Practice Doesn't Make Perfect: Repeated Reading Is No More Effective Than Continuous Reading for Improving Fluency and Comprehension in School-Age Struggling Readers

by Elizabeth S. Norton

The ability to read connected text with accuracy, speed, and comprehension is often considered the ultimate goal of reading instruction. My colleague and mentor Maryanne Wolf uses the term *fluent comprehension* to describe a construct that goes beyond reading fluency: a manner of reading that is efficient and *automatic*, allowing time and cognitive resources to be devoted to comprehension (Norton & Wolf, 2012). (Prosody is sometimes included as a factor in reading fluency, but is likely also an outcome of successful comprehension.) Despite their importance, reading efficiency and comprehension are notoriously hard to improve for school-age children with dyslexia.

As a reading researcher and a former teacher, I am fascinated by the way our brains orchestrate a host of intersecting and complex cognitive, linguistic, and visual processes to enable fluent comprehension. I frequently give presentations about early indicators of students' later reading fluency and comprehension. For example, rapid automatized naming (RAN) reflects a capacity to automatize for reading, but it is not an effective target for intervention (McWeeny et al., 2022; Norton, 2020). Single word reading accuracy and speed are necessary, but not sufficient, for fluency and comprehension. Parents and professionals often ask me what the evidence tells us about effective practices for building fluency.

A common approach employed to improve reading fluency or comprehension (as they are typically assessed separately) is repeated reading (RR). RR is essentially reading and rereading a text passage in an effort to build fluency and comprehension skills. In RR, a student reads a passage aloud, and a peer, tutor, or teacher typically corrects errors and supplies unknown words. The student then reads the same passage aloud subsequent times, with the goal of improving reading fluency and comprehension of unfamiliar or *untrained* texts.

At first glance, RR appears elegant in its simplicity and seems advantageous in several ways. It does not require extensive time for instructor training or preparation of materials.

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Most any text of appropriate reading level can be used, which can be in the student's area of interest to build engagement. Most students demonstrate greater speed and accuracy as they read a given text repeatedly and receive feedback on their errors. Yet, it is unclear whether the practice of reading the same passage repeatedly or the time spent reading is what drives improvement in reading fluency. On the other hand, continuous reading (CR, also called *sustained* or *wide* reading) exposes students to a variety of texts that can build vocabulary and background knowledge. CR is likely to be more engaging for students than reading the same text repeatedly.

Studies that have rigorously examined RR have typically involved only tens of participants per group. The Institute of Education Sciences' What Works Clearinghouse reviewed the evidence for RR in May 2014 and found varying quality evidence. Nonetheless, RR is used widely (see Chard et al., 2009 for a previous re-

view). I find it puzzling that for students who struggle with reading, constructs as complex as reading fluency and comprehension could be meaningfully helped solely with repeated practice, rather than addressing their underlying areas of difficulty via direct instruction. Prompted by questions I often receive, including from attendees of a presentation I provided for The Reading League—Illinois chapter, I was motivated to look into the current evidence for RR. Here, I review two small but high-quality research studies that indicate RR is not more effective for improving struggling readers' fluency or comprehension of untrained texts when compared with a similar dose of CR. Please note that I do not have any conflicts of interest nor do I advocate for any specific intervention program.

The two studies reviewed here employed three important methodological features to clarify the effects of CR and RR on reading growth. First, they used randomized control trial (RCT) designs. RCTs can provide a very strong level of evidence because they compare how interventions affect groups of individuals who are otherwise similar, minimizing any other factors that might explain differences (like access to intervention). Both used RCTs to compare students who participated in RR versus CR and ensured that intervention groups were statistically equivalent in their fluency or comprehension before training. Second, in both studies, students in each group read the same amount of words or the same amount of time overall during the intervention, which also minimizes the effects of differences in the amount of intervention/experience on reading improvement. Thus, it is likely that any changes in their reading ability were due to the type of reading (RR or CR) during the intervention. Third, the studies assessed students before and after intervention on stand-alone measures of comprehension and fluency that were not related to the intervention passages. This indicates whether there were generalizable and validated gains in reading ability. The studies each had small sample sizes, so examining effect sizes (measures of difference in units of standard deviation that are useful for comparing across measures and studies and for understanding *p*-values in context) and consistency across studies helps indicate how robust results are.

Studies of Interest

O'Connor and colleagues (2007) studied struggling readers in Grades 2 and 4, including students who were dual language learners proficient in English. About half of the students in the study were Black/African-American or Hispanic. Groups of students in the CR (*n*=12) and RR intervention (*n*=13) read aloud to an adult tutor for 15 minutes per session, 3 times per week, for 14 weeks (about 10.5 total hours of intervention). These were relatively impaired readers, with group mean standard scores of 75-77 for the Gray Oral Reading Test (GORT-4) oral reading quotient (which takes accuracy, speed, and comprehension into account). Before the start of the intervention, the CR and RR groups did not differ in terms of age, grade, gender, race/ethnicity, or scores on vocabulary or any of the tested reading measures. The authors gave alternate versions of the outcome reading tests across time points.

