A MODIFIED REPEATED READING INTERVENTION TO HELP THE
ADOLESCENT STRUGGLING READER

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A MODIFIED REPEATED READING INTERVENTION TO HELP THE
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ABSTRACT

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A significant portion of the student population in America continues to struggle with developing adequate reading skills. Almost one quarter of all 8th and 12th graders score at the "below basic" level in reading on the National Assessment of Educational Progress (NAEP, 2005). These are alarming statistics because today students graduate to find that they are entering into a rapidly globalizing society that demands high level skills. Much of the existing research dedicated to literacy and helping struggling readers has been aimed at early childhood. The intent of this study is to examine the effectiveness of a repeated reading intervention aimed at improving the skills of adolescent struggling readers.
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CHAPTER 1
INTRODUCTION

Research clearly illustrates that school success, as well as life success, is significantly impacted by a student’s ability to read (Alliance for an Excellent Education, 2009). Through years of research and study, there has been much progress in the area of reading, and many students have benefited. However, a portion of the American student population continues to struggle with developing adequate reading skills.

Almost one quarter of all 8th and 12th graders score at the "below basic" level in reading on the National Assessment of Educational Progress (NAEP, 2005). Almost 40% of high school graduates lack the reading and writing skills that employer’s value and nearly 30% of high school graduates who enroll in colleges and universities require remedial assistance (Greene & Winters, 2005). Nationally, 25% of all adults are functionally illiterate (Moats, 2002). These statistics are unfortunate considering that today students graduate to find that they are entering into a rapidly globalizing society that demands high-level skills. Even today’s jobs that do not require a college education or may be considered low-skilled are competitive and require good basic skills. Being a struggling reader is not just an issue that affects school success, but one that impacts life success, as well.

Much of the research dedicated to literacy and helping struggling readers has been aimed at early childhood. Certainly this makes sense because many times the best
intervention is prevention, and research indicates that once children fall behind they seldom catch up (Moats, 2002). Approximately 75% of students identified with reading problems in the third grade are still reading disabled in the 9th grade (Frances et al, 1996). As sensible and compelling as the case is for early intervention, older readers who continue to struggle should not be overlooked. Innovations implemented in early grade levels will not impact those adolescent readers who are currently struggling (Moats, 2002). For this reason it is vital that appropriate amounts of research are dedicated to addressing the unique sets of problems presented by struggling adolescent readers. Therefore, the purpose of this research study is to evaluate the effectiveness of reading interventions for struggling adolescent readers.
CHAPTER 2
LITERATURE REVIEW

Adolescent literacy is quantified each year in “The Nation’s Report Card” (NAEP, 2005). According to the nation’s report card, in 2008, the average reading score for a high school senior was 286 on a scale ranging from 0 – 500. This score is lower than the score was in 1992, which suggests that literacy problems in our country are getting worse (USDOE, 2010). The National Assessment of Educational Progress (NAEP) also reports that more than two-thirds of the nation’s eighth graders (68 percent) read below the proficient level and approximately one quarter are unable to read even at the most basic level (NAEP, 2005). These statistics are alarming and necessitate continued research and study.

Youth with low literacy skills can be found in nearly all schools. They come from urban, suburban, and rural communities, and represent all social and ethnic groups. However, some populations have significantly higher percentages of students reading below grade level. Minorities continue to be overrepresented (Fleishman, n.d). Almost half of all African-American and Hispanic eighth graders read below basic level. Only 13 percent of minority students are reading at or above the proficient level (Grigg, Daane, Jin, & Campbell, 2003). Students who are learning English as a second language often struggle to meet the reading achievement level of their peers. These students represent
close to 4 million students in middle and high schools throughout the United States (Hoffman, 2003).

These disturbing rates have profound social and economic implications. According to a report by the Coalition of Juvenile Justice (2001), America’s high dropout rate costs the nation more than $200 billion in lost earnings and taxes. Many dropouts were struggling readers or non-readers (Fleishman, n.d.). Competition for low-skilled jobs from low-wage countries is quickly reducing the number of employment opportunities for our nation’s high school dropouts. Those who do find jobs earn significantly less than their peers who go on to earn a college degree; and the nation’s prisons are overcrowded with high school dropouts and non-readers (Fleishman, n.d.). This trend is unacceptable and therefore, researchers and education professionals have, and continue to spend, countless hours trying to combat the problem of poor literacy in our nation.

**Reading Development**

The National Council of Teachers of English (NCTE) defines reading as a complex, purposeful, social and cognitive process in which readers simultaneously use their knowledge of spoken and written language, their knowledge of the topic of the text, and their knowledge of their culture to construct meaning. Reading is not a technical skill acquired once and for all in the primary grades, but rather a developmental process. A reader’s competence continues to grow through engagement with various types of texts and reading for various purposes over a lifetime (NCTE, 2004).

