

8-1-2000

Improving Oral Reading Performance: A Comparison of the Effectiveness of Two Reading Interventions

Allison Morris
Western Kentucky University

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IMPROVING ORAL READING PERFORMANCE: A COMPARISON OF THE
EFFECTIVENESS OF TWO READING INTERVENTIONS

A Thesis

Presented to

the Faculty of the Department of Psychology

Western Kentucky University

Bowling Green, Kentucky

In Partial Fulfillment

of the Requirements for the Degree

Specialist in Education

by

Allison Hope Morris

August 2000

IMPROVING ORAL READING PERFORMANCE: A COMPARISON OF THE
EFFECTIVENESS OF TWO READING INTERVENTIONS

Date Recommended July 21, 2000

Carl Z Myers
Director of Thesis

Frank Keisling

Elizabeth L. Jones

Edwin Gray 8/15/00
Dean, Graduate Studies and Research Date

Acknowledgments

I would sincerely like to thank my thesis committee members: Dr. Carl Myers, Dr. Elizabeth Jones, and Dr. Frank Kersting. I would especially like to thank Dr. Myers for all the time and effort he put forth on this project. Thank you for the most memorable three years of my educational career. I have learned more from you than you will ever know.

I would like to thank my devoted husband for supporting me throughout the past three grueling years of graduate school. Thank you for being there for me when I needed a shoulder to cry on and needed encouragement to “stick” with the program. I would also like to thank my mom for encouraging me to get an education and one day make a name for myself. Thank you for all the support you have given me throughout my life. I hope I have made you both proud. I love you very much.

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Allison Morris

August 2000

36 Pages

Directed by: Carl Myers, Elizabeth Jones, and Frank Kersting

Department of Psychology

Western Kentucky University

Reading can be considered as the most fundamental skill learned in a person's life. It lays the foundation for later success in academics, vocational pursuits, and life. Because of reading's importance in everyday life, the search for effective reading interventions for those experiencing reading difficulties is continual. A single-subjects design was used to examine the overall effect of two reading interventions, listening previewing and folding-in, on oral reading performance. Nine regular education third-grade students served as subjects in the present study. Results indicated that neither the listening previewing procedure nor the folding-in technique were particularly successful at improving oral reading performance over the act of simply practicing reading each day. The findings are discussed in relation to their implications for future research.

Literature Review

Reading can be considered the most fundamental skill learned in a person's life. It lays the foundation for later success in academics, vocational pursuits, and life. What is reading, though? Is it merely the act of pronouncing words correctly in a sequence? According to Kamhi and Catts (1989), there are two basic components involved in reading: word recognition (decoding) and comprehension. They describe decoding ability as "the skill of transforming printed words into spoken words" (p. 4). Because the process of reading is so complicated and is composed of different components, early intervention is important for students with reading difficulties.

As stated before, reading is an essential skill needed for later success in academics. Therefore, there exists a great need for reading interventions for those students struggling with reading difficulties. According to Snyder (1999), it was estimated that nearly 6 million children with disabilities were served in the 1996-1997 school year under Chapter I and the Individuals with Disabilities Education Act (IDEA). Of those 6 million children served, 2.6 million were classified with a learning disability --with many having reading disabilities. These staggering numbers lend further evidence to the great need for early reading interventions. Due to the large number of students with learning disabilities, learning centers have surfaced across the globe to deal with this issue. For example, there are approximately 750 Sylvan Learning Center sites located throughout North America and Asia. Furthermore, in Europe, Sylvan operates 900 tutoring centers throughout Germany, Austria, Italy, and France (Sylvan Learning Center, 1999). Reading programs

have also emerged to help combat learning disabilities. For example, Reading Recovery is an early intervention program for assisting first grade children who are having difficulty learning to read and write. This program has been successfully implemented in 38 states, The District of Columbia, four Canadian provinces, Australia, England, and New Zealand (Swartz & Klein, 1996).

Not only are there broad reading intervention programs, such as the above mentioned learning centers and reading programs, there are also specific, individualized reading interventions. Some of these techniques include: repeated reading (Mathes, Simmons, & Davis, 1992), tape-recorded assistance (Mathes et al., 1992; Rose & Beattie, 1986), word supply and phonic analysis (Rose, McEntire, & Dowdy, 1982), silent previewing (Rose, 1984a; Rose, 1984b; Rose & Sherry, 1984; Skinner, Cooper, & Cole, 1997), folding-in (Hargis, Terhaar-Yonkers, Williams, & Reed, 1988; Roberts, Turco, & Shapiro, 1991), and listening previewing (Mathes et al., 1992; Rose, 1984a; Rose, 1984b; Rose & Beattie, 1986; Rose & Sherry, 1984; Skinner, Cooper, & Cole, 1997). The present researcher will focus on the effectiveness of listening previewing and folding-in techniques on oral reading performance. The listening previewing procedure was chosen to further replicate studies that found this technique to be effective with regular education students. The folding-in technique was chosen because there exists little research on this technique.

Listening Previewing

The effectiveness of the listening previewing technique has been evaluated with a variety of students in a number of studies (Rose, 1984a; 1984b; Rose & Beattie, 1986; Rose & Sherry, 1984). The listening previewing technique consists of the following procedures. A student is given a copy of a passage and asked to “follow along” as the

experimenter reads the passage to the student. The student is then asked to orally read the passage to the experimenter. The experimenter records the amount of words read correctly (WRC) and words read incorrectly (WRI). Rose (1984a) investigated the effects of silent and listening previewing on the oral rate of educable mentally retarded students. Three male and two female students, ages 9-12, participated in the study. Each student was receiving instruction in a resource room. At approximately the same time each day, each session began with each student either previewing the assigned passage by listening to the teacher, reading the passage silently, or by no previewing at all. Each student participated in an average of approximately 33 sessions over the course of approximately 33 consecutive school days. Results indicated that both silent and listening previewing procedures were generally more effective than no previewing. Furthermore, listening previewing was found to be more effective than silent previewing.

The effectiveness of listening previewing was replicated with learning disabled students (Rose, 1984b). The purpose of this study was to examine the relative effects of silent and listening previewing on the oral reading rates of learning disabled students. Subjects in this study included three male and three female students, ages 9-15. Each student was receiving instruction in a resource room. Sessions began with each student either previewing the assigned passage by listening to the teacher, reading the passage silently, or not previewing the passage at all. Each student participated in an average of approximately 32 sessions over the course of approximately 32 consecutive school days. Results found the silent and listening previewing techniques to be more effective than no previewing on oral reading rate. Also, it was found that listening previewing was more effective than silent previewing on oral reading rate of learning disabled students.

