb passages. Toby's WCPM on AIMSweb passages remained stable. See Table 1 for specific student data.

Discussion

Adolescent struggling readers have a myriad of challenges to face in school. Successful navigation of the high school curriculum is based on effective reading skills (Denton, Wexler, Vaughn, & Bryan, 2008; Dudley, 2005; Moats, 2001). Yet, oral reading is not common practice in schools at the high school level. Having the ability to read effectively is an essential skill for academic success. Noting the possible long-term negative consequences of limited reading skills; involvement in the juvenile justice system, low academic achievement, and under-employment (Brunner, 1993), it is imperative that classroom teachers be supplied with research-based supplemental strategies that are specifically geared toward increasing the reading fluency and comprehension skills of adolescent struggling readers. Research in a variety of classroom

Table 3

Summary of Teacher and Student Acceptability Rating Form-Revised

	Leon		Carl		Joel		Toby		Sasha	
	Teacher	Student	Teacher	Student	Teacher	Student	Teacher	Student	Teacher	Student
Peer-Mediated Instruction										
Willingness	83%	57%	80%	49%	83%	40%	83%	83%	86%	86%
Effectiveness	89%	71%	86%	93%	79%	61%	79%	79%	61%	61%
Disadvantages	61%	63%	69%	78%	74%	78%	74%	74%	63%	63%
Repeated Reading										
Willingness	80%	63%	83%	60%	86%	71%	83%	83%	71%	71%
Effectiveness	86%	64%	96%	82%	89%	75%	75%	75%	86%	86%
Disadvantages	55%	53%	80%	76%	67%	80%	63%	63%	61%	61%
Continuous Reading										
Willingness	80%	63%	80%	63%	83%	37%	91%	91%	74%	74%
Effectiveness	89%	75%	86%	86%	75%	68%	86%	86%	79%	79%
Disadvantages	59%	92%	69%	76%	59%	71%	61%	61%	63%	63%

Note. Toby and Sasha were not available for social validity assessment.

settings has shown the positive effects of repeated reading (Mercer et al., 2000; O'Connor et al., 2007; O'Shea et al., 1987; Torgesen et al., 1999; Valleley & Shriver, 2003) and peer-mediated instruction (Yurick, Robinson, Cartledge, Lo, & Evans, 2006) on reading fluency and comprehension skills for a variety of students (e.g., age, ability levels). The current study extended the research-base and investigated the effects of viable supplemental reading strategies (repeated and continuous reading) on the oral reading fluency and comprehension skill deficits of adolescent struggling readers in an alternative high school. The results of the investigation for all participants suggest that the peer-mediated repeated reading (PRR) strategy was most effective in improving oral reading fluency (words correct per minute); however, the effects of either strategy on comprehension accuracy were mixed.

The peer-mediated repeated reading fluency strategy was efficient to implement within an alternative high school schedule and was perceived as such by the teacher. On average, each session lasted between 40-45 minutes with the students serving as the implementers of the interventions which allowed the adults in the class time to facilitate overall instruction. The use of peer-mediated repeated reading also provides individualized instruction on basic fluency skills and comprehension, while increasing student motivation and self-efficacy (Moats, 2001). An additional benefit to using PRR as a supplemental strategy is that it allows the students to have multiple exposures to grade-leveled, narrative text (Zutell & Rasinski, 2001) and possibly increase reading comprehension skills. Unlike with the continuous reading condition, students had the opportunity to re-read the same passage three times, enabling each to become familiar with the words and text structures within the one-minute reading practices. In addition,

oral reading fluency practice using repeated reading may be useful when preparing young adults who struggle with reading for standardized assessments.

All participants increased their WCPM from baseline to the most effective intervention, PRR, with peer-mediated fluency instruction. However, several students' data were variable which affected PND and or student performance levels for a variety of reasons. For example, Joel's PND were low for baseline to intervention phase. One of the limitations of PND is that its calculation does not account for variable data (Scruggs, Mastropieri, & Casto, 1987). When calculated with the removal of the session six data point, PND from baseline to intervention phase for Joel would be 100%. During the sixth session, the researcher acted as his partner because Toby was absent. The change in partner (e.g. he stated he preferred to read to adults) may account for the increase in Joel's WCPM for that session. Also, Joel demonstrated variable data on two other sessions. The initial day of the intervention, session eight, Joel scored 28 WCPM which was low as compared to baseline data. When Joel was asked why his WCPM number was so low, he stated "*I will only read to an adult,*" as supported by Joel's social validity scores of willingness and disadvantages of the peer-mediated instruction and reading components of the intervention. A brief conference was held; Joel was reminded of the progress that he made to date and how the reading practice was meant to be helpful. The following day Joel continued in the study with full participation. On session 19, he scored 46 WCPM, another low score which did not match his data pattern. This session was the first day back to school after the winter break where the students were out of school for 15 consecutive days. In this case, the extended absence from oral reading fluency practice may account for the decrease in his WCPM. Also, Leon showed variable data. On session