*Early literacy.* Scientific research has provided significant information about reading instruction. Reading is a language-based activity that does not develop naturally,
and for many children, specific decoding, word recognition, and reading comprehension skills must be taught directly and systematically. Educators can foster reading development by providing kindergarten children with instruction that develops print concepts, familiarity with the purposes of reading and writing, age-appropriate vocabulary and language comprehension skills, and familiarity with the language structure (Lyon, 2000).

Substantial evidence shows that many children in the first and second grade levels and beyond will require explicit instruction to develop necessary phoneme awareness, phonics, spelling, and reading comprehension skills. According to the National Reading Panel, there are five “big ideas’ in beginning reading that the scientific community has agreed upon (National Reading Panel, 2000). These big ideas highlight what is most important in beginning reading instruction. According to the panel in order to effectively guide instruction, assessment, and learning, reading goals need to be aligned with these ideas.

The first “big idea” is phonemic awareness. This is the ability to hear and manipulate sounds in words. The second “big idea” is the alphabetic principal or the ability to associate sounds with letters and use these sounds to read words. Next, is accuracy and fluency with connected text. This is the effortless, automatic ability to read words in isolation and connected text. The fourth “big idea” is vocabulary development or the ability to understand (receptive) and use (expressive) words to acquire and convey meaning. The final piece is comprehension or the complex cognitive process involving the intentional interaction between reader and text to extract meaning.
However, for some children, even this explicit instruction will not be sufficient. For youngsters having difficulties learning to read, each of these foundational skills should be taught and integrated into textual reading formats to ensure sufficient levels of fluency, automaticity, and understanding (Lyon, 2000). Without appropriate intervention dedicated to the improvement of necessary skills, students who are experiencing difficulty will continue to fall further behind their peers. Many times struggling students are able to do barely enough to progress to the next grade level but do not receive the assistance needed to close the achievement gap. Once struggling students progress to high school, curriculum demands are more intense and they experience significant amounts of frustration and failure.

*Adolescent reading.* Middle and high school students who encounter reading difficulties generally fall into one of three groups (Schoenbach, Greenleaf, Cziko, & Hurwitz, 1999). The first group has severe deficits in reading that can be traced back to weak decoding skills. The second group knows enough phonics to sound out words laboriously, but because they become so focused on decoding they lose all sense of the meaning of the words and the sentences. The third group, which comprises most struggling adolescent readers, has difficulties caused by the fact that they have limited vocabularies or lack broad background knowledge to apply to their reading and cannot create meaning. Such students are found in most middle school and high school classrooms (Darwin & Fleischman, 2005).

A challenging aspect of working with adolescent struggling readers is the fact that over time these readers have generally avoided practicing reading because it is difficult. These students cannot read well and so they do not like to read. Reading is labored and
unsatisfying. As a result, their lack of reading experience limits their familiarity with the vocabulary, sentence structure, text organization and concepts of academic “book” language. Over time comprehension skills decline, they become poor spellers and poor writers because they do not read (Moats, 2002). Adolescents who have not acquired fundamental reading skills are clearly at a disadvantage for obtaining advanced skills during secondary school and taking advantage of career and personal opportunities throughout adulthood (Joseph, 2008).

Reading Fluency. Reading fluency is primarily defined as how fast and accurately a person reads a passage (Vallely & Shriver. 2003) and has been identified as one of the five big ideas in reading development. Reading fluency has been described as an essential skill in a reader’s transition from “learning to read” to “reading to learn” (National Reading Panel, 2000). Fluency is also an important indicator of overall reading acquisition and is thought to be essential to reading comprehension (Dudley, 2005). When students do not attain reading fluency, their ability to participate in the general education curriculum and to attain academic success is severely impaired (Dudley, 2005). For this reason it is important to continue work in investigating reading fluency with adolescent struggling readers.

When older students read several years below grade level, reading fluency instruction alone will not suffice. However, if the goal is to help older students read text with ease so they can place most of their attention on understanding the text, then reading fluency must be taught, practiced, and monitored (Dudley, 2005). Reading fluency instruction offers struggling older readers and their teachers a daily and ongoing way to observe growth and set achievable goals. With every observed gain, these readers not
only experience considerable reinforcement and encouragement, but they also receive the extended benefits of reading, such as, increased self-esteem, the ability to graduate high school, improved job skills, and the ability to be life-long learners (Dudley, 2005).

Reading Interventions

Helping the struggling reader is a daunting and intimidating task and evidence supports the view that in this arena there are no quick fixes. The key variables that positively impact the dadalescent reader are time, training, and resources (Feldman, n.d.). These variables are supported by current research regarding the Response to Intervention model. Response to Intervention (RtI) is a new and highly-effective approach to help identify students at risk for learning disabilities and work with all students to ensure their educational success. (National Center for Learning Disabilities, 2008).

