LXDRESEARCH
AT CHARLES RIVER MEDIA

MindPlay Reading Studio

Efficacy Study Report for Grades 2-5
Fall 2024 - Winter 2025

Authors:

Rachel Schechter, PhD

Anna Robinson, M.A.

Paul Chase, PhD

MARCH, 2025

EFFICACY STUDY SUMMARY
FALL 2024 - WINTER 2025
GRADES 2-5

PROGRAM DESCRIPTION

MindPlay is an online, adaptive reading program that provides personalized instruction in foundational reading skills. The program uses an initial screening assessment to identify skill gaps and creates individualized learning paths with explicit instruction in phonemic awareness, phonics, fluency, vocabulary, & comprehension.

STUDY DETAILS

Location
Connecticut Urban School District
- 2 MindPlay schools
- 2 Control schools

Analysis Sample Size
847 students in Grades 2-5

School-Wide Demographics
67% Hispanic | 20% Black | 41% ELL
85% F/R Lunch | 35% ELL/Lexia English

Time Frame
Fall 2024 - Winter 2025

Implementation Description
Teachers used MindPlay or a comparison program daily during their literacy block

Methodology
- Growth scores and MOY scores on DIBELS were used to assess progress and compare performance
- Dosage analysis examined relationship between usage time and outcomes

STUDY CONTEXT

MindPlay was implemented in a multi-site, randomized-control trial across selected grades K-8 schools. It was used as a whole-class program for literacy, implemented daily during the literacy block. The study examines MindPlay's impact on reading skills across elementary and middle school grades, with separate analyses for elementary and middle school grades. This report focuses on grades 2-5 DIBELS reading assessment findings, comparing students using MindPlay to those receiving business-as-usual reading instruction in control schools.

KEY FINDINGS

- From Fall 2024 to Winter 2025, specific skills showed targeted benefits over the control group: improved decoding skills (grades 2-3) and reading accuracy (grade 5)
- Students using MindPlay 60+ minutes weekly showed significantly better progression in reading level than students who used it less
- Each additional hour of MindPlay improved reading outcomes, with significant positive effects on DIBELS scores across grades
- 60+ minutes per week Mindplay users were significantly more likely to move out of “Critical” benchmark levels than <60 minute users

Higher MindPlay usage is associated with improved reading level progression and better DIBELS outcomes for grades 2-5 compared to lower usage.

Grade	Significant Difference vs. Control Schools	Outcome Measure
Grade 2-3	✓	DIBELS Decoding Expected Growth
Grade 3	✓	DIBELS Decoding Scores
Grade 5	✓	DIBELS Reading Accuracy
Grade 2-5	=	DIBELS Composite Scores + Benchmarks

LXDRESEARCH
AT CHARLES RIVER MEDIA

OVERALL FINDINGS

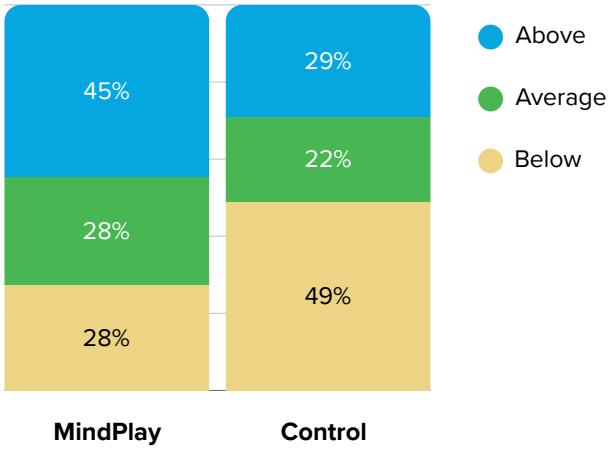
Students using MindPlay showed significant improvements in specific reading skills across different grade levels, with grades 2-3 demonstrating enhanced decoding skills and grade 5 showing superior reading accuracy. These targeted gains in foundational reading components highlight MindPlay's effectiveness at addressing specific skill development, even though these improvements have not yet translated to significant differences in overall DIBELS composite scores at the mid-year point compared to the control group.

