Amplify Reading:
Instruction with real impact

by Amplify Education, Inc.
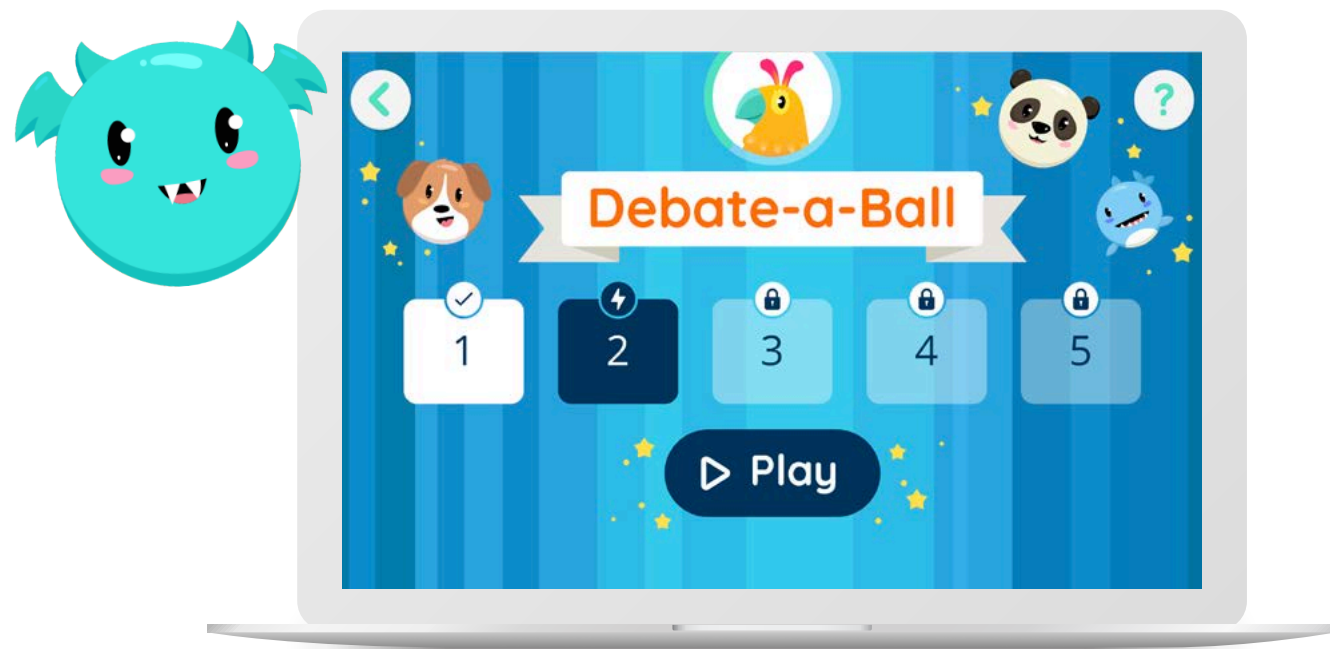
Amplify.

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Background

Amplify Reading is a digital reading program for grades K–8 that leverages the power of compelling storytelling to engage students in reading instruction and practice. Whether students are just learning to read or mastering close reading, Amplify Reading takes students on a personalized journey that presents the skills that they need, at a pace that supports their individual development. The program provides students with targeted and engaging instruction and practice in the key skills and standards that K–8 students need to become successful readers: Phonological Awareness, Phonics, Decoding, Fluency, Vocabulary, Comprehension, and Close Reading.

The present study explores the effectiveness of the program for students in kindergarten through second grade. We compared students who used Amplify Reading during the 2019 spring semester to students from the same district who did not use Amplify Reading, using Dynamic Indicators of Basic Early Literacy Skills, Next Edition (DIBELS Next) Composite scores. **We found that kindergarten, first grade, and second grade students who used Amplify Reading (1) had significantly higher end of year DIBELS Next Composite Scores than those of students who did not use the program, and (2) showed better growth on DIBELS Next Pathways of Progress than those who did not use the program. Additionally, we found that the program was particularly effective for English learners (ELs), reducing the gap in achievement between ELs and their peers who are non-ELs.**

The study

Participants

Participants were students from Title 1 schools in a racially, ethnically, and linguistically diverse large urban school district. To be included in the treatment group, students had to have used Amplify Reading for a minimum of four hours across the semester. The resulting treatment group included between 4,500 and 6,100 students per grade in grades K through 2 (Table 1). These students were 85% Hispanic, 4% White, 6% Black, and 4% Other. Approximately 34% of these students were English learners.

During the spring 2019 semester, students completed a median of 37 sessions of Amplify Reading and mastered 11 subskills. Across grades, students' median total hours spent on the program ranged from 6 to 7 hours of use.

