

**Improving Reading Fluency and Comprehension Among Elementary Students:**

**Evaluation of a School Remedial Reading Program**

Robin Hausheer, Alana Hansen, and Diana M. Dumas

Boise State University

### **Abstract**

This study examined the effectiveness of a remedial reading program on improving reading fluency and comprehension among elementary school students. Twenty-four students were selected to participate in an eight-month program. Results indicated reading fluency and reading comprehension scores improved significantly across the academic year for both male and female students. Examination of gender differences indicated significantly more males were referred to the program than females. Additionally, examination of the between group effect size indicated reading comprehension scores improved more for males than females. Implications for school counselors are discussed.

## **Improving Reading Fluency and Comprehension Among Elementary Students: Evaluation of a School Remedial Reading Program**

The future success of children lies in the ability to read fluently and understand what is read. Studies show that at least one out of five students has significant difficulty in reading acquisition (Therrien, 2004). Providing remedial reading programs is imperative to improve both reading fluency and reading comprehension, particularly to elementary school students because fluency and comprehension are particularly important at this stage of development and early intervention can impact the progression of reading difficulties. Additionally, research indicates the risk for difficulties in reading comprehension is higher for males than females (Linnakyla, Malin, & Taube, 2004), suggesting the importance of ensuring the availability of remedial reading programs for male students.

In addition to supporting students' reading skills, it is also important to provide evidence for the efficacy of these programs. Because it is not uncommon for school counselors to be asked to assist with administrative duties, rather than provide counseling programs to promote student success, establishing evidence-based programs will support the continuation of these activities for school counselors. Further, as resources for education decline, it becomes increasingly important for school counselors to be able to demonstrate the impact of their programs on student success by providing evidence from program evaluations to support programs.

The purpose of this study is to examine the efficacy of a remedial reading program designed to improve reading fluency and comprehension skills among elementary school students. Gender differences in program referral and program

outcomes will also be examined. Results of this study will add to the literature on evidence-based school programs and support the importance of providing school counseling programs.

### **Literature Review**

Reading literacy is defined as “understanding, using, and reflecting on written texts, in order to achieve one’s goals, to develop one’s knowledge and potential, and to participate in society” (Therrien, 2004). According to Therrien, in order to achieve literacy there are five important skills one must learn: phonemic awareness, phonics, vocabulary instruction, text comprehension strategies, and reading fluency. A review of the literature has shown that literacy is not simply a basic skill but rather a goal and a functional means in education and individual development, both within and outside school, today and later in life, in further education, at work and in leisure activities. Reading literacy is not only a foundation for basic learning, but also a prerequisite for successful participation in most areas of youth or adult life (Linnakyla et al., 2004).

Research indicates at least one out of five students has significant difficulty in reading acquisition (Therrien, 2004). Although reading fluency and comprehension are important skills to acquire, as they are essential skills for success both in school and later in life, many children do not acquire the necessary skills for achieving proficiency. According to a recent study, 40% of fourth graders do not have skills and knowledge to adequately perform the necessary grade level work (Bursuck et al., 2004). Similarly, Calhoon (2005) found 59% of fourth grade students are performing below a basic literacy level on standardized reading tests. In addition, as children age, data shows proficiency levels are still a concern. Thirty-one percent of boys and 21% of girls in

eighth grade did not reach a basic literacy level when given a standardized test (Calhoon, 2005).

Problems with reading tend to begin at the onset of reading instruction, persist, and become more severe with the passage of time (Graney, 2000). Furthermore, most schools do not detect fluency or comprehension difficulties until the second or third grade (McCardle, Scarborough, & Catts, 2001) because the reading skills focused on until the fourth grade are phonemic, and not based on fluency and comprehension. As students reach high school age, research shows fluency does not increase, although comprehension does improve (Calhoon, 2005). Research also indicates gender differences in the risk for difficulties in reading comprehension with male students experiencing more difficulty than female students (Linnakyla et al., 2004).