A further investigation of listening previewing sought to explore the relative

effects of teacher-directed and taped previewing on oral reading (Rose & Beattie, 1986). Four male students, ages 8-11, participated in this study. Each student was receiving instruction in a resource room. Each session began with each student either previewing the assigned passage by listening to the teacher or the prerecorded tape, or by not previewing at all. Each student participated in an average of about 32 sessions over the course of about 32 consecutive school days. Results showed that both listening and taped previewing procedures were more effective than no previewing. Furthermore, the listening previewing procedure was found superior to the taped previewing procedure.

The relative effects of silent previewing and listening previewing procedures on learning disabled students were also evaluated by Rose and Sherry (1984). Participants included four male and one female eighth-and ninth-grade students. Each student was receiving instruction in a resource room. During each session, each student either previewed the assigned passage by listening to the teacher, reading the passage silently, or did not preview the passage at all. Each student participated in an average of about 37 sessions over the course of approximately 37 consecutive school days. Results revealed that both silent and listening previewing procedures were more effective than no previewing at all. Also, the listening previewing procedure was found to be more effective than the silent previewing procedure on oral reading. The previous findings were based on the evidence of more words read correctly for the listening previewing condition when compared to the silent previewing condition.

In summary, the aforementioned studies found the listening previewing technique to be superior to the taped preview and silent previewing interventions in improving reading fluency, especially with students diagnosed with a learning disability. Essentially, all of the studies share the same limitations. First, the studies did not address that the

increased effectiveness of the listening previewing procedure may have been due to teacher attention. This finding means that during the listening previewing procedure, the teacher reads the passage aloud to the students. These students have the advantage of knowing how words are pronounced before reading the passage themselves as opposed to the other students who either read the passage silently or did not preview the passage before hand. The advantage of knowing how the words are pronounced before reading the passages may explain why the listening previewing procedure was more effective than the other techniques. Second, all of the studies utilized very limited samples. Specifically, sample sizes ranged from 4 to 6 subjects and all students were categorized as special education students, with a majority of them being classified as learning disabled. This small sample size severely limits the generalizability of the results. Third, there was no discussion of maintenance of skills. Maintenance of skills refers to the long-term use of specific skills obtained during the intervention.

Folding-In

The folding-in technique consists of the following procedures. The student reads a passage orally to the experimenter. The experimenter notes the errors and “known” words (words that the student easily reads and appears to comprehend). The experimenter then writes the errors, not to exceed five, on flashcards. “Known” words are placed on the remaining cards, for a total of ten flashcards. The experimenter then drills the student with the flashcards until all errors have been mastered. Mastery will be judged as achieved when the student can identify a word three consecutive times when it is presented on a flashcard. During an extensive literature review, very little research was found on the folding-in intervention technique. In fact, only two articles were found that even remotely discussed this technique. Hargis, Terhaar-Yonkers, Williams, and Reed

(1988) and Roberts, Turco, and Shapiro (1991) found the folding-in technique to be only moderately effective in improving reading fluency.

One of the two studies investigated how much repetition was required for learning disabled children to recognize words (Hargis et al., 1988). Seventeen students, ages 8-13 years, participated in the study. Fifteen students were classified as learning disabled, and the other two students were classified as mildly retarded. Eight “unknown” words along with four “known” words were presented on flashcards one at a time, and a new unknown word was introduced when a previous unknown word had been mastered. Mastery was judged to be achieved when the student could identify a word three consecutive times when it was presented on a flashcard. Results indicated that many repetitions were needed to improve reading fluency. The authors found the folding-in technique (flashcards) to be only moderately effective and also to be slightly more time-consuming than other interventions. The major limitation of this study was the limited sample size and mixed nature of the group.

The impact of how differentially fixed instructional ratios of known to unknown vocabulary words affect students’ progress in reading was examined by Roberts et al. (1991). Participants included twenty-three male and nineteen female students in second-through fifth-grades. Participants were assigned to one of four experimental conditions: (a) 90% known to 10% unknown words; (b) 80% known to 20% unknown words; (c) 60% known to 40% unknown words; and (d) 50% known to 50% unknown words. Students were drilled with flashcards arranged to represent the specified ratios for each intervention condition. Results showed gains of words read correctly for all conditions. In particular, students instructed in the 50% to 60% known words made more gains. There was one major limitation identified and that was that the number of participants

per intervention condition was somewhat small, ranging from 9 to 11. Since there is such little research on the folding-in technique, further research on this topic is necessary.

Purpose

The purpose of the present study is to examine the overall effectiveness of two reading interventions, listening previewing and folding-in, on improving oral reading performance. Listening previewing was selected in an effort to determine whether the results of previous studies would be replicated with regular education students. Previous studies utilized very limited samples. Specifically, sample sizes were generally small, ranging from 4 to 6 subjects. Also, all of the subjects were classified as special education students, with a majority of those students being labelled as learning disabled. Because of these restricted samples, there was limited generalizability of the results. Folding-in was selected as a means for gathering more research on this little known technique. Previous studies possessed one major limitation. None of the studies discussed the issue of the maintenance of skills. Due to this limitation in past studies, the present investigator examined the issue of skills maintenance after the direct intervention had ended.

Method

Participants

Nine third-grade students enrolled in regular education classes participated in this study. Three female and six male students, ages 8-9, were chosen from three different classrooms. Each student was randomly assigned to one of three groups. Special consideration was given to sorting out gender and skill level evenly within each group. For example, since there were three female students participating, one female student was placed in each group. Also, based upon baseline data, skill level of the students was distributed across the groups. The meaning is that, for example, the top three readers (based on number of WRC) were not all placed in the same group. Third-graders were chosen because critical basic reading skills should be developed by the third-grade. If these skills have not been developed, then reading problems will be apparent. These children were selected from a teacher generated list of students whose reading level was in the lower one-third of students in the class. The teachers generated a list of 19 possible subjects. Nine subjects were randomly chosen from this pool of 19 subjects. Teachers used professional judgment of students' reading level as a determinant for whether or not students qualified for the study. None of these students were classified as learning disabled. Parents/guardians were asked to read and then sign a consent form (see Appendix A) that outlines the research project in detail. The consent form described the purpose of the study, the experimental procedures involved, the potential benefits and risks to the participants, the assurance that all information is confidential, that

participation is completely voluntary, and that participation may be withdrawn at any time without questions or ramifications. This study was approved by the Western Kentucky University Human Subjects Review Board (see Appendix B).

