



LXDRESEARCH
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Coursemojo Efficacy Summary Report, Charter Network in Northern California Grades 5–8, 2025–2026



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MODERATE

LXD Research Recognition for Coursemojo

Coursemojo

This product has been rigorously evaluated and is hereby acknowledged for meeting the educational impact criteria of the Every Student Succeeds Act (ESSA), warranting a **Level 2** for "**Moderate**" Evidence. This recognition is based on its proven effectiveness in enhancing grade-level learning outcomes.

REVIEWED BY THE LXD RESEARCH EXPERT REVIEW PANEL

Rachel Schechter, Ph.D.
Founder of LXD Research

July 2026

DATE

Educators search for high-quality research and evidence-based solutions to strengthen grant applications, to support comprehensive and targeted instruction, or to implement new programming in their schools. Evidence requirements under the Every Student Succeeds Act (ESSA) are designed to ensure that states, districts, and schools can identify programs, practices, products, and policies that work across various populations.

Educational programs document their evidence of design, effectiveness, and impact in order to be eligible for federal funding. While there is no singular authority that determines a program's tier, the Department of Education's Office of Educational Technology provides standards to assess the varying levels of strength of research for education products.

The categories for ESSA Evidence are: strong (Tier 1), moderate (Tier 2), and promising (Tier 3) evidence of effectiveness, or demonstrates a rationale to be effective (Tier 4).

This product meets the requirements for Tier 2:

- ✓ In a quasi-experimental design, students who used the program are examined against a comparison group who did not use the program.
- ✓ At least one quasi-experimental study with the proper design and implementation with at least two teachers and a multi-site sample of 350 students showed statistically significant, positive findings.
- ✓ The study uses a program implementation that could be replicated.
- ★ A third-party research organization has reviewed the documentation for ESSA validation.



When product designers leverage learning sciences to design and evaluate the effectiveness of their programs, educators can better target instruction, and students' skills soar. A quasi-experimental study design using standardized assessment data, an analysis of student growth, and educator feedback demonstrates this product's efficacy, meeting the criteria for LXD Research's ESSA Tier 2 Evidence.

– Rachel Schechter, Ph.D., Founder of LXD Research

PROGRAM DESCRIPTION

Coursemojo is an innovative teaching and learning assistant designed to meet the diverse needs of all learners. As a curriculum-aligned tutor for students, Mojo takes the texts and tasks from the curriculum and transforms them into interactive and differentiated experiences for students. Mojo also provides a set of tools for teachers designed to help all teachers execute the moves of effective teachers, including a live dashboard to use for conferencing, real-time trends in student misconceptions with suggested discussion questions, and celebrations of exemplary work. This platform is aligned specifically with top-rated, English Language Arts curricula. Importantly, most of the Coursemojo activity involves students collaborating with one another rather than engaging in isolated screen time.

STUDY DETAILS

Sample Description

- 3,495 students, grades 5–8 (cross-grade analyses)
- Grade bands are presented as Grades 5–6 (Elementary) and Grades 6–8 (Middle). Grade 6 is intentionally included in both bands to reflect variation in how schools classify sixth grade across elementary and middle school contexts. Because Grade 6 is included in both analyses, the grade-band estimates are not independent.

Demographics

77% FRPL-eligible
60% Latinx, 26% AAPI, 9% Black
26% Multilingual Learners
15% students with IEPs

Location

A charter school network in Northern California

Time Frame

2025–2026; (BOY: fall 2025, EOY: spring 2026)

Methodology

- Design: quasi-experimental matched comparison design
- Assessment Measure: DIBELS Composite: ORF & Maze, z-scores were created to combine grades
- School fixed-effects ANCOVA models controlling for baseline reading score, grade, FRPL eligibility, and ML status
- See the Appendix for all statistical notations

