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I, Laura Berry, hereby submit this original work as part of the requirements for the degree of:

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A Comparison of the Effects of Repeated Readings with and without Live Model Listening Preview on Reading Fluency and Comprehension for English Language Learners

Student Signature: Laura Berry

This work and its defense approved by:

Committee Chair: Renee Oliver Hawkins, PhD

Janet Lee Graden, PhD

Roger Collins, PhD

Laura Berry
A Comparison of the Effects of Repeated Readings with and without Live Model Listening Preview on Reading Fluency and Comprehension for English Language Learners

A dissertation submitted to the

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by

Laura Berry

B.A., University of Kentucky, 2006

M.Ed., University of Cincinnati, 2007

Dissertation Committee: Renee Hawkins, Ph.D. (Chair), School Psychology

Janet Graden, Ph.D., School Psychology

Roger Collins, Ph.D., Educational Studies & Leadership
Abstract

Previous research has demonstrated the effectiveness of both repeated readings (RR) and listening previewing (LP), alone and in combination, to improve the reading performance of monolingual English speakers. Little research has examined these interventions for English Language Learners, however. Further, it is not yet established whether or not the addition of a live model improves the effects of RR for this population. An alternating treatment design with baseline was used to compare the effects of 2 interventions, RR with and without a live model preview, on the reading fluency and comprehension of practiced reading material for 5 third-grade, native Spanish speakers. Visual analysis revealed that adding a modeling component did not result in greater performance compared to RR alone for any of the participants. Assessments on unpracticed passages revealed generalized gains in reading fluency and/or comprehension for 3 of the 5 participants.

Keywords: Repeated Readings, model, preview, fluency, comprehension, English Language Learners, second language
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Introduction

The National Reading Panel identified reading fluency as one of the five big ideas in reading, describing it as critical to comprehension, which is essential to reading and learning (National Institute of Child Health and Human Development, 2000). Daly, Chafouleas, and Skinner (2005) defined reading fluency “as the number of correctly read words per minute when an individual is asked to read a passage of connected text aloud for 1 minute” (p. 74). According to this definition, reading fluency requires both accuracy and speed. In LaBerge and Samuels’ (1974) automaticity model of reading, decoding fluency is needed for comprehension because automaticity of lower level recognition processes allows for the reallocation of attention to active comprehension processes. Research has shown that oral reading fluency measures (ORF) are strongly predictive of standardized tests of comprehension (e.g., Fuchs et al., 1988; Hintze et al., 2002), although fluency effects may diminish in the later grades (Yovanoff et al., 2005). Pikulski and Chard (2005) argued that fluency is reciprocally related to comprehension, with good fluency preventing word recognition problems that might impair comprehension, and increased comprehension facilitating fluency. Silent reading comprehension has been shown to be correlated with later oral reading fluency of the same passage (Hiebert & Fisher, 2005).

Rationale for Targeting Fluency in ELLs

Vanderwood and Nam (2008) argued that targeting literacy for English language learners (ELLs) is of particular importance because of the growing ELL population in the U.S., the high proportion of ELLs who perform below grade level in English reading, the growing achievement gap between ELLs and native English speakers, and the impact of English proficiency on special education eligibility decisions. Census data reveal that the population five years and older
speaking a language other than English at home increased 140.4% from 1980 to 2007, compared to a 33.6% increase in the total population (Shin & Kominski, 2010). The 2007 Reading Assessment of the National Assessment of Educational Progress revealed that ELLs had lower average scaled scores than students who were not English language learners, resulting in a lower percentage of ELLs scoring at or above proficient (7% in fourth grade and 4% in eighth grade) compared to students proficient in English (34% in fourth grade and 31% in eighth grade; U.S. Department of Education, National Center for Education Statistics, 2009). This reading achievement gap is of concern to placement in special education programs as the majority of identified ELLs qualify due to learning disabilities, and reading performance is the most common reason for referral (Vanderwood & Nam, 2008).

Poor English proficiency may be confused with learning disabilities or cognitive difficulties, so it is important to improve ELLs’ English reading fluency to help reduce possible misidentifications and increase their access to curricula taught predominantly or entirely in English (Vanderwood & Nam, 2008). Rhodes, Ochoa, and Ortiz (2005) highlighted the importance of universal screening and effective early interventions in reducing overrepresentation of culturally and linguistically diverse students in special education. When seeking to improve ELL reading fluency, the large body of research on interventions that have been shown effective with monolingual students (e.g., National Institute of Child Health and Human Development, 2000; Daly et al., 2005; Joseph, 2008; Nelson et al., 2004; Daly & Martens, 1994) provides a starting point. However, it cannot be assumed that these interventions will be equally effective with ELLs, a very diverse population which may have idiosyncratic instructional needs due to their different first languages and varied family and educational histories (Malloy et al., 2007). Klingner and Edwards (2006) cautioned that interventions must
be validated with participants similar to the target students, yet many studies do not offer sufficient information about participant characteristics (including language proficiency) and often omit students with limited proficiency in English.

**Repeated Readings**

Repeatedly reading a short text helps students improve their reading speed, accuracy, and expression (Samuels, 1979). Daly, Chafouleas, and Skinner (2005) described Repeated Readings (RR) as one of the best options for targeting reading fluency because of the practice time it provides. RR is an intervention with well documented effectiveness with native English speakers in both general education and special education settings (e.g., Dowhower, 1987; Hapstak & Tracey, 2007; Nelson et al., 2004; Paige, 2006; Sindelar et al., 1990). A meta-analysis of RR studies conducted by Therrien (2004) showed that RR can produce gains in both reading fluency and comprehension for a wide variety of students, both with and without disabilities. Gains in fluency were generally greater than gains in comprehension. Peer-mediated interventions also have been shown to be effective in improving fluency (e.g., Musti-Rao et al., 2009; Mathes & Fuchs, 1993), but Therrien’s review found that gains in both fluency and comprehension were increased when RR was conducted with an adult rather than a peer. These improvements also have been shown to transfer to overall reading ability (effects are not limited to practiced passages; e.g., Dowhower, 1987; Taguchi, 1997). Based on this meta-analysis, Therrien recommended that when RRs are intended to increase overall reading performance, essential components of RR include reading aloud, reading to an adult who corrects word errors, and reading until a performance criterion is reached.
Error correction procedures are important and may be included in RR intervention packages so that students practice correct reading rather than errors. Alber-Morgan, Ramp, Anderson, and Martin (2007) found that a RR intervention which incorporated performance feedback and error correction decreased errors for all four middle school students in the study and increased fluency for three. Systematic error correction during oral reading is not enough on its own, however; Nelson, Alber, and Gordy (2004) compared RR with error correction to error correction alone and found that, although both interventions decreased errors, only RR with error correction increased fluency.

Modeling Components

One way to prevent some student errors is to provide the student with a fluent model of a passage before asking the student to read the same passage aloud. This fluent model can be a live model (Rasinski, 1990; Rose & Sherry, 1984; Skinner et al., 1997) or an audio recording (Daly & Martens, 1994; Lionetti & Cole, 2004). Such modeling is found in the literature as a stand-alone intervention before fluency assessment (Rose, 2001; Daly & Martens, 1994; Lionetti & Cole, 2004; Rasinski, 1990) or combined with RR (Hapstak & Tracey, 2007; Dowhower, 1987; Begeny & Silber, 2006).

Rose (2001) compared two forms of prereading activities, silent and listening preview, and found that both were better than no preview, but listening to a model was associated with higher fluency. Daly and Martens (1994) compared a listening passage preview intervention (LPP), in which students were asked to silently read along with an audiotape of the passage before being assessed for fluency on that passage and a word list, with silent previewing and taped words previewing. They found that LPP, in which the passage was read at about 130
words per minute, produced the greatest immediate gains in accuracy and fluency. Lionetti and Cole (2004) also used taped previewing in an intervention they called listening while reading (LWR). They compared two different rates of LWR and found that both increased fluency but not comprehension. Contrary to their expectations, a slower model (approximately equal to the student’s current rate) did not lead to greater improvements than a faster model (about 20% faster than the student’s current rate).

