research brief

reading plus®

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Impact of *Reading Plus* on Shelby County Schools middle school students' reading proficiency scores as measured by a norm-referenced diagnostic reading assessment: Initial findings

Purpose of Study

This study was conducted to measure changes in the reading proficiency of middle school students consequent to using the *Reading Plus*® web-based silent reading intervention during the 2013-2014 school year. A standardized third-party measure of reading proficiency was used so that measured changes could be compared directly to national norms and to the results of other supplemental literacy programs. This brief provides an initial examination of results.

Background

The 2013 National Assessment of Educational Progress (NAEP; National Center for Education Statistics, 2013) suggests that nearly two-thirds of U.S. students in fourth- and eighth-grade are not proficient in reading. Moreover, the results suggest that 32% of fourth-graders and 22% of eighth-graders fail to demonstrate even a basic level of reading achievement. These poorly performing students are unprepared for the challenges of secondary education, are liable to develop a sense of incompetence and a lack of enthusiasm for reading, are less likely to complete school, and are predisposed to be less successful as adults.

To address this proficiency issue, the *Reading Plus* silent reading program provides a wide range of carefully leveled narrative and informational texts designed to engage students, to encourage them to read with purpose and understanding, and to help them develop the reading efficiency and capacity needed to achieve year-end expectations as outlined in the Common Core State Standards (CCSS). Reading practice lessons are carefully scaffolded to address individual student needs and to facilitate each student's comprehension-based silent reading fluency development toward level goals and independent silent reading proficiency.

In this study, the efficacy of *Reading Plus* was put to the test. Reading proficiency was evaluated using Pearson's nationally normed Group Reading Assessment Diagnostic Evaluation (GRADE™) in September 2013 and again in March 2014. Gains in reading proficiency were then evaluated in relation to *Reading Plus* usage.

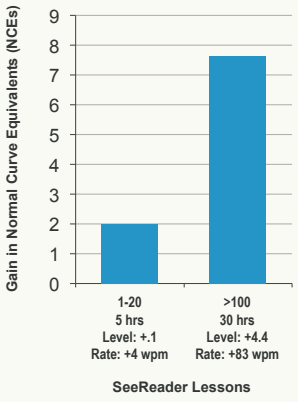
Population

This study involved 499 middle school students (sixth, seventh, and eighth grade) from two middle schools in Shelby County, TN. Sixty students were excluded from the analysis due to missing test scores, and two were excluded because they did not use the *Reading Plus* program. Scores on the GRADE pretest indicated that the reading proficiency of the remaining 437 students in the study was below the national average. Reading proficiency was defined in terms of the Normal Curve Equivalents (NCEs) of the Total Test Scores (Mean=50, SD=21.06). At the start of the study one-third of the students had NCEs in the lowest quartile and another 56% were in the second lowest quartile. Only 11% were above the 50th percentile, and only one student tested above the 75th percentile.

Implementation Overview

The GRADE assessment was administered in September 2013. Students then were scheduled to complete four *Reading Plus SeeReader*® lessons per week over the course of 24 weeks. Students used *Reading Plus* to varying degrees during the school year. Program usage was quantified in terms of the number of *SeeReader* lessons completed. The GRADE assessment was administered again in mid-March 2014.

Summary of Findings



Students who completed at least 100 *Reading Plus* lessons (~30 hours) achieved reading proficiency score increases nearly four times as large as those measured in students who completed 20 or fewer lessons (~5 hours). Further, the GRADE standard score gains achieved by the students who completed 100 or more *Reading Plus* lessons were nearly four times as large as gains measured in studies published by the U.S. Department of Education describing the results of other supplemental literacy programs that involved more than three hours per week over two semesters (Somers, Corrin, Sepanik, et al., 2010).

Prepared by the *Reading Plus* Research Department

Results

Students were divided into six usage groups according to the number of *SeeReader* lessons they had completed. The lowest usage group completed 1-20 lessons over an average of 5 hours (n=33), while the highest usage group completed more than 100 lessons over an average of 30 instructional hours (n=117). To ensure a fair gain comparison, potential starting differences among the groups were statistically corrected by using students' initial performance as a covariate.

Differences in Total Test Normal Curve Equivalent (NCE) gains across *SeeReader* usage groups were highly significant (p=0.006). Overall, increased program use was associated with larger proficiency gains. One usage group (41-60 lessons) appeared to deviate slightly from this pattern, but the difference was not significant (see Figure 1 below). Supplementary pairwise comparisons demonstrated that NCE gains in those who completed 100 or more *SeeReader* lessons were significantly larger than those achieved by students who completed 1-20 *SeeReader* lessons (p = 0.049) or 21-40 *SeeReader* lessons (p = 0.049), and the comparison with the 61-80 lesson group approached significance (p = 0.068). The NCE gains among students who completed 100 or more lessons averaged 7.8 NCEs, or a 0.37 standard deviation increase. This corresponds to an improvement from the 19th percentile to the 29th percentile relative to national norms. Differences across usage groups were also significant when expressed in terms of GRADE standard scores (p = 0.013). Students who completed 20 or fewer lessons increased their reading proficiency by 1.42 standard score points, while those who completed 100 or more lessons increased their reading proficiency by an average of 5.44 standard score points, an effect size of 0.337. Increased program use was also associated with significant gains in reading rate (p<0.001).

Figure 1. Reading Proficiency Gains (GRADE NCEs).

Discussion

The results of this study show a significant impact of *Reading Plus* practice on the reading proficiency scores of Shelby County Schools middle school students as measured using the GRADE. Reading proficiency improvements of students who completed about 30 hours of *Reading Plus SeeReader* practice (at least 100 lessons) were significantly larger than those measured in students who completed 5 to 10 hours of practice (40 or fewer lessons). In terms of magnitude of effect, students who completed 30 hours of practice increased their GRADE scores by an average of 5.44 standard score points (versus 1.42 in the low usage group), an effect size of 0.337. To put these numbers in context, consider the Enhanced Reading Opportunities (ERO) studies published by the U.S. Department of Education (Somers, Corrin, Sepanik, et al., 2010). These reported improvements of 0.9 GRADE standard score points (effect size of 0.09) in ninth graders following the implementation of either of two supplemental literacy programs involving three or more hours per week over two semesters. This comparison suggests that with sufficient use, the *Reading Plus* silent reading program is nearly four times as effective as the interventions used in the U.S. Department of Education studies.

Research has shown that students with poor reading skills are not likely to make significant progress with low intensity remedial instruction, but often make impressive progress with more aggressive intervention; e.g., significant periods of practice four or five days per week for 20 to 30 weeks (Vaughn, Denton, & Fletcher, 2010). A recent meta-analysis of research on reading interventions for struggling readers in grades 4 through 12 noted that reading comprehension effect sizes were nearly three times as large in studies reporting more than 115 hours of intervention as compared to those entailing less time (Wanzek, Vaughn, Scammacca, 2013). The benefits of *Reading Plus* also are dependent on the amount of use, as is evident in the results reported here, as well as in the results of a recent study in Florida involving 136,930 students who used *Reading Plus* in grades 3 through 10. That independent study conducted by the Miami-Dade County School District found that higher levels of *Reading Plus* use were associated with significantly increased reading achievement on the Florida Comprehensive Assessment Test (FCAT) in each grade examined, with the largest improvements observed in students who had used the program for more than 40 hours (Urdegar, 2013).

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