ALICE O. NANDA and LAURA D. FREDRICK, Georgia State University

The Effects of Combining Repeated Reading with Reading Mastery on First Graders' Oral Reading Fluency

Abstract: The present study replicates and extends the work of Frankhauser, Tso, and Martella (2001) using 6 first-grade students in a multiple baseline design across participants to determine if the addition of three repeated readings following *Reading Mastery I* and *II* (Engelmann & Bruner, 1995) lessons improves student fluency beyond that expected within the programs. Students exhibited increased fluency during repeated reading, but these fluency levels were not consistently greater than those attained with *Reading Mastery* alone. The fluency gains did not generalize to other *Reading Mastery* passages, and the repeated reading intervention did not consistently reduce the number of rereadings required for students to meet *Reading Mastery* checkout criteria. *Reading Mastery* provides sufficient opportunity to develop fluency without the need for a supplemental repeated reading intervention.

The five essential components for effective reading instruction include phonemic awareness, phonics, fluency, vocabulary, and text comprehension (National Institute of Child Health and Human Development [NICHD], 2000). Fluency involves behavior that is "flowing, effortless, well-practiced, and accurate" (Johnson & Layng, 1996, p. 281). Fluent oral reading is accurate, automatic, and includes appropriate expression (Rasinski, 2004). Despite being an essential component of effective reading instruction, educators often neglect reading fluency when teaching reading (Allington, 1983; Rasinski, 2006). However, educators can no longer neglect oral reading fluency because reading initiatives such as the Reading First Program require fluency instruction (Rasinski, 2006). When addressing the need for fluency instruction as part of reading instruction, some educators use reading programs such as *Reading Mastery* (Engelmann & Bruner, 1995) that include a fluency component built into the curriculum. Other educators use techniques such as repeated reading to address fluency. This study investigates how adding repeated reading to *Reading Mastery* impacts the oral reading fluency of first-grade students.

The importance of reading fluency to overall reading skill emerged from automaticity theory that states that when oral reading is fluent, working memory is available for comprehension of text (LaBerge & Samuels, 1974; Samuels, 2002). Several researchers investigating the relationship between reading fluency and comprehension report that readers with better oral reading fluency have superior comprehension of text (e.g., NICHD, 2000; Pinnell et al., 1995). The link between fluency and comprehension surpasses the passage level and extends to later reading. Measures of oral reading fluency in

Grades 1 and 2 predict Grade 5 accuracy and comprehension in reading (Breznitz, 1997). Not only is there an association between fluency and reading comprehension, there is empirical evidence linking better fluency to higher overall reading achievement (NICHD; Pinnell et al.).

The important role that fluency plays in both comprehension and achievement suggests that educators need to intervene to help students increase their reading fluency. The National Reading Panel, after reviewing research on interventions aimed at increasing oral reading fluency, determined that guided oral reading procedures improve both reading fluency and overall reading achievement (NICHD, 2000). They report that repeated reading, a guided oral reading procedure common in research and practice, is one of the interventions found to increase fluency. Like fluency development in music and sports, fluency in reading develops with repeated practice of isolated skills until those skills occur automatically. In order for beginning readers to reach automatic levels in passage reading, they may have to read the passage several times. Effective repeated reading interventions include opportunities for practice along with guidance and feedback (Osborn & Lehr, 2003). Repeated reading can occur in many contexts including individually, with peers, with teachers, or even with an audiotape recorder. In addition, a repeated reading intervention can supplement general reading texts currently in use (Osborn & Lehr).

When using repeated reading to increase oral reading fluency, readers find their fluency increases as they read the passage additional times. Empirical evidence supports claims that a repeated reading intervention improves the fluency of diverse readers. Students reading texts at both instructional and mastery levels can make gains in fluency using repeated reading (Sindelar, Monda, & O'Shea, 1990). Students with or without disabilities also can reap benefits from repeated reading

interventions (NICHD, 2000). The National Reading Panel found that students in Grades 2 through 4 showed increased fluency using repeated reading. Despite the research on the importance of increasing the reading fluency of students in Grades 2 through 4, researchers have focused less on the use of repeated reading to increase the oral reading fluency of first-grade students who are still in the acquisition stage of reading. However, in one study examining the use of repeated reading with first-grade students who were at risk, the students showed improved accuracy, fluency, and self-correction behaviors following the repeated reading intervention (Turpie & Paratore, 1995).