25 he scored 55 WCPM, which was a decrease in the general trend of his data. When asked why his WCPM number was low for that day he stated there were “a lot of hard words in that one.” This supports previous research which connects the amount of familiar text and overlapping words contained in passages with oral reading fluency instruction (Chard, Ketterlin-Geller, Baker, Doabler, & Apichatabutra, 2009; Homan et al., 1993; Vadasy & Sanders, 2008; Wexler et al., 2008). Although each passage was leveled prior to the start of the study, a passage may contain vocabulary words unfamiliar to the reader. Future research should evaluate oral reading fluency with passages with minimal to higher percentages of unfamiliar or new vocabulary to determine if such words affect WCPM and/or errors. The use of one connected narrative text was an attempt to mitigate this situation. Also, the repeated reading strategy with error correction was an attempt to allow the students to become familiar with the same text.

All but one student (Leon) decreased the mean number of errors from baseline to the most effective intervention, PRR. This finding supports previous research which stated that student’s number of errors decrease with an increase in reading fluency practice (Alber-Morgan Ramp, Anderson, & Martin, 2007; Blum & Koskinen, 2001; Wexler et al., 2008). Upon further examination of his data, Leon’s number of errors was low and stable across phases. However, during the last four sessions he had three errors in each. The increase of one error per session may account for the increase in mean number at the end of the study. This investigation attempted to control for this by leveling each passage by grade prior to the start of the study.

The results of previous research suggest that continuous reading would be a more effective strategy for improving the oral reading fluency skills of adolescent struggling

readers (Kuhn, 2005; Wexler et al., 2008). Authors posit that continuous reading would increase the amount of exposure to text, therefore improving student comprehension. The repetition of reading the same passage, for older struggling readers, may become laborious and boring and authors suggest more investigations include continuous reading (Wexler et al.). However, this study found that repeated reading of the same text was more effective for improving WCPM. Overall, all participants increased their WCPM by 21% with the PRR condition when compared with PCR.

In addition, previous research has suggested the number of reads within oral reading fluency instruction may play a role in the average mean increase of WCPM (O'Shea, Sindelar, & O'Shea, 1987). In this current study, no matter the condition (PRR or PCR), students read three times. Of interest for four students, the largest mean gains were found between the first and second read. For example, Joel's average mean change between his first and second read was an increase of 6.3%, while the average mean change from his second to third read was a decrease of 2.0%. The same held true with Sasha, where her average mean change from first to second read increased 15.8%, while her average mean change from second to third read increased 6.8%. This student population may only need two reads of the passage to achieve fluency gains. Future research should examine the effects of two versus three repeated readings on the oral reading fluency skills of adolescent struggling readers in an alternative high school.

Research findings have correlated reading fluency with increases in comprehension (LaBerge & Samuels, 1974); however, in this study, accuracy of comprehension questions answered correctly was mixed across participants. For example, two students (Joel and Toby) increased their average percentage of comprehension

questions answered correctly from baseline to the most effective condition, PRR, while three students (Leon, Carl, and Sasha) decreased their percentage of comprehension questions answered correctly. During each session, students were given four comprehension (two literal and two inferential) questions to independently complete after the peer-mediated intervention was conducted. During the comprehension component of the intervention, students were observed to vary amounts of time to answer the questions and deficits in writing skills (e.g., writing incomplete sentences, spelling) were apparent upon further examination of the comprehension questions answered correctly. The data show that of the total number of questions given, some students performed better for one type. For example, Carl, Joel, and Toby answered more literal questions correctly overall, while Sasha and Leon responded more accurately to the inferential questions. Future research should include a component of peer-mediated fluency which examines the effects of explicit comprehension instruction of literal versus inferential questions for adolescent struggling readers (Roberts, Torgesen, Boardman, & Scammacca, 2008). In addition, older struggling readers may need explicit, direct instruction in the writing process of answering inferential and literal questions as deficits in writing skills were observed.

In this study, all students increased their WCPM during the PRR strategy; however, the generalizability of the conclusions should be cautiously interpreted. First, the student's pre- to post- assessment (i.e., TOWRE and AIMSweb) are mixed. For example, both Carl and Leon showed a decrease in their fluency data on the TOWRE. These decreases in fluency may be due to the timing of the post-assessments. The intervention ended at the end of the school's second grading period where all students'

schedules were changed and new instructional focus classes were formed. At the time of post-assessment, students were pulled from their new schedule and assessed. These new schedules made it difficult to locate students and their willingness to participate in the post-assessment was compromised. Future research may want to link scheduling of post-assessments with the school marking period calendar. Second, the focus of the instructional focus class was varied. For example, this class period was re-conceptualized by the administration from an existing study hall period to better meet the reading needs of the students. During the instructional focus class, students were often removed for testing purposes (i.e., TABE assessments, graduation testing, etc), random drug screenings, and parole officer visitations. Such removal was a disruption for the students and the study. For instance, on days when parole officers visited with Sasha and Toby, they returned to class upset, crying, and sometimes refused to fully participate in the fluency activities. Since removal from class did not occur during other class periods, future research may be better conducted in combination with core subject classes where the removal of students may be minimized.

