Using performance methods to enhance students' reading fluency

Chase Young, Corinne Valadez & Cori Gandara

Routledge
Taylor & Francis Group

Using performance methods to enhance students' reading fluency

Chase Young[a], Corinne Valadez[b], and Cori Gandara[c]

[a]Department of Language, Literacy and Special Populations, Sam Houston State University, Huntsville, Texas, USA; [b]Educational Leadership, Curriculum and Instruction, Texas A&M University–Corpus Christi, Corpus Christi, Texas, USA; [c]Sinton Independent School District, Corpus Christi, Texas, USA

ABSTRACT
The quasi-experimental study examined the effects of pairing Rock and Read with Readers Theater and only Rock and Read on second grade students' reading fluency scores. The 51 subjects were pre- and post-tested on five different reading fluency measures. A series of 3×2 repeated measures ANOVAs revealed statistically significant interaction effects on three of the five outcome measures: expression and volume, phrasing, and pace. The analysis of simple effects showed large mean difference effect sizes in both treatments.

Reading fluency went from neglected (Allington, 1983) to necessary (National Institute of Child Health and Development, 2000), yet researchers recently indicated that reading fluency was not considered a hot topic (Cassidy & Grote-Garcia, 2012). Regardless of its popularity or prevalence in the research, teachers still have disfluent readers, and it is imperative that teachers implement research-based reading fluency strategies to support struggling readers (Allington, 1983; National Institute of Child Health and Development, 2000; Rasinski, 2012). Although many strategies exist, it is important that reading fluency researchers continue to develop and revise methods to enhance all of the components of reading fluency (Rasinski, 2012), including word recognition automaticity, expression and volume, phrasing, smoothness, and pace (Rasinski, 2004; Zutell & Rasinski, 1991). These strategies have developed over time, stemming from the belief that fluent readers should recognize words automatically and effortlessly (LaBerge & Samuels, 1974; Logan, 1988, 1997).

LaBerge and Samuels (1974) described a theory of automatic processing stating that students who automatically recognized words while reading could allocate more cognitive energy to higher order process such as reading comprehension. Logan (1997) described the automatic processing as immediate retrieval of lexical knowledge, resulting in smooth and effortless reading. Consequently, researchers began exploring methods that emphasized practice as an approach to increasing rapid word recognition.

Samuels (1979) researched the method of repeated readings, a practiced based approach to increasing reading fluency. The method required students to reread a grade level passage multiple times. With each reading, the students' reading rate increased while the number or words read incorrectly decreased. Expectedly, as students practiced the readings, their reading performances improved. Interestingly, students then read more difficult passages, and their initial reading rates were higher than previous reading rates and students' number of errors was also lower. Samuels posited that the increased initial reading rate on subsequent readings were the transfer effects of the previous repeated readings. Other studies confirmed that the method of repeated readings was an effective means for increasing reading fluency (Mathes & Fuchs, 1993; Mercer, Campbell, Miller, Mercer, & Lane, 2000; Vadasy & Sanders, 2008; Vaughn, Chard, Bryant, Coleman, & Kouzekanani, 2000). However, many of these studies only measured accuracy and rate.

Years ago, Schreiber (1991) described the integral role of reading prosody in the reading process. More recently, Daane, Campbell, Grigg, Goodman, and Oranje (2005) found a strong correlation between prosody and reading achievement. The results revealed that appropriate prosodic reading is a strong predictor of proficient reading. In addition, Miller and Schwanenflugel (2008) reported that students who read with adult-like prosody in Grades 1 and 2 were more likely to demonstrate proficient reading comprehension by the end of Grade 3. Prosody is not only an essential element in reading fluency, but it plays an important role in overall reading proficiency.

Because of the importance of prosody, reading fluency instruction began to emphasize strategies that increased both accuracy and expression. Performance methods were deemed particularly useful for increasing reading fluency as rehearsal served as an authentic form of repeated readings (Tyler & Chard, 2000) and the prospect of a performance required attention to prosody (Young & Nageldinger, 2014).

Researchers explored variations of repeated readings that also emphasized expressive reading. Reading researchers then rejuvenated an old method known as Readers Theater (Coger & White, 1967). The method required students to perform a text for an audience. Students chose parts, practiced, and

---

prepared for the final performance. Unlike a play, the students were not required to memorize parts or use props. Students merely entertained audiences with expressive renderings of the text. Since Readers Theater's rejuvenation, the research base that advocates for the use of Readers Theater has grown (Young & Rasinski, 2009; Griffith & Rasinski, 2004; Keehn, Harmon, & Shoho, 2008; Martinez, Roser, & Strecker, 1998). Thus far, research indicated that the authentic performance component not only served as a motivational tool to promote repeated readings, but it also enhanced an oft neglected component of reading fluency—prosody (Dowhower, 1991). For example, a study conducted by Young and Rasinski (2009) indicated that consistent implementation of Readers Theater throughout the school year increased students' reading prosody by 20%.

