

Efficacy Research on the Logic of English Program in Michigan Elementary Schools

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March 2020



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SCHOOL *of* EDUCATION

**Center for Research and
Reform in Education**

EXECUTIVE SUMMARY:

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In October 2019 The Center for Research and Reform in Education (CRRE) at Johns Hopkins University contracted with Logic of English to conduct a mixed-methods study of the Logic of English program in multiple Michigan elementary schools. The focus of the evaluation was to obtain evidence that meets or exceeds criteria by the Every Student Succeeds Act (ESSA) for Tier 3 in support of program impacts on students' reading achievement.

The evaluation was designed to address three primary research questions:

1. How do students who receive the program in Logic of English schools compare to students in matched control schools on NWEA yearly achievement and growth?
2. What are the perceptions of teachers with regard to:
 - Program implementation?
 - Satisfaction?
 - Impacts?
3. Do program outcomes vary based on:
 - Grade levels?
 - Schools?

The mixed-method design provided high rigor for addressing RQ1 and RQ3 by comparing the NWEA reading scores for Logic of English vs. Control students. We supplemented the quantitative comparisons with qualitative descriptive data on how teachers perceive the program (RQ2) with regard to implementation, satisfaction, and impacts. The data source is a teacher survey administered to Logic of English teachers at several participating Michigan schools that operate under the umbrella of the West Shore Educational Service District (WSESD). This survey was co-developed by CRRE and Logic of English and administered online in late December 2019 through a single address provided to the district's literacy coach.

Based on survey findings, the overall perception of Logic of English is very positive. Respondents highly rated the overall value of Logic of English for teaching and learning. Teachers especially like the explicit and consistent method for teaching phonograms; the program structure; and the use of games and other materials to reinforce content. Finally, teachers appreciate that the program is scientifically based.

Student achievement analyses were conducted for Grade K student cohorts who participated in LoE for the first time in 2017-18 and in 2018-19; and a Grade 1 cohort that participated for the first time in 2017-18. Given that there were considerable

demographic differences between schools that did and did not use Logic of English, results of the student achievement analyses should be interpreted with caution, particularly for the Grade 1 sample which unlike the Grade K cohorts could not be adjusted statistically (via proximity matching) to achieve equivalence in pretest scores. The main findings, however, were generally positive, showing that:

- Achievement gains within cohorts tended to be more prominent when examining within-year than between-year gains. This trend may be due in part to a “summer slide” type of phenomenon.
- The K cohort in 2018-19 seemed to benefit the most from the LoE program, showing statistically significant positive increases in reading achievement both within and across school years.

The 1st grade cohort in 2017-18 also showed statistically significant fall to spring reading achievement gains within that school year, but did not show positive between-year gains from fall 2017-18 to fall 2018-19. As noted, Grade 1 results should be interpreted with caution due to lack of baseline equivalence. Its pattern of MAP reading scores further revealed an unusual dip from spring 2018 to fall 2018, which was not evidenced in fall 2019 or for the 2017-18 Grade K cohort.

Recommendations

The following suggestions offered for improvement are based on teacher feedback and intended to offer enhancements to the program.

- Increase accessibility by making improvements to the Logic of English app; increase the activities available on the app; make the app available on the Android operating system; create online resources for parents.
- Review implementation in a whole class setting. Multiple teachers shared difficulty in implementing the games and activities with larger groups of students. While this may be a classroom management issue, a training issue, or both, it warrants further examination by Logic of English developers.
- Evaluate the organization of lessons. Teachers reported the lessons seem to “jump around” and do not always correspond to the accompanying activities or workbook pages.
- Streamline the materials. Teachers report being overwhelmed by the amount of materials and the logistics of storing them. Prepping the materials for lessons is reported to be time consuming.
- Increase professional development opportunities to ensure teachers are prepared to implement the program; more professional development is needed for SPED teachers.