Three-Year Longitudinal Study of Lexia Reading Core5

Lexia Reading Core5 Successfully Increases Kindergartners’ Fall Reading Scores over Three Years, Ending Second Grade above Average

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Key Findings
A cohort of students began using the Lexia Reading® Core5® (Core5) blended learning program in kindergarten and continued for three years. Standardized test scores were collected in Fall and Spring of each year. Findings reveal:

- Significant Fall-to-Spring reading growth in each school year;
- Significant longitudinal Fall-to-Fall reading growth over three years;
- Fall-to-Fall growth occurred despite a “summer slide” (decline from Spring-to-Fall) following each school year.

Program Description
Core5 is a technology-based instructional program that provides students the explicit instruction needed to accelerate mastery of reading skills. In Core5, students complete activities (i.e., skills) such as initial/final consonants discrimination, silent-e word construction, categorizing, idioms, and reading comprehension. Skills in Core5 are organized into 18 levels that cover Pre-K through 5th grade skills. Mastery of skills (90%–100% accuracy) is required for students to advance to the next level. Students’ grade-level benchmark is to complete all of the material up to and including the Core5 levels that correspond to their grade level. Progress in Core5 is evaluated by comparing the students’ Core5 level to their grade level at the beginning and end of the year.

Sample Description
Participants
Study participants were 68 students attending a Title I school in an urban school district. The students were enrolled in kindergarten at the start (2014-2015), first grade in the next year (2015-2016), and second grade in the last year (2016-2017). Demographic characteristics were as follows: Gender: 53% male, 47% female; Ethnicity: 43% Black, 37% White, 16% Hispanic; English Language Learner (ELL) status: 16% ELL, 84% Non-ELL.

Procedure
Core5 was implemented as a blended learning instructional program in the students’ classrooms as part of a station rotation and/or in the computer lab. Students used Core5 with fidelity during each school year (i.e., they used the online component for at least 20 weeks and met usage recommendations for at least 50% of those weeks). To evaluate the effectiveness of Core5, students were tested at six time points (Fall and Spring of each school year) using the Group Reading Assessment and Diagnostic Evaluation (GRADE; Williams, 2001).

Results
Analyses were conducted to identify any significant differences in mean Total Test standard scores on the GRADE across time points. The means at each time point are shown in Figure 1.
Growth in Each School Year
For each of the school years, the Spring mean was significantly higher than the Fall mean (p. < .001), indicating significant reading growth in each school year.

Longitudinal Growth
A comparison of Fall means across years demonstrates significant reading growth over the three years. Fall Year 2 was higher than Fall Year 1 (p = .004), and Fall Year 3 was higher than Fall Year 2 (p = .022). The students improved from below average in Fall Year 1 (mean = 90.6) to above average in Fall Year 3 (mean = 100.4).

Summer Slide
Longitudinal growth was seen over the three years despite the fact that the students showed a significant summer slide following each school year. Summer slide was seen in that Fall Year 2 was lower than Spring Year 1 (p < .001), and Fall Year 3 was lower than Spring Year 2 (p < .001).

Conclusions
Few studies have investigated the benefits of a blended learning program over multiple years at the elementary school level. 3 This longitudinal study tracked reading scores of students who used Core5 for three years. Measurements were collected with standardized reading test at six time points – Fall and Spring of kindergarten, first, and second grade. The study also considered a potential summer slide, that is, a decline in academic performance over the summer. The summer slide has been observed in reading and is more pronounced for students from low SES backgrounds. 4

Students in this study benefitted from using Core5 over multiple years. Significant reading growth was found in each school year. In addition, the students demonstrated significant longitudinal growth over the three years. This growth occurred despite a summer slide after each school year. Overall, this study shows that Core5 continued to support reading growth, despite an annual summer slide.

1 An average standard score on the GRADE = 100.
2 Using a repeated measures analysis of variance (ANOVA), a significant effect of time point was obtained (Greenhouse-Geisser corrected F(3.471, 232.545) = 58.755, p < .001). Given this significant effect, post-hoc pairwise comparisons were conducted (using Bonferroni adjustments for multiple tests) to determine which pairs of time points differed significantly from each other.
3 https://www.lexialearning.com/why-lexia/research-proven