In other performance variation, Iwasaki, Rasinski, Yildirim, and Zimmerman (2013) described a musical method where students learned a song and performed it each week. On the first day, the teacher played the song of the week throughout the day, making general comments about it, such as "I love this song!" On the next day, the teachers displayed the lyrics and asked students to call out words they recognized, and then she asked the students to sing along. Students also engaged in various word study activities, such as identifying word families. On the third day, students again sang the song throughout the day, and students discussed their favorite parts of the song. The class sang the song several times on the fourth day. At the end of the day, the students wrote in their journals about how the song made them feel. On the final day, students performed the song for the principal.

The authors (Iwasaki et al., 2013) described student growth over an entire school year and the results revealed that all but one student made at least one year's growth in reading; however, several students exceeded the average reading growth for the year. While the results were impressive, the data were limited to the Developmental Reading Assessment (Beaver, 1997) levels, and did not include the specifics on reading fluency measures.

Although Iwasaki et al. (2013) implemented the musical activity comprehensively (i.e., word study, writing, comprehension), the method could be modified to target reading fluency. Singing while reading already possesses two important elements of a fluency building activity—repeated readings and an opportunity to perform. Iwasaki et al. learned about a local district using songs in the classroom similarly; the method was called Rock and Read.

To expand the research on effective reading fluency activities, we needed to answer several questions. First, does Rock and Read enhance reading fluency? As mentioned previously, the activity was based on repeated readings (Samuels, 1979) and provided students with an authentic purpose through performance (Young & Nagel-dinger, 2014). Next, does stacking Rock and Read and Readers Theater enhance reading fluency. Some researchers argue that stacking instruction effectively and efficiently could produce rapid student growth in reading achievement (Mohr, Dixon, & Young, 2012). Because Readers Theater had a well-established research base and it was likely the method alone would increase reading

fluency, we coupled Readers Theater with Rock and Read to determine if the stacked approach was more effective. Finally, we examined the data to determine which treatment was most effective in enhancing reading fluency.

Method

Island Elementary is a Title 1 school in the rural southern United States. The participants were recruited from three Grade 2 classes with two treatments and one comparison group. After obtaining consent, a total of 51 students (51% male and 49% female) were included in the study, 71% of which qualified for free or reduced lunch. In the sample, 6% qualified for special education services and 18% were identified as gifted and talented. The mean age of the students was 7.24 years old.

We utilized all three Grade 2 classrooms from the elementary school to obtain the convenience sample. Of the 63 students, 51 consented to the study; however, all of the students received the interventions regardless of consent because the activities were a part of the general education provided to all students. The activities lasted four weeks.

Fluency interventions

Rock and Read is a fluency strategy that is similar to karaoke in that students read and sing along with music. It is a highly interactive and engaging strategy which uses popular music played on many radio stations and is familiar to the students. For this study, students practiced and performed two songs each week. On the first day, the teacher played the song so the students could listen. After listening to the song once, the teacher projected the lyrics so the students could engage in choral reading. After the choral reading, the teacher invited the students to sing along while reading the lyrics. Essentially, the teacher engaged the students in the process of gradual release of responsibility, while helping students become more familiar with the text. Finally, the teacher gave each student a copy of the lyrics, so the songs could be practiced at home.

The following day, the students practiced the song for 10 min. The number of rehearsals varied depending on the students' progress and the length of the song. For example, if students learned the song quickly, the teacher spent less time with word recognition and more time singing. Some songs were longer than others; therefore, the number of rehearsals possible in the 10 min decreased. After sufficient practice, the students performed their songs. The audience can be comprised of other students, teachers, families, or administrators. The process would then repeat for the third and fourth days with a new song. For titles and lexical density (measured by the type/token ratio) of the songs, see Table 1.

The lexical density is measured by the type–token ratio. The ratio is considers both the number of words (tokens) and how often each is used (type). As the percentage of lexical density increases, it indicates there is a higher instance of repeated words. This lexicologial method was employed because songs often have repeated lyrics. According to Table 1, the low percentage of lexical density of each song suggests that there was a high proportion of words that were repeated. This means that while the text may be difficult, the students were exposed to the

Table 1. Rock and Read song list.