	N	English learners	Students receiving SPED services	Median sessions completed	Median subskills mastered	Median hours spent using the program
Kindergarten	4,647	1,905 (41%)	465 (10%)	35	13	6.15
Grade 1	6,041	2,053 (34%)	544 (9%)	39	12	6.74
Grade 2	5,981	1,734 (29%)	478 (8%)	37	14	6.94
Total	16,669	5,692 (34%)	1,487 (9%)	37	13	6.61

We used propensity score analysis to identify a comparison group of students who came from similar schools in the district and who had demographics and achievement similar to those who used Amplify Reading. We estimated propensity scores for each individual using student level variables (i.e., middle of year DIBELS Next Composite score, gender, race, special education status, English Learner status, and number of days between the middle and end of year assessments) and school level characteristics (i.e., charter school status, magnet school status, number of students, teacher-to-student ratio and critically, the proportion of treatment students to comparison students in the school). We then assigned each comparison student a weighting by odds; comparison students who were similar to treatment students on the above characteristics received large weights, while students who were very different from the treatment population received small weights.

Results

Amplify Reading students outperform the comparison group

To assess the effect of Amplify Reading on students' overall reading performance, we conducted a multilevel regression of treatment group on students' end-of-year Reading Composite scores, controlling for school and student variables, to remove bias and add precision to the analysis. The regression showed that Amplify Reading significantly impacted reading performance. We found medium effect sizes of 0.11 for grades K and 2 and 0.06 for grade 1, as based on interpretation of effect sizes in large-scale classroom studies, where implementation is variable and students have diverse needs (see Kraft, 2018). In more practical terms, the program resulted in smaller percentages of students at risk for reading difficulty for the group of students who used the program compared to students who did not (see Figure 1). For example, in second grade, there were 12% fewer Amplify Reading students categorized as "at risk" at end-of-year, compared with the control group.

12%
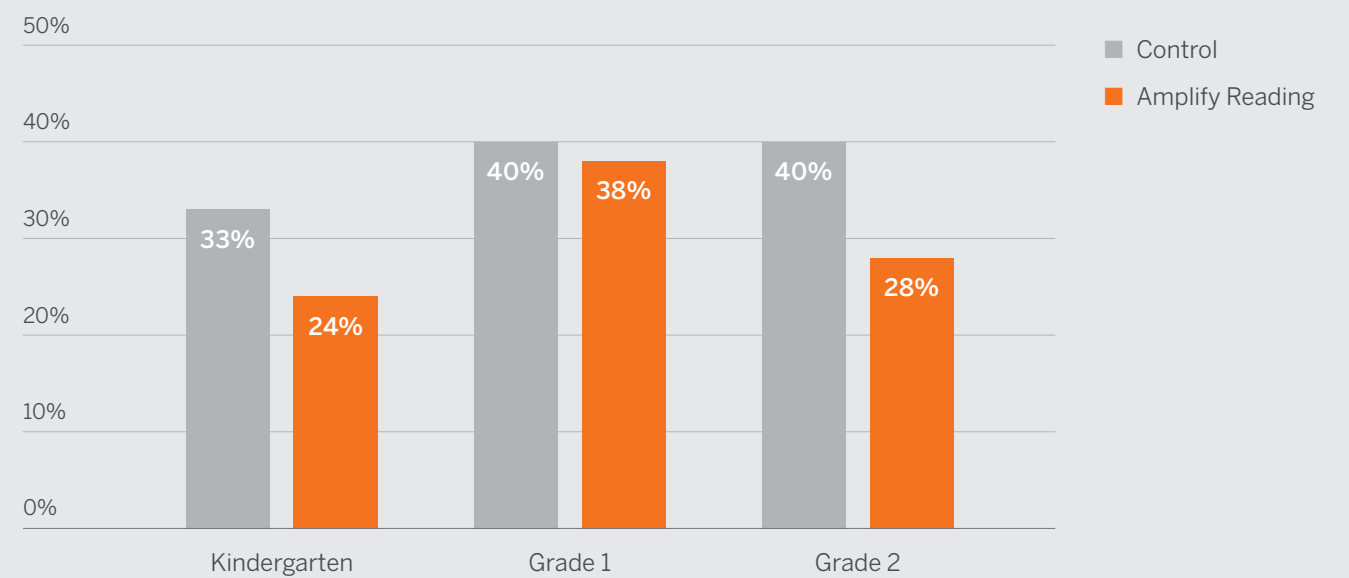**fewer Amplify Reading students in second grade categorized as "at risk"**

at end-of-year, compared with the control group.