Third, participation of the students was variable. At times, students did not come to class on-time, remained in the hallways with their peers, or delayed initiating portions of the intervention. In the instructional focus class, there was no reinforcement for on-time arrival or participation as well as consequences for tardiness. In addition, grades or credit towards their diplomas were not earned for participation in this class. Also, some portions of the intervention (i.e., reading aloud to a peer) was observed to be difficult for some students (i.e., Joel) as doing such is an admittance of their reading abilities. Future research should (a) include clear behavioral expectations and reinforcement for class

participation; (b) align peer-mediated fluency instruction with course requirements and standards, so students may earn credit toward a high school diploma; and (c) provide adult support for those who have difficulty reading with a peer. In addition, the social validity in terms of student willingness to participate in future peer-mediated oral reading fluency interventions was low for most students. Future research should investigate what aspects of the interventions (e.g., reading aloud, comprehension, working with peers) were viewed as less optimal.

Fourth, the time allotted to this study was within the confines of the existing nine-week grading period. The students in the instructional focus class began the nine-week period reading at an average fourth grade level as well as had long histories of academic failure. Although gains were found in WCPM for all participants, the assigned nine-week period may not be an adequate amount of time to make progress in basic reading (e.g., decrease errors, increase comprehension) for adolescent struggling readers who are multiple grade levels below their peers (Wexler et al., 2008). More than the allotted nine-week school marking period may be needed to demonstrate long-term reading improvement. Future research should consider replicating the use of peer-mediated fluency instruction with narrative text over varying periods of time (e.g., over 15 weeks, the entire school year). The longer exposure to fluency text may be beneficial in assisting the needs of adolescents who struggle with basic reading skills. In addition to the nine-week period, this class only met three times a week for 45-minutes. With high school curricula being reliant on effective reading skills, a five day a week schedule may be necessary to promote higher WCPM gains. Also, the additional fluency instruction may help to promote higher gains in comprehension questions answered correctly. Future

research should compare the effects of three times to five times a week implementation of the interventions on student oral reading fluency.

Fifth, the absence of some teacher skills may have affected implementation aspects of the study. Alternative education settings often report having a shortage of teachers with adequate education and skills to work with this unique population (Foley & Pang, 2006; Lange, 1998). In this study, the teacher was not highly qualified and was working on her certification. As such, classroom management, organization of materials, and facilitation of instruction were below typical standards of effective teachers. The teacher required retraining and consistent supervision to maintain the study procedures, as well as reminders to circulate and provide assistance to student dyads. Due to these issues, the researcher was present for each session and assumed all organizational and study tasks. Future research should examine peer-mediated fluency instructional activities with less researcher contact to assess the fidelity and efficacy of the intervention on student academic skills in alternative high school settings.

Sixth, Sasha's data may have been affected differently than the other dyads as she was paired exclusively with the teacher. Working with the teacher may have provided an adequate model of reading fluency suggested by previous researchers (Chard, Ketterling-Geller, Baker, Doabler, & Apichatabutra, 2009; Wexler et al., 2008) as a necessary component of fluency instruction. This may have added to her 33% increase in comprehension questions answered from baseline to intervention phase. However, Sasha decreased her average number of comprehension questions answered correctly by 25% from intervention to the most effective condition, PRR. Although working with the teacher may provide an adequate model of fluent reading during oral reading fluency

instruction, Sasha may have experienced practice effects after sixteen sessions of working only with the teacher. Upon return from winter break and the entrance into her most effective condition, PRR, Sasha entered class with verbal sighs observable reluctance to participate, and saying “*I hate this class.*” Sasha was capable of answering the comprehension questions correctly at the beginning of the study, but as time continued, she may have put in less effort in that component of the activity. Future research should examine the effect peer-mediated versus teacher-mediated fluency instructional strategies have on oral fluency skills for readers in alternative high school settings.

Seventh, false reporting by the participants was a limitation in this study. On one occasion a student dyad (Joel and Toby) was observed to falsely report their data. At this time, Joel refused to read aloud to another student and he indicated that he would only read to an adult. False reporting of data was not observed again in any of the dyads. Future research should monitor student data reporting. Additional student training sessions with more opportunities to read aloud to one another may limit student hesitation of reading aloud with a peer. In this study, the fidelity schedule for all dyads was increased to address this potential situation.