Title of song	Artist	Word count	Lexical density (%)
"I Knew You Were Trouble"	Walk Off the Earth	388	25.52
"Learning to Fly"	Tom Petty and the Heartbreakers	160	46.25
"Roar"	Katy Perry	438	22.15
"What You Gonna Do?"	Hunter Hayes	301	30.56
"When It Rains"	Eli Young Band	287	37.63
"Where I Stood"	Missy Higgins	304	30.92
"Dice"	Finley Quaye	204	22.55

words more frequently, perhaps aiding in the students word recognition accuracy. The readability statistics were not included because the indices used are not always accurate, especially in this case as lyrics and poetry are not typically written conventionally. For example, the Flesch-Kincaid score utilizes number of words in relation to the sentences. However, many poems and songs do not use punctuation. Other methods place great weight on the number of syllables per sentence, which is troublesome for the same reason. Nevertheless, it is safe to assume that each of the songs were above a Grade 2 level, and research in reading fluency suggests that texts can be on a student's frustrational level because of the assisted reading component (Rasinski, Blachowicz, & Lems, 2012).

Readers Theater also served as a fluency intervention. The teacher used poems as scripts from a book entitled *You Read to Me, I'll Read to You: Scary Tales* (Hoberman, 2009), which is approximately on a Grade 2 reading level. The students practiced their poems in groups for three sessions and performed for the class on the fourth session. On performance days, the groups performed for their peers. The format was similar to the framework described by Young and Rasinski (2009). The students chose their poems on the first day. On the second day, the students focused on word recognition. The students focused on expression on the third day and the students performed on the fourth day.

Class A engaged in both Rock and Read and Readers Theater. For the Rock and Read intervention, students learned and performed two songs each week—practice and performances were completed in 10 min per day for four days. Students engaged in Readers Theater for an additional 5 min, two days per week. In four weeks, then, the students received 160 min of Rock and Read and 80 min of Readers Theater. Overall, the students engaged in the fluency oriented activities for 240 min.

Class B only received the Rock and Read treatment. Students learned two songs per week, which required 15 min per day, four days a week. Therefore, in four weeks, Class B engaged in Rock and Read for 240 min.

Finally, Class C did not receive either of the treatments. However, Classes A, B, and C continued with their regular reading instruction. The district used a balanced literacy program that engaged students in read-alouds, shared reading, guided reading, and independent reading. Students also participated in literacy centers. However, class A and B only participated in 15 min of centers, whereas Class C completed the full 30 min. Thus, students in all three classes engaged in a literacy block the same amount of time, but the treatment classes engaged in Rock and Read or Readers Theater for half of the time allotted to centers.

Instruments

We utilized the Dynamic Indicators of Basic Early Literacy Skills Oral Reading Fluency (DIBELS-ORF; Good & Kaminski, 2002) and the Multidimensional Fluency Scale (MFS; Rasinski, 2004) to measure students' oral reading fluency. The DIBELS-ORF was a grade-level passage designed to assess students' word recognition automaticity by calculating words read correctly per minute. Although there is some criticism concerning the implications of DIBELS-ORF results, the assessment is widely regarded as a reliable means to calculate word recognition automaticity.

When administering the DIBELS-ORF, the teacher or assessor obtained two copies of a Grade 2 passage. While students read the passage aloud, the assessor timed the reading and marked any errors in word recognition accuracy. After the reading, the assessor subtracted the errors and calculated the word recognition automaticity. We used two different grade-level passages for the pre- and posttest administrations.

We also employed the MFS to measure other essential components of reading fluency. Previous research has shown the MFS to be a reliable and valid measure of prosodic reading (Rasinski, Rikli, & Johnston, 2009). The MFS was used to measure expression and volume, phrasing, smoothness, and pace.

When administering the MFS, the teacher or assessor selected an appropriate leveled text and asked the student to read aloud. While the student was reading, the assessor used the MFS rubric to assess the reader's prosodic rendering of the text. The assessor rated the reader on a four point scale (four being the highest) in four categories: expression and volume, phrasing, smoothness, and pace.

The expression volume and volume dimension is exemplified by students reading conversationally. Assessors determine if students read in audible voice and if the students read with expression that matches the meaning of the passages. When scoring the phrasing dimension, assessors observe whether students attend to punctuation by varying their stress and intonation. Smoothness refers to reading without breaks or hesitations. Proficient readers in this dimension quickly self-correct errors and continue reading. Finally, pace is different from reading rate, because faster is not necessarily better in this category. Students read at a conversational pace, pausing for effect, or adjusting pace for expressiveness. In addition, students adjust their reading rate for different purposes for reading, such as to learn or to entertain.