Rasinski (1990) found that repeated LWR with a live, teacher model produced gains in reading fluency equal to the gains produced by RR. Rose and Sherry (1984) compared listening preview with a live, teacher model to silent previewing, and found that both previewing interventions generally increased fluency, with listening previewing producing greater results. Skinner, Cooper, and Cole (1997) also found that live model previewing was superior to silent previewing. Additionally, they compared two rates of previewing and found that slower modeling (about 50 words per minute) resulted in greater student fluency than rapid modeling (the experimenter’s natural rate). Similarly, Skinner et al. (1993) found that slow rates of listening previewing (22.5% faster than students’ rates) were superior to fast rates (77.5% faster than students’ rates) in reducing student errors. These findings conflict with the finding by Lionetti and Cole (2004) of no significant differences between two LWR rates.

Rate of modeling can be varied not only by the speed of reading an entire passage, but also by varying how much of a passage is read by the adult model before the student is asked to read the same text. In Echo Reading, which is also used to improve reading fluency, the teacher first reads a single sentence or phrase (as short as is necessary for the student to successfully imitate the model), then has the student echo that phrase, repeating the procedure until the entire passage is read (Anderson, 1981).
**RR and Modeling**

When Begeny, Krouse, Ross, and Mitchell (2007) directly compared RR and LPP, both increased fluency, but RR was more effective. The two strategies need not be used in isolation, however; some studies have combined model previewing with RR. Hapstak and Tracey (2007) used assisted RR in which previewing (the teacher modeled the passage, then the student echoed) was followed by two trials of RR. They found that the assisted RR intervention improved fluency on practiced passages for all students, with the greatest improvements found for students whose greatest reading difficulty was believed to be decoding. Dowhower (1987) compared RR alone with RR and taped previewing and found that both interventions improved reading fluency and comprehension, but RR with previewing better facilitated prosodic reading. In a review of fluency interventions for secondary readers, Wexler, Vaughn, Edmonds, and Reutebuch (2008) found that the effects of RR are improved when the intervention includes a fluent model and error correction. Begeny and Silber (2006) found that a combination of repeated reading, listening passage preview, and practicing difficult words in isolation was more effective than any one of the interventions alone. Similarly, in a review of research on improving fluency for elementary students with learning disabilities, Chard, Vaughn, and Tyler (2002) found that effective interventions included explicit modeling, repeated reading practice, and corrective feedback.

In summary, both RR and live modeling previewing have been shown to be effective. Furthermore, they have been shown to be effective when combined. The present study aimed to see if a RR intervention shown to be effective with monolingual students (i.e., three readings with error correction from a fluent adult reader) would effectively improve the reading fluency
and comprehension of ELLs, and if results would be enhanced by the addition of a live, fluent preview of the passage.

**Previous Research with Second Language Learners**

For some of the reasons previously described, there is limited research that specifically studies the effectiveness of oral reading fluency (ORF) interventions with ELLs. Some studies have examined the use of RR with participants learning English as a second language. Gorsuch and Taguchi (2008) found that RR improved both fluency and comprehension for Vietnamese university students learning English. Malloy, Gilbertson, and Maxfield (2007) used brief experimental analysis (BEA) to select reading interventions for five ELL students in first through fifth grade whose first language was Spanish but whose English was sufficiently proficient that they no longer received ELL services. They found that RR was the most effective intervention (likeliest to produce gains over time while being minimally intrusive) for two of the five students.

Other studies have examined RR in combination with some type of modeling. Blum et al. (1995) found that a take-home RR intervention with an audiotaped model improved reading fluency for first-grade ELLs. Taguchi (1997) found that RR combined with an audiotaped model increased silent English reading fluency for Japanese university students and generalized to oral reading fluency on new passages for the lowest level readers. A follow-up study by Taguchi and Gorsuch (2002), however, did not find significant transfer of rate and comprehension to new passages. Taguchi, Takayasu-Maass, and Gorsuch (2004) found that a combination of silent RR and listening previewing was effective in increasing the fluency of Japanese university students beginning to learn English. When Dufrene and Warzak (2007) used BEA to determine an
effective reading intervention for a 10-year old, native Spanish speaker, listening passage preview (LPP) and later RR were found to be most effective in Spanish reading, but a combination of LPP and RR was consistently the most effective for both fluency and comprehension in English.

RR has also been used to improve Spanish reading fluency for Spanish-English bilingual students who were beginner or non-English speakers in the first or second grade, as part of a Spanish translation of the Read Naturally program, which combines RR, audiotaped models, and self-graphing words correct per minute (De la Colina et al., 2001). The Read Naturally Program has had mixed results with bilingual students, however, as another study did not find significant effects for native Spanish speakers learning English in second through fifth grade (Denton et al., 2004). Listening previewing without RR also has some support with ELLs, as O’Donnell, Weber, and McLaughlin (2003) found that a combination of key word analysis and live modeling improved fluency and comprehension for a fifth-grade ELL.

Thus, RR and RR with modeling have limited support with second language learners, with positive results for both school-aged and university students with various language backgrounds, but the evidence is mixed as to whether or not gains generalize to unpracticed passages. Furthermore, while modeling has been part of effective programs used with second language learners, a study has not examined whether or not it yields additional gains over RR alone. The current study aimed to address both of these issues: generalization to new passages and the utility of adding a modeling component.
Current Study

Different forms of RR have been shown effective for at least some ELL students, but more research is needed as to which forms may be most effective and to replicate gains across various groups of ELLs (e.g., across grades and language backgrounds). The present study used two variations of RR interventions with error correction, with and without live modeling preview, to answer two research questions using third-grade native Spanish speakers as participants: 1) Does the addition of a live model preview enhance the gains associated with RR? 2) Will the selected RR variation produce generalized gains in oral reading fluency and comprehension? While fluency was treated as the primary decision-making variable, comprehension also was measured as both fluency and comprehension were identified as essential components of reading by the National Reading Panel (National Institute of Child Health and Human Development, 2000). A live model was chosen based on Chard, Vaughn, and Tyler’s (2002) finding that a live model may be more effective than modeling provided by a tape or computer. An alternating treatment design (ATD) compared the two interventions across time to see which resulted in greater gains on instructional passages for each participant. The superior intervention was used during an extended phase to verify its effectiveness. Generalization probes for oral reading fluency and reading comprehension were used throughout a baseline phase, the ATD phase, and the extended use phase to determine whether or not gains generalized to unpracticed passages.
Methods

Participants and Setting

Five, third-grade, native Spanish-speaking students were recruited from an urban, Midwestern, bilingual public school. A pool of eligible participants was first selected based on oral reading fluency (ORF) scores on a district-wide screening. Scores placed the students in the at risk or some risk ranges in ORF according to the benchmarks set by the Dynamic Indicators of Basic Early Literacy Skills (DIBELS; Good & Kaminski, 2007), yet also were high enough to suggest that students could participate in an English fluency intervention. Daly et al. (2005) suggested that for grades 1-3, an ORF score of 30 or fewer correct words per minute (cwpm) indicates that the reading material is probably very difficult for the student, and the student will likely need very intensive intervention or lower level reading material. Thus, all participants scored at least 30 cwpm.

Of these eligible students, five were selected for recruitment based on teacher nomination of students whose speaking and listening English skills were sufficient to allow participation in an English-only intervention (see Appendix A for Study Overview for Teachers). The consideration of English speaking and listening ability reflected the importance of oral language skills in providing the familiarity with syntax, grammar, and meaning needed for reading fluency and comprehension (Pikulski & Chard, 2005). The teachers also considered factors such as behavior, attendance, acculturation, and educational history that might impact successful participation (Rhodes et al., 2005). Parent permission and student assent were obtained for all participants (see Appendix A for the study overview letter provided to parents, parent permission, and student assent). The parent letter and permission also were provided in Spanish.
Participants will hereafter be referenced by numbered pseudonyms. Student 1 was an eight-year-old female who was born in Mexico and had been in the bilingual school since the second grade. Student 2 was a male who turned nine years old during the study, was born in Puerto Rico, attended US schools since kindergarten, and attended the bilingual school since the first grade. He was found eligible for special education under the category of Specific Learning Disability during the course of the study. Student 3 was a nine-year-old female who was born in the US and attended the bilingual school since kindergarten. Student 4 was a male who turned ten years old during the study, was born in the US, attended US schools since the first grade, and had attended the bilingual school since the middle of the second grade. Student 5 was an eight-year-old male who was born in Mexico and attended the bilingual school since kindergarten.