Materials

The experimenter used the curricular reading book in which each student was expected to be at the end of the academic year. Since all students were working in literature-based reading series, comparable basal reading books were used. According to Shapiro (1996a), basal reading books are designed with some control for grade-based readability. Due to that control on readability levels, passages from basal reading books were used. Basal reading books tend to aide in the development of reading skills at a grade-equivalent rate. Passages were randomly selected throughout a total of four curricular reading books. The examiner chose 30 passages that were at least 100 words in length and did not contain dialogue, poetry, plays, and/or unusual words or names, as recommended by Shinn (1989). Furthermore, passages were assessed for readability appropriate for third-grade students, using Fry's (1977) graph for estimating readability. Two copies of each probe were made, one for the student to read and one for the experimenter to score errors and words read correctly (WRC).

Curriculum-based measurement (CBM) probes were used to monitor the progress of the students across time. CBM is a sensitive measurement that can be used to determine an intervention's effectiveness (Shapiro, 1996a). Shinn (1989) notes other advantages of using CBM that include: (a) measures are tied to the student's curriculum; (b) measures are of short duration to facilitate frequent administration by teachers/educators; (c) measures are capable of many multiple forms; (d) measures are inexpensive to produce in terms of time in production and in expense; and (e) measures

are sensitive to the improvement of student's achievement over time. Previous studies examining the validity of CBM on oral reading fluency (Fuchs, Fuchs, & Maxwell, 1988; Shinn & Good, 1992) provide support for oral reading fluency as a reliable and valid measure of a student's level of reading skill, including reading comprehension.

Another study (Fuchs, Fuchs, Hamlett, Walz, & Germann, 1993) utilized CBM to examine students' weekly rates of academic growth in the area of reading over a period of one year. Participants included 374 students from grade one through six. The subject pool consisted of both handicapped and nonhandicapped students. Students read passages aloud for one minute, and every student was measured once each week. Expected rates of progress were calculated for each grade level, and this information was used to determine how much progress should be expected at the end of the study. This calculation table provided by Fuchs et al. (1993) was utilized to help realistically evaluate the progress of the students in the present study. Because of all of the advantages and validity of CBM, it was used as a measurement tool in this study.

Design

Data were collected daily on all nine subjects using an AB design. Alberto and Troutman (1990) describe the AB design as "the most basic of all single-subject designs" (p.153). Furthermore, they state that

AB refers to the two phases: the A, or baseline, and the B, or intervention, phase. During the A phase, baseline data are collected and recorded. Once a stable base-line has been established, the intervention is introduced, and the B phase begins. In this phase, intervention data are collected and recorded. The researcher can evaluate increases or decreases in the amount, rate, percentage, or duration of the target behavior during the intervention phase and compare them to

the baseline phase. Using this information to make inferences about the effectiveness of the intervention, the teacher can make decisions about continuing, changing, or discarding the intervention. (p.153)

This design possesses both a major advantage and a disadvantage. The primary advantage is its simplicity. Its design provides a quick and relatively easy way to compare a student's progress from baseline through the intervention phase. The disadvantage to this design is that it simply "cannot be used to make a confident assumption of a functional relationship" (Alberto & Troutman, 1990, p.154). Therefore, this design is more likely to be subjected to problems with confounding variables.

Procedure

Before data collection began, the experimenter logged approximately 10 hours of practice sessions with students not participating in the study to help develop a smooth, transitioned routine. Reading intervention and data collection took place in the school library. A partitioned, quiet area was identified in the library for use during reading intervention and data collection. Words read correctly (WRC) per minute were determined by subtracting errors from the total number of words read. Mispronunciations, omissions, substitutions, and unknown words were considered errors, with the exception of suffixes such as -ing, -ed, and -s. When the student hesitated for more than 3 seconds, the experimenter supplied the correct word and instructed the student to continue reading. Self-corrections were not counted as errors. The number of WRC per minute was used as the determinant of whether or not the interventions were successful.

Baseline. During the baseline condition, students did not receive any reading interventions for five consecutive school days. Students orally read the passage and the

experimenter calculated errors and WRC.

Group 1 received the listening previewing intervention in each session. Group 2 received the folding-in intervention in each session. A third group served as the control group and received no intervention, but did receive daily reading practice to collect data that were compared to data collected from the other groups. Data collection took place during the spring semester (February-May) of the academic year. A break in the data collection occurred during the fifth week due to the students' 5-day scheduled spring break. At approximately the same time each school day, the following routines were implemented. The initial session began with having the student either preview the selected passage by listening to the experimenter (Group 1), having the student read the passage orally to the experimenter and then be drilled with flashcards on errors made (Group 2), or having the student read the passage orally to the experimenter (Group 3). The readings of the passages were timed for 1 minute. Data (WRC and errors) were collected to serve as pre-intervention data. During subsequent sessions, each student, in each group, reread the same 1 minute timed passage from the previous day. These data provided progress monitoring of oral reading performance. Then, each student in each group read a new passage for one minute.

Listening previewing intervention. Students in Group 1 previewed the selected passage by listening to the experimenter and following along on a copy of the passage. After the experimenter finished the passage, the student was asked to read the passage aloud to the experimenter. The experimenter marked errors as the student read. Data were collected for 30 consecutive school days with the first five days serving as baseline data.

Folding-in intervention. As recommended by Shapiro (1996b), the following steps were taken to implement the folding-in technique in Group 2:

Step 1: The experimenter asked the student to read the assigned passage for 1 minute.

Step 2: As the student read, the experimenter noted errors. The experimenter wrote each error on a separate flashcard, not to exceed five errors. These errors were termed the “unknown” words. If more than five errors were made, the experimenter chose the five errors that were more meaningful to the passage.

Step 3: The experimenter then wrote “known” words, one on each card, from the passage that the student seemed to know. These words were meaningful to the passage and not sight words such as “the,” “and,” “but,” etc. A total of ten “known” and “unknown” words were on flashcards.

Step 4: Each session began with the presentation of the first unknown word. After the unknown was presented, one of the known words was presented. The student was asked to say the word aloud. Next, the unknown word was presented again, followed by the known word previously shown, and then a new known word. This sequence of presentation (unknown followed by knowns) continued until all known words and 1 unknown word had been presented.

Each of the remaining unknown words were folded-in the same manner as the first unknown word. The sequence of presentation (unknown followed by knowns) continued until all known and unknown words had been presented and mastered. Mastery was judged to be achieved when the student could identify a word three consecutive times when presented on a flashcard. The students did not have difficulty with known words. Therefore, the experimenter did not assist the students in the pronunciation of any words

except the unknown words. Data were collected for 30 consecutive school days, with the first five days serving as baseline data.

Control group. Students in the control group orally read a new passage to the experimenter during each session. The experimenter marked errors on a copy of the passage. Data were collected for 30 consecutive school days with the first five days serving as baseline data. Each student participated in one session per day. The reason for having students in the control group read a new passage daily to the experimenter was to collect data to be compared to data obtained from the other two groups. Control group data were utilized to determine whether interventions were successful.