DIBELS Decoding (Nonsense Word Fluency-Words Read Correctly): Grades 2-3

MindPlay significantly improved decoding skills in grades 2-3 as demonstrated by:

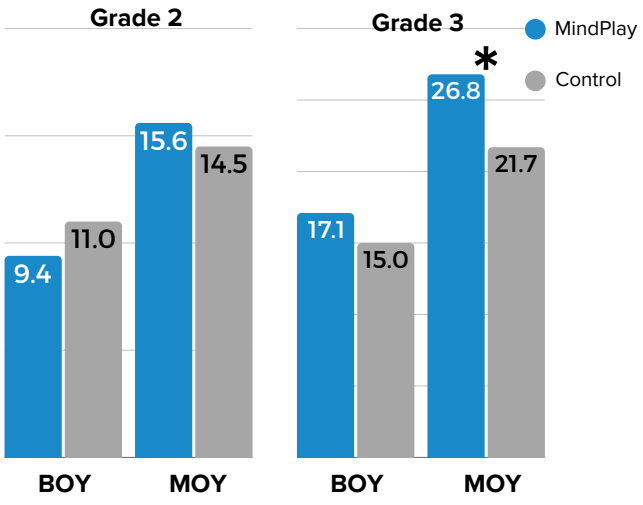
1. More MindPlay students exceeding normed average BOY-MOY **growth expectations** and fewer experiencing below average growth compared to control students on DIBELS decoding measure Nonsense Word Fluency - Words Read Correctly,
2. Significantly higher mid-year decoding **scores** for Grade 3 compared to control students,
3. A significant positive relationship between total hours of MindPlay usage and gains in decoding scores for grades 2-3 (β = 0.19, SE = 0.07, p < .01).

DIBELS Decoding BOY-MOY Growth Expectations (Grades 2-3 Combined)



Overall: $\chi2(2,N=400)=20.0$, $p < .001$, Cramer's V = .22
Above: $\chi2(1,N=400)=9.76$, $p < .01$, Cramer's V = .16
Below: $\chi2(1,N=400)=18.6$, $p < .001$, Cramer's V = .22

DIBELS Decoding BOY-MOY Scores



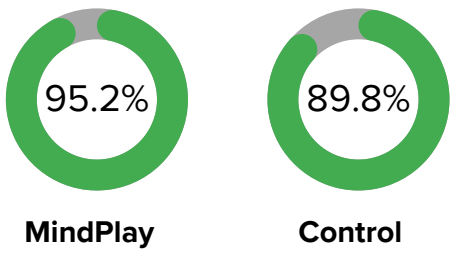
G3: t(201.64) = 2.69, $p < .01$, Cohen's d Effect Size = .37

* Indicates significant effect

DIBELS Oral Reading Accuracy: Grade 5

While grade 5 students in both conditions exhibited no statistically significant difference in reading accuracy at baseline, by mid-year, those using MindPlay demonstrated significantly better reading accuracy compared to control students.

Mid-Year ORF Accuracy Grade 5

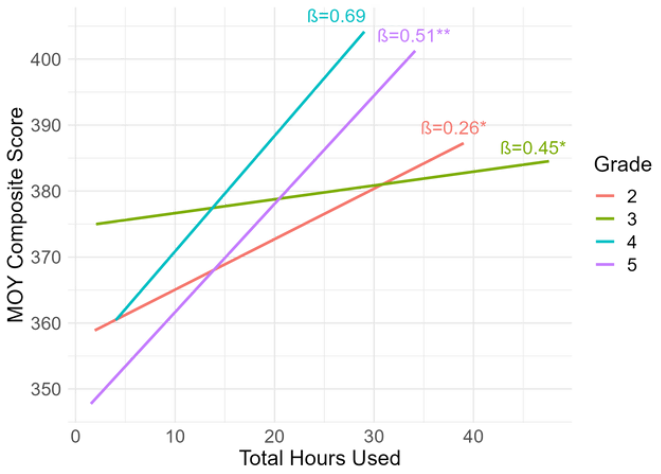


$t(191) = 2.68$, $p < .01$, Cohen's d = .35

Effect of Overall MindPlay Hours on DIBELS Outcomes

Students who used MindPlay more showed better reading performance on DIBELS than students who used MindPlay less. **Each additional hour of MindPlay was associated with improvements in both mid-year composite scores and BOY-to-MOY composite gains** after accounting for baseline scores and Lexia English use. The strongest effects were observed in Grade 4 gains (β=0.79) and Grade 5 mid-year scores (β=0.51), with grades 2-5 each showing statistically significant positive relationships for at least one outcome measure.

