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Increasing Reading Fluency through Student-Directed Repeated Reading and Feedback

Leesa V. Huang
California State University, Chico

R. Brett Nelson
California State University, San Bernardino

Diana Nelson
Riverside Unified School District

In order to increase reading fluency, a research-based tutoring method using repeated reading was implemented over a 10-week period with two second-grade students. Two high school students were trained to be the tutors. In addition, one parent and one older sibling were trained to repeat the tutoring process at night. Treatment integrity was monitored through observation and tutor contact. The six, 30-minute sessions per week were associated with significant increases in sight word vocabulary, fluency and comprehension. Limitations, future research directions, and implications for practice are discussed further.

KEYWORDS: Reading fluency, Intervention, Tutoring, Repeated reading, Elementary students, High school students

Reading is an essential component of education which has been linked to an individual's overall achievement and success over the lifetime. With more than half of all school-aged children in the United States reading below grade level, a national emergency has been declared to promote reading skills (Scholastic, 2006). Additionally, it is estimated that over 75% of all referrals for special education assessment are related to poor reading skills (Kavale & Forness, 2000). It is no wonder that reading is the focal point for both No Child Left Behind (NCLB) and the re-authorization of Individuals with Disabilities Education Act (IDEA).

The 2004 re-authorization of IDEA builds off of the major principles of NCLB. Moreover, the Individuals with Disabilities Education Improvement Act (IDEIA) of 2004 supports a response by students to proactive, research-based interventions, which is referred to as the Response to Intervention or RtI model (Lichtenstein & Klotz, 2007; Jimerson, Burns, & VanDerHeyden, 2007). This suggests providing intervention services for all children at an early age before they continue to experience frustration and failure as well as reducing the unnecessary labeling and misdiagnosis of students as learning disabled. Despite the promising shift in theoretical thinking, the logistics of the RtI model have yet to be fully conceptualized and operationalized, leaving many unanswered questions relative to the effective implementation of RtI treatments, such as: 1) Who will implement the intervention? 2) Where will it take place? 3) What method will work the best for whom? 4) How long do we implement the intervention? In an attempt to develop best practices for the RtI

Send correspondence to: Leesa V. Huang, Pupil Personnel Services Program, Department of Psychology, California State University, Chico, Chico, CA 95929-0234, Lvhuang@csuchico.edu

model for improving reading fluency, this paper (a) defines the concept of fluency, (b) discusses the most widely used strategies for enhancing fluency skills, as well as the challenges encountered while upholding treatment integrity and acceptability for fluency interventions, (c) describes an intervention implemented over a 10-week period, and (d) reports the student outcomes associated with the reading intervention.

In the report completed by National Reading Panel (National Institute of Child Health and Human Development, 2000), five subcomponents of reading were identified: phonemic awareness, phonics, fluency, vocabulary, and comprehension. Table 1 provides a brief description of each of these five reading subcomponents. The panel deemed that of these five dimensions, fluency was the area least understood and most often neglected in comprehensive literacy programs (Kame'enui & Simmons, 2001). Fluency is defined as "the ability to read connected text rapidly, smoothly, effortlessly, and automatically with little conscious attention to the mechanics of reading, such as decoding" (Meyer & Felton, 1999, p. 284). Though efficient and accurate word decoding and recognition are important components of fluency, comprehension is the ultimate objective of reading. Comprehension therefore is linked to fluency through prosody, which is commonly known as "reading with feeling" or incorporating the various aspects of oral expression (Rasinski, Blachowicz, & Lems, 2006). Fluent readers are able to read text fluidly with proper expression and actively make sense of, or construct meaning from, the text.

