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## The Effects of Reading Fluency on Comprehension

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The diverse reading levels of students today have created a challenge to teachers. The challenge is how to most effectively and efficiently improve the reading skills of those students who are reading below grade level, as well as challenge proficient readers. In the United States, 30-40% of fourth graders read below grade level (Drake, 2007), with some school districts reporting over half of the students reading below grade level (Jordan, 2007, Cal Dept of Ed, 2006). The goal of reading is comprehension, or understanding of the material. Without acquiring the skills necessary to simply read text, students have no chance for understanding. Students who are reading at or above grade level must be challenged in order to further improve reading proficiency. Differentiated instruction and interventions are two strategies used to accommodate diverse levels of readers. Teachers are feel pressure to focus on students reading below grade level. They also experience frustration in the obligation to not only improve reading for these students in a small portion of the students' day, but to also give the students the ability to improve at an above-average pace in order to "catch up" to grade level status.

### *Reading Assessment Data*

Reading proficiency assessments include measuring a student's fluency (reading rate), accuracy, and comprehension to determine a student's reading level. Assessment data have shown a correlation between improvement in reading fluency and comprehension. Data from schools using the federal Reading First program show a significant improvement in these two areas (Manzo, 2007) with about a 15 % improvement in fluency and about a 12 % improvement in reading comprehension. White (1995), in her article concerning the National Assessment of Educational Progress (NAEP) first report measuring elementary students' oral reading, suggests

that improved fluency leads to greater comprehension, as well as accuracy and reading rate. Another study that investigated Curriculum-Based Measurement (CBM) reading, an assessment that relates reading fluency to comprehension, found CBM to be reliable and valid for both English-only students and bilingual students (Baker & Good, 1994). Data even suggest that lack of reading fluency may be one cause for low reading comprehension among high school students (Rasinski et al., 2005), showing how the effects of poor reading follow students through elementary and middle school.

Data clearly show a correlation between reading fluency and reading comprehension. The question becomes whether increasing fluency is the reason for improvement in comprehension, or whether improvement in comprehension results in increased fluency. Rasinski (2000) argues the importance of reading rate, suggesting that an improvement in reading speed will also improve comprehension. Rasinski associates slow, disfluent reading with reading frustration, another factor in below-grade-level reading. This frustration is not limited to the students, but extends to teachers who must clearly improve student fluency as part of reading instruction. The available data on the benefits of improvement in reading fluency to increase comprehension are also not limited to English-only students, but relate to all readers.

#### *Fluency Strategies and Comprehension*

With the skill of reading fluency being an obvious factor in reading proficiency, teachers must search for the best way to improve reading fluency. Literature concerning strategies to improve fluency point to the activity of repeated readings. Repeated readings can be defined as practicing reading for the purpose of improving reading fluency in relation to reading speed. Repeated readings can be in the form of read alouds, partner reads, student repeated reads, choral reading, reader's theater, and more. If repeated readings do improve reading fluency, which in

turn improve comprehension, then it can be assumed that research will also show evidence of repeated reading improving reading comprehension. Studying the effects of the strategy of repeated reading on reading comprehension may, in turn, supply teachers with valuable information for improving students' reading proficiency.

The results of a study examining the efficacy of repeated readings on fluency and comprehension suggest that the use of repeated reading strategies do increase oral fluency and comprehension (Vandenberg et al., 2008). The study involved high school students with specific learning disabilities. Although the study only included three tenth and eleventh grade students, the results clearly show the benefit of repeated readings and promise for future research. Another study examined the effects of repeated readings on the reading fluency and comprehension of four middle school students who were attending an outpatient treatment program for behavior problems (Alber-Morgan, 2007). The results also showed a relationship between repeated readings and improved reading fluency as well as improvement in comprehension.

Alber-Morgan, Ramp, Anderson, and Martin (2007) conducted three experiments examining the effects of repeated readings on third and fourth grade students' fluency and comprehension. For these experiments the repeated reading sessions were done using partner reads, with students working in pairs alternating reading paragraphs for 10 minutes. Students were then tested on reading rate and accuracy using one-minute timed trials. Comprehension was tested after students reached the objective fluency rate of 180 WPM and 10 or fewer errors. Results showed that peer repeated reading improved the students' fluency, accuracy, and comprehension.

Another study involving six third-graders and six fifth and sixth graders focused on the effect of fluency-based interventions for the specific purpose of improving reading comprehension (Neumann, Ross, & Slaboch, 2008). The interventions were three 20-minute weekly sessions in which the students were involved in choral reading, echo reading, poetry, repeated oral reading, and reading silently while listening to modeled reading. Results concluded that deficiencies in oral fluency were associated with comprehension problems among the students. Taking a further look at research on fluency, Taguchi, Takayasu-Maass, and Gorsuch (2004) explain how research has shown the importance of reading fluency for successful reading. Although they suggest that fluency alone does not guarantee successful reading, they do explain how most research has shown that reading fluency, including fast word recognition skills, are necessary for good reading ability.

O'Shea and Sindelar (1984) conducted a larger study involving 30 third-grade students who were reading at or above grade level. The purpose of the study was to determine the effects of repeated readings on fluency and comprehension. Half of the students were told to read a passage for meaning, and the other half were told to focus on speed and accuracy. Data showed a significant increase in reading fluency for both groups. Fluency was greater for the group told to read for speed and accuracy. Comprehension also improved for both groups, but was greater for the group instructed to read for meaning.