STUDY SUMMARY

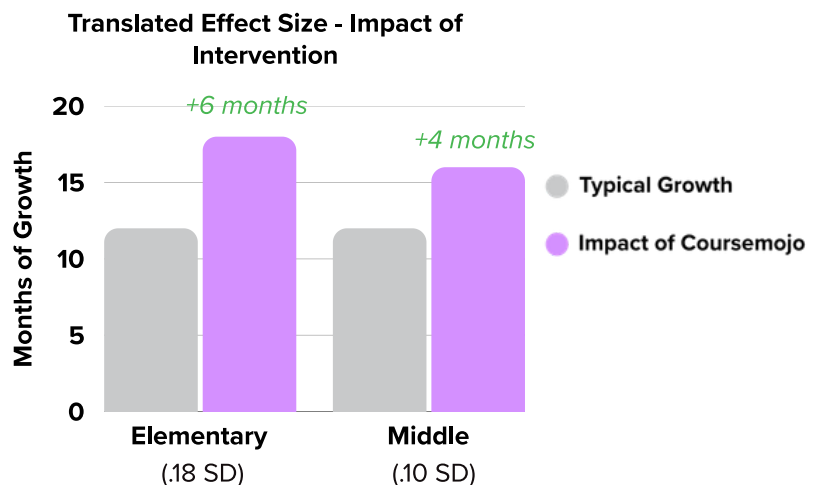
LXD Research conducted a quasi-experimental matched comparison design to examine the impact of Coursemojo on student literacy outcomes. Coursemojo was implemented across a charter school network in Northern California in grades 5–8 during the 2025–26 school year. Literacy outcomes were measured using the DIBELS Composite assessment. Individual student data comparing beginning-of-year to end-of-year progress was used to estimate program impacts of Coursemojo, with treatment and comparison groups matched on baseline score and demographics. Results showed consistent advantages for Coursemojo users across all grades studied, with effects that were clearest among students who sustained engagement over time and among pockets of students across the grades, including those who began the year below or above grade level.

KEY FINDINGS

- Across all grade bands, Coursemojo users scored higher on end of year reading assessments than similar non-users*. For the most engaged elementary users the advantage was equivalent up to 7 months of growth.
- Coursemojo users were more likely to make more than a year of reading growth than non-users (16% vs. 11%).
- Coursemojo users were also less likely to fall behind (9% vs. 17%).
- For Coursemojo users, the percent of students at/above grade level increased from BOY to EOY. For non-users, the percent of students at/above grade level decreased from BOY to EOY.



Coursemojo users gained up to 6 additional months of reading progress compared to similar peers.



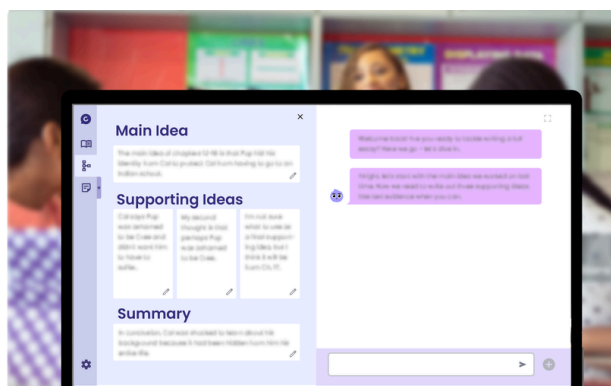
Note: DIBELS is not a unified scale score, annual growth is smaller as students get older
* $F(22, 2254) = 399.4, p < .001, R^2 = .796, b = 0.151, SE = 0.033$

COURSEMOJO STUDY DESIGN



HOW COURSEMOJO WORKS

The platform integrates seamlessly with existing high quality instructional materials, in this district the core curriculum was Fishtank ELA. Teachers were asked to incorporate AI-powered activities daily as part of independent practice (Target Task) during the literacy period. Students engage with texts through a structured three-tiered approach that builds comprehension and writing skills systematically. The AI assistant provides immediate, personalized feedback during activities while collecting data in real-time to help teachers facilitate more effective conferencing and whole-class discussions.



USAGE FREQUENCY

Students engaged with an average of 19 activities over the course of the school year, with considerable variation: some students completed as few as 1 activity while others completed as many as 89. In a typical active month, students entered around 3 activities, with High Use students reaching 5 or more. Students were active for an average of 5 months across the school year. On the months they used Coursemojo, students completed about 59% of the activities they started. Students averaged 2 writing activities per active month, with higher-usage students completing 3 or more. First attempt scores averaged 1.9 out of 4 and improved to 2.1 on final attempts, suggesting students making incremental gains within sessions.