Data Analysis

All data were analyzed using the split-half trend analysis (White & Haring, 1980). The split-half trend analysis yields two points: median scores for the first and second half of the data. These points can then be connected to produce trendlines that may aid in the analysis of the data. Weekly data were also analyzed using data on the expected rates of progress calculated by Fuchs et al. (1993). First, the median baseline CBM rate for each student was determined. Next, the number of weeks of intervention were determined. Then, the rate of weekly progress the experimenter intended to use (realistic or ambitious) was determined. Finally, to find the expectation for each student, the experimenter multiplied the rate times the number of weeks of intervention and then added that number to the student's median baseline CBM rate. After the initial 30 days of data collection, students did not read passages for a period of 3 weeks. After the 3 week interval elapsed, each student then read three new probes in one final session; this data served as the maintenance data.

Results

The purpose of this study was to examine the overall effectiveness of the listening previewing and folding-in techniques on improving oral reading performance and also examine the issue of the maintenance of skills after the direct intervention has ended. To aid in the explanation of the data, daily data were collapsed into weekly data points. Figure 1 displays the average number of words read correctly across weeks for the listening previewing intervention group. Results indicated that Learner 1 (Figure 1) experienced a slight decline in words read correctly (WRC) across the first 2 weeks of data collection and then a variable increase and decrease of WRC across weeks 4, 5, and 6 of the intervention phase. Maintenance data (week 7) suggest a slight gain of words read correctly over baseline three weeks after the direct intervention ended. In contrast, Learner 2 experienced a slight increase in words read correctly across the first 2 weeks of data collection and then a variable increase and decrease of WRC across the rest of the intervention. Maintenance data also suggest a slight increase in WRC over baseline three weeks after the intervention ceased. Learner 3 demonstrated an increase of words read correctly across the first two weeks of data collection, followed by a slight decline, with a considerable increase in WRC during the maintenance period when compared to baseline. Split-half trend analysis of the data for Group 1 (Figure 2) indicates minimal gains of WRC for Learners 1 and 2. A downward trend was apparent for Learner 3, suggesting no significant gains of WRC during the intervention. The listening previewing procedure was not found to be an overwhelmingly effective reading intervention for improving oral

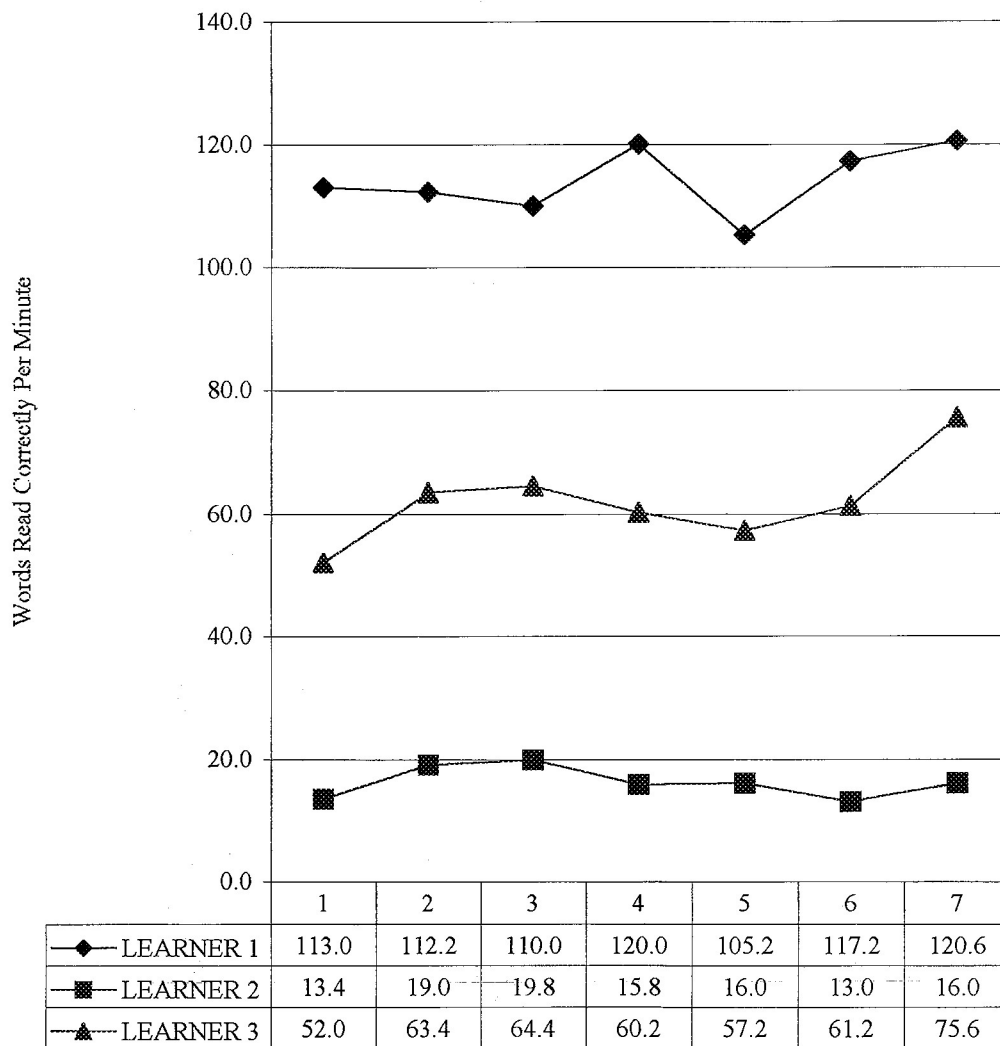


Figure 1. Average number of words read correctly across weeks for the listening previewing intervention group, with week 1 representing baseline data and week 7 representing maintenance data.