While it is important to increase fluency on specific passages so that comprehension for those passages increases, it also is important to increase overall reading fluency to facilitate comprehension of passages read only once. The goal of repeated reading is to generalize fluency to passages read for the first time (unpracticed passages). Using repeated reading, some researchers have not found generalization of fluency gains to unpracticed passages (Rashotte & Torgesen, 1985; Reutzel & Hollingsworth, 1993), whereas others have reported generalization of fluency to unpracticed passages (Daly, Bonfiglio, Mattson, Persampieri, & Foreman-Yates, 2005; Dowhower, 1987; Samuels, 1979; Weinstein & Cooke, 1992). Various attributes of both the readers and the passages may play roles in the generalization of fluency.

Although students can build fluency by reading passages repeatedly from any basal reader or content area text, it is important to examine the effect of repeated reading in conjunction with a reading program such as *Reading Mastery* (Engelmann & Bruner, 1995) that already includes a fluency component. *Reading Mastery* is a research-based, systematic, Direct Instruction program teaching beginning readers to learn to read and teaching more advanced readers to read to learn. In *Reading*

Mastery I, beginning readers learn prereading and basic decoding skills. Once students' decoding skills enable them to read connected text, *Reading Mastery I* includes a story at the end of each lesson. Students continually learn new decoding skills and then use those skills in combination with skills they mastered in previous lessons. Approximately every five lessons, students reread the lesson's story individually attempting to meet a required fluency level. *Reading Mastery* calls this a reading checkout. In order to continue to the next lesson, the reader must read this checkout story both quickly and accurately as defined in the program. The rate and accuracy goals for checkout stories steadily increase over lessons so that students completing *Reading Mastery I* will read 35 words correctly per minute and students completing *Reading Mastery II* will read 90 words correctly per minute (Engelmann & Bruner).

Frankhauser, Tso, and Martella (2001) investigated whether adding a 1-min reading of each *Reading Mastery* story would improve student fluency on the reading checkouts. They found that students' fluency did not improve beyond the fluency already achieved within the program itself. From their research, they concluded that *Reading Mastery* is sufficient in building reading fluency and that no additional fluency intervention is necessary. While it is clear from the increasing checkout criteria that *Reading Mastery* builds student fluency, more intense additional intervention might improve the fluency faster or beyond that of the program. Frankhauser et al. used only one extra 1-min read as the intervention. Studies revealing successful fluency gains used multiple repeated readings to increase reading fluency (LaBerge & Samuels, 1974; O'Shea, Sindelar, & O'Shea, 1985). In one study comparing one, three, and seven repeated readings, the researchers found that third graders who completed either three or seven repeated readings demonstrated increased fluency and comprehension (O'Shea et al.). The optimal gains in fluency

and comprehension were for the group completing three repeated readings.

The purpose of this study was to use a traditional multiple baseline single subject design to extend the research of Frankhauser et al. (2001). We investigated the impact of three repeated readings in conjunction with *Reading Mastery I* and *II* on student oral reading fluency. Also, we investigated if fluency gains following the addition of three repeated readings generalized to fluency on first reads of passages studied with the teacher during *Reading Mastery* (practiced passages) and on the first reads of more difficult *Reading Mastery* passages not yet studied with the teacher (unpracticed passages). Finally, we examined the impact of three repeated readings following each lesson on the number of readings required to meet checkout criteria.

Method

Participants

Six first-grade general education students from a southeastern urban public school participated in this study. Students included 3 African-American females, 2 African-American males, and 1 Hispanic male. We selected these students because they were in the same small group for reading instruction. This group was neither the highest nor the lowest reading group in the first grade. These students received reading instruction through the *Reading Mastery I* and then the *Reading Mastery II* curricula. We paired students based on their baseline data as described below.

Setting

Daily reading instruction lasted approximately 2 hrs, 1 hr in the morning and 1 hr in the afternoon. Each hour session included approximately 30 min of *Reading Mastery* taught by the classroom teacher and approximately 30 min of individual work in *Reading Mastery* take-home books and other classroom reading

activities such as listening to books on tape and reading silently. When all time allocated to reading was available and not interrupted by assemblies, testing, or field trips, the students completed one to two *Reading Mastery* lessons each day.