Results. There was no significant difference between the RR and CR groups after intervention on standardized, untrained measures including GORT-4 fluency, words read per minute on untrained passages from the Analytical Reading Inventory (ARI), and Woodcock Reading Mastery Test (WRMT-R) word identification and passage comprehension. For each group comparison, effect sizes were near zero, as detailed in Table 1. This means that RR and CR were very comparable in their effects. Impressively, after intervention, GORT oral reading quotient standard scores improved to 89 on average for *both* intervention groups (note that this improvement from 75 to 89 standard score points is about 1 standard deviation, thus the effect sizes of about 1). This does not seem to be a retesting effect because a control group of struggling readers from the same classrooms who received no extra intervention only had a one-point improvement.

Hammerschmidt-Snidarich and colleagues (2019) also used an RCT with a group of students in Grades 2 and 3 who were reading below grade level. Participating students came from a school district that included 32% of students who were Black/African-American, Hispanic, and/or multi-racial, and 87% who qualified for free/reduced lunch. Rather than matching the intervention groups on time spent reading, the authors matched on the number of words read. That is, the RR group (*n*=20) read each passage three times, while the CR group (*n*=20) read three different passages of equivalent length one time each. Passages were curriculum-based and were read aloud to an adult. Students completed 15 sessions each lasting about 30 minutes, over five weeks (~7.5 hours total). The researchers assessed each student's reading ability before and after intervention with general measures of oral reading fluency (ORF; words correct per minute on unfamiliar

Table 1

Summary of Findings on Untrained Text Measures by Study

Study/Measure	Effect size of pre- to post-change within group		Significant difference for RR vs. CR groups?	Effect size difference for RR vs. CR
	RR group	CR group		
O'Connor et al., 2007				
Reading rate on untrained passages from ARI (words read per minute)	0.95	0.76	No	0.10 favoring RR
GORT-4 passage reading fluency (raw score)	0.74	0.79	No	0.06 favoring CR
WRMT-R passage comprehension (raw score)	0.90	1.09	No	0.02 favoring RR
GORT-4 oral reading quotient (standard score)	1.08	1.04	(Not reported)	
Hammerschmidt-Snidarich et al., 2019				
Oral reading fluency for untrained text (words read correctly per minute)	0.80	0.65	No	0.03 favoring CR
aReading Comprehension (Rasch score)	-0.16	0.40	**Yes (p=.04)**	0.59 favoring CR

Note: RR=repeated reading, CR=continuous reading. Effect sizes (Hedges' *g*) were calculated for paired t-tests for within-group growth and independent-samples t-tests for between-group comparison. A negative effect size within group indicates better performance pre- vs. post-intervention.

grade-level passages), and comprehension via a computerized adaptive test called aReading. The researchers also assessed fluency and comprehension specific to the passages read during intervention. The two groups did not differ significantly in any of the assessed reading abilities before intervention.

Results. The RR group did better at answering comprehension questions about the passage they had just read repeatedly, as compared with the CR group that read three separate passages and had just one exposure from which to answer the same questions, with a large, significant effect size of 0.99. This improvement makes sense given the RR group's much greater familiarity with the trained text. Comparing the groups on the fluency measure that was unrelated to the trained text after the intervention, both groups showed significant improvement with moderate effect sizes of 0.65-0.80 (see Table 1). However, on the comprehension test, the CR group performed significantly better than the RR group (effect size of 0.59); the RR group actually scored slightly lower after intervention than before.

Interestingly, this study had participating students rate their enjoyment of the intervention. Those in the CR intervention were more than 8 times more likely to give a positive rating about their intervention than those in the RR intervention. The authors note, and I concur, that enjoying (or at least tolerating) reading intervention sessions is a potentially powerful factor in helping students maintain motivation and continue their growth.

Considerations and Summary

Data from these two small RCT studies generally indicate that RR and CR can both benefit students' fluency and comprehension. Notably, in one study, CR was significantly better than RR for improving comprehension of unfamiliar text. These data suggest that the repeated aspect of RR itself is not an active ingredient for improving reading. This is consistent with the conclusions from Chard and colleagues' (2009) review that repeated reading is not an evidence-based practice for remediating reading/learning disabilities. Data also indicate that students find CR activities preferable to RR,
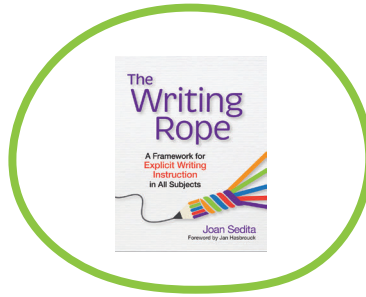
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> Notably, the RR intervention results were significantly worse than CR in one study for improving comprehension of unfamiliar text. These data suggest that the repeated aspect of RR itself is not an active ingredient for improving reading. This is consistent with the conclusions from Chard and colleagues' (2009) review that repeated reading is not an evidence-based practice for remediating reading/learning disabilities.

which is important for struggling readers who may not enjoy reading. Future studies are warranted regarding whether CR is as beneficial as equivalent time spent on explicit instruction in students' areas of difficulty, as well as studies of which individual factors (age, language comprehension, etc.) indicate which students might benefit from a given approach to building fluent comprehension.

With all this in mind, when should RR be used? As Hammerschmidt-Snidarich and colleagues (2019) note, if a student is working hard to understand a difficult concept from a text, repeated reading may facilitate this passage-specific comprehension. I see RR as a tool for occasional use that doesn't directly remediate underlying reading difficulties but provides reading practice to help students understand the feeling of what it is like to be a fluent, comprehending reader. ■

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