Data analysis

The students were pre- and posttested using the DIBELS-ORF and MFS. The primary researcher conducted the assessments while recording the students' voices. To establish interrater reliability, an additional rater used the recordings to assess the students achieving an initial agreement of 86%, which is considered substantial agreement. The raters listened to the students' recordings again, compared differences, and discussed the results until the raters were in 100% agreement. For all five

Table 2. Means and standard deviations for expression and volume.

Treatment	Pretest		Posttest	
	M	SD	M	SD
Rock and Read plus Readers Theater ($n = 16$)	2.25	0.93	2.94	0.68
Rock and Read ($n = 18$)	1.72	0.83	2.78	0.81
Comparison ($n = 17$)	2.12	0.49	2.06	0.24

Table 4. Means and standard deviations for phrasing.

Treatment	Pretest		Posttest	
	M	SD	M	SD
Rock and Read plus Readers Theater ($n = 16$)	2.50	0.73	3.19	0.40
Rock and Read ($n = 18$)	2.44	0.86	3.00	0.69
Comparison ($n = 17$)	2.53	0.72	2.64	0.61

fluency measures, we used the data to conduct an analysis of variance to identify interaction effects and post hoc tests were conducted to examine simple effects.

Results

The quasiexperimental study examined the effects of pairing Rock and Read with Readers Theater and only Rock and Read on students' reading fluency scores. The 51 subjects were chosen as a nonprobability sample at three different classes and served as the treatment and comparison groups. The subjects were pre- and posttested on five different reading fluency measures, namely (a) expression and volume, (b) phrasing, (c) pace, (d) word recognition automaticity, and (e) smoothness. There were no statistically significant differences among the three groups on the basis of the pretest measures of the five fluency variables; thus, pre-experimental equivalence was assumed.

The pretest and posttest means and standard deviations for the expression and volume, a measure of fluency, are summarized in Table 2.

A 3 × 2 repeated measures analysis of variance (ANOVA) showed that the interaction effect of the treatment and time on the outcome measure of expression and volume was statistically significant. To understand the nature of the interaction effect, analysis of simple effects was performed. In the Rock and Read plus Readers Theater group, the pretest to posttest increase was statistically significant and the mean difference effect size was .98. In the Rock and Read group, the pretest to posttest was also statistically significant and the mean difference effect size was 1.45. In the comparison group, pretest to posttest was not statistically significant and the mean difference effect size was 0.14. Group differences at pretest were not statistically significant, $F(2, 48) = 2.20$, $p = .12$. Posttest group differences were statistically significant, $F(2, 48) = 9.31$, $p < .01$, and Tukey post hoc procedure showed that the Rock and Read plus Readers Theater and Rock and Read groups outperformed the comparison group and the differences were statistically significant. Other pairwise comparisons were not statistically significant. The treatment effect was not statistically significant, $F(2, 48) =$

2.78, $p = .07$. The time effect was statistically significant, $F(1, 48) = 39.84$, $p < .01$. Results are summarized in Table 3.

The pretest and posttest means and standard deviations for the fluency measure of phrasing are summarized in Table 4.

A 3 × 2 repeated measures ANOVA showed that the interaction effect of the treatment and time on the outcome measure of phrasing was statistically significant. To understand the nature of the interaction effect, analysis of simple effects was performed. In the Rock and Read plus Readers Theater group, the pretest to posttest increase was statistically significant and the mean difference effect size was 0.97. In the Rock and Read group, the pretest to posttest was also statistically significant and the mean difference effect size was 0.90. In the comparison group, pretest to posttest was not statistically significant and the mean difference effect size was 0.24. Group differences at pretest were not statistically significant, $F(2, 48) = 3.15$, $p = .05$. Posttest group differences were statistically significant, $F(2, 48) = 3.68$, $p < .05$, and Tukey post hoc procedure showed that only the Rock and Read plus Readers Theater group outperformed the comparison group and the difference was statistically significant. Other pairwise comparisons were not statistically significant. The treatment effect was statistically significant, $F(2, 48) = .72$, $p = .03$. The time effect was statistically significant, $F(1, 48) = 28.47$, $p < .01$. Results are summarized in Table 5.

The pretest and posttest means and standard deviations for the pace, a measure of fluency, are summarized in Table 6.