Measures

The Dynamic Indicators of Basic Early Literacy Skills, Next Edition (DIBELS Next) is a universal screening and progress monitoring assessment that measures early literacy skills from kindergarten through sixth grade. In kindergarten through second grade, the assessment is administered one-on-one with students by a qualified professional and includes six measures that serve as indicators of reading skills such as alphabet knowledge, phonemic awareness, alphabetic principle/phonics, fluency, and reading comprehension.

The present study uses two types of outcomes derived from the DIBELS Next assessment: Reading Composite Score and Pathways of Progress. After completing a DIBELS Next assessment, students receive a Reading Composite Score with a corresponding benchmark status, which indicates risk status on key skills and is predictive of future success. Additionally, DIBELS Pathways of Progress designations indicate whether students' growth from the beginning of the year benchmark to the end of the year benchmark is below, at, or above typical progress when compared to a national sample of students who started with the same initial skill level as determined by the DIBELS Next Composite Score.

Figure 1. Percentage of students who finished the year at risk for reading difficulty

Legend: ■ Control ■ Amplify Reading

Kindergarten: Control 33%, Amplify Reading 24%
Grade 1: Control 40%, Amplify Reading 38%
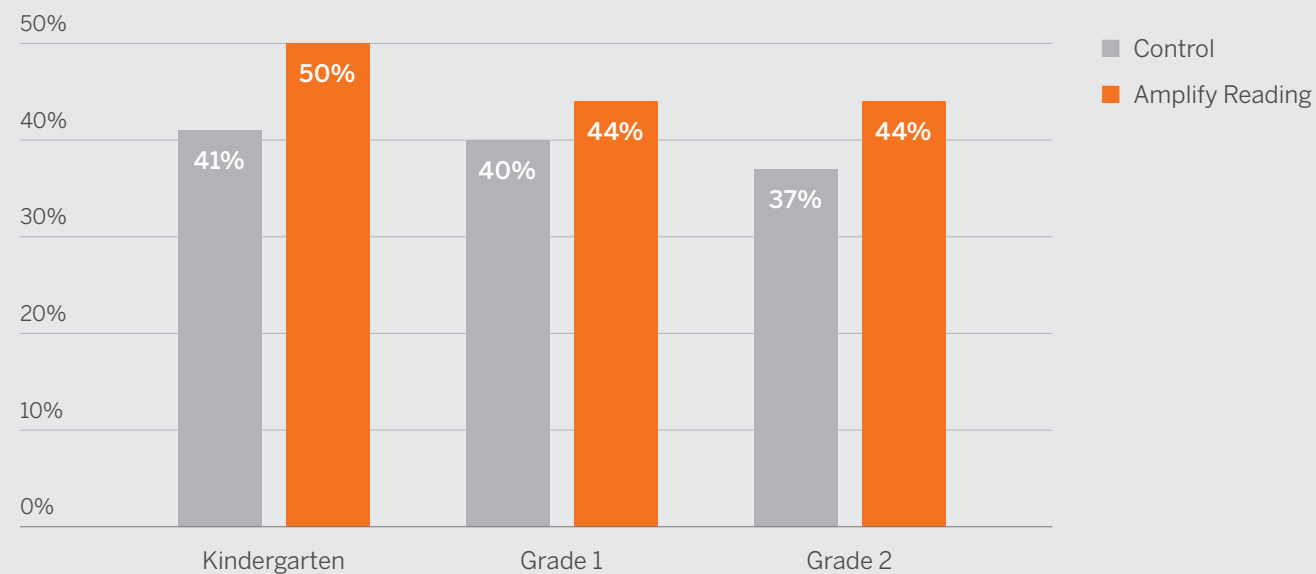Grade 2: Control 40%, Amplify Reading 28%

Amplify Reading students make better-than-expected growth

In addition to having higher performance at the end of the year, students who used Amplify Reading demonstrated better growth from the beginning to the end of the year compared to those who did not use the program, as measured by DIBELS Next Pathways of Progress. Figure 2 shows the percentages of students who made "above typical progress," or progress that is greater than what students who start with the same skills typically make in the national sample. Greater percentages of students made above typical progress for the group of students who used Amplify Reading compared to students who did not. For example, in kindergarten, 50% of students in Amplify Reading made above typical progress, whereas only 41% of students in the comparison group made above typical progress.