TABLE 1

Reading Subcomponents as Identified and Defined by the National Reading Panel

Reading Subcomponents	Description
Phonemic Awareness	The manipulation of individual sounds in words
Phonics	A system of relationships between letters and sounds
Fluency	Reading words in a smooth, accurate, and expressive manner
Vocabulary	Words that are recognized in print
Comprehension	The level of understanding after reading a passage or text

Conversely, non-fluent readers stumble through text word by word and read unexpressively, with little meaningful comprehension occurring. While the average student reads approximately six-to-eight minutes per day, it is estimated that poor readers engage in even less reading time (Goodlad, 1984; Strzepek, Newton, & Walker, 2000; Trelease, 2006). As a result, these students may experience what Stanovich (1986) called the "Matthew Effects," after the biblical story where the "rich get richer and [the] poor get poorer" (p. 360). That is, as non-fluent readers avoid reading entirely, they exhibit deterioration in skills and a widening of the knowledge gap with their peers.

Fluency is considered to be a critical component in overall reading achievement as determined by the National Reading Panel (2000) and two main categories in reading fluency improvement strategies have been identified from the literature. Academic teaching strategies attempt to increase time spent on reading through repeated reading techniques and the provision of feedback during guided reading time (Welsch, 2007). Instructional planning involves matching the levels of teaching materials (both content and vocabulary) and reading ability of the student (Welsch, 2007). According to Welsch, the selection of the most efficacious strategy is driven by the reading needs of the referring student.

With the increasing demands on reading standards and accountability, an emphasis on home-school collaboration encourages professionals to integrate parental involvement in the schools (Esler, Godber, & Christenson, 2004; Sheridan, Napolitano, & Swearer, 2004). Parent involvement assists students in increasing the amount of time reading, being exposed to reading materials, presenting more opportunities for repetition and learning, and finally, providing more chances for success. The presence of parent involvement with literacy skills has received positive empirical support (Baker, 2003; Grande, 2004; Kelly-Vance & Schreck, 2002).

Tutoring with students showing academic delays has been suggested as an important tool in remediating academic deficiencies, especially reading (Vaughn, Linan-Thompson, & Hickman, 2003). However, the implementation of a successful reading tutoring program is not without challenges, and not all programs have been successful. Powell-Smith, Shinn, Stoner and Good (2000) implemented two parent tutoring programs over a 15-week period. Although some individual students made slight reading gains, few significant effects were found.

Whereas many reading tutoring programs exist in the elementary school setting, what is most commonly missing is a consistent method that tutors can follow, whether the tutor is a parent, older student, college student or adult volunteer. Consequently, most tutoring sessions are minimally effective, at best, because there is no systematic method to examine whether the intervention is implemented as designed in order to provide guidance or feedback (e.g., intervention fidelity or treatment integrity). Moreover, without repeated assessment of targeted skills, it is impossible to determine if the treatment was responsible for any gains made (Gresham, 1989). In addition to treatment integrity, another important issue is treatment acceptability, which states that if the intervention is cumbersome or not easily followed, it is unlikely to be used continuously (Elliott, 1988; Telzrow & Beebe, 2004).

The purpose of this study is to combine multiple effective practices into a simple and systematic reading fluency instructional program. Each of the crucial elements that have been identified by Welsch (2007) was included in this study. Due to the dynamic nature of reading fluency, all of these components have been included, modified and integrated into a step-by-step approach for tutoring non-fluent readers in an effort to meet their heterogeneous needs. Repeated oral reading with feedback has been found to be one of the most effective ways to improve reading fluency in poor and good readers alike (Chard, Vaughn, & Tyler, 2002). Additionally, this program accommodates the need for the six-to-seven repeated readings to occur for automaticity to take place through numerous sessions within the home-school collaborative partnership (Resetar, Noell, & Pellegri, 2006).

METHOD

The present study involved a total of four students in a K-12 charter school in northern Colorado. The two second grade subjects were referred for reading difficulties and were chosen because they failed to respond appropriately to the regular classroom program (Tier 1 intervention). Also, these two students demonstrated basic decoding ability such that decoding and phonemic associations would not have to be the focus of the tutoring sessions.

