RESEARCH BRIEF:
Impact of Lexia® Core5® Reading on Emergent Bilinguals (EBs)

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Purpose

Efforts to identify effective reading instruction for Emergent Bilinguals (EBs) are critically important. To highlight the urgency, the number of EBs in the U.S. is projected to increase from 10%[1] in 2015[2] to 40% in 2030.[3] Further, 68% of EBs in grade 4 score below U.S. proficiency levels in reading compared to 28% of non-EBs.[4] The long-term effects of under-achieving in reading include poor school performance, increased dropout rates, lower self-esteem, and reduced earnings.[5] The evidence to date suggests that Lexia® Core5® Reading (Core5) can help mitigate this crisis. This report reviews research on use of Core5 with EBs.

EBs versus Non-EBs Using Core5

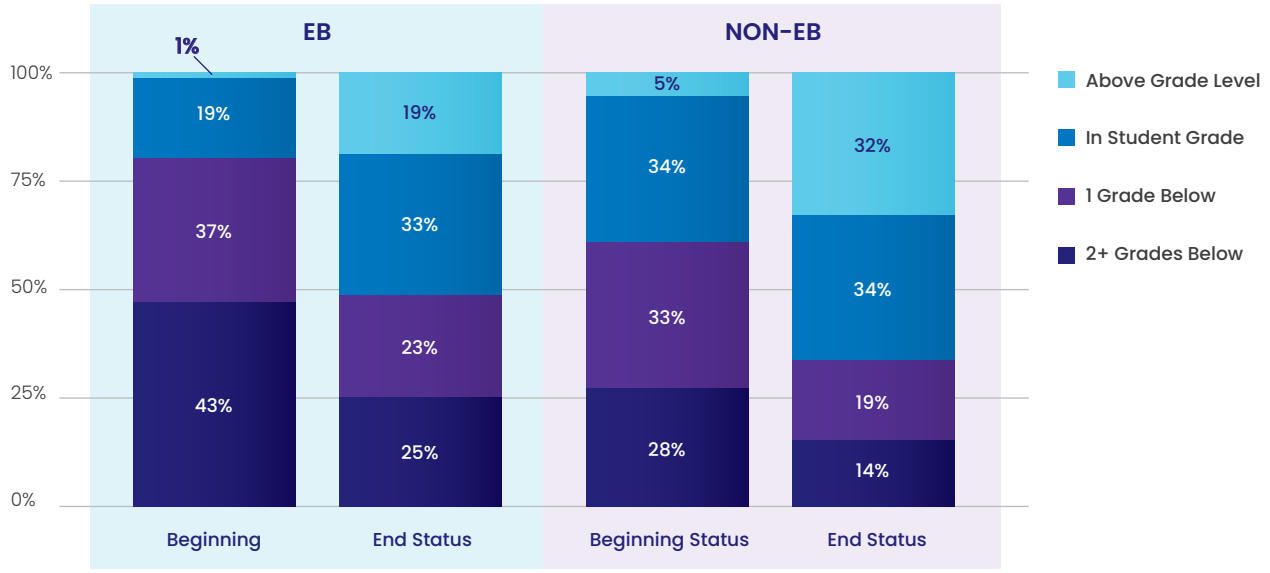
Performance in Core5

EBs made slightly greater gains than non-EBs in Core5 during the school year. Results were obtained from a matched, national sample of 14,008 EBs and 14,008 non-EBs. At the beginning of the school year, 20% of EBs and 39% of non-EBs were working on skills in/above grade level in Core5. Both groups improved over the school year. EBs showed a 32% improvement with 52% working on skills in/above grade level at the end of the year, and non-EBs showed a 27% improvement with 66% working on skills in/above grade level at the end of the school year.

Key Findings

- In a national sample, EBs made grade-level gains in Core5 which were slightly greater than non-EBs over the school year.
- EBs using Core5 made greater gains on outside reading measures than non-EBs using Core5 and EBs not using Core5.
- EBs with the lowest language proficiency on WIDA showed large gains on an outside reading measure after two years of Core5 use.
- EBs who reached benchmark in Core5 showed higher performance levels on a summative state assessment than all EBs in the same school district.

