

Impact of Lexia® Core5® Reading on Black/African American Students

Key Findings

- In a large national sample, Black/African American students showed considerable progress in Core5. There was a 46% improvement over the school year in students working on skills in/above grade level.
- Correlations demonstrate a close correspondence between Black/African American students' performance in Core5 and their scores on established reading tests.
- Two studies showed Black/African American students in schools using Core5 outperformed their peers in control schools on established reading tests.
- Black/African American students using Core5 over two years made significant gains on a standardized reading test, ending the second year with scores above the national average on the test.
- In contrast to other educational interventions, which sometimes inadvertently widen achievement gaps, Black/African American students who use Core5 make gains on par with peers of other racial backgrounds.

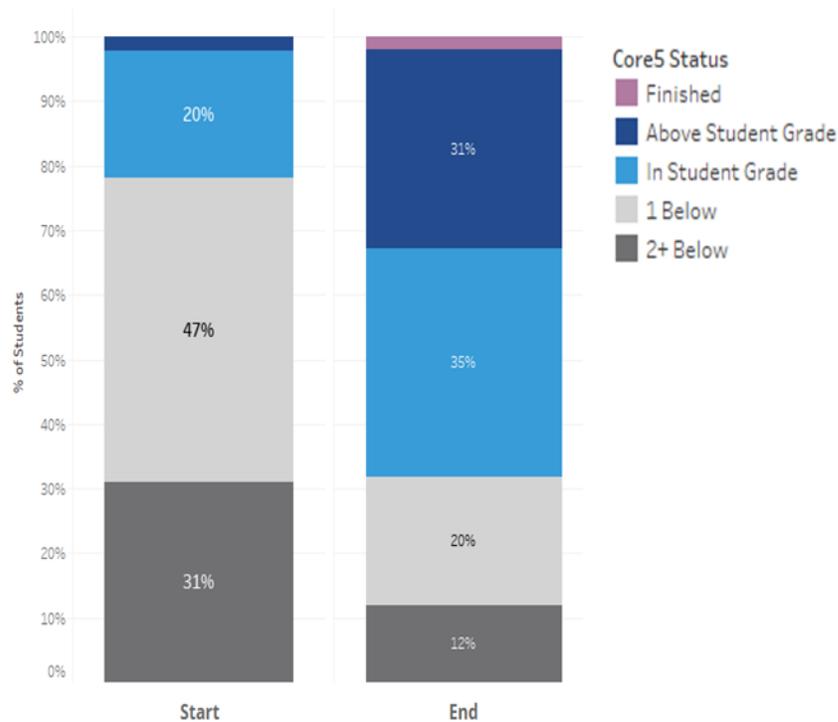
Purpose

This research summary reviews findings showing benefits of the Lexia® Core5® Reading program (Core5) in supporting Black/African American students' acquisition of literacy skills. In many cases Black/African American students enter elementary school with missed learning opportunities regarding early literacy skills, and opportunity gaps in reading can widen as children continue in school.¹ According to the National Assessment of Educational Progress, only 18% of Black/African American students show proficient reading skills in grade 4.² The last half of elementary school represents a critical time in which students move from acquiring basic reading skills to developing the ability to comprehend more advanced academic materials.³ The long-term impact of inadequate reading skills includes elevated drop-out rates and lower earnings.⁴ To address these literacy gaps, schools nationwide use Core5 with various student groups. Findings reviewed here show that with proper implementation, Core5 can provide a meaningful boost in reading skills, particularly for Black/African American students.

Yearly Progress in Core5

The first set of results comes from examining progress in Core5 made by Black/African American students ($N = 1692$) attending 19 public schools spanning the United States.⁵ These schools placed a strong emphasis on all students meeting Core5 online usage recommendations. As seen below, Black/African American students showed considerable progress in Core5 over the school year. At the start of the school year, only 22% of Black/African American students were working on Core5 skills in/above grade level. In contrast, **by the end of the school year 68% were working on Core5 skills in/above grade level – a 46% improvement over the school year.** To help interpret this outcome, Black/African American students exhibited a slightly higher rate of growth than White/Caucasian students (41% improvement) in these schools.

Figure 1. Yearly Progress in Core5 for a Large Sample of Black/African American Students ($N = 1692$).



Correlations between Core5 Performance and Scores on Established Reading Tests

The following table shows for large samples of Black/African American students correlations between end-of-year Core5 level and scores on established reading tests – NWEA Measures of Academic Progress Growth (MAP),⁶ Dynamic Indicators of Basic Early Literacy Skills (DIBELS Next; now Acadience Reading),⁷ and Partnership for Assessment of Readiness for College and Careers (PARCC).⁸ MAP scores were obtained from students in the same 19 public schools described earlier. Scores on DIBELS Next and PARCC were obtained from students attending 64 schools in a large, urban public school district in eastern United States. For all three tests, correlations between Core5 level and reading scores were statistically significant ($p < .001$) across grades. For comparison purposes, correlations for Black/African American students on MAP (range: .58-.68) were similar to White/Caucasian students (range: .52-.77). There were too few White/Caucasian students per grade in the urban schools to obtain reliable correlations for DIBELS Next and PARCC. **These findings show a close correspondence between Black/African American students' performance in Core5 and their scores on established reading tests.**

Table 1. Correlations between End-of-Year Core5 Level and Reading Test Scores for Black/African American Students.