50%

of Amplify Reading students in kindergarten made above typical progress

Amplify Reading reduces the achievement gap for English learners

To assess whether the effect of the program was different for ELs, we ran an additional multilevel regression model of students' treatment group on end-of-year Reading Composite scores, including an interaction of student EL status with treatment, controlling for school and student variables. This interaction was significant: the gap in performance between ELs and their peers who are non-ELs was smaller for students who used Amplify Reading compared to those who did not (Figure 3). Overall, Amplify Reading students outperform those who did not use the program and non-ELs outperform ELs, but the difference in EL vs. non-EL performance is considerably smaller for Amplify Reading students than the control group. Amplify Reading had a larger impact for EL students compared to their peers who

are non-ELs, with small-to-medium effect sizes of .03 in kindergarten and .09 in second grade. We did not find significant results for this performance gap for students in Grade 1.

In practical terms, for kindergarten students who did not use the program, we found a performance gap of 20 DIBELS Composite score points between ELs and their peers who are non-ELs. However, for Amplify Reading students, this gap was just 13 points. **In fact, in kindergarten, the average performance of ELs who used Amplify Reading was higher than the performance of non-ELs who did not use the program.**

Figure 2. Percentage of students making above typical progress as measured by DIBELS Next Pathways of Progress

Figure 3. End-of-Year DIBELS Composite Scores by condition and EL status

Discussion and next steps

These results indicate that Amplify Reading has significant effects on students' overall reading skills in grades K through 2 after only a semester of use. Students in Amplify Reading outperformed and outgrew a comparison sample of students from their district. Significant and meaningful effects were obtained with an average of fewer than seven hours of use of the program. This is less than the expected use over the course of a school year, suggesting the potential of stronger impact when the program is used over a longer period of time.

Additionally, our results suggest that the program closed the gap in performance between ELs and non-ELs. This finding is vitally important in today's educational landscape; roughly 9.5% or 5 million public school students are ELs (U.S. Department of Education), and the 4th grade reading achievement gap between ELs and non-ELs has remained wide and stable over the past 20 years (U.S. Department of Education). Amplify Reading, with its highly adaptive platform and focus on early literacy skills, is a program that has great potential to meet the needs of the rising percentage of English learners.

In the coming school year, we aim to explore the impact of the program across all grades with additional samples. The impact of varying levels of usage and impact on specific skills using multiple outcome measures will also be explored. In conclusion, this study demonstrated that Amplify Reading is an effective literacy program for a diverse set of students in kindergarten through second grade.

References

Kraft, M.A. (2018). *Interpreting Effect Sizes of Education Interventions*. Brown University Working Paper.

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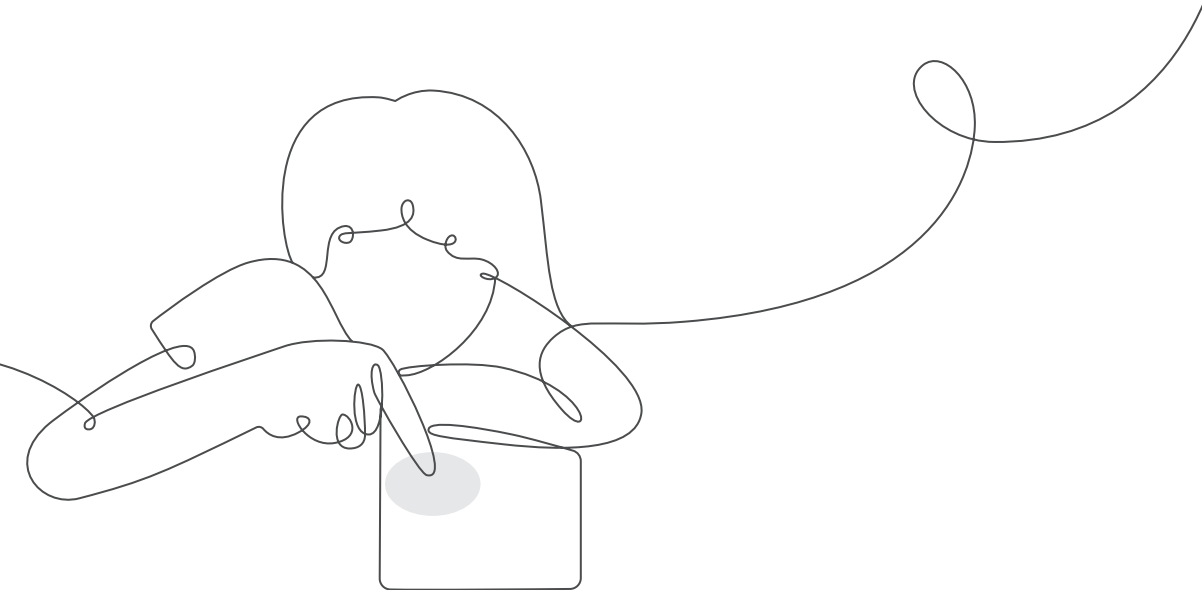
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