All assessments and interventions took place at the participants’ school, outside of the classroom, and were conducted by the primary researcher, who was also a school psychology intern in the district, and trained graduate assistants.

Materials

Unpracticed, third-grade DIBELS ORF progress monitoring passages were used for assessing reading fluency, the primary dependent variable (Good & Kaminski, 2007). Unpracticed AIMSweb maze passages were used for assessing comprehension (Pearson, Inc., 2001). Grade-level passages from the Reading Fluency series published by Jamestown Education served as instructional passages for RR interventions (Level C Reader; Blachowicz, 2004). Passages were typed into Microsoft Word to create ORF and maze assessments. ORF probes were created by adding the cumulative number of words per line in the right margin using the OKAPI! assessment tool (http://www.lefthandlogic.com/htdocs/tools/okapi/okapi.php).
Maze probes were created by replacing every 7th word after the first sentence with parentheses containing three choices in random order: the correct word from the passage, a near distracter that is the same type of word but does not make sense in context, and a far distracter that is grammatically incorrect (Shinn & Shinn, 2002). The primary researcher and trained graduate students created the maze probes.

Passage order for each probe type (DIBELS ORF, AIMSweb maze, instructional ORF, and instructional maze) was randomized for each participant using a List Randomizer web tool from random.org (Haahr, http://www.random.org/lists/). All passages and assessments were printed from a computer using standard paper. Pencil or pen and a stopwatch were used for assessments. The number of sessions participants worked with researchers was recorded by placing a sticker on an index card; 10 stickers earned the child’s choice of a small prize from a bag (e.g., pens, pencils, toy cars, candy, etc.).

**Experimental Design**

This study used a single case alternating treatment design (ATD) to establish reading difficulties (uncontrolled baseline), select a best intervention (multi-element comparison of the two interventions), and evaluate the intervention’s effectiveness in improving student reading performance across an extended phase. The baseline phase measured participants’ reading fluency and comprehension to verify that they were below benchmark in fluency and provide a basis for evaluating the effectiveness of interventions. The second, multi-element phase compared fluency and comprehension on practiced passages across repeated, alternating measurements of the two interventions. This phase continued for at least seven sessions of each intervention until visual analysis revealed that one was superior to the other on at least
instructional ORF, or that the two interventions were not meaningfully different. If the two intervention variations did not produce visually discrepant results (i.e., separation of data paths when graphed), the less intensive intervention (RR) would be chosen for implementation in the extended phase. This selected intervention was used for at least seven weeks, or until the school year ended, so that performance on unpracticed passages could be compared to baseline to test for the generalization of intervention effects.

**Dependent Variables**

Correct words per minute (cwpm) and errors per minute (epm) from 1-minute ORF assessments served as the fluency dependent variables. Unpracticed DIBELS passages were used for baseline and for generalization measures during the ATD and the extended use of the selected intervention. The *Reading Fluency* passages were used for instructional ORF measures during the ATD and extended use phases, taken immediately after an intervention session and using DIBELS rules for scoring errors and cwpm (under these rules, pronunciation variations due to accents or dialectical differences are not counted as errors). ORF has been found to be a good predictor of overall reading ability (Good & Kaminski, 2009).

Correct word choices per minute (cwcpm) from maze assessments, which measure comprehension and have been found to be reliable, valid assessments of reading growth (Shin et al., 2000), served as the comprehension dependent variable. Error word choices per minute (ewcpm) also were monitored. Maze passages from AIMSweb were used for baseline and generalization. Maze passages created from the instructional passages were administered immediately after instructional sessions during the ATD and extended use phases.
A baseline consisting of at least three sessions, one session per week, was collected for each participant on ORF and maze assessments. Additional baseline points were collected as needed until ORF showed a stable or decreasing trend, or a trend insufficient to meet the end of year DIBELS benchmark. ORF assessments were conducted for 1 min and resulted in cwpm and epm scores. Maze assessments were conducted for 3 min and resulted in cwcpcm and ewcpcm scores. If a student finished an assessment in less than the allotted time, the time to completion was recorded and scores were converted to per minute rates.

During the intervention phases, instructional ORF and maze assessments were conducted immediately after each intervention session (approximately 3/wk). DIBELS progress monitoring probes and AIMSweb mazes were administered weekly throughout the study, never on intervention days, to assess whether or not the selected intervention’s effects generalized to unpracticed passages.

Procedures

All intervention sessions included three complete readings by the student. This number of readings was based on the synthesis by Wexler, Vaughn, Edmonds, and Reutebuch (2008), which suggested that three readings may represent a good balance of student gains and efficient use of intervention time. The interventionist (the primary researcher or trained graduate assistant) started a stopwatch as soon as the intervention began (whether RR or RR+LP) and stopped the timer as soon as the third reading was finished. The interventionist then removed the student’s copy of the passage and gave the student a maze probe, face down. The interventionist said, “I’m going to give you a story in which some words are replaced with a group of three words in parentheses. Your job is to circle the one word that makes the most sense in the story.
Only one word is correct. Work as quickly as you can without making mistakes. I’ll tell you when to stop. If you finish early, tell me that you’re done. Do you have any questions?” (adapted from Shinn & Shinn, 2002). The probe was removed when the student finished, in which case the interventionist recorded the finish time, or when 3 min had passed. The interventionist then provided the student with a copy of the instructional passage and placed an ORF probe copy of the passage on her clipboard (to mark errors and student stopping point). The interventionist said, “Please read this out loud. If you get stuck, I’ll tell you the word so you can keep reading. Start here. Begin,” and started the stopwatch, obtaining cwpm and epm as per DIBELS instructions (Good & Kaminski, 2007). The same assessment procedures were used on unpracticed passages during baseline and generalization sessions. The scripts for both intervention variations and both assessment types are found in Appendix B.

Intervention sessions were conducted three days per week. Intervention duration varied across participants and across passages, and was recorded for each intervention session (see Table 1). DIBELS ORF assessments and AIMSweb maze assessments were administered once a week. The primary researcher provided all materials and a data sheet indicating which intervention and which passage to use for that session in individual participant binders kept on site.

Table 1. Intervention Summary by Participant

<table>
<thead>
<tr>
<th>Participant</th>
<th>Total Intervention Sessions</th>
<th>Total Intervention Duration (min)</th>
<th>Mean Session Duration (min)</th>
<th>Mean RR Session Duration (min)</th>
<th>Mean RR+LP Session Duration (min)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Student 1</td>
<td>29</td>
<td>247.5</td>
<td>8.53</td>
<td>8.41</td>
<td>8.92</td>
</tr>
<tr>
<td>Student 2</td>
<td>24</td>
<td>297.63</td>
<td>12.4</td>
<td>12.12</td>
<td>13.07</td>
</tr>
<tr>
<td>Student 3</td>
<td>33</td>
<td>301.02</td>
<td>9.12</td>
<td>8.66</td>
<td>10.55</td>
</tr>
<tr>
<td>Student 4</td>
<td>23</td>
<td>246.73</td>
<td>10.73</td>
<td>9.89</td>
<td>12.63</td>
</tr>
<tr>
<td>Student 5</td>
<td>22</td>
<td>169.78</td>
<td>7.72</td>
<td>7.5</td>
<td>8.18</td>
</tr>
</tbody>
</table>
Experimental Conditions

**Baseline.** During the baseline phase and during generalization probes on unpracticed passages during later phases, the interventionist administered a maze and then an ORF probe on the same passage, which had not been practiced before.

