Lexia Maryland

STATE IMPACT REPORT

Impact of Lexia® Core5® Reading in Maryland

Key Insights

- More elementary students in Maryland schools that used Core5 scored in the proficient range on the MCAP English Language Arts assessment than students in schools that did not use Core5.
- The positive effects of Core5 were also observed for each individual grade 3rd–5th, though the statistical significance varied across grades.

Introduction

Following significant pandemic-related learning loss, U.S. school districts received billions of dollars in federal aid through the Elementary and Secondary School Emergency Relief (ESSER) Act to support the implementation of evidence-based interventions (U.S. Department of Education, 2021). Through this initiative, many districts began implementing computer-based reading interventions, including Lexia® Core5® Reading (Core5), to improve students' reading achievement. As a result of this funding, reading proficiency of 3rd–5th grade students in Maryland returned to pre-pandemic levels by 2022, and reading proficiency exhibited a nine-year high in 2023 (Maryland State Department of Education, 2023). Despite this improvement, fewer than half of Maryland students read at proficient levels on the Spring 2023 Maryland Comprehensive Assessment Program (MCAP). With ESSER funds expiring in September 2024, school leaders are faced with deciding whether to continue these interventional programs. This study focused on whether elementary schools that used Core5 in the 2022-23 school year outperformed schools that did not use Core5 on the state's English Language Arts/Literacy (ELA) assessment, providing guidance to administrators on the value of Core5.

Programs such as Core5 may accelerate growth of students' literacy skills, with recent research showing that students in grades 3-5 exhibit greater reading achievement than students from matched schools (Pane et al., 2023). Importantly, elementary reading proficiency is crucial to students' overall academic success, as elementary reading scores are highly predictive of high school graduation rates (Hernandez, 2012). Given the critical need to improve Maryland students' elementary reading proficiency, this study focused on the impact of Core5 on students' ELA achievement in Maryland's public schools in the 2022-23 school year. This study is the first to investigate the impact of Core5 at scale in Maryland schools, and it provides Moderate evidence of effectiveness according to the federal guidelines provided under ESSA.

Study Design

Lexia researchers merged publicly available school-and grade-level MCAP assessment data from Spring 2022 and Spring 2023, together with school-level demographic data from the 2022-23 school year. All data were obtained from the Maryland State Department of Education (DOE) website. The MD DOE reports the percentage of students falling in each of

four English Language Arts (ELA) performance levels by grade for each school, with the highest two performance levels considered proficient. Lexia researchers merged grade-level Core5 usage data with Spring 2022 MCAP, Spring 2023 MCAP, and 2022-23 demographics data. We restricted our analyses to grades 3-5, as grade 3 is the earliest grade tested on the MCAP, and we considered any school with at least one student using Core5 to be a "Core5 school."

Characteristics of Schools in Maryland (2022-23)

	Core5 School (n=317)	Non-Core5 School (n=555)	Overall (n=872)
% Proficient on Spring 2023 MCAP ELA Test	46	44	45
Avg. School Total Enrollment	516	476	491
% Free/Reduced Price Lunch	42	45	44
% White	28	36	33
% Black/African-American	35	33	34
% Hispanic/Latino	25	19	21
% Other Race	11	12	12

The sample for this study consisted of 190,027 3rd–5th grade students across 872 schools in 24 districts in Maryland (all those with MCAP scores for 3rd–5th grades in the 2021-22 and 2022-23 school years). Of these, 317 schools used Core5 and 555 schools did not use Core5 in the 2022-23 school year. The above table presents school-level characteristics for these schools. On average, schools had a total enrollment of 491 students and 44% of students qualified for free or reduced-price lunch. Schools in this analytic sample included 33% White students, 34% Black students, 21% Hispanic/Latino students, and 12% students of other races. During the 2022-23 school year, 45% of students scored in the proficient range on the Spring 2023 MCAP ELA