To increase the reading fluency and comprehension of students who encounter such problems, various strategies, such as assisted reading, reading while listening, and paired reading have been implemented. Research addressing the effectiveness of these strategies implemented individually, however, shows mixed results. In contrast, programs incorporating the three previously mentioned strategies into one technique increase reading fluency and comprehension (Therrien, 2004). Additional factors that help improve reading skills include: appropriate grouping practices, instructional strategy, extended practice opportunities with feedback, and breaking down tasks into smaller components (Calhoon, 2005). The findings show all factors are associated with substantial improvements in reading.

In addition to the aforementioned, successful instructional strategies contribute to the improvement of reading skills. These strategies consist of the following components:

(a) small, interactive group instruction, (b) direct questioning and responses, (c) breaking tasks into smaller component parts, (d) designating extended periods of time focusing on reading, and (e) receiving feedback. Each component allows students to receive more personalized and individual attention, increasing productivity (Calhoon, 2005).

The remedial reading is a supplemental reading program that consists of re-reading unfamiliar text until a satisfactory level of fluency is reached. Remedial reading is a strategy that implements assisted reading, reading while listening, and paired reading. The approach implements the factors and instructional strategies mentioned above. Literature has shown that remedial reading is an evidenced-based strategy designed to increase reading fluency and comprehension (Therrien, 2004). It has also indicated in order to achieve comprehension, students should read the provided material three to four times, but reading the passage more than four times does not increase comprehension (Therrien, 2004).

The remedial reading strategy is likely successful because it incorporates feedback from the instructor to the student reader. According to Crowe (2005), studies show feedback given during oral reading improves children's word accuracy, reading comprehension and fluency. Intervention programs involving comprehension-building skills, like remedial reading, strengthen vocabulary (McCardle et al., 2001). This method of practice increases language skills and builds general knowledge setting a foundation for basic life skills.

## The Present Study

In addition to the importance of proving remedial reading programs to support students' reading skills, it is also important to provide data to indicate that these programs are effective. Because school counselors are asked to demonstrate the importance of their programs, providing evidence demonstrating programs are effective is imperative. Providing documentation of an increase in reading fluency and comprehension for students participating in reading programs will support continuation of these activities for schools in a time when schools are being asked to provide data about the effectiveness of programs, including school counselor programs.

The aim of this study is to evaluate the effectiveness of a remedial reading program in improving reading fluency and comprehension for elementary school students. The age groups for the study (fourth through sixth grade) were chosen based on the following two reasons: 1) the importance of fluency and comprehension at this stage of their academic development and 2) early intervention can stop the progression of reading difficulties.

The study was conducted over an eight-month period. Therrien (2004) determined the impact of remedial reading on students' reading achievement requires conducting studies of longer duration (more than 6 months). Our allotted time addressed Therrien's concern for prolonged studies. Additionally, we examined gender differences in reading comprehension and fluency, as research indicates that the risk for difficulties in reading comprehension is higher for males than females (Linnakyla et al., 2004).

The following hypotheses were examined. First, it was hypothesized that a remedial reading program would increase reading fluency and reading comprehension over the eight-month period. Second, we hypothesized that males would be overrepresented in the remedial reading program. Finally, we examined gender differences in changes in reading fluency and reading comprehension.

## **Method**

### **Participants**

Twenty-four students (18 males; 6 females) were selected from the fourth ( $n = 9$ ), fifth ( $n = 6$ ), and sixth grade ( $n = 9$ ). The majority of the students were Caucasian (70.8%), with 25% Hispanic, and 4.2% African-American. Selection was based on scores from both the Gates-MacGinitie and Curriculum Based Measurement (CBM) tests. Measures of reading fluency and comprehension were administered in the fall and spring to students in the fourth, fifth, sixth grades. Those who qualified had the lowest fluency and comprehension skills. Students who were on an Individual Education Plan (IEP) but needed decoding and phonemic awareness skills were not selected because their needs were better served through Special Education reading programs.