**Repeated reading (RR).** The student was shown a passage and told: “Reading this passage a few times will help you read it better. I’d like you to read it aloud three times. If you have trouble with a word, I’ll tell you how to say the word and let you practice saying it. Ready? Let’s begin.” The interventionist started the stopwatch when the student began reading and stopped it after the student had read the entire passage three times. When the student made an error, the interventionist pointed to the word and said, “Stop. This word is _____ Please say _____.” The interventionist continued modeling the word until the student pronounced it correctly. After the three readings, the interventionist administered a maze and then an ORF assessment on the same instructional passage that had been practiced with RR.

**Repeated reading plus listening preview (RR+LP).** This condition was identical to RR except the readings were preceded by a live model. The interventionist said, “Before you practice reading this aloud to me, I’m going to read the story. Watch me read the story and try to follow along as you listen to my reading.” The interventionist started the timer and then read aloud at approximately 130 words per minute, as was effective in the study by Daly and Martens (1994). Twelve checks throughout the study revealed that the modeling rate was variable but generally near this guideline (\(M = 127.5, SD = 18.19\)). The interventionist sat next to the student while reading the story and ran her finger under each word as it was read to help the student
follow along. The student then read the passage 3 times with error correction before completing a maze and ORF assessment for that passage.

Data Analysis

Visual analysis was the primary means for evaluating intervention effectiveness. The baseline phase ended for each participant when the data showed a steady or decreasing trend, or an increasing trend inadequate to meet the end of year DIBELS ORF benchmark (ORF greater than or equal to 110 cwpm by end of the third grade). During the selection phase, the best intervention was determined by the highest average instructional cwpm. Comprehension also was measured, but was not used as the primary selecting factor.

The effectiveness of the selected intervention was evaluated for each participant by comparing cwpm, epm, cwcpm, and ewcpm level and trend across phases. This analysis was conducted using visual analysis and the dual criteria (DC) method developed by Fischer, Kelley, and Lomas (2003), a refinement of the split-middle method in which a regression line from the baseline data, based on the binomial method, is superimposed on the intervention phase data. With this method, the intervention is deemed effective if a pre-specified number of intervention data points falls above both the trend line and the baseline mean (or below both lines, if the treatment aims to decrease a variable).

Technical Adequacy

Procedural adherence for all session and assessment types was assessed by an observer using the checklists provided in Appendix B. Inter-scorer agreement (ISA) checks were conducted for both ORF and maze assessments at the same time. Checks were distributed across conditions, phases, and interventionists. ISA was measured on approximately 27% of the
sessions, and procedural adherence for approximately 28% of the sessions. ISA was measured through total agreement, which was calculated by dividing the smaller score by the larger score. Mean ISA was 98.51% for cwpm, 87.35% for epm, 98.80% for cwcpm, and 98.21% for ewcpm. Epm agreement presumably was lower than the other measures because the participants made relatively few errors during their oral reading. When disagreements occurred, the two observers compared their thoughts on scoring and recorded the appropriate score when known (i.e., for the maze, which had a key), or the score of the researcher conducting the session. Table 2 summarizes the agreement for all measures.

Table 2. Inter-observer Agreement on Dependent Variables

<table>
<thead>
<tr>
<th>Measure</th>
<th>M</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>cwpm</td>
<td>98.51</td>
<td>2.53</td>
</tr>
<tr>
<td>epm</td>
<td>87.35</td>
<td>17.35</td>
</tr>
<tr>
<td>cwcpm</td>
<td>98.80</td>
<td>4.12</td>
</tr>
<tr>
<td>ewcpm</td>
<td>98.21</td>
<td>9.36</td>
</tr>
</tbody>
</table>

Procedural adherence was assessed by dividing the number of steps correctly completed by the total number of steps for a given intervention script. Adherence was at least 98% for all scripts, as summarized in Table 3. When a step was skipped or incorrectly performed, the observer would prompt the researcher conducting the session, if possible, or provide corrective feedback after the session.
Table 3. Procedural Adherence

<table>
<thead>
<tr>
<th>Script</th>
<th>M</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>RR</td>
<td>98.96</td>
<td>3.53</td>
</tr>
<tr>
<td>RR+LP</td>
<td>100</td>
<td>0</td>
</tr>
<tr>
<td>ORF</td>
<td>99.78</td>
<td>1.66</td>
</tr>
<tr>
<td>Maze</td>
<td>100</td>
<td>0</td>
</tr>
</tbody>
</table>

**Intervention Acceptability**

Participants were given a survey about intervention likeability and effectiveness at the end of the study. The participants’ reading teacher also was given a satisfaction survey at the end of the study, covering issues related to participation in research and the intervention’s perceived effectiveness for each student. These end-of-study surveys are provided in Appendix C, with responses indicated anonymously. Student 4 was absent during the last week and a half of school and thus was unable to complete the survey. Overall, the teacher reported that all participants liked the intervention, and it helped all the participants at least somewhat in one or more area, except for Student 2. Strongest gains were reported for Students 1 and 3. All participants reported that the intervention had helped them improve their reading skills, and all but Student 5 reported liking the intervention.

**Results**

Visual analysis was used to answer each research question for each participant. Summary statistics, including means, standard deviations, and effect sizes, also were calculated.
The dual criteria (DC) method was used to determine, when sufficient data were available, whether or not the visible intervention effects were internally valid (Fischer et al., 2003).

**Research Question 1: Effect of Live Model**

The first question asked whether or not the addition of a live modeling preview component would result in greater reading performance than RR alone. This was to be determined through visual analysis of instructional ORF for each participant. The better intervention would be carried on to the extended phase. If RR and RR+LP yielded similar results, the less intensive intervention would be selected. RR alone was presumed to be easier for the interventionist, and Table 1 shows that for every participant, RR alone did indeed take less time to implement, on average, than did RR+LP.

RR was chosen for the extended phase for all participants. For no participant did the addition of the model preview seem to produce significant gains over RR alone. While RR seemed to produce superior ORF for Student 1, for all others it produced similar results to RR+LP and was chosen based on its briefer duration.

**Student 1.** Figure 1 shows the multi-element ORF comparison for Student 1. Reading fluency scores for each intervention varied across sessions, although RR appears to have resulted in slightly better performance. This was confirmed by summary statistics, with RR yielding greater fluency ($M = 110, SD = 16.20$) than RR+LP ($M = 99.29, SD = 21.97$). Error rates were similar across the two conditions. Thus, RR was chosen for the extended phase. A clear difference between interventions did not appear on the maze (see Figure 2). Visual analysis was supported by effect sizes (see Table 4), which showed that RR was superior to RR+LP for cwpm, while the two interventions were comparable for all other variables. Effect sizes were calculated
using the following formula: (multi-element phase intervention mean – baseline mean) / baseline standard deviation. For errors, the multi-element phase intervention mean was subtracted from the baseline mean so that a desired decrease in errors would yield positive effect sizes.

Figure 1. ORF during comparison phase for Student 1.
Figure 2. Maze during comparison phase for Student 1.

Table 4. Effect Sizes for Dependent Variables for Multi-element Phase.

<table>
<thead>
<tr>
<th></th>
<th>Student 1</th>
<th>Student 2</th>
<th>Student 3</th>
<th>Student 4</th>
<th>Student 5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cwpm-RR</td>
<td>2.13</td>
<td>0.93</td>
<td>1.83</td>
<td>1.16</td>
<td>1.00</td>
</tr>
<tr>
<td>Cwpm-RR+LP</td>
<td>1.40</td>
<td>0.87</td>
<td>1.89</td>
<td>0.79</td>
<td>1.29</td>
</tr>
<tr>
<td>Epm-RR</td>
<td>1.64</td>
<td>1.24</td>
<td>0.48</td>
<td>0.74</td>
<td>-0.59</td>
</tr>
<tr>
<td>Epm-RR+LP</td>
<td>1.50</td>
<td>0.32</td>
<td>0.74</td>
<td>0.99</td>
<td>0.50</td>
</tr>
<tr>
<td>Cwcpm-RR</td>
<td>3.81</td>
<td>14.79</td>
<td>7.68</td>
<td>0.28</td>
<td>1.01</td>
</tr>
<tr>
<td>Cwcpm-RR+LP</td>
<td>3.44</td>
<td>17.98</td>
<td>7.34</td>
<td>0.65</td>
<td>0.93</td>
</tr>
<tr>
<td>Ewcpm-RR</td>
<td>4.78</td>
<td>0.03</td>
<td>0.91</td>
<td>1.88</td>
<td>1.09</td>
</tr>
<tr>
<td>Ewcpm-RR+LP</td>
<td>4.78</td>
<td>1.00</td>
<td>1.06</td>
<td>2.24</td>
<td>1.05</td>
</tr>
</tbody>
</table>
**Student 2.** Figure 3 shows the multi-element ORF comparison for Student 2. Cwpm under each intervention were virtually identical. Errors were slightly higher under the modeling condition. Thus, RR was chosen as the less intensive, less time consuming variation. Maze performance was variable but similar under both conditions (see Figure 4). Effect sizes show that while the maze performance may have been slightly better under RR+LP, RR was as good as or superior to RR+LP for ORF, the primary measure used in selection (see Table 4).