Conclusion

Peer-mediated reading fluency instruction is an efficient method to increase a student’s reading fluency, and possibly, comprehension skills. This study examined the use of peer-mediated repeated reading and peer-mediated continuous reading of narrative texts on the reading fluency and comprehension skills of adolescent struggling readers in an alternative high school setting. The results of this study indicate peer-mediated repeated reading as the intervention most effective for these students. Throughout the

study all students participated in the intervention, were receptive to corrective feedback, and reported enjoying working with their peers. Although previous research has noted that multiple readings may be tedious for students at the secondary level, in this study each participant was encouraged to increase their reading rates with each consecutive reading. The graphing of WCPM also served as a visual prompt for each participant to set goals for their reading rates with each repeated reading. The use of peer-mediated instruction allowed the students greater opportunities to respond and receive feedback regarding their reading fluency. Future research should examine the effects of peer-mediated fluency instruction with adolescent struggling readers within a time frame longer than nine weeks. Also, future research should investigate the effects of peer-mediated fluency instruction with an explicit comprehension instruction component. Finally, a comprehension component which examines the effects of inferential versus literal questions is warranted.

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APPENDIXES

APPENDIX A

LISTENER'S LOG

Reader's Name _____

Date _____

Session # _____

Passage: _____

Reading 1

Total Words Read _____

Errors _____

WRCM _____ (graph)

Reading 2

Total Words Read _____

Errors _____

WRCM _____ (graph)

Reading 3

Total Words Read _____

Errors _____

WRCM _____ (graph)

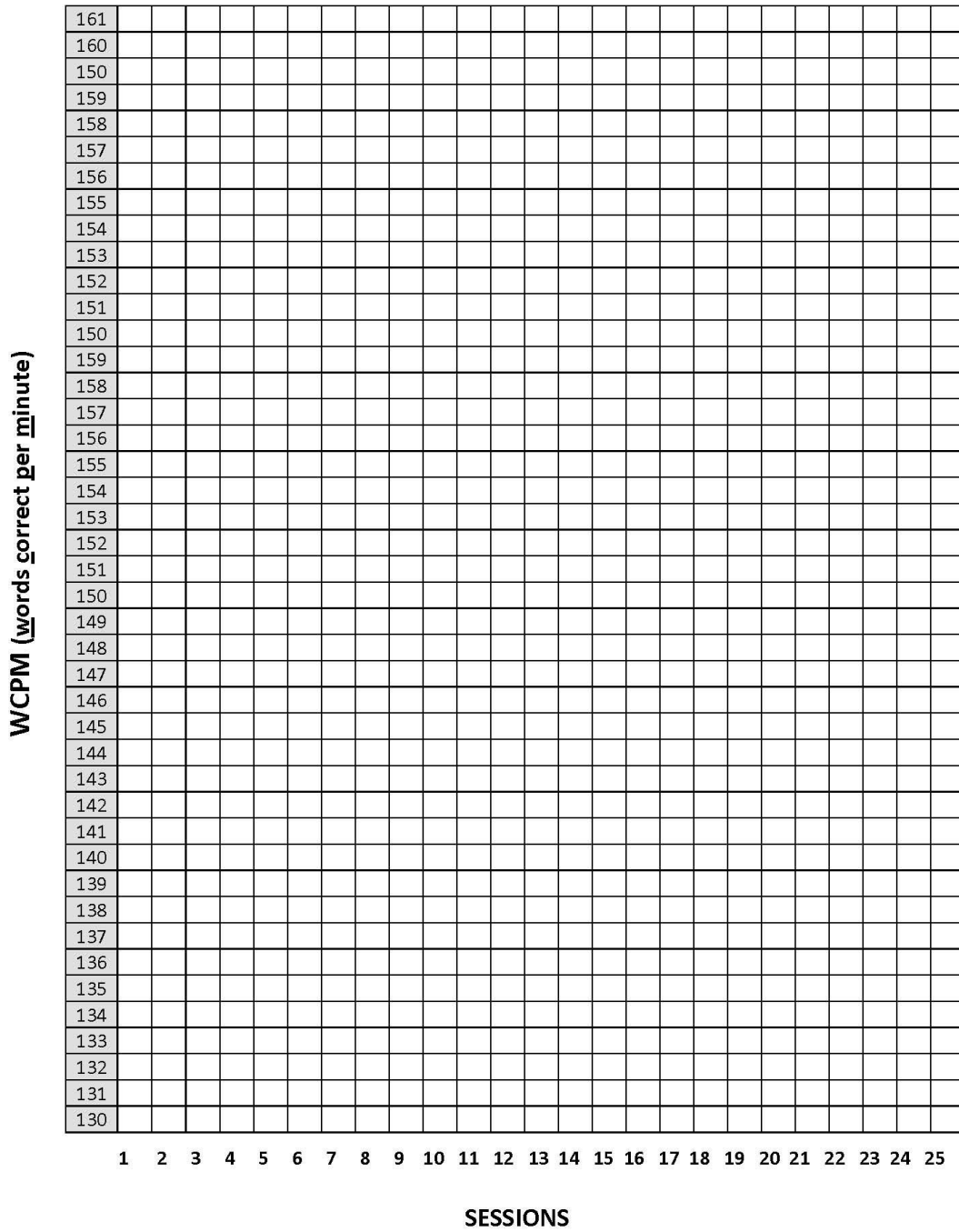
To be completed by the teacher:

Comprehension Questions

Total correct ____ / _____ = _____ %

Comments:

APPENDIX B
PROGRESS GRAPH



APPENDIX C

FIDELITY CHECKLIST

Steps to Peer-Mediated Fluency Instruction

	1 st Reading	2 nd Reading	3 rd Reading	Comments
1. The partner is prepared with the student's reading folder, pencil/pen, timer, and Daily Log sheet, and Listener's copy of the selected reading.	Yes No			
2. The peer read the scripted prompt before the reading began?	Yes No	Yes No	Yes No	
3. Students completed the correct condition?	Yes No	Yes No	Yes No	
4. For the <i>CR condition</i> , 3 different passages were read 1 time each?	Yes No	Yes No	Yes No	
4 b. For the <i>RR condition</i> , the same passage was read 3 times?	Yes No	Yes No	Yes No	
5. Timer is started as student utters first word?	Yes No	Yes No	Yes No	
6. Was the error correction procedure used correctly?	Yes No	Yes No	Yes No	
7. Students record Total words read, errors, and WCPM after each reading?	Yes No	Yes No	Yes No	
8. Student was given corrective feedback after each reading	Yes No	Yes No	Yes No	
9. Students record WCPM for 3 rd reading on Progress Graph?			Yes No	
10. Student completed the comprehension questions immediately after the reading check-outs?			Yes No	
11. Student completed the comprehension questions independently?			Yes No	
12. Student completed the comprehension questions within the classroom period?			Yes No	
13. Teacher circulated during peer-mediated instruction to provide support as needed?	Yes No	Yes No	Yes No	
14. Teacher collected Daily Work Folders at the close of the period?			Yes No	
Total 'yeses'	/9	/8	/13	Total /30 _____%

APPENDIX D

SAMPLE READER'S COPY

Passage 100

Mama bit into her lower lip and gazed at the road. "Because, baby," she said finally, "I taught things some folks just didn't want to hear."

When we reached home, Papa and Mr. Morrison were both in the kitchen with Big Ma drinking coffee. As we entered, Papa searched our faces. His eyes settled on Mama; the pain was in her face. "What's wrong?" he asked.

Mama sat down beside him. She pushed back a strand of hair that had worked its way free of the chignon, but it fell back into her face again and she left it there, "I got fired."

Big Ma put down her cup weakly without a word. Papa reached out and touched Mama. She said, "Harlan Granger came to the school with Kaleb Wallace and one of the school-board members. Somebody had told them about those books I'd pasted over ... but that was only an excuse. They're just getting at us any way they can because of shopping in Vicksburg." Her voice cracked. "What'll we do, David? We needed that job."

Papa gently pushed the stray hair back over her ear. "We'll get by...Plant more cotton maybe. But we'll get by." There was quiet reassurance in his voice.

Mama nodded and stood.

"Where you going, child?" Big Ma asked.

"Outside. I want to walk for a bit."

Christopher-John, Little Man, and I turned to follow her, but Papa called us back. "Leave your mama be," he said.

APPENDIX E

LISTENER'S COPY

Mama bit into her lower lip and gazed at the road. "Because, baby," she said	15
finally, "I taught things some folks just didn't want to hear."	26
When we reached home, Papa and Mr. Morrison were both in the kitchen with Big	41
Ma drinking coffee. As we entered, Papa searched our faces. His eyes settled on	55
Mama; the pain was in her face. "What's wrong?" he asked.	66
Mama sat down beside him. She pushed back a strand of hair that had worked its	82
way free of the chignon, but it fell back into her face again and she left it there, "I	101
got fired."	103
Big Ma put down her cup weakly without a word. Papa reached out and touched	118
Mama. She said, "Harlan Granger came to the school with Kaleb Wallace and one	132
of the school-board members. Somebody had told them about those books I'd	144
pasted over ... but that was only an excuse. They're just getting at us any way	161
they	
can because of shopping in Vicksburg." Her voice cracked. "What'll we do,	173
David? We needed that job."	178
Papa gently pushed the stray hair back over her ear. "We'll get by...Plant more	192
cotton maybe. But we'll get by." There was quiet reassurance in his voice.	205
Mama nodded and stood.	209
"Where you going, child?" Big Ma asked.	216
"Outside. I want to walk for a bit."	224
Christopher-John, Little Man, and I turned to follow her, but Papa called us back.	238
"Leave your mama be," he said.	244

Reading Passage 100

APPENDIX F

DIRECTION FOR PEER-MEDIATED INSTRUCTION WITH ERROR PROCEDURE

Repeated Reading Directions:

Read this passage the best you can for 1 minute. While you read, try to remember as much as you can because you will answer questions after you finish reading. If you come to a word that you don't know, don't worry I'll tell you and we'll just keep going. Do your best! Ready? Begin.