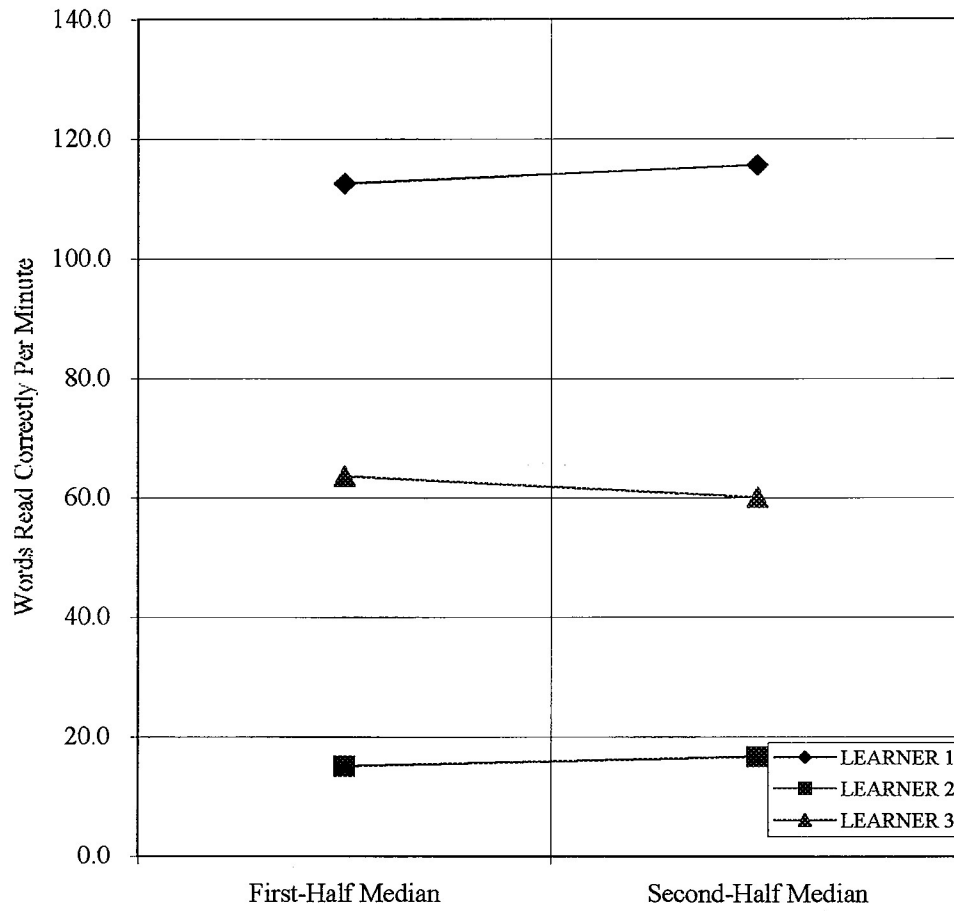


Figure 2. Split-half trendlines for the listening previewing group with slopes for learners as follows: learner 1= .23, learner 2= .12, learner 3= -.27.

reading performance for this group of students.

Figure 3 exhibits the average number of words read correctly across weeks for the folding-in intervention group. Results suggest that Learner 4 (Figure 3) exhibited a slight gain of words read correctly only during week 4. During the other weeks, results were similar to baseline data. Maintenance data (week 7) indicated a considerable increase of WRC when compared to baseline, three weeks after the intervention ended. Figure 3 also profiles the variable increase and decrease of WRC across average weekly data for Learners 5 and 6. Maintenance data for both learners suggest considerable gains in WRC over baseline three weeks after the intervention phase terminated. As may be seen in Figure 4, all learners in Group 2 demonstrated downward trends, suggesting no significant gains of WRC during the intervention phase. Therefore, the folding-in technique was not considered to be an effective reading intervention for improving oral reading fluency in this study.

Figure 5 displays the average number of words read correctly across weeks for the control group. Figure 5 displays variable increases and decreases of words read correctly across average weekly data for Learners 7, 8, and 9. Maintenance data indicated considerable gains of WRC for Learners 7 and 9 when compared to baseline while Learner 8 experienced only a slight gain of WRC. Figure 6 exhibits trend analysis data for Learners in Group 3, the control group. Learner 7 demonstrated an upward trend, Learner 9 exhibited a slight upward trend, and Learner 8 earned a flat trendline, suggesting no gain of words read correctly for Learner 8.

Overall, when comparing the effectiveness of the two procedures on oral reading performance, neither the listening previewing nor the folding-in technique were particularly successful. Maintenance data suggest that all Learners experienced more

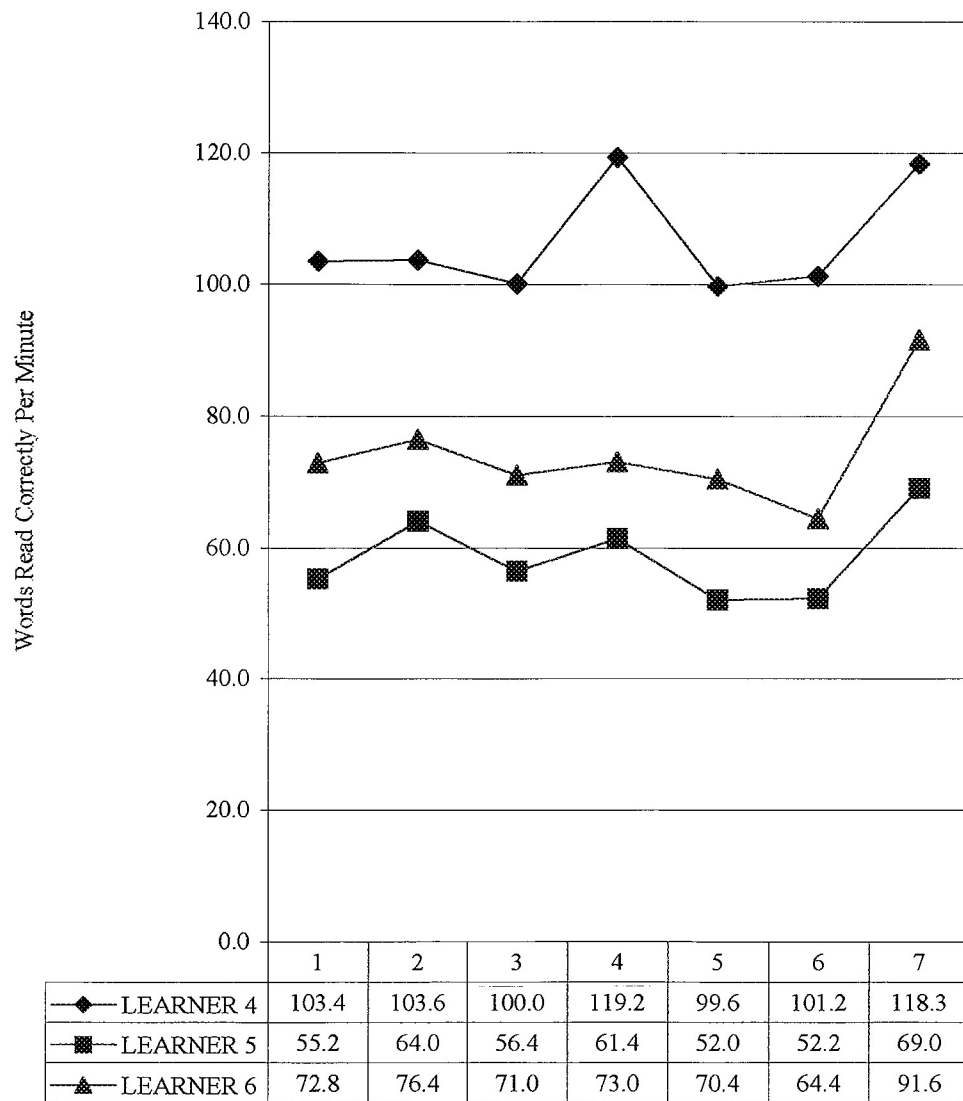


Figure 3. Average number of words read correctly across weeks for the folding-in intervention group, with week 1 representing baseline data and week 7 representing maintenance data.