![S2 Multielement ORF](image)

Figure 3. ORF during comparison phase for Student 2.
Figure 4. ORF during comparison phase for Student 2.

**Student 3.** Figure 5 shows the multi-element ORF comparison for Student 3.

Performance under the two conditions was very similar, for both cwpm and epm, and RR was chosen for continued implementation. Maze performance was also similar across conditions (see Figure 6). Table 4 shows similar effects sizes across interventions.
Figure 5. ORF during comparison phase for Student 3.
Figure 6. Maze during comparison phase for Student 3.

**Student 4.** Figure 7 shows the multi-element ORF comparison for Student 4. As performance did not visibly differ by intervention for cwpm or epm, RR was chosen for implementation in the extended phase. Maze performance also was similar across conditions (see Figure 8). Effect sizes suggest that while RR+LP may have had yielded greater gains on some dependent variables, RR was associated with greater gains in cwpm, the primary deciding variable (see Table 4).
Figure 7. ORF during comparison phase for Student 4.
Figure 8. Maze during comparison phase for Student 4.

**Student 5.** Figure 9 shows the multi-element ORF comparison for Student 5. Neither intervention was consistently superior to the other for cwpm or epm, so RR was chosen for implementation in the extended phase. Maze performance was variable but similar across conditions (see Figure 10). Effect sizes confirm that the two interventions produced similar results, except that RR+LP may have been better at reducing epm (see Table 4).
Figure 9. ORF during comparison phase for Student 5.
Figure 10. Maze during comparison phase for Student 5.

Research Question 2: Generalized Gains

The second research question asked whether or not the selected intervention would produce gains that generalized to unpracticed passages. This question was answered by comparing unpracticed maze and ORF scores during the intervention phases to baseline. Visual analysis was the primary means of analysis. When the intervention phase yielded generalized gains, the dual criterion (DC) method was used to determine if internal validity was sufficient to suggest that the gains were the result of the intervention (Fisher et al., 2003). The answer to
Research Question 2 varied across participants. RR was associated with better reading fluency (increased cwpm and decreased epm) for three of five participants, but the data was only strong enough to assume RR was the cause of the improved cwpm for one participant. Comprehension also improved for some participants, but not for others. Cwcpm improved for three participants, but this was only significant according to the DC method for one participant. Ewpcm decreased for four participants, with the decrease being significant for three participants according to DC analysis.

**Student 1.** Figure 11 shows the generalization data across phases for Student 1. Visual analysis clearly reveals that cwpm increased during the intervention phases. The DC method examines how many intervention points fall above baseline mean level and slope to evaluate the intervention’s effectiveness. Figure 12 shows a sample output that can be generated by Fisher’s tool. This tool determines how many points need to fall below or above both lines in order to conclude that the intervention data is significantly different from the baseline data. In this case, 10 of 13 points needed to be above both lines, but only nine were, so according to this stringent method, the data are not sufficient to conclude that the intervention was effective. However, the DC method does reveal a significant difference between baseline and the extended phase. Both visual analysis and the effect sizes (see Table 5) suggest that the intervention did improve the student’s ORF. Effect sizes were calculated using the following formula: (intervention mean – baseline mean) / baseline standard deviation. For errors, the intervention mean was subtracted from the baseline mean so that a desired decrease in errors would yield positive effect sizes.
Figure 11. ORF scores on unpracticed passages for Student 1.
Figure 12. Dual Criteria analysis for Student 1’s unpracticed ORF cwpm scores.

Figure 13 shows Student 1’s maze data. Visual analysis suggests that the intervention phases, particularly the extended phase, were associated with increased cwcpm and decreased ewcpm compared to baseline. This is confirmed by both the effect sizes (Table 5) and the DC method, which indicated significant changes in maze correct and error scores.
Figure 13. Maze scores on unpracticed passages for Student 1.

Table 5. Effect Sizes for Dependent Variables for Selected Intervention

<table>
<thead>
<tr>
<th>Participant</th>
<th>Cwpm</th>
<th>Epm</th>
<th>Cwcpm</th>
<th>Ewcpm</th>
</tr>
</thead>
<tbody>
<tr>
<td>Student 1</td>
<td>1.17</td>
<td>1.65</td>
<td>2.32</td>
<td>1.78</td>
</tr>
<tr>
<td>Student 2</td>
<td>1.04</td>
<td>.34</td>
<td>6.74</td>
<td>-1.60</td>
</tr>
<tr>
<td>Student 3</td>
<td>.98</td>
<td>.85</td>
<td>2.84</td>
<td>.35</td>
</tr>
<tr>
<td>Student 4</td>
<td>-.10</td>
<td>-2.89</td>
<td>-.12</td>
<td>1.57</td>
</tr>
<tr>
<td>Student 5</td>
<td>-1.07</td>
<td>-.26</td>
<td>-.34</td>
<td>.79</td>
</tr>
</tbody>
</table>
**Student 2.** Figures 14 and 15 show Student 2’s ORF and maze data, respectively. The data set was too small and variable for internal validity according to the DC method. For ORF, epm appeared to decrease, and cwpm increased during the multi-element phase. This aligns with the effect sizes seen in Table 5. For the maze, visual analysis does reveal clear growth in cwcpm. This confirms the large effect size for this variable. The last three sessions of the extended phase represent the first time that the maze error and correct paths showed significant separation. This suggests that despite the negative effect size for ewcpm, the intervention was not, at the end, increasing errors. The participant’s progress in instructional maze scores across time also suggests that the intervention may have had greater effect as cumulative practice increased (see Figure 16).
Figure 14. ORF scores on unpracticed passages for Student 2.
Figure 15. Maze scores on unpracticed passages for Student 2.
Figure 16. Maze scores on instructional passages for Student 2.

**Student 3.** Figures 17 and 18 show Student 3’s ORF and maze data, respectively. Visual analysis suggests that the participant improved on both measures during the intervention phase, as suggested by the effect sizes (see Table 5). DC analysis suggests that the intervention was associated with a significant increase in cwcpm and significant decreases in both epm and ewcpm.
Figure 17. Unpracticed ORF for Student 3.
Figure 18. Unpracticed maze for Student 3.

**Student 4.** Figures 19 and 20 show Student 4’s unpracticed ORF and maze scores, respectively. Visual analysis suggests little change in ORF, a decrease in ewcpm from baseline to intervention, and an increase in cwcpm from the multi-element to the extended phase. The increasing baseline for the maze makes it hard to interpret the intervention data. DC revealed only one significant change, the decrease in ewcpm. The effect sizes in Table 5 confirm that ewcpm was the only area of improvement. Instructional maze data suggest that the participant did perform better after practice, and gains from practice were increasing over time (see Figure 21).
Figure 19. Unpracticed ORF for Student 4.
Figure 20. Unpracticed maze for Student 4.
Figure 21. Instructional maze for Student 4.

**Student 5.** Figures 22 and 23 show Student 5’s unpracticed ORF and maze scores, respectively. Visual analysis suggests a decrease in ORF during the multi-element phase, followed by a return to baseline levels during the extended phase. The maze shows no consistent changes. No changes were significant according to the DC method. The effect sizes in Table 5 suggest that ewcpm was the only variable to show improvement.
Figure 22. Unpracticed ORF for Student 5.
Figure 23. Unpracticed maze for Student 5.