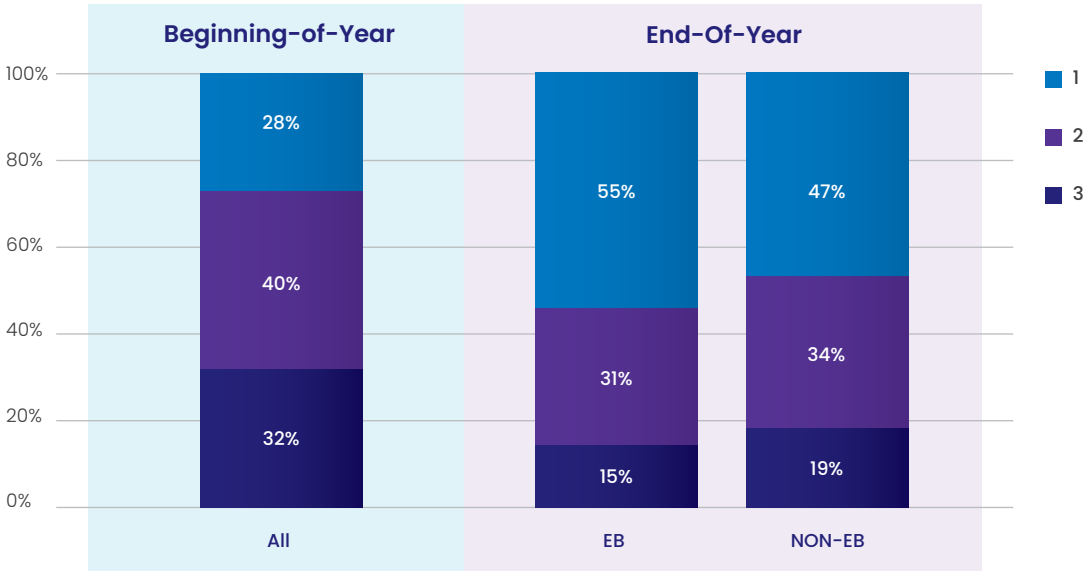
Grade-Level Gains in Core5 for EBs and Non-EBs



Performance on Outside Reading Measures

EBs using Core5 showed greater gains than non-EBs using Core5 on outside reading measures as demonstrated via multiple academic research studies. For instance, in a large-scale study with matched EBs and non-EBs, Kazakoff et al.[6] found that EBs made greater gains than non-EBs over the school year on aimsweb.[7] The percent of students in Tier 1 increased from 28% to 55% for EBs and 47% for non-EBs. The difference between EBs and non-EBs was statistically significant in first grade. A study by Brooke et al. found that EBs also significantly outperformed non-EBs in kindergarten.[8]

Tier Status on aimsweb for Matched EBs and Non-EBs Using Core5

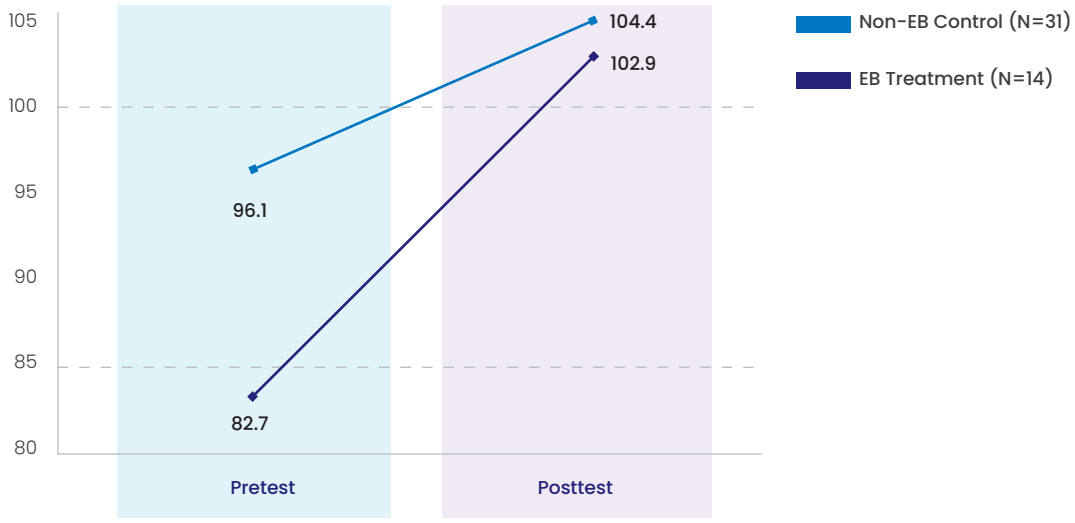


EBs Using Core5 versus EBs not Using Core5

School Year Growth

In an experimental study Schechter et al.[9] randomly assigned first and second grade classes to use or not use Core5. EBs in Core5 classes showed large gains on the GRADE.[10] Their gains approached statistical significance compared to EBs in control classes and allowed them to close the reading gap with non-EBs. Similar outcomes were reported by Macaruso and Rodman in kindergarten.[11]

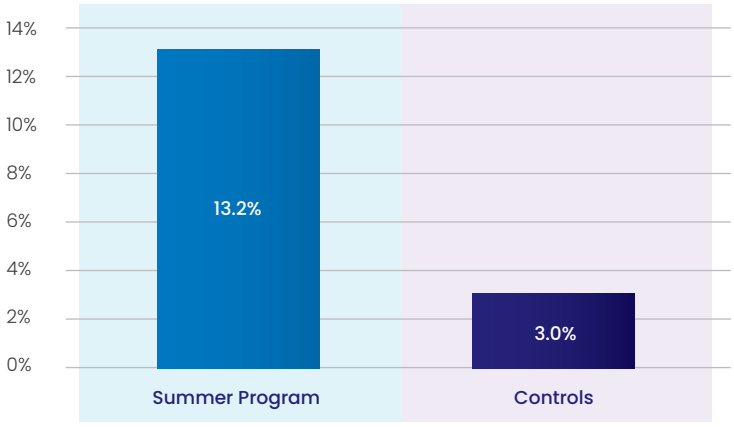
GRADE Standard Scores for EBs in Core5 Classes and Non-EBs in Control Classes