The teacher was an experienced first-grade teacher who had been trained on the implementation of *Reading Mastery* and other Direct Instruction programs and who had taught *Reading Mastery* in previous years. The repeated reading intervention was implemented by graduate research assistants, trained in repeated reading interventions and data collection.

Materials

The classroom teacher taught *Reading Mastery* daily using all components of the *Reading Mastery* curriculum package including the teacher presentation book, student storybooks, and student take-home books. During the study, students completed 15 lessons from *Reading Mastery I* and 26 lessons from *Reading Mastery II*. An additional five stories from *Reading Mastery II* were used for generalization. The researchers used a notebook of stories from *Reading Mastery* typed as presented to the students in their texts, as well as individual charts and graphs to monitor student progress of words read correctly per minute and errors per minute. The researchers used an audio-tape recorder and tapes to record each reading for future interobserver agreement calculations, a timer to monitor the amount of time students used during each read, and a calculator to determine the number of correct words the student read per minute.

Design and Dependent Measures

We used a single-subject multiple baseline across participants design to investigate the effectiveness of adding three repeated readings to the *Reading Mastery I* and *II* programs (Alberto & Troutman, 2006). This design allowed for differentiation of progress made in fluency because of explicit Direct Instruction and progress made in fluency because of the addition of repeated readings. During baseline, students read the lesson's passage one time. During the repeated reading intervention, students read the lesson's passage three times in repetition. In both conditions, the reading occurred after students read the story with the teacher as part of the lesson.

The 6 students moved from baseline to the repeated reading intervention in pairs allowing for three comparisons at the end of the study. Students formed pairs based on the stability of baseline data and the direction of data points in baseline. Specifically, the 2 students with the most stable baseline and descending data points after four sessions formed the first pair. Stability for classroom settings where the researcher has little control is suggested as 100% of the scores falling within 50% of the mean (Alberto & Troutman, 2006). Once the first pair made a 20% improvement from their baseline mean correct words per minute (CWPM) to their third read mean CWPM, the next pair of students moved into the repeated reading invention. The 2 students forming this second pair had descending data points and the most stable baseline of those remaining in baseline. The decision rule in case the repeated readings did not increase CWPM by 20% after 10 lessons was to move the next pair into the repeated reading intervention. The second pair did not improve by 20% so the final pair began the repeated reading intervention after the second pair had been in the repeated reading intervention for 10 lessons.

Dependent measures included CWPM and number of rereadings required to meet check-out criteria. The CWPM calculation involved counting the number of words read correctly and dividing that number by the time (in minutes) required to read the passage. As specified in *Reading Mastery,* errors included misidentifications, self-corrections, omissions following a redirection, sounding out the word instead of reading it as a whole word, and fail-

ing to identify a word after 4 s. Reading checkouts occurred approximately every five lessons with a total of eight during the study. The students were required to read checkout passages within a certain time and error limit. Students who did not meet the time or error requirement on their first try repeated the checkout procedure until meeting the specified requirements as described below.

Word-by-word interobserver agreement (IOA) was calculated for 20% of the data points across each condition with agreement sessions randomly distributed across stories and students. IOA was calculated by dividing the total number of agreements by the total number of agreements plus disagreements, then multiplying by 100. Average IOA for all sessions was 99.03%, ranging from 91.38% to 100%.

Procedure

For each session, students participated in a *Reading Mastery* lesson for approximately 30 min taught as designated in the teacher presentation book. Upon completion of the lesson, the students took turns reading individually to one of the research assistants. The research assistant sat with students away from distractions, prompted students to read, timed the reading, monitored for errors, and supplied immediate feedback on errors during reading. Following each reading, the research assistant calculated CWPM and then assisted students in graphing CWPM on a bar graph. All readings were recorded on an audiotape for interobserver agreement estimates. On the three occasions that the text accompanying the lesson was a list instead of a story, students read the list the appropriate number of times to control for practice, but data were not collected for these nonpassage lessons.