A 3 × 2 repeated measures ANOVA showed that the interaction effect of the treatment and time on the outcome measure of pace was statistically significant. To understand the nature of the interaction effect, analysis of simple effects was performed. In the Rock and Read plus Readers Theater group, the pretest to posttest increase was statistically significant and the mean difference effect size was 1.24. In the Rock and Read group, the pretest to posttest was also statistically significant and the mean difference effect size was 1.91. In the comparison group, pretest to posttest was not statistically significant and the mean difference effect size was .35. Group differences at pretest were not statistically significant, $F(2, 48) = 1.86$, $p = .17$. Posttest group

Table 3. Analysis of variance summary table for treatment by time interaction effect on expression and volume.

Source	SS	df	MS	F	p
Treatment	4.37	(2, 48)	2.19	2.79	.07
Error	37.70	48	0.79		
Time	8.02	(1, 48)	8.02	39.84	< .01
Treatment × time	5.59	(2, 48)	2.80	13.89	< .01
Error	2283.18	48	47.57		

Table 5. Analysis of variance summary table for treatment by time interaction effect on phrasing.

Source	SS	df	MS	F	p
Treatment	1.08	(2, 48)	0.54	0.72	.50
Error	36.18	48	0.75		
Time	5.23	(1, 48)	5.23	28.77	< .01
Treatment × time	1.49	(2, 48)	0.75	4.05	< .05
Error	8.82	48	0.18		

Table 6. Means and standard deviations for pace.

	Pretest		Posttest	
Treatment	M	SD	M	SD
Rock and Read plus Readers Theater ($n = 16$)	2.63	0.81	3.44	0.51
Rock and Read ($n = 18$)	2.22	0.94	3.33	0.69
Comparison ($n = 17$)	2.71	0.59	2.82	0.53

Table 8. Means and standard deviations for word recognition automaticity.

	Pretest		Posttest	
Treatment	M	SD	M	SD
Rock and Read plus Readers Theater ($n = 16$)	62.69	39.57	75.06	36.25
Rock and Read ($n = 18$)	69.11	39.03	80.61	40.30
Comparison ($n = 17$)	41.47	18.71	54.05	22.31

differences were statistically significant, $F(2, 48) = 5.31$, $p < .01$, and Tukey post hoc procedure showed that the Rock and Read plus Readers Theater and Rock and Read groups outperformed the comparison group and the differences were statistically significant. Other pairwise comparisons were not statistically significant. The treatment effect was statistically significant, $F(2, 48) = .90$, $p = .04$. The time effect was statistically significant, $F(1, 48) = 80.89$, $p < .01$. Results are summarized in Table 7.

The pretest and posttest means and standard deviations for the word recognition automaticity measure of fluency are summarized in Table 8.

A 3 × 2 repeated measures ANOVA was performed to test the main and interaction effects of the treatment and time on the word recognition automaticity. As can be seen in Table 9, the treatment and treatment by time interaction effects were not statistically significant. The time effect was statistically significant and showed that for all subjects the word recognition automaticity scores increased from pretest to posttest.

The summary of the pretest and posttest means and standard deviations for smoothness are found in Table 10.

The final 3 × 2 repeated measures ANOVA revealed that the interactions effects of the treatment and treatment by time were not significant. However, the time effect was statistically significant, and thus indicating that all subjects' smoothness improved from pretest to posttest. The results are summarized in Table 11.

Discussion

Both treatments enhanced students' reading fluency in several ways. First, the treatments had a large effect on students' expression and volume. For the Rock and Read plus Readers Theater group, the mean difference effect size was 0.98. In the Rock and Read treatment, the mean difference effect size was 1.45. Both were considered large effects, but the Rock and Read treatment yielded substantially larger effects. It is not a surprise that asking students to sing or perform text would increase the students' expression and volume.

Mean difference effects on phrasing were also large in both Rock and Read plus Readers Theater and Rock and Read treatments, 0.97 and 0.90, respectively. These effects were relatively similar indicating that treatments were appropriate for developing students' phrasing while reading aloud. The MFS scores indicated that the students were reading in meaningful phrases and pausing when punctuation dictated, a characteristic of a fluent reader (Miller & Schwanenflugel, 2008). Researchers claimed that as students become more fluent, they begin to mimic adult phrasing (Miller & Schwanenflugel, 2006, 2008; Schwanenflugel, Hamilton, Kuhn, Wisenbaker, & Stahl, 2004). Both of the treatments began with an adult modeling fluent reading and students' practices were based on the model. It would make sense, then, that students in the treatments began to internalize the typical phrasing of an adult reader.