Discussion

Previous research has shown both RR and modeling to be effective in increasing reading fluency. Some research has compared and combined the two, and some has suggested such interventions might also aid reading comprehension. Less research, however, has studied these interventions with ELLs, and none has specifically asked if adding a modeling preview improves the effects of RR for ELLs.
Research Question 1: Effect of Live Model

Previous research has shown that combining RR with a modeling component yields better results than RR alone (Begeny & Silber, 2006; Dowhower, 1987). Research Question 1 asked if adding a live model preview to RR would increase its benefits to ELLs’ ORF. This study suggests that the answer is no. None of the five participating, third-grade native Spanish speakers showed any additional benefits to cwpm from RR+LP compared to RR. Indeed, one may have fared slightly better under RR. While cwpm was the primary decision-making variable, adding the model did not seem to yield significant, visually discernible advantages for comprehension, either. These results may seem counterintuitive, as models are known to be helpful, and ELLs could be expected to particularly need to associate the correct pronunciation of potentially unknown words with text. O’Donnell et al. (2003) found that key word analysis and live modeling, without RR, were sufficient to improve both fluency and comprehension for an ELL. The current study seems to contrast with previous findings that monolingual students read more prosaically with a taped preview and RR than with RR alone (Dowhower, 1987), read with more fluency after hearing an audiotaped or adult model of the passage to be read (Wexler et al., 2008), and benefit more from an intervention combining RR, listening preview, and practicing difficult words than from any single component (Begeny & Silber, 2006). The results are also inconsistent with Dufrene and Warzak’s (2007) finding that a combination of LPP and RR was consistently the most effective intervention in their study for improving a native Spanish speaker’s English fluency and comprehension.

There are several possible explanations as to why the results of the current investigation were not consistent with previous research findings. First, perhaps more immediate modeling was needed. Since the model read the entire passage at once, there was a significant lag between
the model reading the first word and the participant being asked to do so. Also, this study may have varied from other studies in terms of modeling rate and passage length. Furthermore, engagement was not measured. It is possible that some students did not attentively follow along during the entire reading. Also, the error correction procedure did provide immediate, fluent modeling of those words the participant pronounced incorrectly, the words most likely to be unknown. In this case, the whole passage modeling may have added little modeling benefit to the RR with error correction beyond prosaic reading. Previous research has shown that RR with error correction is better than RR alone (Therrien, 2004) or LP alone (Begeny et al., 2007).

**Research Question 2: Generalized Gains**

Previous research has found generalization of RR effects to unpracticed passages for both monolingual students (Therrien, 2004) and second language learners (Taguchi, 1997). Research question 2 asked if the selected RR variation would result in generalized gains in fluency and comprehension on unpracticed passages. In the current study, some students improved on some variables but not others. Also, the data were insufficient, according to the DC method, to assume that the intervention was responsible for all of the gains seen (Fisher et al., 2003). In general, however, it does seem that RR aided the fluency and comprehension of Students 1 and 3. The teacher survey suggested these participants also showed the strongest gains in the classroom. Student 2 also saw improvements on both measures, particularly on correct answers, but maze errors did increase (this could be a result, however, of the student making far more choices overall; the ratio of corrects to errors did improve). These students’ results support previous studies in which RR, alone or in combination, have helped second language learners’ fluency and comprehension (Gorsuch & Taguchi, 2008; Dufrene & Warzak, 2007). Similarly, other studies
found positive effects when measuring only fluency (Blum et al., 1995; Taguchi, 1997; Taguchi et al., 2004).

Students 4 and 5, however, actually got worse, except for improving in maze errors. Although some research has indicated no benefits from similar interventions for second language learners (Denton et al., 2004), none has suggested they could actually be harmful. Indeed, it seems highly unlikely that students would become worse readers with practice. Other variables are almost certainly in play, such as passage difficulty or performance variables including distractions, alertness, and motivation. Student 5, for example, did have some behavior and motivational concerns in both the classroom (as reported by teachers) and during the intervention (as reported by interventionists). He also was the only participant to say he was “not sure” if he liked practicing reading with the interventionists, whereas Students 1-3 said that they “strongly liked” the intervention. Student 4 could not be surveyed due to illness, but both he and Student 5 had highly variable data.

Baseline fluency also could be a factor in the variable effects across participants. Student 5 had the highest baseline cwpm ($M = 98.00$, $SD = 9.85$), only 12 cwpm from the DIBELS benchmark of 110 cwpm for the end of the third grade. In Taguchi’s (1997) study of university ELLs, the greatest effects were found for the lowest level readers. In this study, the greatest effects were seen for Student 1 ($M = 79.00$, $SD = 14.53$) and Student 3 ($M = 72.33$, $SD = 12.58$), who did indeed have lower baseline fluency than Student 5 or Student 4 ($M = 85.50$, $SD = 10.54$), the only participants to show worsened fluency. The participant with the lowest starting fluency, however, showed only moderate gains (Student 2; $M = 53.00$, $SD = 11.53$).
Despite the inconsistent results, it is promising that some students did show generalized gains in both fluency and comprehension, as some studies do not address generalization at all, and others have had mixed findings. Research with university ELL’s fluency has sometimes found generalization to new passages (Taguchi, 1997), but sometimes has not (Taguchi & Gorsuch, 2002). This study suggests that further research is warranted in this area, for this population.

**Limitations and Future Research**

Several limitations may have impacted the results of this study and limited the ability to draw conclusions from the data. Student selection may be a factor in that some students clearly benefited more than others. Is this due to attendance, behavior, motivation, baseline reading abilities, or previous or concurrent reading interventions? Performance variables seem to have been particularly impactful for Students 4 and 5, who had highly variable data. Motivational issues may have been magnified by the timing of the study, which continued until the last week of school. As students near summer vacation, and after state testing is completed about a month beforehand, they often have to do less work in class and may become more restless. Starting the study earlier in the school year could avoid some of the end-of-year motivational issues and allow more time for the intervention to work. Providing rewards contingent on improved scores could help tease out motivational and performance issues; students who improve with reinforcement alone could be excluded from studies seeking to target students with skill deficits. It would also be interesting to examine whether or not regular, explicit performance feedback would enhance results, as this has been a component of other successful RR interventions (e.g. Alber-Morgan et al., 2007). Studies with a larger sample size could explore how initial reading skills and other forms of reading instruction or practice interact with gains from RR or RR+LP.
The amount of intervention received also could be an issue. The study design called for around 35 intervention session (at least 14 for the selection phase and 21 for the extended phase), but, as seen in Table 3, none reached this mark. Three participants received fewer than 25 sessions. One participant started the intervention late due to a delay in obtaining permission, and two others missed significant periods of time due to illness. Perhaps some would have shown more gains if the study could have been completed. With average RR sessions ranging from about 7.5-12 min, it is conceivable that some participants simply needed more practice with this intervention. Future studies could compare the effects of different doses of RR for this population. Since research has suggested little additional benefit accrues after three readings, it may be better to consider reading two passages per session. Passage length could also be varied. The passages used in this study averaged about 209 words; longer passages would provide more practice per passage, whereas shorter passages could allow for the use of more passages (and thereby provide exposure to more varied vocabulary) within a single session.

Another consideration is the maze assessment itself. In the case of instructional passages, it is possible that students were merely memorizing the passage rather than understanding it (though memorization of content is key for factual passages, in particular). However, given that some students showed generalized improvements in comprehension, this does not seem a serious issue. Shin, Deno, and Espin’s (2000) study of the technical adequacy of the maze as a measure of reading growth found that the maze was reliable, sensitive in detecting growth in reading proficiency, and predictive of performance on a standardized reading test, the California Achievement Test. Of more concern may be that the maze was an unfamiliar task for the participants, so familiarity alone might improve their scores early on. This could explain the increasing baselines for some participants, which affected DC analysis. Longer baselines could
help address this concern. Future studies may want to explore different assessments for measuring reading growth, particularly in the area of comprehension.