Baseline. Stories for each of the sessions in baseline were stories from noncheckout lessons. The research assistant prompted students with instructions similar to those used in *Reading Mastery* saying, "Start with the title

and read the story carefully the fast way. Go." Students read the story one time, graphed the CWPM, and returned to their regular classroom activities.

Repeated reading. Stories for each of the repeated reading sessions were stories from noncheckout lessons. The research assistant instructed students using the same prompt as in baseline but did so three times in succession. Students graphed the CWPM on a bar graph after each read of a story. Once students read and graphed three times, they returned to their regular classroom activities.

Checkouts. Approximately every fifth lesson of the *Reading Mastery* program required an individual reading checkout for a total of eight during the study. The checkouts ensured that students were making proper fluency progress before continuing to the next *Reading Mastery* lesson. During these sessions, regardless of whether students were in baseline or intervention, they came to the research assistant and completed the checkout procedure as designated in the curriculum. The instructions resembled the instructions from baseline and intervention but also had a portion reminding the students to read the passage within a prescribed time and to make no more than a prescribed number of errors. These time and error requirements varied by lesson and were specified in the teacher presentation book. As students read, the research assistant monitored time and errors. If students did not meet one or both of the checkout criteria, the research assistant told them to practice the story and then try again. When students met checkout criteria, they graphed the correct words read per minute in the successful attempt. The checkout data are not included as sessions in the study because students completed the same checkout procedure regardless of whether they were in baseline or in the repeated reading intervention. Depending on when the students moved to intervention, they completed seven, five, or three of the

eight checkouts while in the repeated reading intervention.

Generalization. In the final portion of the study, the research assistant asked students to read five more difficult passages from *Reading Mastery II* that had not been read as part of *Reading Mastery* lessons in class. To select the passages for generalization, the research assistant moved ahead in the *Reading Mastery II* lessons to the stories the group would be completing in approximately 1 week. The research assistant used the same procedure as in the repeated reading intervention and had students read the five stories. Because students had not read these stories in class, the research assistant used these passages to see if fluency gains from the repeated reading inter-vention generalized to these unpracticed, more difficult passages.
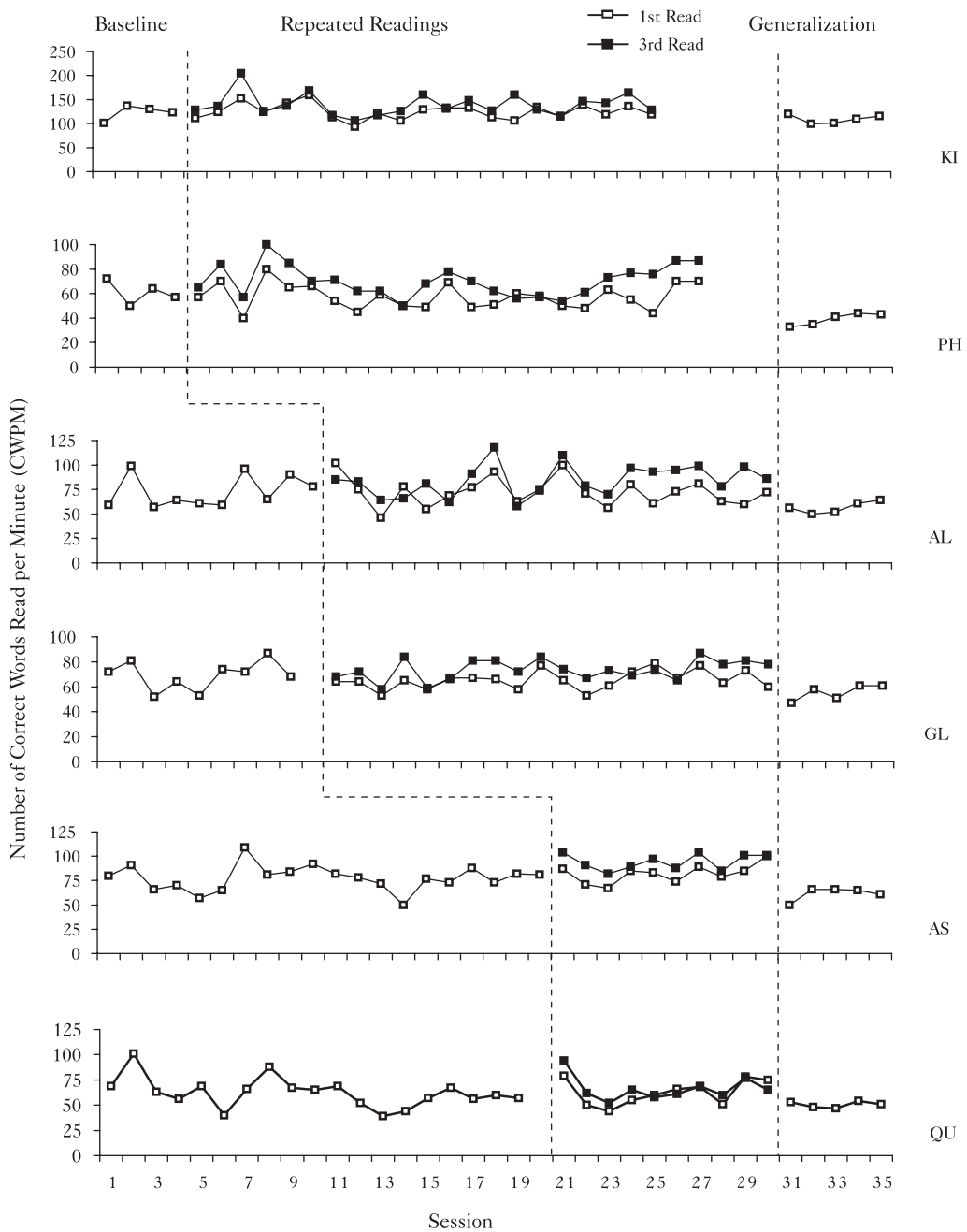
Results