Error Correction:

While listening to your partner follow along with your finger or pointer:

- If your partner mispronounces a word place a slash mark (/) through it.
- If your partner mispronounces a word, but then says it correctly by self-correcting, it is NOT an error. Place "sc" by the word.
- If your partner is silent at a word for more than 3 seconds, help them by telling them the word and allow them to continue.
- If your partner skips a line, do not stop them. Just draw a line through the sentence missed and continue on.

After the 1-minute reading review the errors with your partner by pointing to each error and saying "This word is ____." Have the reader repeat the correct word and re-read the entire sentence. Additions, repetitions, and word switching ARE NOT ERRORS. Don't forget to praise them when they're done 😊. Everyone likes a little encouragement!

APPENDIX G

SAMPLE COMPREHENSION QUESTIONS

Name: _____

Date: _____

Comprehension Questions

**Roll of Thunder, Hear My Cry
Chapter 1: Pages 12-15**

Answer each question using complete sentences

- 1. Think of how you get to school each day. Would you still attend school each day if it took you an hour to walk each day? Explain your answer.**

- 2. From what you have read so far about Cassie, what kind of student is she in school? What can you guess about her personality?**

- 3. Why were the students surprised to have been given books in class?**

- 4. Write ONE new word that challenged you on page 15. Use context clues to try your best to define that new word.**

4. Given the student's reading problems, how reasonable do you find peer-mediated instructional strategies?

_____ _____ _____ _____ _____
 Not at all Neutral Very reasonable
 reasonable

5. How costly (e.g. resources, time) will it be to carry out peer-mediated instruction in your classroom?

_____ _____ _____ _____ _____
 Not at all Neutral Very costly
 costly

6. To what extent do you think there might be disadvantages in using peer-mediated instruction?

_____ _____ _____ _____ _____
 Not at all Neutral Many are likely
 Likely

7. How likely is peer-mediated instruction to make permanent improvements in student's academic performance?

_____ _____ _____ _____ _____
 Unlikely Neutral Very likely

8. How much time will be needed each day for you to carry out peer-mediated instructional strategies?

_____ _____ _____ _____ _____
 Little time Neutral Much time
 will be needed will be needed

9. How confident are you that peer-mediated instructional strategies will be effective?

_____ _____ _____ _____ _____
 Not at all Neutral Very confident
 confident

10. Compared to other students who struggle with reading, how serious are the student's reading problems in your classroom?

_____ _____ _____ _____ _____
 Not at all Neutral Very serious
 serious

4. Given the student's reading problems, how reasonable do you find repeated reading fluency strategies?

_____ _____ _____ _____ _____
 Not at all Neutral Very reasonable
 reasonable

5. How costly (e.g. resources, time) will it be to carry out repeated reading fluency strategies in your classroom?

_____ _____ _____ _____ _____
 Not at all Neutral Very costly
 costly

6. To what extent do you think there might be disadvantages in using repeated reading fluency strategies?

_____ _____ _____ _____ _____
 Not at all Neutral Many are likely
 Likely

7. How likely is repeated reading fluency strategies to make permanent improvements in student's academic performance?

_____ _____ _____ _____ _____
 Unlikely Neutral Very likely

8. How much time will be needed each day for you to carry out repeated reading fluency strategies?

_____ _____ _____ _____ _____
 Little time Neutral Much time
 will be needed will be needed

9. How confident are you that repeated reading fluency strategies will be effective?

_____ _____ _____ _____ _____
 Not at all Neutral Very confident
 confident

10. Compared to other students who struggle with reading, how serious are the student's reading problems in your classroom?

_____ _____ _____ _____ _____
 Not at all Neutral Very serious
 serious

11. How disruptive will it be to your classroom (in general) to utilize repeated reading fluency strategies?

_____ _____ _____ _____ _____ _____
 Not at all Neutral Very disruptive
 disruptive

12. How effective is repeated reading fluency strategies likely to be for the student?

_____ _____ _____ _____ _____ _____
 Not at all Neutral Very effective
 effective

13. How affordable is repeated reading fluency strategies for your classroom?

_____ _____ _____ _____ _____ _____
 Not at all Neutral Very affordable
 affordable

14. How much do you like the procedures in the repeated reading fluency strategies?

_____ _____ _____ _____ _____ _____
 Not like Neutral Like them
 them at all very much

15. How willing will other teachers be to help carry out repeated reading fluency strategies?

_____ _____ _____ _____ _____ _____
 Not at all Neutral Very willing
 willing

16. To what extent are undesirable side-effects likely to result from repeated reading fluency strategies?

_____ _____ _____ _____ _____ _____
 No side- Neutral Many side-effects
 effects are likely

17. How much discomfort is the student likely to experience during the implementation of repeated reading fluency strategies?