### **Program**

The program used in this study, Read Right (Tadlock, 2004), is a copyrighted, commercially available program. The theory of Read Right is one of constructivist, that is, meaning will be constructed through learning to predict context of the literature being read. Read Right “assumes that the purpose of reading is to construct meaning and that learning to read is an implicit, rather than an explicit, process” (Scott, Nelsestuen, Autio, Deussen, & Hanita, 2010, p. i). Reading is learned through hearing fluently read text

and then practicing by reading orally.

Twenty years of testing and research conducted by the developer of Read Right examined the neurological synapses of the brain when learning (Tadlock, 2004). Students involved in the remedial reading program work on skill building in the areas of fluency and comprehension by retraining neural pathways of the brain through repetition.

Four components are used in this remedial reading program's strategy. They include (1) excellent reading component, (2) coached reading component, (3) independent reading component, and (4) critical thinking component. Further details of the program are described in Tadlock (2004).

### **Procedures**

The procedures used in this study were based on procedures used by Scott and colleagues (2010). The methodology and implementation practices used in this remedial reading program that was researched followed the program design formulated by Read Right Systems.

Students were assigned to a group based on their grade level and individual reading level. Each group of grade level students attended the reading program during the same 40-minute block of time each day, five days a week. Once in the program, students were assigned to a certified instructor, each of who had no less than two years of intense training, based on the students' reading abilities. Interaction with peers with similar reading problems allowed a sense of normalcy in students' own struggles. In addition, students were exposed to instructors who served the role of a mentor.

Students were organized in small groups with a no more than five students per instructor. During the 40-minute sessions, students were coached individually and as a group with one day dedicated to the critical thinking component. During the daily practice time, instructors monitored students' oral reading, provided feedback that directed prediction in reading, monitored behavior, and assessed developmental fluency and comprehension skills. Instructors used a specific manual that includes a manuscript of verbatim feedback that helps guide students. The instructor, in a manner that promoted success over failure, encouraged each student; students learned and developed skills at their own pace in order to maintain a positive momentum without discouragement.

The remedial reading program selected literature divided according to reading level. There were six reading levels based on complexity of text and content. During the coached reading component students below a fourth-grade reading level were read a passage by the instructor several times as students follow along. The more advanced levels involved students listening to a recording of the story while reading each passage silently. When ready to read orally, feeling like they could achieve mastery, students indicated they were ready to read aloud to the instructor.

After successful oral reading of a paragraph, students were asked to summarize the content of the reading. This determines the student's comprehension of the text. Students judged whether their reading was excellent, assisted by the expertise of the instructor. If the passage was deemed an excellent read, the student progressed to the next passage. Each student, upon entrance into the program, was placed in the appropriate reading level according to skills. As the student progressed, he or she was

monitored and assessed by the instructor. Students advanced to the next reading level when excellent reading was achieved in no more than three cycles. After careful evaluation, it was determined whether or not to advance the student to the next appropriate reading level. Determination was based on the number of symptoms that no longer persisted when reading orally. Excellence was determined through the elimination of symptoms such as deviations in text and instead maintaining a tone, flow and pace that is natural and comfortable much like what one experiences when speaking.

Once a week students participated in a critical thinking component to develop necessary skills in determining how to predict and comprehend literature. During the critical thinking component, students independently and silently read a passage and answered questions. As a group, the students discussed their reasoning for choosing the answers they did. The critical thinking process allows students to discover individual thinking errors leading to answers that are correct through prediction and rationale.

The remedial reading library consisted of a wide variety of books students were able to choose from for independent practice. Students choose books within their appropriate reading level while instructors keep track of time spent reading independently through student reports. Students were encouraged to read independently outside of class time and if ever there is wait-time for students during the critical thinking component.

## **Instruments**

**Reading fluency.** Curriculum-based measurement (CBM) was used to assess learning of each individual student reflecting independent work and behavior habits

(Espin, Busch, & Shin, 2001). The CBM is routinely given in fourth, fifth, and sixth grade in the fall and spring in the study school district. Students earn scores based on how many words they can read correctly from a passage of grade level text during three one-minute timed readings. The median score from the three passages is the score recorded for the student by the test administrator. Research indicates vocabulary-matching pre-test and both knowledge pre- and post-tests show validity coefficients of moderately strong to strong (Espin et al., 2001).