One purpose of this study was to determine if adding repeated reading to *Reading Mastery* would improve student fluency. Table 1 shows that each student exhibited increased mean CWPM while completing repeated readings. On average, the CWPM on the third read was higher than the CWPM on the first read during baseline and on the first read during the repeated reading intervention. Gains from first reads during baseline to third reads during repeated reading ranged from an average of 3.93 CWPM to an average of 16.65 CWPM.

Table 1

Mean Correct Words Read Per Minute (and Ranges) for Students Across Conditions

Pair	Student	Baseline 1st Read	Repeated Reading 1st Read	Repeated Reading 3rd Read	Generalization 1st Read
1	KI	122.75 (101-137)	124.90 (93-159)	139.00 (106-205)	109.20 (99-120)
	PH	60.75 (50-72)	57.48 (40-80)	70.09 (50-100)	39.20 (33-44)
2	AL	72.80 (57-99)	72.50 (46-102)	84.35 (58-118)	56.60 (50-64)
	GL	69.22 (52-87)	65.45 (53-79)	73.50 (58-87)	55.60 (47-61)
3	AS	77.55 (50-109)	82.00 (67-100)	94.20 (82-104)	61.60 (50-66)
	QU	62.37 (39-101)	62.60 (44-79)	66.30 (52-94)	50.60 (47-54)

Note. Prior to baseline and repeated reading sessions, students practiced reading the passages during *Reading Mastery* lessons. Passages for generalization sessions were not practiced during *Reading Mastery* lessons.

Figure 1

Correct Words Read Per Minute During Baseline and Repeated Reading for All Students

Correct words read per minute (CWPM) for each student for first reads during baseline, first, and third reads during the repeated reading intervention, and first reads during generalization.

Despite the overall gains reported in Table 1, Figure 1 shows overlap in CWPM during baseline and repeated reading for all students. Overall, the addition of three repeated readings to the *Reading Mastery I* and *II* programs did not consistently increase student fluency to a level beyond the fluency gains already made in baseline while following program implementation guidelines. However, individual graphs reveal that for the majority of sessions during repeated reading (ranging from 60% to 100%) all students had more CWPM on third reads than on first reads.