Students were grouped by Coursemojo usage level based on how long they engaged with the platform and how often. The four groups are described in the table below.

Coursemojo Usage Group Patterns and Grade-Level Sample Sizes

Group	Usage Pattern	Grade 5 Sample Size	Grade 6 Sample Size	Grade 7 Sample Size	Grade 8 Sample Size
High Use	12+ weeks, more than once a week on average	343	153	138	492
Moderate Use	12+ weeks, once a week or less on average	119	78	6	179
Short-Term Use	Fewer than 12 weeks of use, any frequency	76	90	65	16
No Use	No recorded activity in the platform	334	298	159	107

Table note: Not all of these students were included in each analyses, please see the appendix for details.

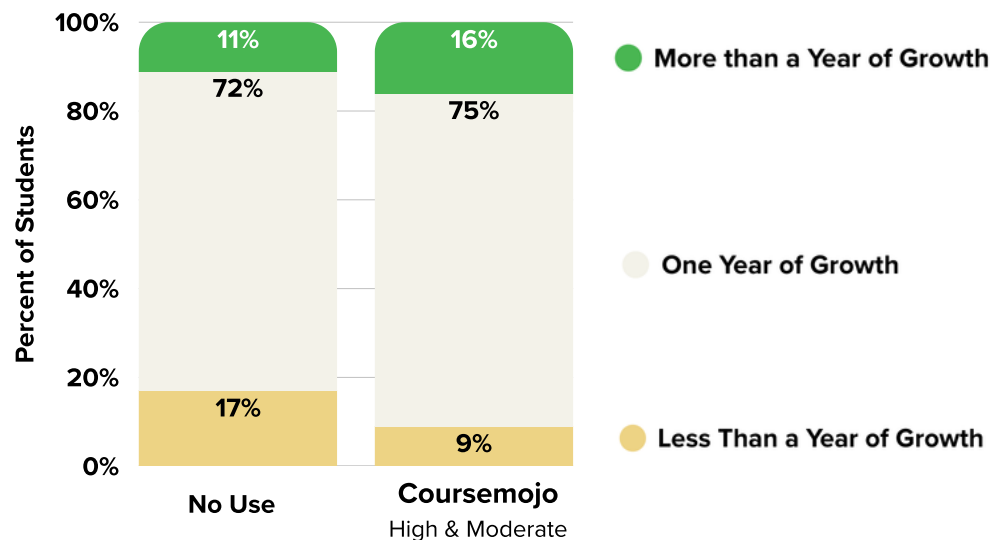
READING GROWTH ACROSS ALL GRADES

Across grades 5–8, Coursemojo users **consistently outpaced matched comparison students** in end-of-year reading performance. The effect sizes of the statistical models translated to up to 6 months of additional reading progress for Coursemojo users (High Use and Moderate Use).

The clearest picture of program impact comes from looking at benchmark-level movement — whether students moved up a reading level, stayed on track, or fell behind over the course of the year. Students who used Coursemojo regularly made more than a year of reading growth at a higher rate than non-users, and fell behind at a meaningfully lower rate.

16% of High Use students made more than a year of reading growth by end of year. That compares to 11% of non-users — meaning Coursemojo users moved up a reading level at a higher rate than similar peers who did not have access to the platform. High Use students were also protected from falling behind: only 10% lost ground over the year, compared to 17% of non-users. Moderate Use students showed a similar pattern of growth, with 16% making more than a year of progress and just 8% falling behind — the lowest rate of any group. One year of growth — remaining at the same benchmark level from fall to spring — reflects expected, on-track progress. The data show that Coursemojo did not just help students keep pace; it helped more of them exceed expectations, and protected more of them from slipping back.

Movement in DIBELS Benchmark Level BOY - EOY Across Grades



🎯 Coursemojo users were more likely to make more than a year of reading growth than non-users (16% vs. 11%).

🎯 Coursemojo users were also less likely to fall behind (9% vs. 17%).

