RESEARCH BRIEF

Impact of Lexia® Core5® Reading on Hispanic Students

Lexia® Core5® Reading Research Report

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

Lexia®
ALL FOR LITERACY®

Purpose

Based on the 2019 National Assessment of Educational Progress (NAEP), only 23% of Hispanic students[1] in the United States are able to read proficiently in English in grade 4.[2] This is due in part to potential barriers facing Hispanic students, including less exposure than peers to certain forms of literacy-related enrichment activities (especially in homes where parents speak in Spanish),[3] lower attendance in preschool programs,[4] and—for children of migrant workers—frequent moves disrupting progress toward meeting academic goals.[5] Given that many Hispanic students are not native speakers of English, these students may also be considered Emergent Bilinguals. Anyone interested in the benefits of Core5 for Emergent Bilinguals should read the research brief on English Learners.[6]

Regardless of the contributing factors, low proficiency rates for Hispanic students are very concerning, especially as the percentage of Hispanic students in U.S. schools continues to rise. In the year 2000, Hispanic students made up only 16% of public school students, while this percentage is projected to grow to 28% in 2029.[7] It is known that the long-term impact of low reading proficiency includes elevated dropout rates and lower earnings.[8] With more Hispanic students entering U.S. schools, these looming problems must be addressed, both for the benefit of students and their families and for the country as a whole.

Today, we see that Core5 is quite popular among schools serving Hispanic students. Of the 28,000 students who recently used the language support feature in Core5 (which provides directions in a second language after they are delivered in English), 85% requested directions in Spanish. With diverse users in mind, Lexia is constantly engaged in evaluating its program in terms of equity and inclusion. As reviewed next, 10 years of research on Core5 and its predecessors have demonstrated that Core5 can be a promising solution for Hispanic students.

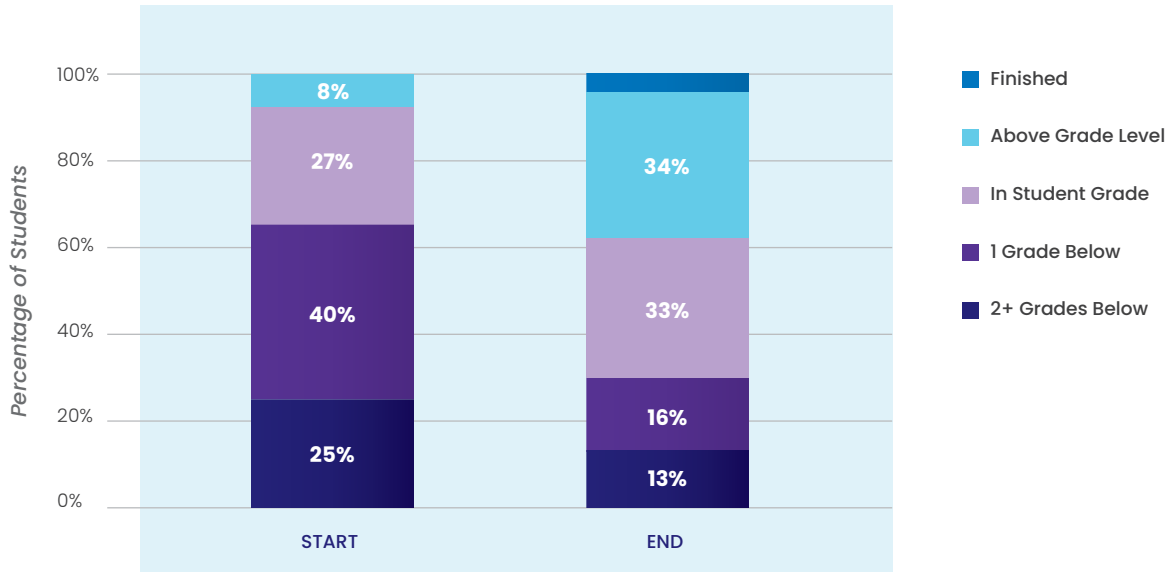
Key Findings

- After one year of Lexia® Core5® Reading use, the number of Hispanic students working on literacy skills in or above grade level **INCREASED FROM 35% TO 71%.**
- Levels reached in Core5 **POSITIVELY CORRELATED** with scores on end-of-year reading assessments.
- Use of Core5 resulted in **IMPROVED READING SCORES** in as little as **HALF A YEAR.**
- **ONE YEAR** of Core5 use resulted in **CLOSING THE OPPORTUNITY GAP BY 169%.**
- Features of Core5 provide **ACCESSIBILITY** for students, leading to **BETTER LITERACY OUTCOMES.**

Yearly Progress in Core5

The first set of results comes from examining progress in Core5 made by a large sample of Hispanic students (N = 4837) attending 19 schools located mainly in the western U.S. These schools placed a strong emphasis on all students meeting Core5 online usage recommendations. Hispanic students showed impressive progress in Core5 over the school year—at the start of the school year, only 35% were working on Core5 skills in/above grade level, and **by the end of the school year, 71% were working on skills in/above grade level**.