_____ _____ _____ _____ _____ _____
 No discomfort Neutral Very much
 at all discomfort

APPENDIX J

TARF-R TEACHER FORM

CONTINUOUS READING INTERVENTION

Treatment Acceptability Rating Form – Revised (TARF-R: Reimers & Wacker, 1988)

Modified for the Peer-Mediated of Repeated vs. Continuous Reading Study Teacher Form

Student Pseudonym: _____

Directions: Please complete the items listed below as they pertain ONLY to the continuous reading fluency strategies for each student. These items should be completed by placing a check mark on the line under the question that best indicates how you feel about the use of these reading strategies.

- 1. How clear is your understanding of the continuous reading fluency procedures?

_____ Neutral _____
Not at all clear _____ Very clear

- 2. How acceptable do you find continuous reading fluency strategies to be for the student?

_____ Neutral _____
Not at all acceptable _____ Very clear

- 3. How willing are you to use continuous reading fluency strategies in the future?

_____ Neutral _____
Not at all willing _____ Very willing

4. Given the student's reading problems, how reasonable do you find continuous reading fluency strategies?

_____ _____ _____ _____ _____ _____
 Not at all Neutral Very reasonable
 reasonable

5. How costly (e.g. resources, time) will it be to carry out continuous reading fluency strategies in your classroom?

_____ _____ _____ _____ _____ _____
 Not at all Neutral Very costly
 costly

6. To what extent do you think there might be disadvantages in using continuous reading fluency strategies?

_____ _____ _____ _____ _____ _____
 Not at all Neutral Many are likely
 Likely

7. How likely is continuous reading fluency strategy to make permanent improvements in student's academic performance?

_____ _____ _____ _____ _____ _____
 Unlikely Neutral Very likely

8. How much time will be needed each day for you to carry out continuous reading fluency strategies?

_____ _____ _____ _____ _____ _____
 Little time Neutral Much time
 will be needed will be needed

9. How confident are you that continuous reading fluency strategies will be effective?

_____ _____ _____ _____ _____ _____
 Not at all Neutral Very confident
 confident

10. Compared to other students who struggle with reading, how serious are the student's reading problems in your classroom?

_____ _____ _____ _____ _____ _____
 Not at all Neutral Very serious
 serious

11. How disruptive will it be to your classroom (in general) to utilize continuous reading fluency strategies?

_____ _____ _____ _____ _____ _____
 Not at all Neutral Very disruptive
 disruptive

12. How effective is continuous reading fluency strategies likely to be for the student?

_____ _____ _____ _____ _____ _____
 Not at all Neutral Very effective
 effective

13. How affordable is continuous reading fluency strategies for your classroom?

_____ _____ _____ _____ _____ _____
 Not at all Neutral Very affordable
 affordable

14. How much do you like the procedures in the continuous reading fluency strategies?

_____ _____ _____ _____ _____ _____
 Not like Neutral Like them
 them at all very much

15. How willing will other teachers be to help carry out continuous reading fluency strategies?

_____ _____ _____ _____ _____ _____
 Not at all Neutral Very willing
 willing

16. To what extent are undesirable side-effects likely to result from continuous reading fluency strategies?

_____ _____ _____ _____ _____
 No side-effects are likely Neutral Many side-effects are likely

17. How much discomfort is the student likely to experience during the implementation of continuous reading fluency strategies?