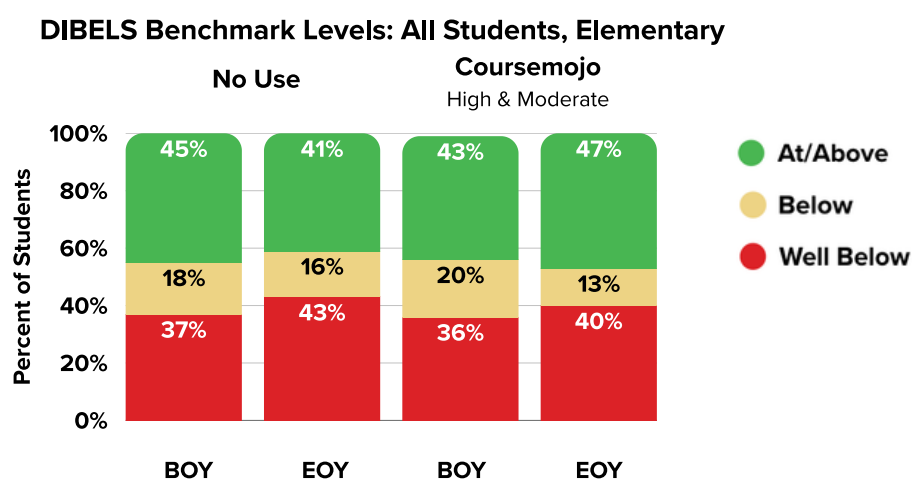
Figure note: 'One Year of Growth' reflects expected, on-track progress — a student who remains at the same benchmark level from fall to spring is keeping pace with grade-level expectations. 'More than a year of growth' means moving up a benchmark level by end of year; 'less than a year of growth' means falling behind grade-level expectations of growth.

READING SKILL MOVEMENT: ELEMENTARY SCHOOL, GRADES 5-6

DIBELS is a reading assessment that measures foundational skills like fluency and comprehension at multiple points throughout the school year. It produces a composite score that reflects overall reading development and is benchmarked against national standards to identify whether students are reading at, above, or below grade level. DIBELS was used as the outcome measure because it captures within-year growth.

Benchmark Profiles for All Students

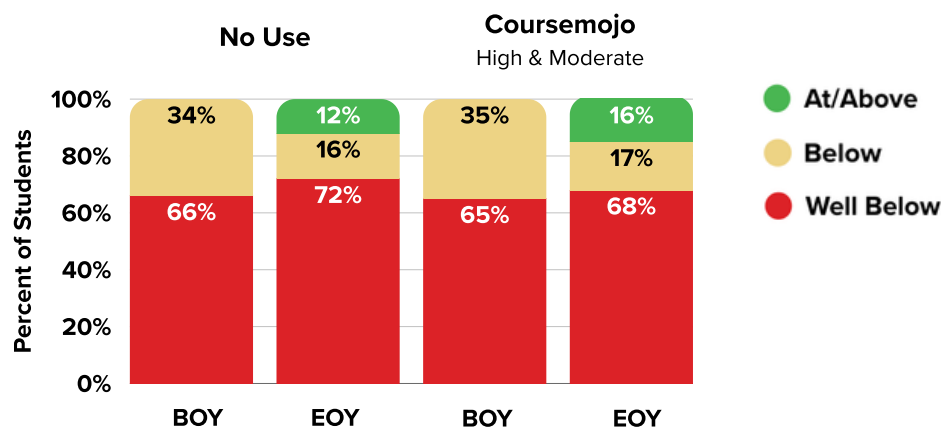
Additional exploration was made to compare High and Moderate Coursemojo users to non-users. For the Elementary Coursemojo group, students reading at or above grade level significantly increased from the beginning to the end of the year, from 43% to 47%. A chi-square test indicated that Coursemojo users were 65% more likely to move up than to fall below in benchmark level by the end of the year. The non-users significantly declined from 45% to 41%, and a chi-square test indicated that non-users were 54% more likely to fall below than move up in benchmark level by the end of the year. A similar proportion of students declined to Well Below.



Benchmark Profiles for Students who Started Below Grade Level

Students made meaningful improvements, with some students advancing from below grade level to above grade level in just one year. For this striving reader group, Coursemojo users had 16% of students advance to at/above grade level, while non-users had 12%. Coursemojo users had a smaller increase in Well Below than non-users (3% vs. 6%).