Intervention

Each student was paired with one high school student who volunteered to be a reading tutor as part of community service requirements for graduation. The intervention was implemented over a 10-week period in the spring of the school year. The two high school reading tutors in addition to the parent of one student and the older sibling of the other student were trained by the first author to repeat the tutoring process verbatim in the afternoon or evening so that the student would have at least six opportunities for repeated readings. Student and family tutors were given explicit instructions for the three sessions per week including modeling, feedback, rehearsal, comprehension checks and communication with each other.

Measures

The initial reading level for both subjects was established by using a pre-test with the Flynt-Cooter Reading Inventory (1993), a commonly used criterion-reference test by elementary teachers to determine levels and progress. Words correct per minute (WCPM) were calculated from established passages prescribed by the Colorado Department of Education for monitoring student progress using standard curriculum-based assessment (CBA) practices. The most common 100 high frequency words per grade level were also used as a measure of progress.

Procedures

The repeated reading intervention, as indicated, was taught to both high school students as well as the parent and older sibling tutors by the first researcher through demonstration using actual materials supplied by the classroom teacher. Books used instructionally were provided by the tutees' teachers based on their knowledge of student interest and reading level, and were literature-based so that students felt they were reading consistently with other students. Titles included *If You Give a Mouse a Cookie, Toad and Frog are Friends*, and *Amelia Bedelia*. The individual lessons began with the student tutors writing down the book title and page numbers. The student tutor modeled appropriate fluency for the tutee by reading three-five pages. The tutee then read the exact same passage with prompting from the tutor. Prompting included encouraging the use of strategies to identify words, and giving the student the word read correctly if the tutee read the word for appearance incorrectly. The tutor wrote down the missed words on the paper for review after the first reading. If more than 10 words were missed, the passage was deemed too difficult and another book was identified in consultation with the teacher. After the first reading by the tutee, the missed words were gone over in various random orders until the tutor felt the tutee had memorized the words. The tutee then read the passage a second time, with the process being repeated and the tutor noting missed words for a second time. After going over the missed list the second time, the tutor asked five comprehension questions that he/she had written during the three repeated readings. If the student answered less than three correctly, the passage was again deemed too difficult and a new book was found. After the session, the tutor made a copy of the worksheet to send home with the student, as well as the book, for the same process to occur at home, including the same questions. The tutors at home constructed their own missed words lists.

Treatment integrity

Treatment integrity was examined by having all tutors demonstrate actual tutoring, and subsequent check-ins and observations with corrective feedback at two later times during the 10-week period, with 91% agreement between observers and intervention guidelines noted in the Table 2 checklist. It is important to note that, as with most academic intervention programs, the intervention was an additional academic program, as an established reading protocol existed in the classroom.

RESULTS

Changes over a 10-week period (Table 3) were all in a positive direction. Both students made significant increases in terms of WCPM (combined = 16.5, ES = .74). However, even though the effect size was of a significant magnitude according to Cohen, it has been suggested elsewhere (Vaughan et al., 2003) that average readers gain two words a minute per week. These results fall somewhat short of that mark. However, both students were not average or normal readers.

TABLE 2

Instructional Method Checklist for Treatment Integrity

1. Tutor at school writes down title of book and date, as well as pages and passages.
2. Student tutor/parent tutor reads 3-5 pages for tutee for modeling purpose.
3. Tutee reads out loud the same passages/pages. Tutor helps tutee make out any difficult words and corrects incorrectly read words, noting them on data sheet.
4. After first reading, tutor and tutee go over incorrectly read words, randomly mixing up words until tutee correctly identifies them.
5. Tutee reads exact same passage again, with tutor again indicating incorrect words and noting them, helping tutee correct them.
6. The tutor writes down 5 comprehension questions to ask after 3rd reading, or second by tutee.
7. The tutor goes over any missed words the second time.
8. The tutor asks 5 questions, indicating comprehension with a plus. At least 3 of 5 must be answered correctly, or the passage is too difficult.
9. The tutor makes a copy of work sheet, sends it home with book, and keeps a copy.
10. The parent repeats steps 1-9.