Yearly Progress in Core5 for a Large Sample of Hispanic Students



Performance in Core5 and End-of-Year Reading Scores Formal Research Studies

The following table shows correlations between end-of-year Core5 level and scores on MAP[9] for a large sample of Hispanic students. MAP scores were obtained from students in the same 19 schools described previously. Correlations between Core5 level and MAP scores were statistically significant ($p < .001$) for each grade. These findings show that **Hispanic students in higher levels of Core5 earned higher scores on end-of-year reading assessments**.

Correlations Between Core5 Level and Map Scores for Hispanic Students		
Grade	**Correlation**	**Sample Size**
Kindergarten	0.67**	972
First	0.64**	985
Second	0.63**	956
Third	0.58**	871
Fourth	0.59**	732
Fifth	0.55**	366

**p<.001

Formal Research Studies

Large-Scale Study

An independent evaluation by the LEAP Innovations Pilot Network[10] reviewed outcomes from a study in which schools in the Chicago area were provided edtech products for yearlong 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 Core5—which was chosen by the most schools—was used in 63 classrooms across grades K–5. Results in the LEAP report are provided for 1,038 students who used Core5 in grades 3–5. Core5 produced a significant impact: Treatment students gained an additional 1.42 test-score points above what the control group gained. When considering racial/ethnic categories separately, the LEAP report indicates that this is equivalent to **closing the opportunity gap by 169% for Hispanic students**.

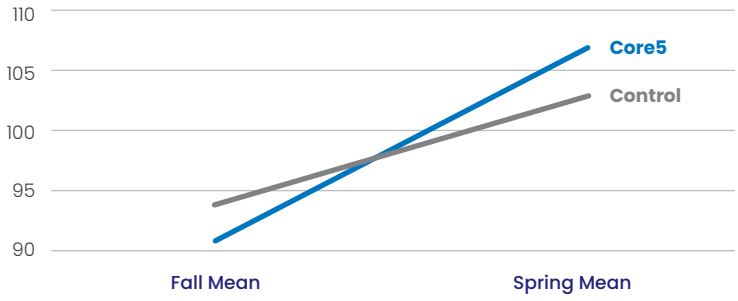
Half-Year Experimental Study

Wilkes et al. (2016)[11] randomly assigned second grade classes to use Core5 or not use Core5 during the second half of the school year. The study was conducted in a low-SES school district with 96% Hispanic students. Wilkes et al. reported that Core5 students produced significantly greater gains in oral reading fluency on Dynamic Indicators of Basic Early Literacy Skills (DIBELS Next®; now Acadience® Reading K–6)[12] during the time they used Core5. **By the end of the school year, 27% of Core5 students advanced in Instructional Support Levels compared to 0% of control students**.

Full-Year Experimental Study

Schechter et al. (2015)[13] randomly assigned first and second grade classes to use Core5 or not use Core5 for a full school year. The study took place in a low-SES urban school district in which the vast majority of students were Hispanic (85% across treatment and control classes). Schechter et al. found that Core5 students showed a 40 percentile point gain on the Group Reading Assessment and Diagnostic Evaluation (GRADE),[14] which was significantly greater than the gain made by control students (see figure below). Consistent with these results, two additional studies with largely Hispanic students reported significant gains on standard reading tests—aimsweb[15] (Kazakoff et al., 2017)[16] and GRADE (Macaruso & Rodman, 2011)[17]—for students using Core5 or its predecessors.

Standard Reading Score Gains for Core5 and Control Students



Spanish Language Support

Draper Rodriguez et al. (2012)[18] conducted a study to assess whether having instructions presented in Spanish was beneficial for Hispanic students. The researchers compared reading outcomes for two groups of Spanish-speaking Hispanic students in first grade using Lexia curricula: one group received instructions in Spanish and the other in English. Draper Rodriguez et al. found that using the program led to significant reading gains for both groups; however, on the reading comprehension subtest of the Woodcock–Munoz Language Survey-R (WMLS-R),[19] students receiving instructions in Spanish showed significantly greater gains than those receiving instructions in English.

