RESEARCH BRIEF ✕ PEER-REVIEWED PUBLICATION

Supporting Struggling and Non-Proficient Middle School Readers: Impact of the Lexia PowerUp Literacy Program

Key Findings

- Middle school students who used PowerUp during supplemental reading classes significantly outperformed control students on a standardized reading assessment.
- The estimated effect size of using PowerUp was 0.36. This is considered a large effect and is higher than the average effect size for middle school reading interventions.
- PowerUp was equally impactful for students of different racial/ethnic backgrounds.

Introduction

Approximately 2 out of 3 middle school students do not read proficiently, and this number has increased since the COVID-19 pandemic (NAEP, 2022). Non-proficient readers are likely to struggle not only in English Language Arts (ELA) classes but across subject areas, given that they may have difficulty mastering content in informational textbooks (Schiefele, Schaffner, Möller, & Wigfield, 2012). Struggling readers may lack word decoding skills (e.g., facility in mapping letters to sounds) or more general language abilities (e.g., vocabulary, grammar, sentence processing) (Gough & Tunmer, 1986) .

The Lexia PowerUp Literacy program (PowerUp) was designed to target common deficits impacting struggling and non-proficient adolescent readers. PowerUp provides an adaptive sequence of learning activities that students work through online, along with aligned teacher-driven lessons and paper-and-pencil activities. PowerUp is organized into three strands that address key components of proficient reading: Word Study, Grammar, and Comprehension.

As part of an ongoing commitment to evaluating its programs, Lexia Research conducted a study to explore PowerUp's effectiveness in promoting literacy skills among struggling middle school readers. This study is a randomized control trial that meets ESSA's criteria for Strong research, the highest tier of evidence outlined by federal law. It was reviewed in 2020 by external researchers affiliated with the Center for Research and Reform in Education (CRRE) at Johns Hopkins University School of Education, and given a "Strong" Rating by Evidence for ESSA.

Study Design

Lexia partnered with a suburban school district to analyze the effect of using PowerUp on students' literacy skills. Reading achievement was assessed using STAR Reading, a computer-adaptive test that provides a scaled composite score ranging from 0 to 1400. STAR Reading assesses literacy performance in four areas: a) word knowledge and skills, b) comprehension

strategies and constructing meaning, c) analyzing literary text and understanding authors' craft, and d) analyzing argument and evaluating text.

The sample consisted of 155 students across 2 schools. The participants were enrolled in supplemental reading classes comprised of students identified as needing Tier 2 support. These supplemental classes met for 40 minutes daily in addition to regular ELA instruction. Each supplemental class contained students in Grades 6-8, with 48% of the sample in Grade 7 and 28% in Grade 6. Male students made up 61% of the sample. Most students identified as Black (48%) or White (44%). Twenty-one percent (21%) received Special Education services, and 62% were classified as economically disadvantaged. All participating students were English speakers.

155 Students

10 Classes

2 Schools

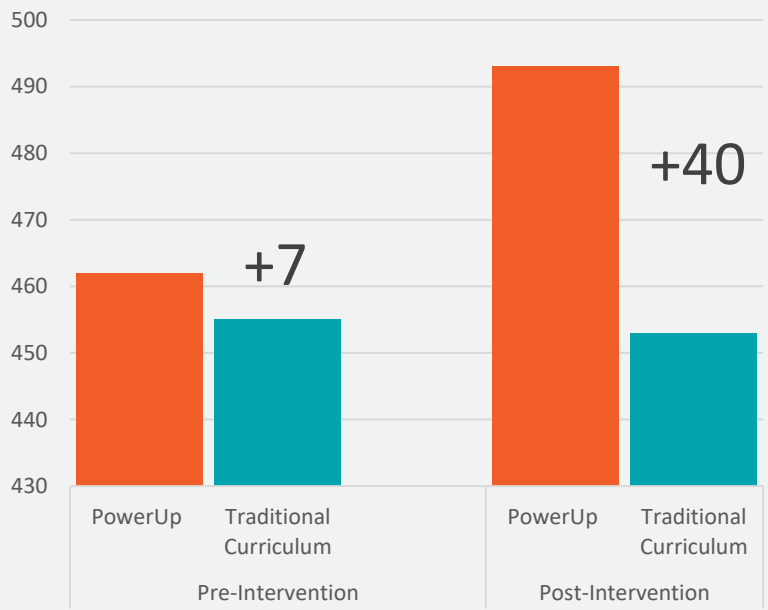
Following Fall administration of STAR Reading, 7 classes (105 students) were randomly assigned to the treatment group and used PowerUp during their supplemental class period. The remaining 3 classes (50 students) were assigned to the control group that continued using the traditional supplemental reading curriculum[1]. Students in the treatment group began using PowerUp in early January and continued through the end of the school year. On average, PowerUp students used the program for about 17 weeks (M = 16.60, SD = 3.30) and completed approximately 55 minutes of online work per week. Spring administration of STAR Reading served as the outcome measure.

[1] Students in control classes used McGraw-Hill's Corrective Reading: Decoding series.

Results

Middle school students who used PowerUp during supplemental reading classes significantly outperformed control students on a standardized reading assessment.

Prior to the intervention, students in the treatment and control groups earned similar scores on STAR Reading (Fall). Following the intervention (Spring), students who used PowerUp scored about 40 points higher on STAR Reading than control students. This difference was statistically significant after controlling for student race/ethnicity, Special Education status, economic status, and Fall STAR Reading score.



Following the intervention, PowerUp students earned higher STAR scores than control students.

The estimated effect size of using PowerUp was 0.36. This is considered a large effect and is higher than the average effect size for middle school reading interventions.

The difference in Spring STAR Reading scores between students who used PowerUp and control students translates to an effect size of 0.36. Effect size describes the magnitude of the difference between treatment and control groups and allows educators to compare outcomes more easily across studies. An effect size of 0.36 is considered large for an educational intervention (Kraft, 2020). For reference, a review by the U.S. Department of Education's Institute of Education Sciences found a median effect size of 0.11 for middle school interventions (Lipsey et al., 2012).

PowerUp was equally impactful for students of different racial/ethnic backgrounds.

Data were also analyzed to determine whether the effects of using PowerUp interacted with the racial/ethnic backgrounds of the students. The results of this analysis were not significant, indicating that PowerUp had a similar impact for students of different racial/ethnic backgrounds.

Discussion

As students transition from elementary to secondary education, it can be difficult to address reading difficulties (Pearson, Palincsar, Biancarosa, & Berman, 2020), and performance gaps between students of different racial/ethnic backgrounds often widen during this time (Kuhfeld, Gershoff, & Paschall, 2018). The results of this study provide evidence that PowerUp can effectively address reading difficulties for middle school students of different racial/ethnic backgrounds. Middle school students who were randomly assigned to use PowerUp during supplemental reading classes significantly outperformed control students on a standardized reading assessment. The impact of using PowerUp was similar across students of different racial/ethnic backgrounds.

These results provide solid evidence that PowerUp can support students who are experiencing reading difficulties and promote equitable outcomes at the middle school level. Lexia continues to engage in high-quality research to further build the evidence base for PowerUp.

Want to Learn More?

If you would like more information about this study, please see the full article published in the peer-reviewed *Journal of Applied Developmental Psychology*. For additional information or updates on research related to PowerUp, please contact research@lexialearning.com.

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