DIBELS Benchmark Levels: Students Below at BOY, Elementary



Note: The increase in the Well Below category for both groups likely reflects grade-level benchmark recalibration at higher grades rather than widespread decline. Grade 6 is intentionally included in both grade bands to reflect variation in elementary and middle school grade configurations. Grade-band estimates therefore share Grade 6 students and are not independent.

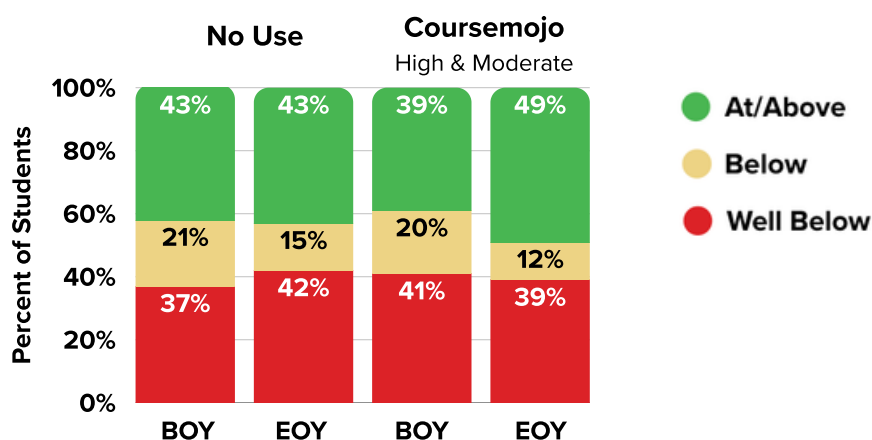
READING SKILL MOVEMENT: MIDDLE SCHOOL, GRADES 6-8

DIBELS is a reading assessment that measures foundational skills like fluency and comprehension at multiple points throughout the school year. It produces a composite score that reflects overall reading development and is benchmarked against national standards to identify whether students are reading at, above, or below grade level. DIBELS was used as the outcome measure because it captures within-year growth.

Benchmark Profiles for All Students

Additional exploration was made to compare High and Moderate Coursemojo users to non-users in Middle School. For this Coursemojo group, students reading at or above grade level increased significantly from the beginning to the end of the year — from 39% to 49%. A chi-square test indicated that Coursemojo users were over three times more likely to move up than to fall below in benchmark level by the end of the year. Coursemojo users had a slight decrease in Well Below Benchmark of 2%, while non-users had an increase of 5%.

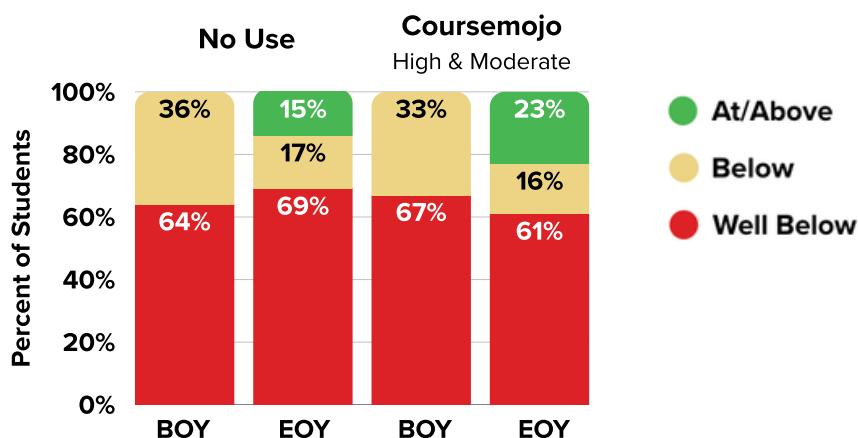
DIBELS Benchmark Levels: All Students, Middle School



Benchmark Profiles for Students Below Grade Level

Students made meaningful improvement, advancing from below grade level to above grade level in just one year. For this striving reader group, Coursemojo users had 23% of students advance to at/above grade level, while non-users had 15%. Coursemojo users had a decrease in Well Below Benchmark of 6%, while non-users had an increase of 5%.