ESSA Levels

Six Core5 studies on Hispanic students have been published in peer-reviewed journals or included in external/third-party reports. Two studies are Strong, two Moderate, and two Promising based on ESSA Levels of Evidence. Mean effect size is .31 for the two Strong studies and .39 for the two Moderate studies. These effect sizes are considered substantively important for educational interventions.[20]

Core5 Studies on Hispanic Students		
ESSA Level of Evidence	**Studies**	**Mean Effect Size**
Strong	2	.31
Moderate	2	.39
Promising	2	N/A

Conclusions

The findings reviewed here show how the reading skills of Hispanic students can improve through work in Core5. With yearlong use of the program, Hispanic students showed impressive gains, and their end-of-year performance at each grade level closely corresponded to their reading assessment scores. Experimental studies showed that Hispanic students using Core5 outperformed Hispanic students who did not use Core5, and these outcomes occurred for both half-year and full-year implementations. In addition, the reading scores of Hispanic students benefited significantly from program instructions being presented in Spanish.

These findings are especially noteworthy in the context of the low reading proficiency rates seen for Hispanic students on the NAEP. The fact that use of Core5 led to significant benefits for Hispanic students is impressive and provides hope that—with expanded use of programs like Core5—we will see greater academic gains at a national level for this growing population of students.

Endnotes

[1] For the purpose of this report, "Hispanic" refers to students who identify as ethnically Hispanic or Latino, including Black Hispanic and White Hispanic students with ethnic ties to Latin America and/or Spain. Many of these students speak Spanish as a native language, but Spanish language skills were not a requirement for inclusion in analyses.

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

[3] Sosa, A. S. (1997). Involving Hispanic Parents in Educational Activities Through Collaborative Relationships, *Bilingual Research Journal*, 21:2-3, 285-293, DOI: 10.1080/15235882.1997.10668665

[4] Schneider, B., Martinez, S., & Ownes, A. (2006). Barriers to Educational Opportunities for Hispanics in the United States. In Tienda, M. and Mitchell, F., *Hispanics and the Future of America: National Research Council (US) Panel on Hispanics in the United States*. Washington, DC: National Academies Press.

[5] Green, P. E. (2003) The Undocumented: Educating the Children of Migrant Workers in America, *Bilingual Research Journal*, 27:1, 51-71, DOI: 10.1080/15235882.2003.10162591

[6] Lexia Research & Analytics. Impact of Lexia Core5 Reading on English Learners. Concord, MA: Lexia Learning Systems LLC, A Rosetta Stone Company.

[7] https://nces.ed.gov/programs/coe/indicator_cge.asp

[8] 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

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

[10] LEAP Innovations. (2016). Finding what works: Results from the LEAP Innovations Pilot Network 2014-2015. Chicago, IL: Leap Innovations.

[11] Wilkes, S., Macaruso, P., Kazakoff, E. & Albert, J. (2016). Exploration of a Blended Learning Approach to Reading Instruction in Second Grade. In *Proceedings of EdMedia: World Conference on Educational Media and Technology 2016* (pp. 822-827). Association for the Advancement of Computing in Education (AACE). Vancouver, B.C.

[12] 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.

[13] Schechter, R., Macaruso, P., Kazakoff, E., & Brooke, E. Exploration of a blended learning approach to reading instruction for low SES students in early elementary grades. *Computers in the Schools*, 32(3-4). DOI: 10.1080/07380569.2015.1100652

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

[15] Pearson Education. (2011). *Aimsweb default cut scores explained*. Bloomington, MN: Pearson. Retrieved from http://www.aimsweb.com/wpcontent/uploads/AIMSweb_Default_Cut_Score_Guide.pdf

[16] Kazakoff, E.R., Macaruso, P., & Hook P. (2017). Efficacy of a blended learning approach to elementary school reading instruction for students who are English Learners. *Educational Technology Research and Development*, 66(2). Retrieved from https://link.springer.com/article/10.1007/s11423-017-9565-7

[17] Macaruso, P., & Rodman, A. (2011). Efficacy of computer-assisted instruction for the development of early literacy skills in young children. *Reading Psychology*, 32, 172–196.

[18] Draper Rodríguez, C., Filler, J., & Higgins, K. (2012). Using primary language support via computer to improve reading comprehension skills of first-grade English language learners, *Computers in the Schools: Interdisciplinary Journal of Practice, Theory, and Applied Research*, 29, 253-267.

[19] Schrank, F. A., Alvarado, C. G., & Wendling, B. J. (2010). Interpretive Supplement: Instructional interventions for English language learners related to the WoodcockMuñoz Language Survey–Revised Normative Update. Rolling Meadows, IL: Riverside Publishing.

[20] Lipsey, M. W., Puzio, K., Yun, C., Hebert, M. A., Steinka-Fry, K., Cole, M. W., Roberts, M., Anthony, K. S., & Busick, M. D. (2012). *Translating the statistical representation of the effects of education interventions into more readily interpretable forms* (NCSER 2013-3000). Washington, DC: National Center for Special Education Research,Institute of Educational Sciences, US Department of Education.

v1.0 07.12.2023

lexialearning.com / research@lexialearning.com