MOY DIBELS Composite Score



BOY-MOY DIBELS Composite Gains

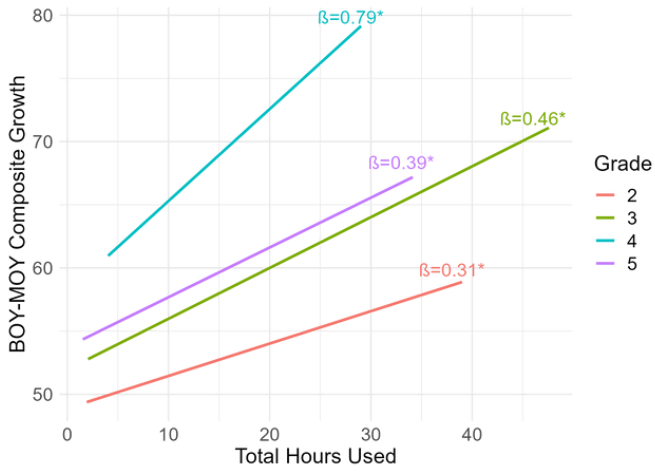


Figure Note: Lines represent predicted scores based on usage time, with steeper slopes indicating stronger effects. Standardized coefficients (β) indicate the strength of each relationship, while asterisks show statistical significance (*p<.05, *p<.01). For example, in Grade 4, each hour of usage is associated with a 0.79-point increase in score gains.

Understanding MindPlay Reading Level Score

MindPlay categorizes student performance as ("Critical", "Approaching", "Meeting", or "Exceeding") based on their Reading Level Score, which combines text difficulty and comprehension percentage. Students are assessed relative to grade-level expectations, with the goal being readiness for the following year's material. For example, the "Approaching" category identifies students who can read texts at their current grade level but with incomplete comprehension, indicating they're on track toward goals but require continued monitoring to ensure progress.

Reading Level Progression BOY-MOY

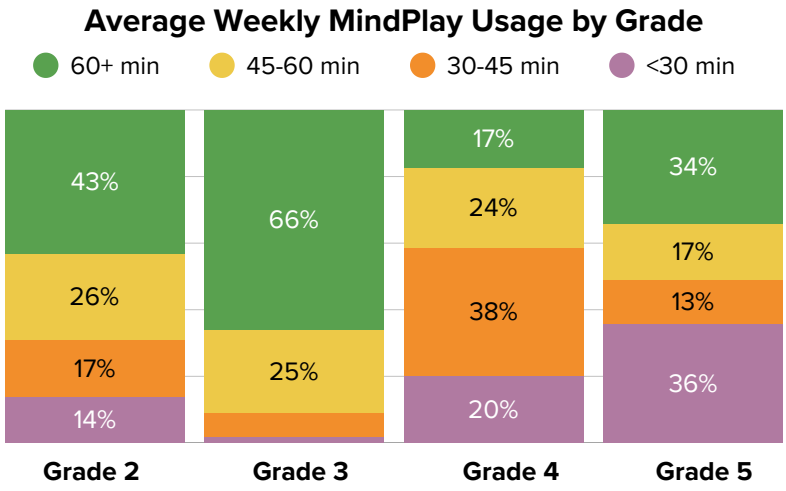
75%

of students improved reading level score

62%

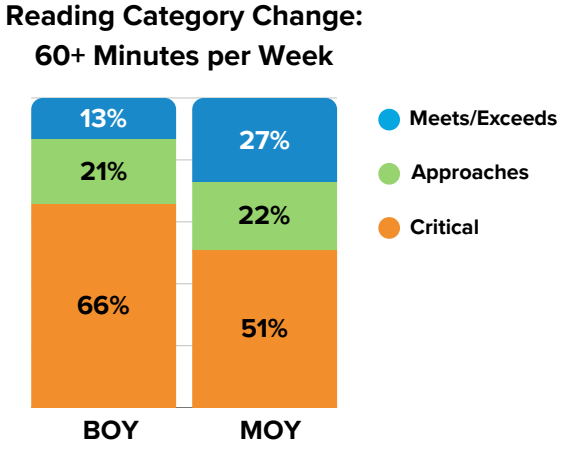
of students advanced to more difficult passages