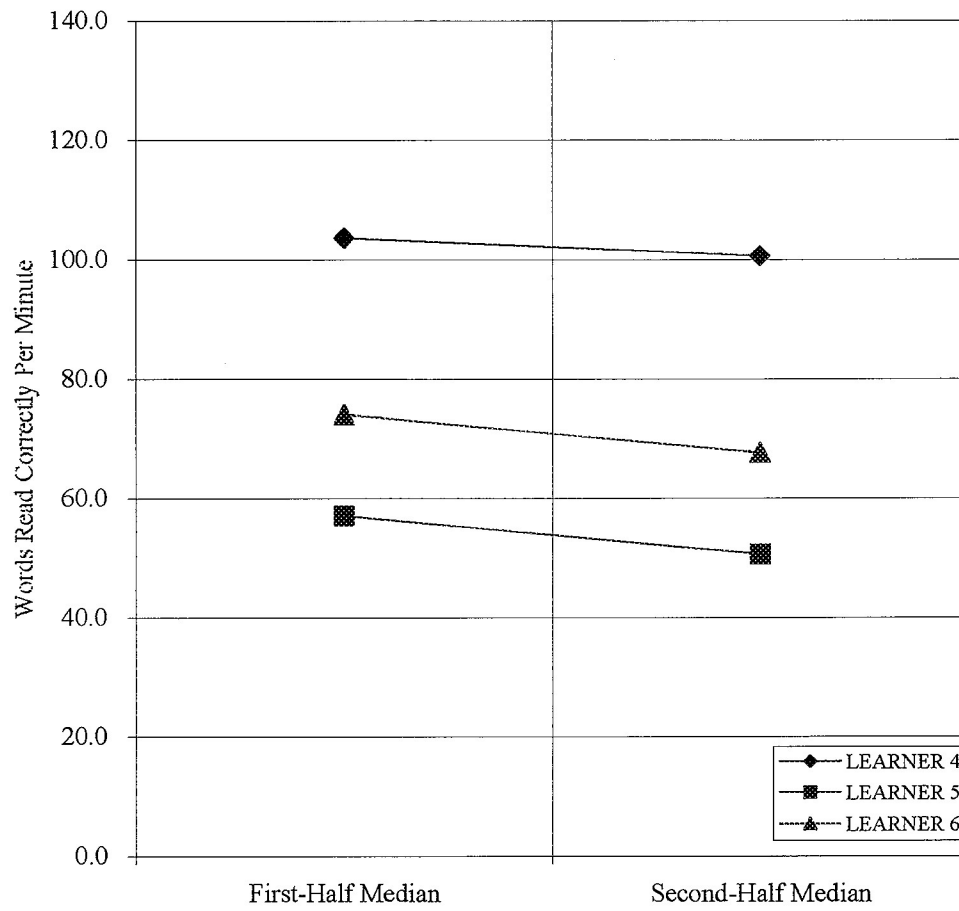


Figure 4. Split-half trendlines for the folding-in group with slopes for learners as follows: learner 4= -0.27 , learner 5= -0.50 , learner 6= -0.50 .

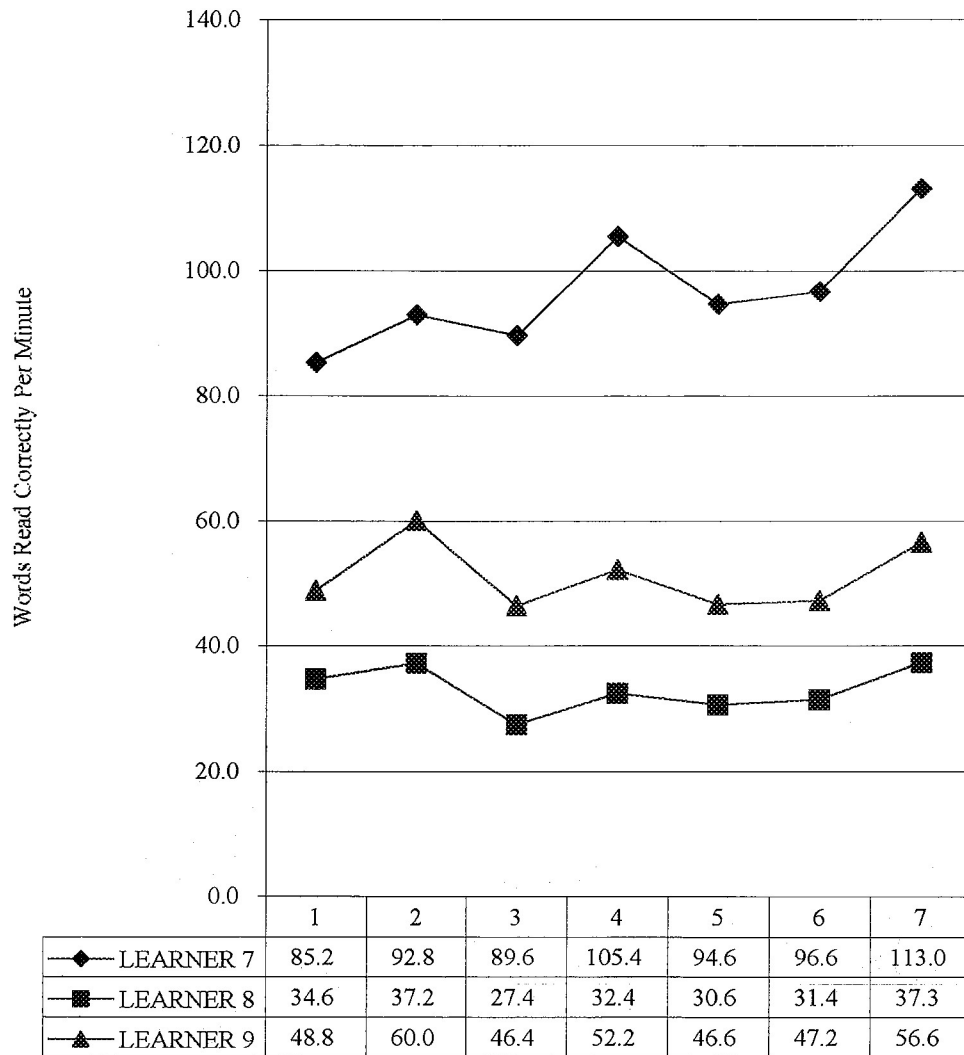


Figure 5. Average number of words read correctly across weeks for the control group, with week 1 representing baseline data and week 7 representing maintenance data.