**Reading comprehension.** The Gates-MacGinitie (MacGinitie, MacGinitie Katherine & Dreyer, 2004) was administered to measure reading comprehension. The Gates-MacGinitie is a 35-minute timed test with 48 items. The Gates-MacGinitie has good internal consistency,  $\alpha > .90$ , content validity, and construction validity supported by strong intercorrelations between subtests and their respective total test scores (MacGinitie et al., 2004).

## Results

Means and standard deviations for fall, spring, and change scores on the Gates-MacGinitie and CBM are presented in Table 1.

**Table 1**

*Means and Standard Deviation for Reading Fluency and Comprehension by Gender and Semester*

	Male Students	Female Students	Total Sample
Reading Fluency			
Fall Semester	82.28 (32.91)	86.83 (37.75)	83.42 (33.38)
Spring Semester	113.83 (30.17)	112.33 (34.49)	113.46 (30.53)
Reading Comprehension			
Fall Semester	3.20 (1.09)	3.43 (1.60)	3.26 (1.20)
Spring Semester	4.82 (1.36)	4.08 (1.20)	4.64 (1.34)

Our first hypothesis was that scores on reading fluency and reading comprehension would improve from the fall to spring semester. Results of two paired samples t-tests supported our hypothesis indicating significant improving on fall to spring scores on reading fluency,  $t(23) = 12.48, p < .001, d = .94$ , and reading comprehension,  $t(23) = 5.49, p < .001, d = 1.08$ .

Our next hypothesis was that males would be overrepresented in the remedial reading program. Results of a chi square goodness-of-fit test supported this hypothesis indicating there were significantly more males ( $n = 18$ ) than females ( $n = 6$ ) in the program,  $\chi^2(1, N = 24) = 6.00, p < .02$ . Next, two analyses of covariance (ANCOVAs) were conducted to examine differences in improvement for reading fluency and reading comprehension. For both analyses we examined the spring score gender differences with the fall score entered as a covariate. Results indicated no significant main effect for gender on either reading fluency,  $F(1, 21) = 1.09, p = .31, \text{partial } \eta^2 = .05$ , or reading comprehension,  $F(1, 21) = 2.84, p = .11, \text{partial } \eta^2 = .12$ . Although results were not statistically significant at the  $p < .05$  level, the medium effect size for reading comprehension ( $\text{partial } \eta^2 = .12$ ) suggests male scores improved more than females scores.

## Discussion

The purpose of this study was to examine the efficacy of a remedial reading program designed to improve reading fluency and comprehension skills in male and female elementary school students. Providing evidence for the effectiveness of programs has become increasingly important. Thus, evaluating these programs and providing evidence for their effectiveness has become essential. The study provides

both a model for program evaluation and results that support remedial reading programs.

As predicted, reading fluency and reading comprehension scores increased among the students who participated in the reading program. These results are consistent with research indicating remedial reading is an evidenced-based strategy designed to increase reading fluency and comprehension (Therrien, 2004). Additionally, the remedial reading program used in the current study included elements previously identified important for success, including inclusion of appropriate grouping practices, instructional strategies, extended practice opportunities with feedback, and breaking down tasks in smaller components (Calhoon, 2005; Therrien, 2004). Further, the procedure used in this study was consistent with research regarding the appropriate grade level to begin intervening to assist with problems surrounding reading fluency and comprehension. As noted earlier, most schools do not detect fluency or comprehension difficulties until the second or third grade (McCardle et al., 2001), because the reading skills focused on until the fourth grade is phonemic, and not based on fluency and comprehension. Research shows it is better to begin a reading program such as the one evaluated in this study at the fourth grade level.

Linnakyla et al. (2004) indicated the risk for difficulties in reading comprehension is higher for males than females. Findings from our program are consistent with this research, as significantly more males than females qualified for participation in the remedial reading program. Although not statistically significant, we did find some evidence that male students made further gains than female students. Specifically, results indicated a medium effect size for gender indicating that male scores on reading

comprehension improved more than female scores. This particularly important research indicates reading comprehension is the area in which males experience more difficulty than females (Linnakyla et al.).