The increase over a 10-week period in sight words was very significant (combined = 145.5, ES = 5.24). Although this is not a usual measure of fluency, it is viewed as a positive intended effect. Sight word knowledge may not only contribute to fluency but comprehension as well. An increase in reading vocabulary may allow the reader greater access to a larger general lexicon, facilitating comprehension. As an external anchor measure to CBA indicators, the Flynt-Cooter Reading Inventory's pre and post level differences indicated an increase of one grade level in a 10-week period in both Oral Reading Accuracy and Comprehension. Although accuracy was not necessarily a goal of the repeated reading strategy, it is certainly a welcome outcome Increased comprehension is a natural benefit of increased reading fluency, and thus the results are viewed as significant. Comprehending what we read is the ultimate intentional outcome of reading.

DISCUSSION

The results of the present study can be contrasted to a recent study involving repeated reading strategies with junior high school students. In the study reported by Strong, Wehby, Falk and Lane (2004), repeated reading was combined with a formalized corrective reading curriculum. Additional differences in terms of repeated reading strategies included the number of times the passages were read (4 versus 6), peer modeling versus cross-age tutors, and corrections and feedback provided by the same-age peer. In the Strong and colleagues study, whereas more students were involved, the results were mixed, with some students not improving. The current strategies were gleaned from the most recent reviews of evidence-based practices for increasing fluency through repeated reading, and seem to warrant further examination.

TABLE 3

Pre and Post Criterion Measures

	Pre				Post			
	WCPM	Sight Word	Flynt-Cooter Oral Reading Accuracy	Flynt-Cooter Comprehension	WCPM	Sight Word	Flynt-Cooter Oral Reading Accuracy	Flynt-Cooter Comprehension
Student 1	69	114	Level 1	Level 1	86	264	Level 2	Level 2
Student 2	41	115	Level 1	Level 1	57	256	Level 2	Level 2
Students Combined	55	114.5	Level 1	Level 1	71.5	260	Level 2	Level 2

Note. WCPM and Sight Words are raw scores; Levels are grade levels.

The tutoring strategies used in this study seem to hold several advantages to enhance reading fluency. They are easy to implement as well as easily replicable. A number of persons could serve as tutors both in and out of school (such as students, parents, grandparents, community service personnel). The classroom teacher is a collaborative partner in the implementation of the strategies, and provides support and materials throughout the process. Parents are also partners in providing opportunities for repeated reading, and learn a simple method for helping their children become better readers. The present tutoring method is easy to monitor in terms of progress, and is consistent with best practices relative to data collection. The tutorial method also serves as both a Tier 2 RtI intervention and a possible Tier 3 intervention as well.

Limitations of the present study include the small number of participating students, and the fact that they were both elementary students. The present study warrants replication in other settings with other tutors. A difficulty with the method might be finding someone at school to do the tutoring. Also, the one-on-one format may be difficult to attain, and choral reading or silent reading are not appropriate ways to provide feedback. Another possible problem is the integrity of home participation. Although parents and older siblings indicate they are implementing the program conscientiously and consistently, it is difficult to discern to what degree their efforts are consistent with the specified intervention strategies.

In summary, the student-directed repeated reading and feedback intervention was successful in demonstrating positive results. The intent was to offer a simple intervention strategy that could be easily implemented, emphasizing current knowledge about improving reading fluency with repeated reading strategies. The current method bears further implementation and investigation with other students at other levels. A larger scale, after-school program implementation may provide greater opportunities for a larger number of students. It is hoped that others will want to implement variations of the current program, and use curriculum-based assessment measures to document progress.

This paper reports the results of an innovative program to bring science to practice, in an effort to enhance student outcomes. With a current focus on evidence-based practice, the importance of the scientist-practitioner model is emphasized for school psychologists. In order to substantively address complex issues of reading, developing intervention strategies that are research-based and gathering data to examine student outcomes, in addition adhering to treatment integrity, are necessary to enhance the success of all students.

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