Third, the treatments' effect on pace was also statistically significant and indicated large mean difference effects in Rock and Read plus Readers Theater (1.24) and Rock and Read (1.91). These results warranted a distinction between word recognition automaticity and pace. Word recognition automaticity was measured by the number of words read correctly in a minute. The pace category on MFS was a qualitative measure. Students were assessed based on their ability to read at a conversational pace, pause for effect, or rate adjustments made for expressiveness.

Although there were no interaction effects for the word recognition automaticity measure, the analysis of simple effects suggested that all students, including the comparison group, made significant gains in reading rate. Therefore, while the treatments also served to increase word recognition automaticity, the regular classroom instruction did the same. Considering the treatments' focus were more on the prosodic features, rate increased as an unintended consequence, yet rate also increased in the comparison group. This suggests that the fluency instruction the students received in the comparison may not have focused as much on the development of volume, expression, and pace. The comparison class is not alone in this deficiency, these elements of reading fluency have historically been neglected (Dowhower, 1991; Rasinski, 2012).

Table 7. Analysis of variance summary table for treatment by time interaction effect on pace.

Source	SS	df	MS	F	p
Treatment	1.49	(2, 48)	0.74	0.90	.42
Error	39.81	48	0.83		
Time	11.78	(1, 48)	11.78	80.89	< .01
Treatment × time	4.50	(2, 48)	2.25	15.45	< .01
Error	6.99	48	0.15		

Table 9. Analysis of variance summary table for treatment by time interaction effect on word recognition automaticity.

Source	SS	df	MS	F	p
Treatment	13968.83	(2, 48)	6984.42	3.10	.05
Error	108002.42	48	2250.05		
Time	3758.41	(1, 48)	3758.41	79.01	< .01
Treatment × time	5.83	(2, 48)	2.92	0.06	.94
Error	2283.18	48	47.57		

Table 10. Means and standard deviations for smoothness.

	Pretest		Posttest	
Treatment	M	SD	M	SD
Rock and Read plus Readers Theater ($n = 16$)	2.25	0.86	2.88	0.72
Rock and Read ($n = 18$)	2.11	1.02	2.61	0.78
Comparison ($n = 17$)	2.05	0.43	2.18	0.53

Finally, no interaction effects were found on the smoothness measure. However, the analysis of simple effects indicated that all students, including the comparison group, became smoother readers. These results also warranted further speculation. According to the MFS, smooth reading was characterized by students reading without breaks or hesitations. In the case of difficulty, smooth readers quickly self-corrected and continued reading. Typically when students hesitate, pause, or self-correct, the student is engaged in the word recognition process (Krivokapic, 2007; Miller & Schwanenflugel, 2008). Word recognition accuracy is another component of reading fluency, which is included in most definitions of reading fluency (Benjamin & Schwanenflugel, 2010) and is regularly assessed and taught in classrooms (Samuels, 2007). These results showed that all three teachers were aware that fluent readers students should, indeed, rapidly or automatically recognize words while reading (Fletcher, Lyon, Fuchs, & Barnes, 2007).

The results of this study suggest that Rock and Read and Readers Theater are both powerful fluency-building activities. From an automatic processing perspective, it makes sense that these activities would enhance word recognition automaticity because of the required repeated readings. Possibly, these methods are even more powerful because the prosodic elements of reading fluency also increased. In order for a fluency activity to be considered comprehensive, perhaps research should demonstrate that all of the components of reading fluency are being enhanced.

In addition, perhaps the text selections were more conducive for fluency instruction (Young & Nageldinger, 2014). Poetry and song are inherently rhythmic and melodic—terms often used to describe prosody. The texts themselves could have helped students uncover the unwritten laws of prosody. Because of the artistic freedom in verse, there is no need to adhere to paragraphs or conventional punctuation, so the proper phrasing may have been easier to locate. Of course, this speculation could go further to say that expression and volume are crucial elements to command while performing, and thus students' attention to this dimension increased.

The fluency-building power may also come from the performance. Students were practicing with a purpose. While educators may also value the process, it is likely that students see more value in the product. In this case, the product was the performance. In addition, students enjoyed the activities, a highly motivational factor (Guthrie & Alao, 1997).

The teachers and students reported that the activities were fun and engaging and that students looked forward to the Rock and Read and Readers Theater. The teachers specified that they preferred Rock and Read slightly more because it took less preparation, but they would continue both methods in their classrooms. Teachers are encouraged to experiment with these activities and reshape them to fit the needs of their students. Researchers are encouraged to continue to expand on the practical research-base that promotes and describes methods that increase each component of reading fluency.