Key variables. Additional instructional time for the student must be provided. The Response to Intervention (RtI) movement has shown that building a schedule that provides time in the day for additional intervention is an effective way of helping those students in need of additional instructional support. Some secondary schools have added a scheduled reading class as a “required elective” for students reading below a certain level. Other schools are beginning to implement RtI at the middle and secondary levels. For example, Chisago Lakes School District located in rural Minnesota implemented the RtI model in two schools during the 2005-2006 school year to address concerns in English and math. After year one of implementation both schools showed improvements in the interventions they implemented and the results they produced. The success of this school district illustrates that the delivery of supplemental interventions within an RtI
framework can be accomplished at the secondary level (Windram, Scierka, & Silberglitt, 2007).

A second key variable is intensive instruction through one-on-one intensive tutoring or small homogeneous groups (Feldman, n.d.). Tutoring can be facilitated by a paraeducator or volunteer, or by same-age or cross-age peers, as long as they are well trained. This idea is also backed by the current research regarding Response to Intervention and the belief that the quality of a school as a learning community can be measured by how effectively it addresses the needs of struggling students (Wright, 2006). In the Response to Intervention Model, the first Tier encompasses universal strategies for all children and if students do not respond to the research-based curriculum in place in the classroom, they move to Tier II. At the Tier II level they receive scientifically-based, targeted interventions in small groups. If the student continues to demonstrate little progress and severe, chronic academic or behavioral needs they move into Tier III. (Wright, 2006).

A third key is providing a curriculum that has been research-based and validated (Feldman, n.d.). Since No Child Left Behind was passed in 2001, schools have attended to research-based educational practices (Research Based Interventions, 2007). Research data indicate that when teachers use research-based methodologies that rely on progress monitoring data, they are more inclined to think about student needs in terms of the skills they are able to teach them (Research Based Interventions, 2007).

Current research regarding RtI also supports the importance of using scientifically-based strategies. RtI requires interventions that have been validated in educational research. This requirement guarantees that instruction is based on a valid
practice. In a study completed by Fuchs and Fuchs (2006) teachers using scientific methods were compared to a control group of teachers. When asked, “Why are you concerned about this student?” teachers described features of the student’s performance. Control-group teachers cited reasons beyond their ability to intervene (for example, English Language Learner status, special education status, attention and motivation problems, or inadequate parent involvement). These results suggest that when teachers use prescribed scientific interventions based upon valid research, and collect data based upon the results, they know the specific areas in which to target and can develop a plan to help meet the student’s needs. Whereas, those teachers who do not use scientific methods may be more susceptible to making generalizations about the student and will lack the ability to make data-based decisions. When considering outcomes for students, it is important to base assumptions about the delivery of instruction on tested instructional constructs and methods (Research Based Interventions, 2007).

A fourth key is practice. Vast amounts of partner reading, repeated reading, group reading, silent reading, and reading at home is important. Once again no shortcuts or quick fixes will suffice. There is a large body of research indicating that when students are given opportunities to practice oral reading of a particular text, their fluency improves dramatically (Chard et al, 2002). The current research targets practice as a key variable leading to improved reading fluency.

Finally, a student’s self-advocacy is important. Adolescents must recognize that they are stake holders in their self-improvement. It is important for the student to feel empowered to want to make a change. Daily or weekly self-monitoring is one strategy that has been found to be motivating for students (Feldman, n.d.). In a study investigating
the effects of self-monitoring on academic productivity and accuracy as well as on-task behavior, students with both learning disabilities and Attention Deficit Hyperactivity Disorder (AD/HD) were found to show improvements in both of those areas (Shimabukuro, Prater, Jenkins & Edelen-Smith, 1999). The students were taught to self-monitor and self-graph their academic performance for reading comprehension, mathematics, and written expression. On-task behaviors were observed and recorded by the teacher. The students made gains in academic productivity and accuracy, and their on-task behaviors improved across all academic areas. The results of this study indicate that self-monitoring is an effective procedure for helping students improve their academic performance and attention behaviors.