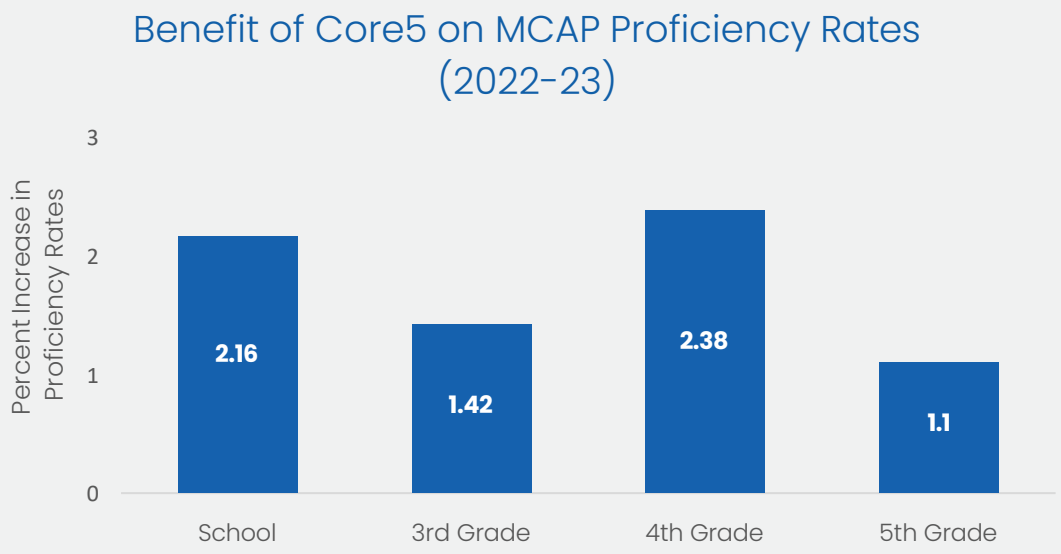
assessment. The table also summarizes school-level variables for Core5 schools (n = 317, supporting 75,617 3rd–5th grade students) and Non-Core5 schools (n = 555, supporting 114,410 3rd–5th grade students) separately. On average, Core5 schools are larger, have more Hispanic/Latino students, have fewer White students, and have fewer students receiving free/reduced-price lunch than Non-Core5 schools. However, Core5 and Non-Core5 schools are similar in the percentage of Black students and students of other races.

First, we compared 2023 MCAP ELA scores for all Core5 and Non-Core5 schools. Given that Core5 and Non-Core5 schools differed significantly in several demographic characteristics (see above), we also conducted sensitivity analyses by closely matching Core5 schools to Non-Core5 schools on 2022 MCAP ELA scores and demographic characteristics. These sensitivity analyses are informed by the What Works Clearinghouse Standards 2.0 (2022), which ensured the Core5 and Non-Core5 schools were similar at baseline in 2022 MCAP ELA average scale scores, race/ethnicity, school enrollment, and economic disadvantage. We then fit multiple regression models to predict the effect of using Core5 on 2023 MCAP ELA scores, controlling for schools' prior ELA achievement on the 2022 MCAP.

Results

More students in Maryland schools that used Core5 attained ELA proficiency than students in schools that did not use Core5.

A greater percentage of students at Core5 schools scored in the proficient range on the 2023 MCAP ELA assessment than did students at Non-Core5 schools. At the school level, Core5 schools had 1.85% more students score in the proficient range than students at Non-Core5 schools (p < .001). In the sensitivity analyses, where Core5 and Non-Core5 schools were matched based on prior year scores and demographics, Core5 had an even stronger, significant positive impact on reading proficiency scores. As illustrated by the first bar in the figure below, Core5 schools had 2.16% more students score in the proficiency range than students at Non-Core5 schools (p < .001).



The positive effects of Core5 were also observed for each individual grades 3rd–5th, though the statistical significance varied across grades.

The benefit of Core5 was also observed at individual grade levels, though it did not always reach significance. Core5 schools had 1.80% more third graders and 2.14% more fourth graders score in the proficient range than students at Non-Core5 schools (both *p*s < .01). For fifth grade, the effect of Core5 was positive but not significant (0.65%, $p = .34$). In the sensitivity analyses, Core5 continued to have a significant positive impact on reading proficiency scores. Here, Core5 schools had 1.42% more third grade students ($p = .06$), 2.38% more fourth grade students ($p < .01$), and 1.1% more fifth grade students ($p = .14$) score in the proficient range than students at matched Non-Core5 schools. Thus, both sets of analyses indicate that 3rd–5th grade students at Core5 schools have higher ELA proficiency than students at Non-Core5 schools in Maryland, marking a notable advantage for students at Core5 schools.

Want to learn more?

For additional information or updates on research related to Core5, please contact research@lexialearning.com.

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