Limitations and further research

This study was conducted over four weeks with a limited number of participants from only one school. Despite the successful results from this school's second-grade students, the study could be strengthened with a larger sample across multiple districts in varying grade levels. In addition, these methods were implemented in a particular context, and teachers should consider how to best use or modify these activities to meet the needs of their unique students.

It is recommended that Readers Theater scripts be challenging for students, and thus require substantial practice; therefore, it is possible that Readers Theater in this study had a smaller effect because the poems were relatively easy. The songs, conversely, were more difficult, and further research could add to the existing research that texts used with assisted reading approaches are more suitable and yield larger gains in reading fluency. Future researchers should also measure growth in other components of reading, such as comprehension. There is always a need for novel approaches to reading fluency instruction that effectively enhance all of its dimensions. No teacher ever said, "I have too many effective methods for producing fluent readers!"

Conclusion

Hot (Rasinski, 2012) or not (Cassidy & Grote-Garcia, 2012), reading fluency is a key component of reading (National Institute of Child Health and Development, 2000). A disfluent student may struggle with extracting meaning from texts because their cognitive energy is focused on decoding rather than comprehension (LaBerge & Samuels, 1974). Fluency is a foundation for comprehension (Samuels, 2002), and teachers need the most effective and engaging strategies to improve student's fluency, which can free cognitive energy to focus on comprehension.

Overall this study demonstrated that the reading fluency activities employed were effective for increasing students' reading fluency. Rock and Read and Readers Theater, when practiced consistently, can significantly increase important components of reading fluency. However, the results also indicate that perhaps general classroom fluency instruction tends to focus on reading rate only. Rock and Read or Readers

Table 11. Analysis of variance summary table for treatment by time interaction effect on smoothness.

Source	SS	df	MS	F	P
Treatment	3.28	(2, 48)	1.64	1.74	.19
Error	45.21	48	0.94		
Time	4.37	(1, 48)	4.37	23.26	< .01
Treatment × time	1.17	(2, 48)	0.59	3.12	.05
Error	2283.18	48	47.57		

Theater may not be the answers teachers are looking for, but regardless of the method, these researchers recommend that teachers incorporate engaging fluency instruction that not only increases reading rate, but the prosodic elements of reading fluency.

References

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

Beaver, J. (1997). *Developmental reading assessment*. Glenview, IL: Celebration Press.

Benjamin, R. G., & Schwanenflugel, P. J. (2010). Text complexity and oral reading prosody in young readers. *Reading Research Quarterly, 45,* 388–404.

Cassidy, J., & Grote-Garcia, S. (Eds.). (2012). *Literacy trends and Issues: What's hot*. Dubuque, Iowa: Kendall Hunt.

Coger, L. I., & White, M. R. (1967). *Readers theatre handbook: A dramatic approach to literature*. Glenview, IL: Scott, Foresman.

Daane, M. C., Campbell, J. R., Grigg, W. S., Goodman, M. J., & Oranje, A. (2005). *The Nation's Report Card: Fourth-grade students reading aloud: NAEP 2002 special study of oral reading*. Washington, DC: National Center for Education Statistics, U.S. Deptartment of Education, Institute of Education Sciences.

Dowhower, S. L. (1991). Speaking of prosody: Fluency's unattended bedfellow. *Theory Into Practice, 30,* 165–176.

Fletcher, J. M., Lyon, G. R., Fuchs, L. S., & Barnes, M. A. (2007). *Learning disabilities: From identification to intervention*. New York, NY: Guilford.

Good, R. H. III, & Kaminski, R. A. (2002). *Dynamic indicators of basic early literacy skills* (6th ed.). Eugene, OR: Institute for the Development of Educational Achievement.

Griffith, L. W., & Rasinski, T. V. (2004). A focus on fluency: How one teacher incorporated fluency with her reading curriculum. *The Reading Teacher, 58,* 126–137.

Guthrie, J. T., & Alao, S. (1997). Designing contexts to increase motivation for reading. *Educational Psychologist, 32,* 95–105.

Hoberman, M. A. (2009). *You read to me and I'll read to you: Scary tales*. New York, NY: Little, Brown Books for Young Readers.

Iwasaki, B., Rasinski, T., Yildirim, K., & Zimmerman, B. S. (2013). Let's bring back the magic of song for teaching reading. *The Reading Teacher, 67,* 137–141.

Keehn, S., Harmon, J., & Shoho, A. (2008). A study of readers theater in eighth grade: Issues of fluency, comprehension, and vocabulary. *Reading & Writing Quarterly, 24,* 335–362.