_____ _____ _____ _____ _____
 No discomfort at all Neutral Very much discomfort

18. How severe are the student's reading difficulties in your classroom?

_____ _____ _____ _____ _____
 Not at all severe Neutral Very severe

19. How well would continuous reading fluency strategies fit into your classroom curriculum?

_____ _____ _____ _____ _____
 Not at all well Neutral Very well

20. How willing would you be to change your classroom routine to implement continuous reading fluency strategies?

_____ _____ _____ _____ _____
 Not at all willing Neutral Very willing

4. Given your reading problems, how reasonable do you find peer-mediated instruction strategies?

_____ _____ _____ _____ _____
 Not at all Neutral Very reasonable
 reasonable

5. How costly (e.g. resources, time) will it be to carry out peer-mediated instruction strategies in the classroom?

_____ _____ _____ _____ _____
 Not at all Neutral Very costly
 costly

6. To what extent do you think there might be disadvantages in using peer-mediated instruction strategies?

_____ _____ _____ _____ _____
 Not at all Neutral Many are likely
 likely

7. How likely is peer-mediated instruction strategy to make permanent improvements in your academic performance?

_____ _____ _____ _____ _____
 Unlikely Neutral Very likely

8. How much time will be needed each day for you to participate in peer-mediated instruction strategies?

_____ _____ _____ _____ _____
 Little time Neutral Much time
 will be needed will be needed

9. How confident are you that peer-mediated instruction strategies will be effective?

_____ _____ _____ _____ _____
 Not at all Neutral Very confident
 confident

10. Compared to other students who struggle with reading, how serious are your reading problems?

_____ _____ _____ _____ _____
 Not at all Neutral Very serious
 serious

11. How disruptive to your classroom (in general) is it to use peer-mediated instruction strategies?

_____ _____ _____ _____ _____ _____
 Not at all Neutral Very disruptive
 disruptive

12. How effective is peer-mediated instruction strategy for you?

_____ _____ _____ _____ _____ _____
 Not at all Neutral Very effective
 effective

13. How affordable is peer-mediated instruction strategies for your classroom?

_____ _____ _____ _____ _____ _____
 Not at all Neutral Very affordable
 affordable

14. How much do you like the procedures in the peer-mediated instruction strategies?

_____ _____ _____ _____ _____ _____
 Not like Neutral Like them
 them at all very much

15. How willing will you be to use peer-mediated instruction strategies with other teachers?

_____ _____ _____ _____ _____ _____
 Not at all Neutral Very willing
 willing

16. To what extent are undesirable side-effects likely to result from peer-mediated instruction strategies?

_____ _____ _____ _____ _____ _____
 No side- Neutral Many side-effects
 effects are likely

17. How much discomfort did you experience during the implementation of peer-mediated instruction strategies?

_____ _____ _____ _____ _____ _____
 No discomfort Neutral Very much
 at all discomfort

18. How severe are your reading difficulties in the classroom?

_____ _____ _____ _____ _____ _____
 Not at all Neutral Very severe
 severe

19. How well would peer-mediated instructional strategies fit into your classroom routine?

_____ _____ _____ _____ _____ _____
 Not at all Neutral Very well
 well

20. How willing would you be to change your classroom routine to implement peer-mediated instruction strategies?

_____ _____ _____ _____ _____ _____
 Not at all Neutral Very willing
 willing

4. Given your reading problems, how reasonable do you find repeated reading fluency strategies?

_____ _____ _____ _____ _____ _____
 Not at all Neutral Very reasonable
 reasonable

5. How costly (e.g. resources, time) will it be to carry out repeated reading fluency strategies in the classroom?

_____ _____ _____ _____ _____ _____
 Not at all Neutral Very costly
 costly

6. To what extent do you think there might be disadvantages in using repeated reading fluency strategies?

_____ _____ _____ _____ _____ _____
 Not at all Neutral Many are likely
 likely

7. How likely is repeated reading fluency strategy to make permanent improvements in your academic performance?

_____ _____ _____ _____ _____ _____
 Unlikely Neutral Very likely

8. How much time will be needed each day for you to participate in repeated reading fluency strategies?

_____ _____ _____ _____ _____ _____
 Little time Neutral Much time
 will be needed will be needed

9. How confident are you that repeated reading fluency strategies will be effective?

_____ _____ _____ _____ _____ _____
 Not at all Neutral Very confident
 confident

10. Compared to other students who struggle with reading, how serious are your reading problems?

_____ _____ _____ _____ _____ _____
 Not at all Neutral Very serious
 serious

11. How disruptive to your classroom (in general) is it to use repeated reading fluency strategies?

_____ _____ _____ _____ _____ _____
 Not at all Neutral Very disruptive
 disruptive

12. How effective is repeated reading fluency strategy for you?

_____ _____ _____ _____ _____ _____
 Not at all Neutral Very effective
 effective

13. How affordable is repeated reading fluency strategies for your classroom?

_____ _____ _____ _____ _____ _____
 Not at all Neutral Very affordable
 affordable

14. How much do you like the procedures in the repeated reading fluency strategies?

_____ _____ _____ _____ _____ _____
 Not like Neutral Like them
 them at all very much

15. How willing will you be to use repeated reading fluency strategies with other teachers?

_____ _____ _____ _____ _____ _____
 Not at all Neutral Very willing
 willing

16. To what extent are undesirable side-effects likely to result from repeated reading fluency strategies?

_____ _____ _____ _____ _____ _____
 No side- Neutral Many side-effects
 effects are likely

17. How much discomfort did you experience during the implementation of repeated reading fluency strategies?

_____ _____ _____ _____ _____ _____
 No discomfort Neutral Very much
 at all discomfort