Although the results of this study suggest that the addition of a live preview model did not help the students, additional research could reconsider this issue, perhaps using different decision rules or different variables for selecting the better intervention. The modeling itself can also be varied by rate of reading and the length of passage being modeled before asking the student to read aloud. Another factor could be the language background of the model. All the models in this study were U.S. born, native-English speakers. Future studies could examine whether or not participants benefit more from fluent models with a similar accent. Prior research has shown that perceptions of model-observer similarity, in terms of both competence and background, can affect the effectiveness of modeling (e.g. Schunk, 1987).

Replication studies also would be worthwhile, not only to clarify the mixed findings of this study but also to expand the research to other subgroups of ELLs. All participants were third-grade native Spanish speakers attending a bilingual school. This could make the study more valid for this specific population, but could make results less generalizable to other ELL groups. Grade, native language, time in US schools, English proficiency, and type of bilingual or ESL instruction are all factors to be considered.

**Conclusions and Implications for Practice**

Despite some limitations, this study does suggest that RR is effective for improving the fluency and comprehension of some Spanish speakers learning to read in English. These results were not enhanced by adding a model. In practice, this means that teachers and other interventionists may not need to devote additional resources to providing a model to achieve the
same benefits. Even those students who did not show generalized gains did read passages better after practice, suggesting that teachers who try RR with their students will at least have provided their students with effective practice for that passage, which can help prepare them for homework or class participation. RR is easy to implement, so these promising results are encouraging and suggest that further research in this area is worthwhile.
References


Intervention Central. OKAPI! The Internet Application for Creating Curriculum-Based Assessment Reading Probes.


Appendix A

Study Overview for Teachers

Repeated Readings and Modeling Variations for English Language Learners

Dear Third Grade Teachers,

I am planning to conduct a research study on improving the English reading fluency and comprehension of native Spanish speakers for my dissertation. Based on their reading scores, I think of your students might benefit from participation. Ten students will be asked to participate in this study, 5 during this school year.

In repeated readings (RR), a student repeatedly reads the same passage to an adult who corrects any errors. It has been shown effective for many students; some research suggests it is helpful for English Language Learners, as well. Providing a fluent model before the student begins RR can reduce errors and increase reading speed. I want to see if adding a model will result in greater improvement.

A student’s participation in this study would take about 16 full school weeks. The intervention would take place 3 days a week; brief assessments would be given on a separate day each week. The intervention would be carried out by myself or trained graduate students; little extra work would be required by you. Participation would never take more than half an hour a day; on most days, it would be less. Previous research suggests that one or more of these interventions should be beneficial to struggling readers, and I feel that participation in this study could be very helpful to your students who are not meeting fluency benchmarks.

If you would like your students to participate or want more information, please contact me. We can discuss which students you think will be likeliest to benefit based on their English language skills and other factors such as behavior and attendance. Students who qualify and agree to participate will need parent permission. We can work together to find a time to work with the students that will fit with your schedule so they do not miss instruction.

Sincerely,

Laura Berry, M.Ed.
School Psychologist Intern, CPS
berryla@cps-k12.org
University of Cincinnati
berrylu@email.uc.edu
513-702-3687

Supervised by
Dr. Renee Hawkins
University of Cincinnati
Renee.hawkins@email.uc.edu
513-556-3342
Dear parents,

My name is Laura Berry. I’m studying school psychology at the University of Cincinnati. I am going to be doing a research study in your child’s school. Your child is invited to participate in this study to improve student reading. Attached is a permission form for you to review. It describes the study and your right not to have your child participate. If you would like your child to participate in the research simply sign the form and have your child return the form to his or her teacher. You can use the form in English or in Spanish. A signed copy will be sent back to you. Participation is completely voluntary and you do not have to allow your child to be a part of the study for them to continue getting the help they need in reading.

By allowing your child to participate, we may be able show ways that help students read better. We will summarize outcomes in research reports. The reports will help us see how we can better help students. Individual names of people or the school will not be included in our reports. The research will be shared at national conventions and in journals. We would appreciate your help.

Sincerely,

Laura Berry, M.Ed.
School Psychologist Intern, CPS
berryla@cps-k12.org
University of Cincinnati
Doctoral student in School Psychology
berrylu@email.uc.edu
513-702-3687

Supervised by
Dr. Renee Hawkins
University of Cincinnati
Renee.hawkins@email.uc.edu
513-556-3342
TITLE: Repeated Readings and Modeling Variations for English Language Learners

Dear Parent:

Introduction: Your child is invited to be in a research study from the University of Cincinnati. The study is being run by Laura Berry and her supervisor, Dr. Renee Hawkins. It is important that you read this form before you allow your child to participate. It describes the purpose, procedures, risks, and benefits of the study. It also describes the right to stop being in the study at any time.

Purpose: The purpose of the research study is to find ways to improve reading. The study will look at different ways to increase reading speed and comprehension to tell which is the most effective. Laura Berry and trained graduate students will try out different ways to help your child read better. Your child may benefit from getting extra practice in reading. The study may help reading teachers and their students.

Procedures: These ways to practice reading have helped other students and include letting your child hear someone read the story, letting the child read the story several times, and telling your child the right way to read words he or she does not know. Your child will read out loud and choose the right word to fill in missing words in the story to see which method has helped the most. The best method will then be used for seven weeks. With your permission, the researchers will work with your child to find out which way best improves his or her reading. The researchers also will see how many words he or she reads correctly in 1 minute and how many correct missing words he or she can choose in 3 minutes. They would also like to know your child’s date of birth. Finally, they are asking permission to look at your child’s relevant reading test scores from his or her file to see his or her reading level.

Duration of study: The study will last about 16 weeks. Help will be provided 3 times a week, taking about 15 minutes a day. One day a week the researchers will spend about 5 minutes on short tests to see how your child is doing. The researchers will work with the teacher to make sure your child does not miss important classroom instruction. Ten children will participate in the study, 5 during this school year, but researchers will work with your child one-on-one.

Confidentiality of records: No information that is presented or published will identify your child or the school. All information will remain confidential. Data will be locked up and shredded 3 years after the study is done.
**Payment for participation:** Neither you or your child will receive any payment for participating in this study.

**Right to refuse or withdraw:** Your child’s participation is completely voluntary. Your child may leave the study at any time. To withdraw, just tell the teacher or researchers. Your child’s data will not be used in the study.

**Offer to answer questions:** If you have any questions about the research study, you may call Laura Berry at 513-702-3687, or Dr. Renee Hawkins at 513-556-3342. If you have questions about your rights as a research participant, you may call the university’s Institutional Review Board. The University of Cincinnati Institutional Review Board – Social and Behavioral Sciences reviews all non-medical research projects that involve human participants to be sure the rights and welfare of participants are protected. If you have questions about your rights as a research participant, you may call the University of Cincinnati Institutional Review Board – Social and Behavioral Sciences at (513) 558-5784. If you have a concern about the study you may also call the UC Research Compliance Hotline at (800) 889-1547, or you may write to the Institutional Review Board-Social and Behavioral Sciences, Suite 300 University Hall, ML 0567, 51 Goodman Drive, PO Box 210567, Cincinnati, OH 45221-0567, or you may email the IRB office at irb@ucmail.uc.edu.

I have read the information given above. I give my permission for my child to be in this research study. I will receive a signed and dated copy of this Parent Permission form to keep.

________________________________________
My child’s name (print)

____________________________________   ______________________
Signature of Parent       Date
Student Assent to Participate in a Research Study

CECH- Division of Human Services
School Psychology Program
Laura Berry, M.Ed.
berrylu@email.uc.edu, 513-702-3687
Dr. Renee Hawkins
Renee.hawkins@uc.edu, 513-556-3342

TITLE: Repeated Readings and Modeling Variations for English Language Learners

Dear Student:

My name is Laura Berry. Your parents and teacher said I could ask you if you would help me with a study on reading.

If you decide to help, you will work with me or others like me. The extra reading time may help you read better. We will work together 3 times a week for about 15 minutes each time. One other day a week, we will work with you for about 5 minutes. When you work with us, we will ask you to read stories and pick the right missing word. Ten students will work with us, one at a time.