*Intervention strategies.* Research may indicate that closing the achievement gap after the third grade is difficult; however, studies show that reading intervention with adolescents can be effective. A study completed by Shumaker, Deshler, Woodruff, Hock, Bulgren, and Lenz (2006) illustrated the fact that literacy outcomes for at-risk adolescents can be enhanced. Readers at-risk for failure were explicitly taught decoding, word-identification, fluency, and comprehension strategies to help improve their reading and comprehension. Participants were tested as they entered middle or high school. Those who were decoding below grade level, were selected to participate in a decoding mini-course while a control group in the study received traditional reading instruction offered from the high school. During the decoding mini-course, students were taught the Word Identification Strategy, a reading strategy designed for decoding the kinds of multi-syllabic words that students encounter in their secondary textbooks. The instructional sequence is as follows: First, the steps of the strategy are described to the students along
with how to use the steps. Then the instructor demonstrates how to use the steps, thinking aloud while dissecting several words. Next, the students learn to say the names of the steps so that they can instruct themselves in what to do as they use the strategy. Then they practice using the strategy in materials at their reading level. Once they master the strategy, they apply it to more and more difficult materials until they are using the strategy fluently on materials that are written at their current grade level. Finally, they apply the strategy to materials used in their courses and outside of school (Schumaker et al., 2006).

Results from the study showed impressive gains for those receiving explicit instruction in reading strategies. Posttest results revealed that students in the mini-course, including those with learning disabilities, had gained an average of 3.4 grade levels in reading decoding skills. All of the experimental students had gained at least one grade level in decoding skills. Matched students in the comparison group made an average gain of .2 of a grade level over the course of the school year (Schumaker et al., 2006). The study went on to show that this learning can also result in significantly higher scores on standardized achievement tests (Schumaker et al., 2006).

Another reading intervention that has shown to be effective with adolescents is the Great Leaps Reading Program. The program involves lessons that last between 5 and 6 minutes. A study completed by Mercer et al. (2000) found this program to be successful for helping middle school students with learning disabilities improve their oral reading fluency performance.

The program includes instruction in phonics, sight phrases, and oral readings of passages. The phonics instruction lasts about 1–2 minutes and consists of teaching letter–
sound correspondences, sounds in isolation, consonant blends, consonant \( y \), \( h \), combinations, CV-VC, CCV, CCV-VCC, CCCV, CVC, C/CC vowel \( r \), CCVC, CVCC, VCC, and final \( e \) consonant vowel letter combinations (Joseph, 2008).

The intervention incorporates both phonics instruction and oral reading. It begins with the teacher presenting a page containing words with target sounds and modeling the sounds for the student. The student is then given one minute to read the words on the page. If more than two errors are made, the student reads the entire page again during the next session. However, the student is able to “leap” onto the next page if he or she is able to read the words on the page with fewer than two errors. Instruction on sight phrases involves asking the student to read as many phrases as possible in one minute. The instructor provides corrective feedback when errors are made. If the student did not read the entire page of phrases with fewer than two errors, he or she is required to read it again during the next session. The same procedure is applied during instruction in oral reading. The student is asked to read as much of a story as possible with fewer than two errors and at a rate no faster than a comfortable speaking rate. If the student is able to read the passage in one minute with fewer than two errors, he or she is able to leap to a more difficult passage during the next instructional session.

The Great Leaps Reading Program utilizes a student performance progress-monitoring component. Teachers chart student progress by recording the number of sounds or words read and the number of errors made during timed oral readings. The charts are shared with the student so accomplishments are recognized and areas of improvement are addressed by setting goals and checking progress (Joseph, 2008).
More research is becoming available regarding interventions for adolescent struggling readers; however, the research is still limited. In a current report it was stated that there are only approximately 24 empirical studies published in peer-reviewed journals in the last 20 years that address teaching basic reading skills to adolescents (Joseph & Schisler, in press). Most research has addressed the exploration of effective methods and strategies for helping primary and elementary pupils achieve reading skills (Moore, Bean, Birdyshaw, & Rycik, 1999).

One consistent aspect of most intervention-based studies is the incorporation of practice opportunities. For instance, repeated reading is one intervention that incorporates practice opportunities, but it has been mostly used with elementary students as a way to increase fluency (Downhower, 1987; Sindelar, Monda, & O’Shea, 1990). However, research is starting to show that adolescents can benefit greatly from timed-repeated reading lessons (Valleley & Shriver, 2003). The goal of this study is to add to the existing literature regarding the use of a repeated reading as an effective intervention with struggling adolescent readers.

**Repeated Reading**

Repeated reading is an intervention that has demonstrated positive results in the area of fluency for students who struggle with reading. The repeated reading intervention involves a student reading a specified text repeatedly and also provides students with the supports necessary to read increasingly challenging texts successfully (McKenna & Stahl, 2003).

A study completed by Valleley and Shriver (2003) investigated adolescent literacy and repeated readings. The study examined the effectiveness of repeated readings on
increasing four ninth grade students’ fluency on passages at their instructional level, and on generalization passages from their school curriculum. The study consisted of four males and each participant was identified as having a learning disability in reading. The participants engaged in repeated readings twenty minutes a day, three times a week, for ten weeks. The results of this study indicated that repeated readings was an effective intervention for increasing these participants’ fluency as compared to their own performance and that of a comparison group of average readers. Fluency gains were demonstrated with intervention materials from the fourth and fifth grade levels, which were their instructional reading levels, and on passages from the participants’ curriculum, which was on the 9th grade level (Valleley & Shriver, 2003).