Reading Test	Grades	Correlation Ranges	Sample Sizes
MAP	K – 5	.58 – .68***	1417
DIBELS	K – 3	.52 – .72***	2968
PARCC	3 – 5	.57 – .62***	1457

** $p < .01$, *** $p < .001$

ESSA-Aligned Research Studies

A report from the LEAP Innovations Pilot Network⁹ reviewed outcomes from a study in which schools in the Chicago area were provided edtech products for year-long pilot programs. The report compared MAP scores for students in treatment schools using digital programs and a matched set of students in control schools who were not part of the pilot program. Treatment schools could select one of several reading programs, and 4 out of 5 schools chose Core5. There were 488 students in treatment schools. The digital programs produced a statistically significant impact – treatment students gained an average

of 2.94 points over control students, which is equivalent to a 13 percentile point advantage. A similar impact was found when Black/African American students were examined separately. **Black/African American students in treatment schools gained on average 2.89 points over peers in control schools.**

A second study was conducted within six schools located in the southeastern United States.¹⁰ Three treatment schools using Core5 ($n = 2217$) were compared to three control schools ($n = 1504$) not using the program. Group differences in gain scores on MAP were significant, with **treatment students averaging 2.09 points higher gains than control students.** The outcome did not differ across racial-ethnic categories, indicating that the treatment effect applied equally well to the 494 Black/African American students in the study. **In summary, results from the ESSA-aligned studies show that Core5 provides significant benefits for Black/African American students.**

Longitudinal Gains

A longitudinal study was conducted in a large elementary school about 25-miles outside of Boston in which students in kindergarten through fourth grade were given an opportunity to use Core5 for two consecutive school years. At the end of two years, **the 204 Black/African American students in the study gained a significant 5.5 standard score points** on the *Group Reading Assessment and Diagnostic Evaluation (GRADE)*.¹¹ Their posttest average of 101 was higher than the average score of students who were administered the *GRADE* nationwide. To contextualize these results, gains made by Black/African American students (5.5 points) did not differ significantly from gains made by White/Caucasian students using Core5 over the same time period (7.1 points).

Conclusions

The findings reviewed here demonstrate how the reading skills of Black/African American students improved from using Core5. With proper implementation of the program, Black/African American students showed impressive gains in Core5, and their performance in the program closely corresponded to their scores on established reading tests. Group comparisons showed that



Black/African American students using Core5 outperform Black/African American students who do not use Core5. Black/African American students' scores were above the national average on a standardized reading test following two years of Core5 use.

These findings are particularly noteworthy in light of systemic inequities revealed in prior research more broadly exploring reading education in the United States. Academic scholarship has shown that instructional approaches and interventions in U.S. schools often fail to meet the learning needs of Black/African American students, thus contributing to opportunity gaps between Black/African American and White/Caucasian students. For instance, classroom texts often feature characters/themes more familiar to White/Caucasian than Black/African American students.¹² Core5 seems to buck this trend, providing an equitable learning experience for all students. The fact that Core5 use led to solid benefits for Black/African American students is impressive and bodes well for continued use of products like Core5 to support academic growth for all.

¹ Kuhfeld, M., Gershoff, E., & Paschall, K. (2018). The development of racial/ethnic and socioeconomic achievement gaps during the school years. *Journal of Applied Developmental Psychology, 57*, 62-73. doi:10.1016/j.appdev.2018.07.001

² National Center for Education Statistics. (2019). NAEP reading report card. Retrieved from https://www.nationsreportcard.gov/reading_2017/nation/scores/?grade=4.

³ Perfetti, C. A., Landi, N., & Oakhill, J. (2007). The acquisition of reading comprehension skills. In M. J. Snowling & C. Hulme (Eds.), *The science of reading: A handbook* (pp. 227-247). Malden, MA: Blackwell Publishing.

⁴ What's the Impact. (n.d.). In The Children's Reading Foundation. Retrieved from <https://www.readingfoundation.org/the-impact>

⁵ These schools were primarily attended by students of racial-ethnic minority backgrounds. Percentage of students who were Black or Hispanic ranged from 56% to 98%.

⁶ Measure of Academic Progress Reading Test. (2016). Portland, OR: Northwest Evaluation Association.

⁷ Good III, R. H., Kaminski, R.A., Cummings, K., Dufour-Martel, C., Peterson, K., Powell-Smith, K, ... Wallin, J. (2011). *DIBELS® Next assessment manual*. Eugene, OR: Dynamic Measurement Group.

⁸ Partnership for Assessment of Readiness for College and Careers. (n.d.). Retrieved from <https://test-guide.com/parcc/>

⁹ Personalized Learning(s) from the Field: A Report from the LEAP Innovations Pilot Network Cohort 2. Retrieved from <https://www.leapinnovations.org/our-research/cohort-2-report/>

¹⁰ Macaruso, P., Wilkes, S., & Prescott, J. E. (2019, April). Impact of blended learning on reading gains in elementary schools. Presentation at the American Educational Research Association, Toronto, Ontario.

¹¹ Williams, K.T. (2011). *Group reading assessment and diagnostic evaluation*. Circle Pines, MN: American Guidance Service.

¹² Hulan, N. F. (2010). *How fares the selective tradition? Racial representation of characters in second grade classroom libraries* (Doctoral thesis). Retrieved from ThinkIR: The University of Louisville's Institutional Repository's Institutional Repository database.