Krivokapić, J. (2007). Prosodic planning: Effects of phrasal length and complexity on pause duration. *Journal of Phonetics, 35,* 162–179.

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

Logan, G. D. (1988). Toward an instance theory of automatization. *Psychology Review, 95,* 492–527.

Logan, G. D. (1997). Automaticity and reading: Perspectives from the instance theory of automatization. *Reading & Writing Quarterly: Overcoming Learning Difficulties, 13,* 123–146.

Martinez, M., Roser, N. L., & Strecker, S. (1998). "I never thought I could be a star": A readers theatre ticket to fluency. *The Reading Teacher, 52,* 326–334.

Mathes, P. G., & Fuchs, E. S. (1993). Peer-mediated reading instruction in special education resource rooms. *Learning Disability Research and Practice, 8,* 233–243.

Mercer, C. D., Campbell, K. U., Miller, M. D., Mercer, K. D., & Lane, H. B. (2000). Effects of a reading fluency intervention for middle schoolers with specific learning disabilities. *Learning Disability Research and Practice, 15,* 179–189.

Miller, J., & Schwanenflugel, P. J. (2006). Prosody of syntactically complex sentences in the oral reading of young children. *Journal of Educational Psychology, 98,* 839–853.

Miller, J., & Schwanenflugel, P. J. (2008). A longitudinal study of the development of reading prosody as a dimension of oral reading fluency in early elementary school children. *Reading Research Quarterly, 43,* 336–354.

Mohr, K. A. J., Dixon, K., & Young, C. J. (2012). Effective and efficient: Maximizing literacy assessment and instruction. In Ortlieb, E. T., & Cheek, Jr., E. H. (Eds.). *Literacy research, practice, and evaluation: Vol. 1. Using informative assessments for effective literacy practices*, Bingley, UK: Emerald Group.

National Institute of Child Health and Human Development. (2000). *Report of the National Reading Panel. Teaching children to read: An evidence-based assessment of the scientific research literature on reading and its implications for reading instruction* (NIH publication no. 00-4769). Washington, DC: U.S. Government Printing Office.

Rasinski, T. (2004). *Assessing reading fluency*. Beltsville, MD: Pacific Institute for Research and Evaluation.

Rasinski, T. (2012), Why reading fluency should be hot! *The Reading Teacher, 65,* 516–522.

Rasinski, T., Blachowicz, C. L. Z., & Lems, K. (Eds.). (2012). *Fluency instruction: research-based best practices* (2nd ed.). New York, NY: The Guilford Press.

Rasinski, T., Rikli, A., & Johnston, S. (2009). Reading fluency: More than automaticity? More than a concern for the primary grades?. *Literacy Research and Instruction, 48,* 350–361.

Samuels, S. J. (1979). The method of repeated readings. *The Reading Teacher, 41,* 756–760.

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

Samuels, S. J. (2007). The DIBELS tests: Is speed of barking at print what we mean by reading fluency? *Reading Research Quarterly*, *42*, 563–566.

Schreiber, P. A. (1991). Understanding prosody's role in reading acquisition. *Theory into Practice*, *30*, 158–164.

Schwanenflugel, P. J., Hamilton, A. M., Kuhn, M. R., Wisenbaker, J., & Stahl, S. A. (2004). Becoming a fluent reader: Reading skill and prosodic features in the oral reading of young readers. *Journal of Educational Psychology, 96,* 119–129.

Tyler, B., & Chard, D. (2000). Using Readers Theatre to foster fluency in struggling readers: A twist on the repeated reading strategy. *Reading and Writing Quarterly*, *16*(2), 163.

Vaughn, S., Chard, D. J., Bryant, D. P., Coleman, M., & Kouzekanani, K. (2000). Fluency and comprehension interventions for third-grade students. *Remedial and Special Education, 21,* 325–335.

Vadasy, P. F., & Sanders, E. A. (2008). Repeated reading intervention: Outcomes and interactions with readers' skills and classroom instruction. *Journal of Educational Psychology, 100,* 272–290.

Young, C., & Nageldinger, J. (2014). Considering the context and texts for fluency: Performance, Readers Theatre, and poetry. *International Electronic Journal of Elementary Education*, *7*(1), 47–56.

Young, C., & Rasinski, T. (2009). Implementing Readers Theatre as an approach to classroom fluency instruction. *Reading Teacher*, *63*(1), 4–13.

Zutell, J., & Rasinski, T. (1991). Training teachers to attend to their students' oral reading fluency. *Theory Into Practice, 30,* 211–217.