Another recent study (2008) regarding repeated readings was completed in a public school district in central Pennsylvania. The purpose of the study was to ascertain if repeated reading and question generation have differential effects on reading fluency and comprehension (Therrien & Hughes, 2008). Specifically, the effects of repeated reading and question generation on the reading fluency and comprehension of students with reading disabilities were compared. To compare the effect of repeated reading and question generation on reading fluency and comprehension, 32 students between the ages of 9 and 13 with learning disabilities in reading, or who were at-risk for reading failure, were assigned randomly to repeated-reading or question- generation interventions. Students received instruction in their respective intervention over a two-week period for five consecutive days. The findings from this analysis indicate that repeated reading improved students’ reading fluency and comprehension. Specifically, students in the repeated reading condition dramatically improved their reading fluency on passages that
were reread. In an average of only 2.42 readings, students improved their reading speed to a level commensurate with students reading at the 50th percentile norm for their respective reading level (Therrien & Hughes, 2008).

A study completed by Strong, Wehby, Falk, and Lane (2004) examined the effect of a repeated reading intervention in conjunction with an empirically valid reading program on the reading fluency of junior high students identified with emotional or behavioral disturbances. In the study the teacher implemented the *Corrective Reading* curriculum on a class-wide basis. Next, a multiple baseline design across student groups was used to evaluate the impact of a repeated-reading intervention on various fluency measures. The first phase of the intervention involved the Corrective Reading program. Corrective Reading is a reading program based on the principles of Direct Instruction that provides instructional scripts for teachers to use when implementing the program. The second phase of the intervention was repeated reading. The purpose of this phase of the study was to investigate the additive effects of a repeated-reading intervention to the Corrective Reading intervention using a multiple baseline design across participants. The repeated reading treatment was composed of a series of passages the students read several times to improve their fluency in text. Data showed increased reading fluency following the implementation of the repeated reading intervention. Results of the study indicated that students experienced moderate growth in oral reading fluency during implementation of the CR program. For 4 of the 6 participants, the addition of the repeated-reading component resulted in an increase in oral reading rates both at their functional reading level and in age/grade leveled text (Strong et al., 2004).
Many adolescents attending public school today struggle with reading, and unfortunately for them, these struggles often times translate into problems that affect all areas of their lives. It is vital that continued research be directed towards helping older struggling readers close the achievement gap between themselves and their peers. The repeated-reading intervention has much promise as a simple but effective method for assisting adolescent learners in improving their reading skills. The purpose of this research project is to evaluate the effectiveness of repeated-reading interventions on the fluency of adolescent struggling readers and to extend the current literature available in regard to adolescent reading interventions.
CHAPTER 3
METHODS

Participants

Three adolescents with below-average reading skills from a middle school located in southern Ohio were recruited to participate in this study. These students were each identified as struggling readers. All of the participants were proficient speakers of English and lacked any severe emotional problems, uncorrected-vision problems, or speech and hearing impairments. A pool of students was referred by the school’s intervention specialist based on their instructional levels and availability. Additional consideration included the intervention specialist’s professional judgment on which students were most in need of intervention, based on results of measures such as reading assessments, grades, and classroom performance. From this pool of students, three names were drawn randomly.

To increase motivation to participate in the study, small incentives were offered. A list of desired incentives were created by the participant and school psychologist. Incentives included items such as candy bars, small restaurant gift certificates, and movie-rental gift certificates.

Written parental informed consent and student assent was requested and received from all participants involved. Confidentiality was addressed in the parental consent form (See Appendix C). All confidentiality procedures were followed. Data collected during
the intervention period were locked in a filing cabinet and the participants names were not written on any protocols or charts utilized throughout the study. All policies and procedures which ensured the participants were not be subjected to any harm were followed. Once completed, all data were stored in a locked filing cabinet and shredded following the completion of the research study.

**Procedures**

*Research design.* A multiple baseline across subjects single case design was used to complete the study. The multiple baseline design provides evidence of the intervention’s effectiveness for each student separately, due to the differing points of intervention implementation for each student.

*Dependent variables.* The study examined fluency measured by the number of words read correctly by each student in one minute. The students read passages on their instructional reading levels which were determined prior to beginning the intervention using the San Diego Quick Reading Assessment. During the timed, one-minute reading, the facilitator marked any incorrect words read by the student. Words were marked as incorrect if, after 3 seconds, the facilitator provided the word for the student, the word was mispronounced or omitted, or if a word was inserted. A word was counted as correct if it was pronounced correctly by the student with no prompting from the instructor.

