

Second Grade Efficacy Study: Lexia Reading Core5 and DIBELS Next

Data compiled and analyzed by the Research Team (research@lexialearning.com)

Lead Authors: Shani Wilkes, MA and Paul Macaruso, Ph.D.

Key Finding

California Elementary School implemented a pilot study to test the effectiveness of a blended learning approach (Lexia Reading Core5[®][Core5]) to reading instruction during the spring of 2015. Two of three second grade classes were randomly selected to use Core5.

Students in the Core5 classes made significantly greater gains in words per minute scores on the DIBELS Next DORF subtest compared to students who did not use Core5. In fact, Core5 students had nearly four times the gains (25% growth compared to 6% growth) in oral reading fluency, which indicates that consistent use of a blended learning approach to reading instruction can lead to growth in reading skills.

Description of Pilot Study

Second grade students who attended California Elementary School in Orange, CA, a Title I school, participated in this study. The vast majority of students in the school (over 90%) are Hispanic. Two classes were randomly assigned to use Core5 and a third class served as a control (non-Core5) class. There were 49 students in the two Core5 classes and 25 students in the non-Core5 class. The pilot program entailed the use of Core5 in conjunction with the school's existing curriculum for English Language Arts, *Houghton Mifflin Reading* (Medallion Edition). All students received the same amount of overall reading instruction and intervention time (120 minutes and 30 minutes, respectively). The three classroom teachers each had more than 10 years of teaching experience.

This study took place over 16 weeks, with Core5 use beginning in February 2015 and ending in May 2015. During the study, a blended learning approach to reading instruction was implemented in the Core5 classes. This approach couples teacher-led instruction with the use of student-directed technology (Core5). Teachers monitored students' performance in Core5 and used the information to guide instruction. Core5 was implemented as part of a group rotation during the intervention time. All Core5 students used the program with fidelity (met usage recommendations) for at least 10 weeks.

Explanation of Analyses

To assess student's growth in connection with progress in Core5, all students were tested before and after the implementation with DIBELS Next (Dynamic Indicators of Basic Early Literacy Skills), a standard reading assessment. The DIBELS Oral Reading Fluency (DORF) subtest was used as the reading measure. DORF scores represent the number of words read correctly in a passage in one minute. The initial analysis used a correlation to determine the relationship between reaching end-of-year benchmark in Core5 (i.e., completing all grade-level materials) and performance on the DORF subtest. An independent sample *t*-test was used to confirm that there was no significant difference between the Core5 and non-Core5 students on the DORF subtest at pretest. Subsequently, an analysis of covariance was used to compare Core5 and non-Core5 students on the DORF subtest at posttest, and a dependent *t*-test was used to compare the groups in terms of average percent growth on the DORF subtest.

Outcomes and Discussion

The correlation between reaching end-of-year benchmark in Core5 and scores on the DORF subtest was statistically significant and in the medium range ($r=0.6$). In addition, 100 percent of the students who reached end-of-year benchmark in Core5 were classified in the highest instructional category level on DIBELS Next. These findings indicate that reaching benchmark in Lexia Reading Core5 is a valid indicator of reading ability.

With regard to performance in Core5, only 16% of the second grade students started the pilot program working on grade-level skills. By the end of the year, 69% were working on grade-level skills or had reached benchmark (see Figure 1). These findings indicate that, in general, Core5 students made substantial progress in Core5 over the 16-week period.

Further analyses revealed significant differences favoring the Core5 students compared to the non-Core5 students. The Core5 students showed an average gain score on the DORF subtest of 12.1 compared to 3.3 for the non-Core5 students (see Figure 2)¹. Likewise, average percent growth on the DORF subtest was higher for the Core5 students (25%) than the non-Core5 students (6%)².

The outcomes of this pilot study led to a school-wide implementation of Core5 in the 2015-16 school year, supported by both the principal and the school district. As of February 2016, over 600 students in the school are using Core5 with fidelity.

Figure 1. Progress in Core5

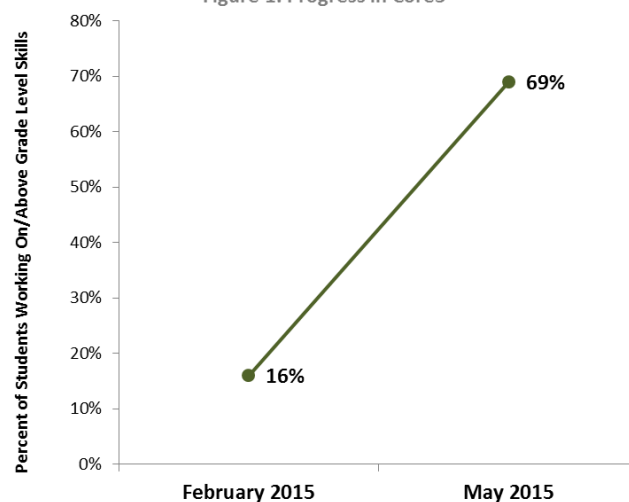
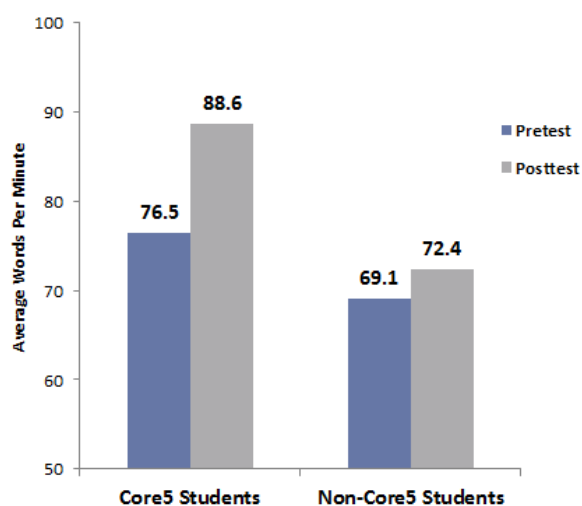


Figure 2. DIBELS Next DORF Scores



¹ An analysis of covariance revealed a significant group difference at post-test, using pretest scores as covariates, $F(1,71) = 4.7$, $p < .04$.

² The difference in mean percent growth was significant, $t(72) = 2.0$, $p < .04$. Percent growth = $(\text{Posttest} - \text{Pretest})/\text{Pretest}$.