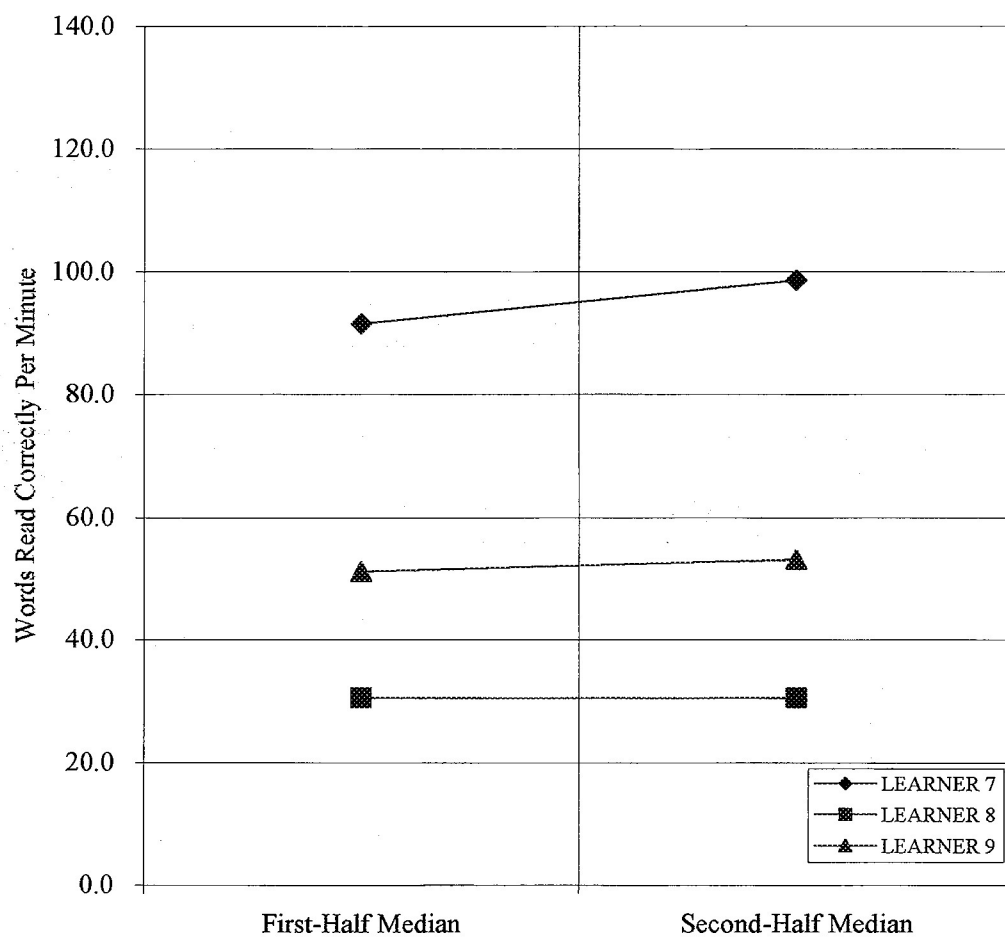


Figure 6. Split-half trendlines for the control group with slopes for learners as follows: learner 7= .54, learner 8= .00, learner 9= .15.

words read correctly three weeks after the initial 30 consecutive days of data collection. However, for all Learners, with the exception of Learner 8, the increase in WRC was considerable when compared to baseline data. Utilizing the expected rates of progress data described by Fuchs et al. (1993), an estimated gain of 8 words read correctly at the conclusion of the study can be seen as a realistic expectation for all learners. All learners, except Learner 8, exceeded their estimated goals. Therefore, even though the two reading interventions did not appear to be successful, realistically almost all learners met their expectations.

Discussion

The purpose of the present study was to examine the overall effectiveness of two reading interventions, listening previewing and folding-in, on improving oral reading performance. The findings of the present study conflict with previous findings (Rose, 1984a; 1984b; Rose & Beattie, 1986; Rose & Sherry, 1984) that the listening previewing procedure can be an effective reading intervention for improving oral reading performance. The aforementioned studies and the present study share many similarities in their procedures and design but also some differences, which may account for the conflicting results. First, the present study utilized regular education students while previous studies utilized special education students. These particular reading interventions may not be as beneficial for regular education students as with special education students. Next, the intervention phase of the present study lasted only twenty-five days while previous studies implemented interventions for an average of one more week. The intervention phase of the current study may not have been long enough to actually indicate whether the interventions worked. Also, previous studies determined the success of interventions as more WRC across the sessions when compared to baseline. The subjects in previous studies experienced these upward trends of WRC across the sessions. Learners in the present study did not consistently experience an upward trend of WRC across weekly sessions. Finally, the experimenter of the current study assumed equivalence among the students regarding skill level of reading. Previous studies ascertained the reading level of each student using standardized reading assessment

tools. Therefore, information on similarities of students' reading levels were known before data collection took place. It is possible that the learners in the present study were not all within the same reading skill range and this skill difference would affect the results.

The current findings suggest that neither the listening previewing procedure nor the folding-in technique were particularly successful with increasing oral reading fluency with these students. Even though the students seemed to really enjoy the folding-in technique, the findings of the current study conflict with previous findings (Hargis et al., 1988; Roberts et al., 1991) that the folding-in technique can be a moderately effective reading intervention for improving oral reading fluency. One possible explanation for this finding may be that the reading of the passages is contextualized, which means that the reader has the opportunity to grasp clues from the context to help determine difficult words. In contrast, the presentation of single words on flashcards is decontextualized, meaning that the reader cannot obtain clues about the word. During the folding-in intervention, errors made during reading may not have been high frequency words that the student would normally recognize in everyday reading materials. Future researchers may want to explore the possibility of modifying the folding-in procedure in a way that will permit more important (common) words to be taught. Basically, having learners just practice reading each day appeared to yield similar results (more words read correctly) as implementing specific reading interventions in the other two groups.

Maintenance data suggest considerable gains of WRC three weeks after the intervention phase ended. This finding may not necessarily be due to an increase in reading skills. One possible explanation for the considerable gains in WRC may be due to the reintroduction of the passages three weeks after the sessions ceased. The novelty of the sessions may have remotivated the students to work hard for the experimenter.