*Independent variable.* A repeated-readings intervention was used as the independent variable for this study. The intervention was conducted three days per week for approximately 20 minutes per day for six weeks. The instructor and each participant met individually in an unutilized classroom during the students’ reading class or enrichment time. Approval was obtained from the language arts and enrichment teachers.
The instructional reading level of each student was determined using AIMS web passages and the San Diego Quick Assessment. Once the instructional reading levels were determined, baseline-data collection began. Baseline data points were collected and charted by the facilitator. Students 1, 2, and 3 each read different AIMSweb passages at their individual instructional levels and baseline data were provided from these readings. After gathering three baseline data points, Student 1 began the repeated-reading intervention. During the first week of Student 1’s intervention, the facilitator began collecting baseline data for Student 2. After two weeks of intervention with Student 1, Student 2 entered the intervention phase and followed the same procedures as Student 1. During this time, Student 3 continued in baseline collection for one additional week. Once Student 1 had been in the intervention phase for four weeks and Student 2 was in the intervention phase for two weeks, Student 3 entered the intervention phase.

One challenge with implementing reading interventions in middle and high schools can be finding sufficient reading material that is of high interest and yet is written at very basic grade levels for middle and high school students who are severely delayed readers (Joseph, 2008). In an effort to provide students with reading prompts that are relevant and of interest it may be necessary to utilize prompts that are somewhat above their instructional reading level. To address this potential challenge, a listening component, in which the facilitator read once prior to the student reading, was added to the intervention. Each intervention began with the facilitator reading the selected passage aloud while the student followed along silently. After the passage was previewed one time, the student then began reading aloud.
During Session 1, the student was presented with a new passage. The investigator read the passage aloud to preview it for the student. The student was then asked to read the passage aloud for 1 minute. (See Appendix A for the intervention integrity checklist) The investigator timed the reading with a stop watch and the number of words read correctly was recorded. To monitor student progress, the rate of reading (Oral Reading Fluency) was recorded at the beginning of each session.

Any mispronounced or unknown words encountered during the initial reading were recorded on an Error Log (See Appendix B). The error words were then discussed with the student. The investigator then instructed the student on topics such as how to pronounce and sound out the word, as well as the meaning of the words. The words were later printed on an index card and practiced at the end of the session. An error word was no longer practiced once the student could identify it without hesitation over three consecutive sessions.

In order to illustrate the student’s progress, all readings were timed to show the student’s growth. The facilitator also provided corrective feedback and specific praise for the student’s performance. Once the passage was read aloud by the student three times, the student practiced reading the error words from the index cards. Sessions 2 and 3 for each week progressed in the same manner.

**Data Analysis**

In order to evaluate the effectiveness of the intervention, data analysis includes the examination of graphed trend lines, the use of Goal Attainment Scaling (GAS), and the calculation of effect size (ES) the d-index and g-index. A trend line, which changes from low to increasing rates of improvement in the number of words read correctly per
minute, will be reflective of an effective intervention. However, trend lines which remain stable or demonstrate decreases in the number of words per minute read correctly after the implementation of the intervention will be reflective of an ineffective intervention.

Goal Attainment Scaling indicates effectiveness by utilizing a scale that goes from much worse than expected -2, to no change 0, to much improved over expectation +2. When calculating the effectiveness of an intervention using an effect size the guidelines typically stipulate that a d-index of +.80 or greater is considered large; +.50-.79 is considered moderate; and +.20-.49 is considered small. A negative g-index indicates deterioration in intervention effectiveness while a positive g-index indicates an improved outcome.
CHAPTER 4
RESULTS & DISCUSSION

Results

A Repeated Reading Intervention was implemented with 3 struggling adolescent readers who attend Minford Middle School in Southern Ohio. The three students were randomly selected from a pool of middle-school students compiled by one of the school’s intervention specialists. The students were each female, and 12 years of age. Parent consent and student assent was ensured prior to beginning the intervention.

The intervention began with finding the instructional reading level of Student 1 using the San Diego Quick Assessment of Reading Ability. According to this assessment, student 1’s instructional reading level was 3rd grade. Prior to implementation a baseline oral reading fluency score was determined to be 50 words correct per minute (wcpm). The Modified Repeated Reading Intervention was then implemented as previously described. Each week the first oral reading fluency score was charted as the data point for that specific week. Data points for Student 1 were as follows: February 1st – 55 wcpm, February 8th – 51 wcpm, February 15th – 56 wcpm, February 22nd – 60 wcpm, March 1st – 61 wcpm, March 8th – 62 wcpm.
Figure 1. Repeated Reading Graph Student 1. This figure illustrates student 1’s oral reading fluency growth.