A second purpose of this research was to determine if fluency gains would generalize to other passages. Table 1 summarizes student performance on first reads during baseline (practiced passages), first and third reads during repeated reading (practiced passages), and first reads of generalization passages not yet read with the teacher (unpracticed passages). The mean CWPM of first reads of practiced passages during baseline and repeated reading are higher than the mean CWPM of first reads of unpracticed passages in generalization. *Reading Mastery* instruction resulted in student fluency gains for first reads of passages practiced in class lessons. The repeated reading intervention resulted in improved fluency from first to third reads. Neither of those gains generalized to the unpracticed passages. Generalization also can be examined by looking for improved fluency on successive first reads using practiced passages. During repeated reading, students were more fluent on subsequent first reads than on previous first reads about half of the time (42% to 56%).

A third purpose was to examine the impact of three repeated readings following each lesson on the number of readings required to meet checkout criteria. All students met checkout criteria on or before their third attempt for checkouts during baseline and during the repeated reading intervention. For the 2 students completing seven checkouts during the

repeated reading intervention and only one during baseline, it is impossible to compare their baseline and repeated reading checkout performance because one data point does not sufficiently establish baseline performance. Of the remaining 4 students, 1 student (AL) had to read 100% of his baseline checkout passages more than once and only had to read 20% of his repeated reading checkout passages more than once. One student (QU) did not have to reread any checkout passages during baseline and had to reread all during the repeated reading intervention. Two students (AS and GL) required approximately the same proportion of checkout rereadings during baseline and during the repeated reading intervention, with AS not requiring any checkout rereadings during baseline or repeated reading. For all students in this study, unsuccessful checkouts were a result of exceeding the error limit.

Discussion

We examined the effects of adding three repeated readings to *Reading Mastery I* and *II* on student fluency and performance on checkouts. Students generally read more fluently on third reads than on first reads as shown by the higher mean CWPM on third reads and by the large percentage of passages during repeated reading for which the students read more fluently on the third read compared to the first read. This improvement supports the findings of the National Reading Panel in that repeated reading results in increased fluency (NICHD, 2000). However, the overlap in the data points from baseline and repeated reading indicate that the repeated reading intervention was not a powerful one when used in conjunction with *Reading Mastery*. Student fluency increased during the repeated reading intervention, but it did not increase at a rate much greater than would be expected using *Reading Mastery* alone. During each *Reading Mastery* lesson, students practiced reading sounds and words they would see in the story, took turns reading the story, and answered comprehension questions

about the story. This explicit and systematic practice clearly improves fluency because increasing fluency levels are required to move through *Reading Mastery*. The *Reading Mastery* lessons include opportunities for practice along with guidance and feedback. These are the key components for effective fluency intervention (Osborn & Lehr, 2003). It is clear that students in this study were excelling in their reading fluency with only *Reading Mastery* instruction because students' mean CWPM of first reads during baseline was above the target norms for students at the end of first grade (Rasinski, 2004). With such high levels of fluency accompanying *Reading Mastery* instruction, implementing an intervention such as repeated reading was not necessary.

Following the repeated reading intervention, students read more difficult passages from *Reading Mastery II* that they had not yet studied with the teacher. An examination of the CWPM on the first reads of those passages revealed that fluency gains made within *Reading Mastery* and with the repeated reading intervention did not transfer directly to new, more difficult generalization passages. However, students did not read unpracticed passages for this research prior to the repeated reading intervention, so we do not have a comparison of fluency on unpracticed passages before and after the repeated reading intervention.

Researchers finding generalization with repeated reading interventions did not find that students read new passages at the same rate as passages they read repeatedly. Instead, they found that the first read of successive passages had a higher CWPM than the first read of previous passages and that when using a fluency criterion, it took students fewer reads to reach criterion (Samuels, 1979; Weinstein & Cooke, 1992). In the present study, some student graphs revealed slight trends of increasing fluency, but overall only about half of successive first reads during the repeated reading intervention revealed increasing fluency. Approximately the same proportion of successive first reads were more fluent during baseline sessions. Because baseline and the repeated reading intervention show the same pattern of results, the gains are likely an effect of the increasing fluency requirements built into *Reading Mastery*.