Rasinski (2001) argued that reading rate is a necessary part of proficient reading. Rasinski explained the correlation between fluency and reading proficiency in the form of comprehension and reading accuracy. Rasinski also explained how using the strategy of repeated readings before student performance of reader's theater improved fluency, reading rate, and overall reading performance. Homan (1993) further supported the effect of repeated reading

on fluency and comprehension. She studied both repeated readings and non-repetitive strategies and found equal benefits for both methods, with significant improvement in comprehension.

An additional study was done using a reading intervention program for struggling ELL's (Tam, Heward, & Heng, 2006). One intervention included vocabulary instruction, error correction, and improving reading rate by asking the students to read a passage as fast as they could three times. A second intervention eliminated the fast reading and allowed for the students to practice reading until a predetermined reading rate was achieved. Both interventions resulted in faster reading rates, and showed significant improvement in reading comprehension.

Eber and Miller (2003) describe an action research project that was specifically designed to improve reading comprehension by improving the reading rate of second and third grade students. Using data provided through teacher observation and standardized test scores, the authors found numerous causes for students struggling with fluency. Upon review of the reading curriculum, it was determined that the strategy of repeated reading was to be the chosen intervention. The results suggested that repeated readings improved comprehension and fluency scores.

Berninger, Abbott, Vermeulen, and Fulton (2006) conducted two studies using second graders who were at risk for reading disability. The first study focused on comprehension for 96 students. Results of this study, using data collected in the fall and spring semester of second grade, showed that phonological decoding and letter naming predicted real-word reading, and the rate and accuracy of real-word reading predicted comprehension. The second study consisted of 92 students who were involved in after-school reading groups involved in an instructional approach to comprehension focusing on vocabulary and oral reasoning. Results also showed improvement in comprehension. The authors explain how these two studies support two

strategies to improve reading comprehension: vocabulary and verbal reasoning as well as reading skills. The reading skills were further divided into subskills of letter coding, phonological decoding, real-word decoding, and fluency.

Riedel (2007) studied the relation between Dynamic Indicators of Basic Early Literacy Skills (DIBELS) and reading comprehension for 1,518 first-grade students. Students were assessed to determine the optimum DIBELS scores for predicting reading comprehension. The subtest of DIBELS that measures oral reading fluency was, according to Riedel, a better predictor of reading comprehension than any of the other DIBEL subtests or combination of subtests, including one to specifically assess comprehension through a retell. Riedel does explain, however, that vocabulary was an important factor in relation to reading fluency and comprehension. Students with satisfactory reading fluency combined with low vocabulary scores had lower comprehension.

### *Beyond Fluency*

Although research has shown that improvement in fluency does improve comprehension, some data show that other aspects of reading also influence comprehension. Walczyk and Griffith-Ross (2007) examined the relationship between fluency and reading comprehension. They found that poor readers who have learned to compensate for their lack of reading skills were able to improve comprehension. The authors' findings also revealed that struggling readers who must read under pressure for speed or at a constant fast rate are less likely to use their compensation strategies and comprehend less as a result.

What Works Clearinghouse (2007) published a report studying the effects of "Read Naturally," a reading curriculum designed to improve reading fluency using various strategies, including repeated reading. "Read Naturally" has students work mainly independently,

progressing through the curriculum at their own pace. The What Works Clearinghouse examined two studies that used “Read Naturally” and found the curriculum to have no effect on fluency and reading comprehension.

### *Conclusion*

This literature review clearly supports the improvement of reading fluency for increased reading comprehension. As data have shown, letter naming and phonological decoding are necessary foundations for word decoding, which leads to improved fluency (Berninger, 2006). The literature also shows the importance of improvement in vocabulary to reading comprehension (Riedel, 2007). Effective reading instruction must also take into consideration the findings that students must be guided through their learning and not expected to improve through independent work (What Works Clearinghouse, 2007). Evidence shows that the pressure of making students read fast can have a negative effect on comprehension (Walczyk & Griffith-Ross, 2007), suggesting a need for strategies that *allow* students to improve fluency instead of forcing them to improve. This synthesis of data suggests that an effective reading curriculum with the goal of reading comprehension would consist of spelling, phonics, and vocabulary, as well as strategies to improve reading fluency.

Data supporting effective strategies for improving reading fluency were collected from a diverse population for research, ranging from elementary to high school students. The populations showing improvement in comprehension from increased reading fluency also included students with learning disabilities, at-risk readers, struggling readers, readers at and above grade-level proficiency, and English Language Learner (ELL) students. Not only does the literature support the improvement in fluency to increase comprehension, but it also suggests reading development similarities for all readers. In every case, strategies were used to increase



the reading rate, which in turn increased reading comprehension. This consistency in comprehension development may be valuable information for teachers at all grade levels facing the reading development challenges in the classroom. What teachers must take into consideration is the way in which the strategies are employed, as well as the additional literacy foundations necessary for students to achieve reading proficiency. The literature clearly supports further research into reading comprehension, including the foundation needed to support reading fluency and strategies that effectively and efficiently improve fluency and ultimately comprehension.

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### Abstract

The purpose of this report was to examine the effects reading fluency has on reading comprehension. The analysis was done through a synthesis of recent literature on the topic. Research shows improvement in reading fluency does improve reading comprehension and suggests reading development similarities for all readers. This consistency in comprehension development may be valuable information for teachers at all grade levels facing the reading development challenges in the classroom. The literature supports further research into reading comprehension, including reading fluency and strategies that effectively and efficiently improve fluency and ultimately comprehension.