When using a single case design outcome evaluation is a critical element in making decisions about whether to continue, modify, or replace an intervention (Hunley & McNamara, 2009). Data points from the intervention with Student 1 suggest the effectiveness of the intervention as indicated with an upward trend when graphed. Goal Attainment Scaling was also conducted to determine the effectiveness of the intervention and indicated a result improved over expectation. Effect size was also calculated and the g-index for student was .16 and the d-index was 2.88 which both demonstrate a positive intervention effect.

After Student 1 was in the intervention for 1 week the instructional reading level and oral reading fluency baseline score were determined for Student 2. Student 2’s instructional reading level was determined to be 4th grade. Her baseline oral reading fluency score was 99 words correct per minute. The Modified Repeated Reading Intervention was then implemented the following week as previously described. Each week the first oral reading fluency score was charted as the data point for that specific

Figure 2. Repeated Reading Graph Student 2. This figure illustrates student 2’s oral reading fluency growth.

To determine the effectiveness of the intervention with Student 2, data points from the intervention were examined. When graphed the data points move in an upward trend and suggest that the intervention was effective. Goal Attainment Scaling was also conducted to determine the effectiveness of the intervention and indicated a level slightly improved over expectation. The g-index was also determined and indicated an effect of .34 illustrating that the intervention was not deteriorating throughout the course of its implementation and the d-index was calculated at 3.5 also indicating a positive effect. After Student 1 was in the intervention for 4 weeks, and Student 2 was in the intervention for 2 weeks the instructional reading level and oral reading fluency baseline score was determined for Student 3. Student 3’s instructional reading level was also determined to
be 4th grade. Her baseline oral reading fluency score was 103 words correct per minute. The Modified Repeated Reading Intervention was then implemented the following week. Each week the first oral reading fluency score was again charted as the data point for that specific week. Data points for Student 3 were as follows: March 1st – 104 wcpm, March 8th – 108 wcpm, March 15th – 109 wcpm, March 22nd – 114 wcpm, March 29th – 115 wcpm, April 7th – 115 wcpm.

![Repeated Reading Graph](image)

Figure 3. Repeated Reading Graph Student 3. This figure illustrates student 3’s oral reading fluency growth.

The data points from the intervention were graphed and were shown to increase illustrating the effectiveness of the intervention. Goal Attainment Scaling was also conducted to determine the effectiveness of the intervention and indicated a level much improved over expectation A positive g-index was also determined for student 3 at .375 and d-index was calculated at 4.06 also indicating a large effect size.

**Discussion**
These results suggest that a Repeated Reading Intervention can be an effective way to increase reading fluency in adolescent struggling readers. There was an increase in reading fluency from 7 – 11 words per minute over a time period of six weeks. The students expressed feelings of pride in seeing their fluency scores increase after each reading and seemed to reinforce the fact that with repeated practice their reading ability could improve.

Although there were limitations, the research study was implemented with fidelity using a varying time schedule that enabled the psychologist to determine whether the introduction of the intervention truly influenced the change in behavior. The baseline data collection and implementation dates were selected beforehand and the schedule was followed as closely as possible. An integrity checklist was also developed and followed throughout the study.

**Limitations**

As with much research, there are potential limitations that could affect this studies reliability and validity. One possible limitation of the study could be the limited number of participants involved. Studying a larger population of middle school struggling readers would provide a more reliable indication of the effectiveness of the intervention. A second potential limitation is the length of time for which the intervention was conducted. A lengthier study would provide more data from which to analyze effectiveness. A final factor which could impact the effectiveness of the intervention is the fact that it is implemented in a one-to-one setting. In this setting, not only does the student get individualized attention, but the opportunity for a positive relationship with an adult occurs. It is widely recognized that relationships with caring adults are essential for youth.
to achieve their fullest potential. It is possible that the additional attention the students received, and the positive relationship developed with a caring adult, were also motivational in helping to improve the student’s reading fluency scores.

The information obtained in this study can be used by education professionals interested in improving reading outcomes for adolescent struggling readers. These professionals include, but are not limited to, teachers, school psychologists, curriculum coordinators, intervention specialists, and principals.

**Future Research**

Results of this study contribute to the existing literature regarding reading interventions for adolescent struggling readers. While extending the literature, it also proposes potential opportunities for future research. During the intervention it became evident that a confounding variable had potentially developed. Throughout the course of the research, a positive relationship between the at-risk readers and the school psychologist developed. It was evident that the readers looked forward to meeting for intervention and looked for opportunities to make contact with the school psychologist at different points throughout the school day. Further research regarding the development of positive adult-student relationships and how those improve outcomes for at-risk students and the effectiveness of academic interventions could extend, or add to, existing literature about how to best serve at-risk students.
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APPENDIX A

MODIFIED REPEATED READING INTERVENTION INTEGRITY CHECKLIST

First Session of Each Week:

_____ Student will read Grade Level Aimsweb probe and the Oral Reading Fluency score will be recorded.

Each Session:

_____ School Psychology Intern will read instructional level passage to student to fulfill Listening Passage Preview component of the intervention.