It is difficult to assess generalization of fluency when using the passages from *Reading Mastery* because those passages steadily increase in difficulty. To show increases in fluency during this study, students' speed and accuracy would have had to increase while reading more difficult passages. *Reading Mastery* requires this type of fluency improvement as students must exhibit increased fluency on more difficult passages to continue moving through the curriculum. This type of gradual fluency improvement may be difficult to detect in a short intervention. Generalization of fluency may be more easily found when students' fluency gains can transfer to passages at the same reading level constructed of previously mastered words and sound patterns (Daly et al., 2005). Future research could investigate generalization with such passages.

On checkout passages, all students met checkout criteria on or before the third attempt with one student meeting checkout criteria on the first attempt of each passage during both baseline and the repeated reading intervention. This finding suggests the fluency component of *Reading Mastery* is sufficient without the addition of repeated reading. Only 1 of the 4 students with sufficient baseline and repeated reading intervention checkout data completed fewer rereadings of checkout passages during intervention. However, this student was the only student consistently requiring two or three checkouts to reach mastery during baseline. Overall, like Frankhauser et al. (2001) found, including additional reading of noncheckout passages did not result in overall improved student performance on checkouts. Frankhauser et al. used only one

additional read for their repeated reading intervention. In this study, we found that even using the recommended three repeated readings (O'Shea et al., 1985) there was no added value for most students beyond how the students were progressing within *Reading Mastery*. This finding confirms the sufficiency of fluency practice provided in the programs. If practitioners have students consistently failing to meet checkout criteria, however, repeated reading may be helpful to those few students. Practitioners also may want to consider the reason students do not pass checkouts. After reviewing the checkout readings in the present study, we determined that when students did not meet checkout criteria, it was because students read with more errors than are allowed in *Reading Mastery* checkouts, but they did not read too slowly. Fluent oral reading is accurate, automatic, and includes appropriate expression (Rasinski, 2004). Educators can focus on specific components of fluency that are lacking in their students.

Although there were many important findings in this investigation, there were several limitations present. First, the intervention only spanned 2 months of the school year, so educators cannot draw conclusions regarding a full implementation of a repeated reading intervention across the entire school year. A longer intervention also would provide more information regarding checkout performance. Second, this research did not include unpracticed passages prior to baseline or intervention. Future research should include unpracticed passages prior to baseline to allow better evaluation of the generalization of fluency. Third, independent consultants visited the classroom to ensure the proper implementation of *Reading Mastery*, but the research assistant had no control over reading activities that the classroom teacher emphasized after the students completed their *Reading Mastery* lesson. Some of those activities included reading silently, listening to books on tape, working on reading skills on a computer, coloring, and writing. When students read silently following their

lesson, they may have read from a classroom library book or from their *Reading Mastery* texts, getting more practice than that offered during instruction. This additional practice could contribute to the high levels of fluency already obtained before students completed the repeated reading intervention. While this reading was not a daily occurrence, it could have impacted the results of the study. Finally, although the students should have been at about the same reading level because they were in the same small group for reading instruction, it appears that their levels were quite different. Particularly, KI was reading at a much faster rate than the rest of the group. At the end of the intervention, the school reading specialist completed a fall placement test for each student and KI placed into a higher-level program even though KI had not completed *Reading Mastery II*.

It is clear that each student made different gains in fluency with the repeated reading intervention with QU only increasing an average of 3.93 CWPM during repeated reading and AS increasing a much larger average of 16.65 CWPM during repeated reading. Future research should examine the characteristics of students who make fluency gains with repeated reading and compare them with the characteristics of students who do not make fluency gains with repeated reading. In attempts to teach all children to read, teaching methods and interventions should be based on each child's unique needs. Future research would be helpful in identifying which interventions work best given a profile of student skills.

Overall, it is apparent that both *Reading Mastery* and repeated reading interventions result in increased reading fluency. However, when paired together, there are only slight fluency gains resulting from the addition of a repeated reading intervention to *Reading Mastery*. *Reading Mastery* requires improvements in fluency as it progresses, and the additional time consuming repeated reading

intervention is not necessary for students to read fluently.

References

Alberto, P. A., & Troutman, A. C. (2006). *Applied behavior analysis for teachers* (7th ed.). Upper Saddle River, NJ: Prentice Hall.

Allington, R. L. (1983). Fluency: The neglected reading goal. *The Reading Teacher, 36*, 556-561.