Summer Program

In another experimental study Albert et al.[12] randomly assigned EBs to participate or not in a summer program using Core5. The program took place prior to grade 4. Though not statistically significant, EBs in the summer program produced Lexile score gains on the Reading Inventory[13] four times greater than control students.

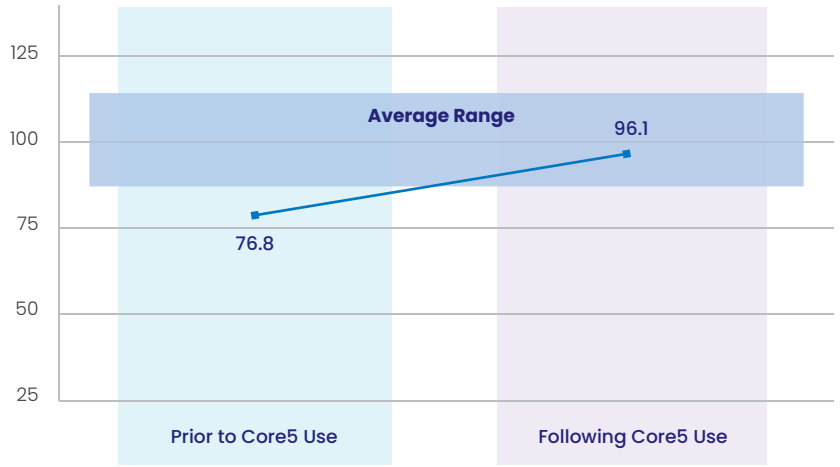
Average Percent Gain for EBs by Group



Low English Proficiency

A subset of EBs with the lowest language proficiency level on WIDA (Level 1 Entering) used Core5 for two years, starting in kindergarten or first grade. As seen in the figure, these students showed large gains on the GRADE. Though not statistically significant, their gains (19.3) were greater in magnitude than gains made by EBs with higher proficiency levels (11.8) and non-EBs (12.6) in their grades.

Low English Proficiency EBs



ESSA Levels and Effect Sizes for Published Core5 Studies on EBs

ESSA Level of Evidence	Strong	Promising
Studies	2	2
Assessment(s)	GRADE	GRADE, aimsweb
Mean Effect Size	.44	N/A

Summative State Assessment

Performance of EBs using Core5 was examined on the PARCC,[14] a summative state assessment. Of the EBs who reached Core5 benchmark (i.e., working above grade level), 68% obtained scores that "approached", "met", or "exceeded" standards on the PARCC. This outcome is statistically significant compared to the percent for all EBs (37%) in the same school district.

Published Studies with EBs

Four Core5 studies on EBs have been published in peer-reviewed journals. Two studies are Strong and two Promising based on ESSA Levels of Evidence. Mean effect size for the two Strong studies is .44, which is considered substantively important for educational interventions.[15]

Summary

The research reviewed here demonstrates that Core5 can positively impact the reading performance of EBs. Grade-level gains in Core5 were slightly greater for EBs than non-EBs over the school year. EBs using Core5 made greater gains on outside reading measures than non-EBs using Core5 and EBs not using Core5. EBs with the lowest language proficiency made large gains on an outside reading measure following two years of Core5 use. Finally, EBs who reached benchmark in Core5 achieved significantly higher levels on a state assessment than all EBs in the same school district. Together, these findings indicate that Core5 can serve as an effective tool to support reading skills for EBs.

[1] These values reflect data from public schools only.

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[3] Truong, N. (2017, Aug). Next Generation Learning Models for English Language Learners. Retrieved from https://www.inacol.org/wp-content/uploads/2017/06/iNACOL-NGLMELL-02Aug2017.pdf

[4] National Center for Education Statistics. (2017). [Tables of 2017 Reading Scores for Grades 4 and 8 by Demographic]. 2017 Reading Grades 4 and 8 Assessment Report Cards: Summary Data Tables for National and State Average Scores and Achievement Level Results. Retrieved from https://www.nationsreportcard.gov/reading_2017/files/2017_Results_Appendix_Reading_State.pdf

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

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[9] Schecter, 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

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[12] Albert, J., Bauer, C., Resendez, D., Puentedura, R.R. and Lexia Research & Analytics. Impact of Core5 in a Summer Program for Emergent Bilinguals. Concord, MA: Lexia Learning Systems LLC, A Rosetta Stone Company.

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[15] 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