_____ The student will then read passage for one-minute.

_____ The investigator will follow along as the student reads and underline any mispronounced words.

_____ After the timed reading has been completed the investigator will share with the student how many words were read correctly and the student will chart the number on a graph.

_____ The investigator will then review mispronounced words with the student and an error log will be created.

_____ The student will then read the passage for a second time. Again the reading will be timed for one-minute.

_____ The investigator will again follow along as the student reads and underline any mispronounced words.

_____ After the timed reading has been completed the investigator will share with the student how many words were read correctly and the student will chart the number on a graph.

_____ The investigator will review any words that were mispronounced and add them to the error log if needed.

_____ The student will then read the passage for a third time. Again the reading will be timed for one-minute.

_____ The investigator will again follow along as the student reads and underline any mispronounced words.
After the timed reading has been completed the investigator will share with the student how many words were read correctly and the student will chart the number on a graph.

The remainder of the session will be spent reviewing the errors. When a student has correctly pronounced the word on 3 consecutive sessions the word will be removed from the log.
APPENDIX B

MODIFIED REPEATED READING INTERVENTION ERROR LOG

Date: _______________

1. ________________________________
2. ________________________________
3. ________________________________
4. ________________________________
5. ________________________________
6. ________________________________
7. ________________________________
8. ________________________________
9. ________________________________
10. ________________________________
APPENDIX C

LETTER OF INFORMED CONSENT

Dear Parent:

You are being asked to allow your child, ________________________________, to participate in a research study. The purpose of this study is to evaluate the effectiveness of a modified repeated reading intervention on the reading fluency skills of adolescent struggling readers.

As a participant in this study, your child will be asked to participate in a one-on-one reading intervention session for 20 minutes per day, 3 times per week.

All of your child’s information will remain anonymous and confidential.

There are no foreseeable risks or discomforts associated with this study. The benefits of this study are that your child’s reading fluency skills may improve.

Your participation is voluntary. You can choose not to participate without penalty. Should you choose to participate I will contact you to inform you of when the research will begin. You can discontinue your participation at any time.

Questions about the rights of the participant should be addressed to Jon Nieberding, Chair of the Institutional Review Board for the Protection of Human Subjects In Research, 300 College Park, University of Dayton, Dayton, OH 45469-1430. Specific questions about the study should be address to Dr. Sawyer Hunley, Associate Professor, Chaminade Hall Room 301, University of Dayton, Dayton, OH 45469-1430.

Sincerely,

Carolyn R.Kyne

I have read this letter and I consent to allow my child to participate in this research study.

Participant’s Signature: _________________________________ Date: ___________
APPENDIX D

LETTER OF STUDENT ASSENT:

Dear Student:

You are being asked to participate in a research study. The purpose of this study is to evaluate the effectiveness of a modified repeated reading intervention on the reading fluency skills of adolescent struggling readers.

As a participant in this study, you will be asked to participate in a one-on-one reading intervention session for 20 minutes per day, 3 times per week.

All of your information will remain anonymous and confidential.

There are no foreseeable risks or discomforts associated with this study. The benefits of this study are that your reading fluency skills may improve.

Your participation is voluntary. You can choose not to participate without penalty. Should you choose to participate I will contact you to inform you of when the research will begin. You can discontinue your participation at any time.

Thank you for your help.

Sincerely,

Carolyn R. Kyne

I have read this letter and I agree to participate in this research study.

Participant’s Signature: _________________________________ Date: ___________

Script for research discussion with students:

If you’re willing to, I would like to give you the opportunity to participate in a research study that is focused on helping adolescents or teens improve their reading skills. A lot of research is done all of the time that is aimed at helping students improve their reading ability. A lot of this research is aimed at helping younger students, but older students still need help with reading also, which is why I chose to do a research study designed to help older readers.

If you would like to participate we will work together for about 20 minutes per day, three times per week and we will basically be practicing reading. It will be one-on-one and all of your results will be confidential. It is totally up to you if you want to participate and if you don’t want to you can say no and I won’t be mad at you and it won’t hurt your grade or anything. You can also stop at any time during the intervention if you don’t want to continue.

Do you think it sounds like something you would be interested in doing?
APPENDIX E

LETTER OF APPROVAL BY BUILDING PRINCIPAL

To Whom It May Concern:

I have been informed about the proposed research project regarding adolescent struggling readers and approve the implementation and collection of data in the Minford Local School District.

Signature: __Sommer Picklesimer (Signature on Hard Copy)__

Title: __Assistant Principal, Minford Middle School__

Date: __4/1/2009________________________