Breznitz, Z. (1997). Reading rate acceleration: Developmental aspects. *The Journal of Genetic Psychology, 158*, 427-441.

Daly, E. J., III, Bonfiglio, C. M., Mattson, T., Persampieri, M., & Foreman-Yates, K. (2005). Refining the experimental analysis of academic skills deficits: Part I. An investigation of variables that affect generalized oral reading performance. *Journal of Applied Behavior Analysis, 38*, 485-497.

Dowhower, S. L. (1987). Effects of repeated reading on second-grade transitional readers' fluency and comprehension. *Reading Research Quarterly, 22*, 389-406.

Engelmann, S., & Bruner, E. C. (1995). *Reading Mastery series guide*. Columbus, OH: Science Research Associates.

Frankhauser, M. A., Tso, M. E., & Martella, R. C. (2001). A comparison of curriculum-specified reading checkout timings and daily 1-minute timings on student performance in *Reading Mastery. Journal of Direct Instruction, 1*, 85-96.

Johnson, K. R., & Layng, T. V. J. (1996). On terms and procedures: Fluency. *The Behavior Analyst, 19*, 281-288.

LaBerge, D., & Samuels, S. J. (1974). Toward a theory of automatic information processing in reading. *Cognitive Psychology, 6*, 293-323.

National Institute of Child Health and Human Development. (2000). *Report of the National Reading Panel. Teaching children to read: An evidence-based assessment of the scientific research literature on reading and its implications for reading instruction: Reports of the subgroups (NIH Publication No. 00-4754)*. Washington, DC: U.S. Government Printing Office.

Osborn, J., & Lehr, F. (2003). *A focus on fluency*. Honolulu, HI: Pacific Resources for Education and Learning. Retrieved May 19, 2006, from www.prel.org/products/re_/fluency-1.pdf

O'Shea, L. J., Sindelar, P. T., & O'Shea, D. J. (1985). The effects of repeated readings and attentional cues on reading fluency and comprehension. *Journal of Reading Behavior, 17*, 129-142.

Pinnell, G. S., Pikulski, J. J., Wixson, K. K., Campbell, J. R., Gough, P. B., & Beatty, A. S. (1995). *Listening to children read aloud: Data from NAEP's integrated reading performance record (IRPR) at grade 4*. Washington, DC: U.S. Department of Education, Office of Educational Research and Improvement.

Rashotte, C. A., & Torgesen, J. K. (1985). Repeated reading and reading fluency in learning disabled children. *Reading Research Quarterly, 20*, 180-188.

Rasinski, T. V. (2004). *Assessing reading fluency*. Honolulu, HI: Pacific Resources for Education and Learning. Retrieved May 19, 2006, from http://www.prel.org/products/re_/assessing-fluency.htm

Rasinski, T. V. (2006). Fluency: An oft-neglected goal of the reading program. In C. Cummins (Ed.), *Understanding and implementing Reading First initiatives: The changing role of administrators* (pp. 60-71). Newark, DE: International Reading Association.

Reutzel, D. R., & Hollingsworth, P. M. (1993). Effects of fluency training on second graders' reading comprehension. *Journal of Educational Research, 86*, 325-331.

Samuels, S. J. (1979). The method of repeated readings. *The Reading Teacher, 50*, 376-381.

Samuels, S. J. (2002). Reading fluency: Its development and assessment. In A. E. Farstrup & S. J. Samuels (Eds.), *What research has to say about reading instruction* (3rd ed., pp. 166-183). Newark, DE: International Reading Association.

Sindelar, P. T., Monda, L. E., & O'Shea, L. J. (1990). Effects of repeated readings on instructional- and mastery-level readers. *Journal of Educational Research, 83*, 220-226.

Turpie, J. J., & Paratore, J. R. (1995). Using repeated reading to promote reading success in a heterogeneously grouped first grade. In K. A. Hinchman, D. J. Leu, & C. K. Kinzer (Eds.), *Perspectives on literacy research and practice: Forty-fourth yearbook of the National Reading Conference* (pp. 255-264). Chicago: National Reading Conference.

Weinstein, G., & Cooke, N. L. (1992). The effects of two repeated reading interventions on generalization of fluency. *Learning Disability Quarterly, 15*, 21-28.

Author Notes