### **Limitations and Suggestions for Future Research**

Although this study provides support for a remedial reading program for improving reading fluency and comprehension for elementary school students, there are several limitations that should be taken into consideration when interpreting the findings. The most significant limitation of the study design is the lack of a control group. Without a control group it is unclear if the remedial reading program solely contributed to the improvement in reading fluency and comprehension or if fluency and comprehension naturally increase over the academic year due to developmental maturation occurring during this time frame. Additionally, because of the small sample size of this study, findings may not generalize to the larger population. Further, the ethnic make-up of the students qualified to participate in the program were primarily Caucasian, also limiting the generalizability of the results. The small sample size also reduced statistical power. Differences between male and females may have been statistically significant had the sample size been large enough to provide the statistical power needed to detect significance of these results. This is particularly true for gender differences in reading comprehension for which the analysis was not statistically significant although the effect size was in the medium range.

Directions for future research in the area of measuring the effectiveness of remedial reading programs include randomized controlled study in which selected students are randomly assigned to the remedial reading group and to a control group.

Ethical issues related to withholding the reading program to students in need, however, may make a randomized controlled design difficult to implement. Additionally, future research should include other outcome measures such as self-esteem, as it is likely such programs not only increase academic functioning, but emotional development as well. Finally, following students for more than eight months would provide information on the long-term effects of the program on both academic and social-emotional development.

### **Implications for Professional School Counselors**

Often concerns arise regarding a child's ability to stay focused and on task in an educational environment. Based on the research it may benefit a child to experience learning using all three types of learning styles: auditory, visual and kinesthetic stimulation. The remedial reading program uses all three styles of learning. It allows students the opportunity to visually experience the reading material by having students practice correct reading to retrain the brain's neurological pathways. They are able to hear excellent reading, gaining an understanding of what excellent reading feels like. Finally, students are kinesthetically stimulated because they are either following along with the instructor as he or she reads aloud or students manipulate the recorded audio device on their own. School counselors teaching classroom guidance lessons can engage more students in different ways using multiple learning styles (visual, auditory, kinesthetic) because each student is being stimulated in at least one style.

Small group interaction produced more significant gains by students. Each student not only received more individual attention from the instructor, but also was able to build a bond with the instructor in a smaller, less threatening environment. Students

were exposed to other students who have similar challenges and thus, over time, may feel more at ease to work toward improving their reading fluency and comprehension. This shows the importance of creating small counseling groups for students with similar concerns, allowing them to create bonds and discuss their concerns in a safe, non-intrusive environment during the school day under the direction of the school counselor. This adult-student bond could also be carried over into developing a school-based mentor program.

### **Conclusions**

Results of this study contribute to the literature by providing evidence for the effectiveness of a remedial reading program in improving both reading fluency and comprehension in elementary school students. These findings support the importance of programs for males and females in fourth, fifth and sixth grade provided to assist students academically.

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## **Biographical Statements**

Robin Hausheer, LPC is a school counselor with the Boise School District in Boise, Idaho. Areas of interest include implementing and overseeing school counselor-based programs that integrate students into the academic setting. Robin implements and manages school programs that run before, during and after school for students. She works closely with families to provide support while utilizing resources within the community. Correspondence concerning this article should be addressed to Robin Hausheer, 3722 Anderson Street, Boise, ID 83703. Phone: 208/854-6189. Email: robin87@q.com

Alana Hansen, LPC, NCC is the lead counselor at Saint Alphonsus Behavioral Health inpatient services, in Boise, Idaho. Alana specializes in crisis intervention and group therapy. Alana also works closely with families to promote healthy communication, identify support and develop follow-up plans as they struggle to cope with recent crisis and trauma within the family system.

Diana M. Dumas, Ph.D., LPC, LP is a Professor of Counselor Education at Boise State University, Boise, ID. Dr. Dumas' school counseling interests include education and training, program evaluation, interpersonal and family relationships, and evidence-based practices.