MINDPLAY IMPLEMENTATION DOSAGE: Grades 2-5



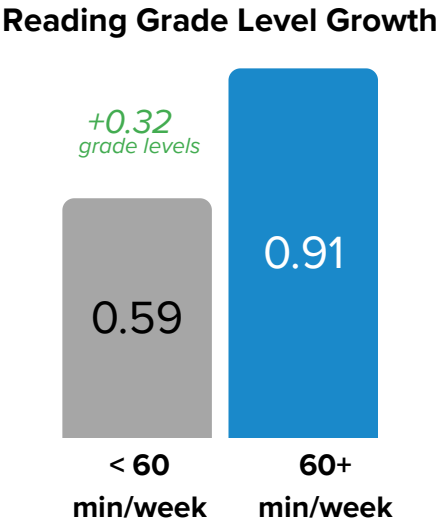
Averaging 60+ minutes per week emerges as significant threshold

All MindPlay usage groups showed reductions in students classified as "Critical" by mid-year, but only the students using the program an average of 60+ minutes weekly demonstrated statistically significant category improvement, reducing "Critical" students from 66% to 51% while increasing "Meets/Exceeds" from 13% to 27%.



Critical: $\chi^2(1) = 6.57$, $p < .05$, Cramér's V = 0.15
Meets/Exceeds: $\chi^2(1) = 8.55$, $p < .05$, Cramer's V = .17

In addition, grade 2-5 students with 60+ minutes per week showed significantly higher reading level growth after accounting for Lexia English usage than students with less than 60 minutes per week.



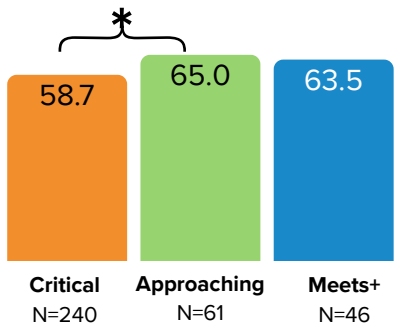
$F(1, 344) = 12.29$, $p < .001$, partial $\eta^2 = .034$

IMPACT BY STARTING READING LEVEL CATEGORY

"Approaching" Students: Nearing Grade-Level Goal

Students in MindPlay's Approaching category (N = 61) showed significantly higher BOY-MOY gains on DIBELS Composite scores than students in the Critical category, with a mean difference of 6.3 points. Figure values represent estimated marginal means after controlling for Lexia English usage. This finding suggests that MindPlay elementary school students approaching grade level had the strongest fall to winter reading gains.

DIBELS BOY-MOY Composite Gains by Initial Reading Level

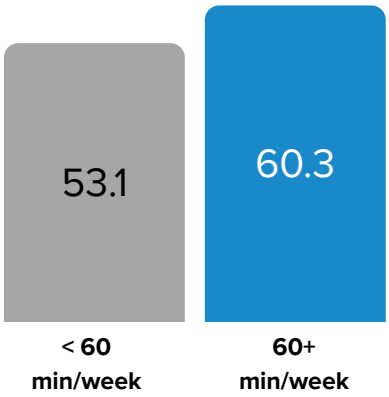


Critical vs. Approaching: $t(343) = 2.67$, $p < .05$, Cohen's $d = .39$

"Critical" Students: Reading One Grade Level Behind

Students at the Critical-Approaching threshold benefit from 60+ weekly MindPlay minutes

BOY-MOY DIBELS Composite Gains



$F(1, 110) = 7.12$, $p < .01$, partial $\eta^2 = .06$

Students reading one grade level behind and using MindPlay for an average of 60 or more minutes per week had significantly higher DIBELS composite BOY-MOY gains.

They were also significantly more likely to improve to "Approaching" on the MindPlay Screener than peers with less usage.

3.41x

more likely to improve reading level category

OR = 3.41, 95% CI [1.34, 9.15], p =<0.05)

"Critical" Students Significantly Behind (2+ Grade Levels)

MindPlay students more than two grade levels below expectations showed strong reading gains on the MindPlay screener across usage levels. Even though no significant relationship was observed between the 60-minute weekly threshold and reading improvement, their accelerated growth translated to one grade level of growth in this first half of the year.

79%

improved reading level score

47%

advanced to higher grade-level passages

+1.0

average reading grade level growth

LXDRESEARCH
AT CHARLES RIVER MEDIA

LXD Research is an independent research firm that evaluates educational programs with ESSA-aligned methods.

Learn more at www.lxdresearch.com

MindPlay

For additional information about MindPlay visit:

www.mindplay.com