For my study, I would like to see how many words you read correctly in 1 minute and how many right words you can pick in 3 minutes. I would like to know how old you are. I would also like to look at your past reading tests to see how you have done in reading.

The study will take about 16 weeks. Your teacher and I will be the only ones who know how you do reading the stories and picking words.

You do NOT have to help me with the study. If you decide you do not want to help me with the study at any time, all you have to do is tell your teacher or me. It will not hurt your grades. You may also ask any questions you have at any time.

If you DO want to help me with this study, please write your name on the line below.

Thank you for all your help.

____________________________________________________________
Student Name        Date
____________________________________________________________
Person Obtaining Assent      Date
Appendix B

RR Adherence Checklist

1. show student passage and say “Reading this passage a few times will help you read it better. I’d like you to read it aloud 3 times. If you have trouble with a word, I’ll tell you how to say the word and let you practice saying it. Ready? Let’s begin.” (may be shortened once student is familiar with intervention).

2. start stopwatch when student begins reading

3. when student makes an error, point to the word and say “Stop. This word is _____. Please say ______.” (May be shortened once student is familiar with error correction procedure). Prompt the student to continue once the word has been said correctly.

4. when student has reached the end of the passage, ask them to begin again

5. the passage is read a total of 3 times

6. stop the stopwatch after the child finishes the passage for the 3rd time

7. administer the maze assessment

8. administer the ORF assessment
RR+LP Adherence Checklist

1. show student the passage and say, “Before you practice reading this aloud to me, I’m going to read the story. Silently read the story and follow along with your finger as you listen to my reading.” (may shorten once student is familiar with intervention)

2. start stopwatch and read passage at about 130 words per minute

3. introduce and start repeated readings

4. when student makes an error, point to the word and say “Stop. This word is _____. Please say _____.” (May shorten once student is familiar with error correction procedure). Prompt the student to continue once the word has been said correctly.

5. when student has reached the end of the passage, ask them to begin again

6. the passage is read a total of 3 times

7. stop the stopwatch after the child finishes the passage for the 3rd time

8. administer the maze assessment

9. administer the ORF assessment
Maze Script

1. “I’m going to give you a story in which some words are replaced with a group of 3 words in parentheses. Your job is to circle the 1 word that makes the most sense in the story. Only 1 word is correct. Work as quickly as you can without making mistakes. I’ll tell you when to stop. If you finish early, tell me that you’re done. Do you have any questions?” (may shorten when student is familiar with task)

2. give student the maze passage and pencil or pen

3. say “begin” and start stopwatch

4. monitor students to make sure they are circling only one word

5. stop stopwatch when student finishes OR say “stop” when 3 min is reached

6. record finish time on data sheet

7. score number correct by comparing to key and record on data sheet
ORF Script

1. say “Please read this out loud.” Point to passage. “If you get stuck, I will tell you the word so you can keep reading.” (May shorten once student is familiar with the assessment).

2. say “Start here.” Point to the first word of the passage, not the title. “Begin.”

3. start stopwatch when student reads first word of passage

4. provide words/ prompts as needed to keep student reading. Tell the student the word after a 3s pause

5. mark incorrect words with a slash (words pronounced incorrectly or not read); errors may be corrected within 3 s (write SC for self-correct by slash)

6. at the end of 1 min, place a ] after the last word said within the time limit and tell the student “stop”

7. report error score (number of slashed words)

8. report number of correct words per minute on data sheet (total words read – errors)
Appendix C

**Teacher Survey**

How much do you think ______________ liked the intervention?

<table>
<thead>
<tr>
<th></th>
<th>Strongly disliked</th>
<th>Disliked</th>
<th>Not sure</th>
<th>Strongly liked</th>
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Do you think ______________’s overall reading skills changed as a result of the intervention?

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<th>Worse</th>
<th>The same</th>
<th>Somewhat better</th>
<th>Much better</th>
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<tr>
<td>S1</td>
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Note: S2 now has IEP
S 4, originally put the same, changed on 5/20

How has reading fluency changed?

<table>
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<tr>
<th></th>
<th>Worse</th>
<th>The same</th>
<th>Somewhat better</th>
<th>Much better</th>
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<td>S1</td>
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How has reading comprehension changed?

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Regarding your views of the intervention and research project:

Was the intervention worth the time invested?

No       Unsure       Somewhat       Yes

Is this intervention feasible in your classroom routine, particularly as regards finding time for tutoring and assessment outside of the classroom?

Too difficult       Somewhat       Manageable       Easy

Somewhat difficult if she had to do it, easy if outside person does it

Would you be willing to participate in future studies aimed at improving reading for students learning English?

Definitely not       Probably not       Not sure       Probably yes       Definitely yes

Do you have any ideas to improve these Repeated Readings interventions for these students, or ways that might work better for them? Please share them below or in an email.

Start earlier in the year
Student Survey 1

For the five questions below, please circle the best answer based on how you feel about the time you spent practicing reading with us.

1. How did you like practicing reading with us?
   Strongly disliked  Disliked  Not sure  Liked  Strongly liked

2. Would you like to do something like this again in the future?
   Definitely not  Probably not  Not sure  Probably yes  Definitely yes

3. Do you think you’re better at reading now than when we first started working with you?
   Worse  The same  Somewhat better  Much better

4. Do you think our tutoring has helped you read faster?
   Slower  The same  A little faster  A lot faster

5. Do you think our tutoring has helped you understand more of what you read?
   No  A little  A lot

Can you think of any ways to make this kind of tutoring more helpful? What would you have liked to change? Write your ideas below or on the back of this sheet.

45 stickers
Student Survey 2

For the five questions below, please circle the best answer based on how you feel about the time you spent practicing reading with us.

1. How did you like practicing reading with us?
   Strongly disliked  Disliked  Not sure  Liked  Strongly liked

2. Would you like to do something like this again in the future?
   Definitely not  Probably not  Not sure  Probably yes  Definitely yes

3. Do you think you’re better at reading now than when we first started working with you?
   Worse  The same  Somewhat better  Much better

4. Do you think our tutoring has helped you read faster?
   Slower  The same  A little faster  A lot faster

5. Do you think our tutoring has helped you understand more of what you read?
   No  A little  A lot

Can you think of any ways to make this kind of tutoring more helpful? What would you have liked to change? Write your ideas below or on the back of this sheet.

   More time

   37 stickers
Student Survey 3

For the five questions below, please circle the best answer based on how you feel about the time you spent practicing reading with us.

1. How did you like practicing reading with us?
   - Strongly disliked
   - Disliked
   - Not sure
   - Liked
   - Strongly liked

2. Would you like to do something like this again in the future?
   - Definitely not
   - Probably not
   - Not sure
   - Probably yes
   - Definitely yes

3. Do you think you’re better at reading now than when we first started working with you?
   - Worse
   - The same
   - Somewhat better
   - Much better

4. Do you think our tutoring has helped you read faster?
   - Slower
   - The same
   - A little faster
   - A lot faster

5. Do you think our tutoring has helped you understand more of what you read?
   - No
   - A little
   - A lot

Can you think of any ways to make this kind of tutoring more helpful? What would you have liked to change? Write your ideas below or on the back of this sheet.

Read more books

48 stickers
Student Survey 5

For the five questions below, please circle the best answer based on how you feel about the time you spent practicing reading with us.

1. How did you like practicing reading with us?
   - Strongly disliked
   - Disliked
   - Not sure
   - Liked
   - Strongly liked

2. Would you like to do something like this again in the future?
   - Definitely not
   - Probably not
   - Not sure
   - Probably yes
   - Definitely yes

3. Do you think you’re better at reading now than when we first started working with you?
   - Worse
   - The same
   - Somewhat better
   - Much better

4. Do you think our tutoring has helped you read faster?
   - Slower
   - The same
   - A little faster
   - A lot faster

5. Do you think our tutoring has helped you understand more of what you read?
   - No
   - A little
   - A lot

Can you think of any ways to make this kind of tutoring more helpful? What would you have liked to change? Write your ideas below or on the back of this sheet.

No!

34 stickers