Before the initial 30 days of data collection ended, the students may have been getting tired of reading the passages every day, as evidenced by the downward trends of WRC. Future research may seek to implement the intervention 2 to 3 times a week instead of every day. Furthermore, there should be no time lapse between the intervention phase and the maintenance phase. After the intervention phase ceases then maintenance probes should be given 2 or 3 times a week for 3 to 4 weeks. Using this design may help minimize the probability that the students will become tired of reading the probes and also reduce the novelty of the maintenance data session procedures. Another reason for the considerable gains in WRC may be that the content of the maintenance probes may have been more interesting than the content of previous probes. Therefore, students would be more motivated to read the maintenance passages. Additional probes should be administered to determine whether or not there was an actual increase in WRC.

There were limitations to the present study. First, no relationship can be determined regarding reading comprehension because students were not asked questions about the passages they read. Further investigation needs to focus on this subject. Second, generalizability of the results is limited due to the small sample size. Also, a small sample size may partly account for the little difference seen on improved oral reading performance resulting from the reading interventions due to the variability between students in each group. Further research using the same population (regular education students) with larger sample sizes needs to be explored. Third, the intervention phase lasted only twenty-five days in the present study. This time period may not have been long enough to actually indicate whether the interventions worked. Therefore, a longer intervention phase may be an interesting avenue for future research. Fourth, the entire study was conducted solely by the experimenter. Even though the experimenter

conducted several practice sessions to gain experience, the procedure conducted by the experimenter may still have ultimately affected the results of the study. For example, the experimenter may have been experiencing a “bad” day, be “off” on the implementation of the procedures, or pressed for time to finish with each student. Further research may want to utilize trained proctors or teachers to collect data, as previous studies have done. Finally, subjects were chosen from a teacher generated list. This list may have affected the results due to the possibility that these students may not have been equivalent in their reading skill level. Therefore, future research may want to utilize some form of standardized reading assessment to ascertain the reading level of the subjects.

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Appendix A
Participant Consent Forms

Participant Consent Form

Dear Parents:

Your child is invited to participate in a research project examining the effectiveness of reading interventions on oral reading performance. This study is being conducted by Allison Morris, who is a School Psychologist Intern with Daviess County Schools and a Western Kentucky University graduate student. This reading intervention project is being conducted in cooperation with your child's school. The information gained on the effectiveness of reading interventions on oral reading performance may help teachers, aides, and/or volunteers assist students improve reading in the classroom. The sessions will be coordinated with your child's teacher so that your child does not miss any crucial learning activities.

The reading interventions consist of simple, brief, one-on-one instructional times with your child. The reading interventions will take place in the students' classrooms or in a nearby quiet area (e.g., hallway, library). Each student will be randomly assigned to one of three intervention groups. Students in Group 1 will listen to a story being read before reading it themselves. Students in Group 2 will read a story and then be drilled with flash cards on the words they did not know. The students in Group 3 will simply receive extra practice reading each session. The project will be conducted for 30 consecutive school days, with a single session follow-up one month after the initial 30 days, at your child's school.

Your child's participation in this project is entirely voluntary. If you or your child decide not to participate, it will have no negative outcome for you or your child in any way. Your child may withdraw from the study at any time. All information collected in this study will be kept confidential but will be made available to the parents and

classroom teacher.

The procedures in this study have been reviewed and approved by the Western Kentucky University Committee for the Protection of Human Research Participants. The University has filed a form called "Assurance of Compliance with DHHS regulations for the Protection of Human Subjects" with the Department of Health and Human Services. Specific questions about this study may be directed to Allison Morris, Principal Investigator for this project, at (270) 685-3161, or Dr. Carl Myers, WKU Supervisor, at (270) 745-4410. Give either one of us a call if you have any questions.

We hope that you will allow your child to take part in the study. We promise to make it a pleasant, learning experience for your child and to schedule sessions in cooperation with your child's teacher. Please fill in your child's name, your child's date of birth, and your child's teacher's name below. Check the line to indicate whether or not you give your consent, sign your name, and fill in the date below. Please have your child return this letter to the teacher. Your child will receive a small token of appreciation (e.g., pencil) when he or she returns this form no matter if the "yes" or "no" box is checked.

Thank you for your help.

Sincerely,

Allison Morris
School Psychologist Intern

Carl Myers, Ph.D.
Assistant Professor of Psychology

Western Kentucky University

Participant Consent Form

Child's name: _____ Date of birth: _____

Teacher's name: _____

_____ No. I do not give my consent for my child to participate in this study.

_____ Yes. I have read the information provided about this study, and give my consent for my child to participate in the research project conducted by Allison Morris of Western Kentucky University. I understand that I may withdraw my child from the study at any time without penalty.

Parent's signature: _____ Date: _____

Appendix B

Human Subjects Review Board Approval Letter

WESTERN KENTUCKY UNIVERSITY
Human Subjects Review Board
Office of Sponsored Programs
104 Foundation Building
502-745-4652; Fax 502-745-4211
E-mail: Phillip.Myers@Wku.Edu

In future correspondence please refer to HS0027, November 19, 1999

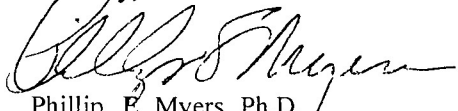
Allison Hope Morris
3071 Burlew Boulevard
Owensboro, KY 42303

Dear Allison:

1. Your research project "Improving Oral Reading Performance: A comparison of the Effectiveness of Two Reading Interventions," has undergone review by the Western Kentucky University IRB for human subjects of research and it has been determined that risks to subjects are: (1) minimized and reasonable; and that (2) research procedures are consistent with a sound research design and do not expose the subjects to unnecessary risk. Reviewers determined that: (1) benefits to subjects are considered along with the importance of the topic and that outcomes are reasonable; (2) selection of subjects is equitable; and (3) the purposes of the research and the research setting is amenable to subjects' welfare and producing desired outcomes; that indications of coercion or prejudice are absent, and that participation is clearly voluntary.
2. In addition, the IRB found that: (1) informed consent will be sought and documented from each prospective subject. (2) Provision is made for collecting, using and storing data in a manner that protects the safety and privacy of the subjects and the confidentiality of the data. (3) Appropriate safeguards are included to protect the rights and welfare of the subjects. Please store all data securely at an on campus location for a minimum of three years after the project is completed.
3. Your research therefore meets the criteria of **Full Board Review** and is **approved**. Please note that the institution is not responsible for any actions regarding this protocol before approval. Copies of your request for human subjects review, your application, and this approval, are maintained in the Office Sponsored Programs at the above address. Please report any changes to this approved protocol to this office. A Continuing Review protocol will be sent to you in the future to determine the status of the project.

Kindest regards.

Sincerely,



Phillip E. Myers, Ph.D.
Director, Office of Sponsored Programs and
Human Subjects Coordinator

c: Human Subjects File0027
Dr. Carl Myers, Department of Psychology

HSApprovalMorris0027