DIBELS Benchmark Levels: Students Below at BOY, Middle School



Note: The increase in the Well Below category for both groups likely reflects grade-level benchmark recalibration at higher grades rather than widespread decline. Grade 6 is intentionally included in both grade bands to reflect variation in elementary and middle school grade configurations. Grade-band estimates therefore share Grade 6 students and are not independent.

HOW ENGAGEMENT SHAPED OUTCOMES - ELEMENTARY SCHOOL GRADES 5-6

Understanding Usage Groups

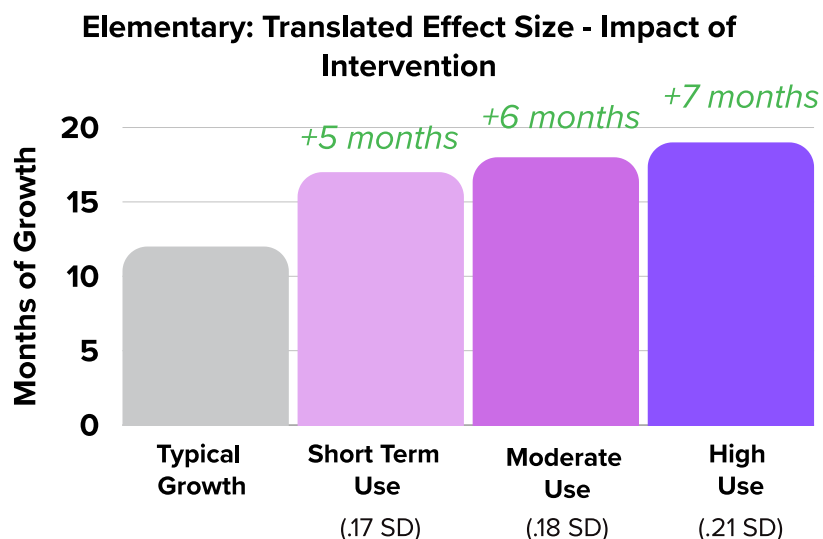
Coursemojo usage was classified along two dimensions: how long a student stayed with the platform and how often they used it during that time. High Use students engaged for at least 12 weeks and averaged more than one session per week. Moderate Use students also sustained engagement for 12 or more weeks, but at a lighter cadence of about once a week or less. Short-Term Use students may have used the platform frequently, but for fewer than 12 weeks — a pattern that often reflects a launch that started late or an implementation that did not hold. No Use students had no recorded platform activity and serve as the comparison group throughout. Because duration and frequency are separated in this way, the analysis can distinguish between students who never really got started and students who used the platform steadily but modestly.

Students who used Coursemojo for a sustained period outperformed peers who did not — but the pattern of how engagement drove those gains differed between the elementary and middle school grades. A rigorous analysis controlling for school, baseline reading score, grade level, economic disadvantage, and multilingual learner status found statistically significant advantages for Coursemojo users in both grade bands.

Elementary School Grades: Higher Use, Higher Impact

In grades 5 and 6, students were spread across all four usage groups: 40% were non-users, roughly a third fell into High Use, and the remaining quarter divided between Moderate and Short-Term Use. That balance made it possible to observe a full dose-response gradient, with each successive step up in engagement associated with stronger reading gains.

For the Elementary group, the data showed a clear dose-response pattern: the more consistently students used Coursemojo, the stronger their reading gains. High Use students gained the equivalent of approximately 7 additional months of reading progress, Moderate Use students gained 6 months, and even Short-Term Use students gained 5 additional months compared to non-users. Getting students to use the platform more consistently translated directly into stronger outcomes.



Graph notes: Effect sizes are from a school fixed-effects ANCOVA model controlling for baseline reading score, grade, FRPL eligibility, and multilingual learner status. Each group is being compared to Non-Users. Additional months are calculated using Lipsey et al. (2012) typical annual growth norms for grades 5–6 in reading.

Note: Grade 6 is intentionally included in both grade bands to reflect variation in elementary and middle school grade configurations. Grade-band estimates therefore share Grade 6 students and are not independent.

HOW ENGAGEMENT SHAPED OUTCOMES - MIDDLE SCHOOL GRADES 6-8

Understanding Usage Groups

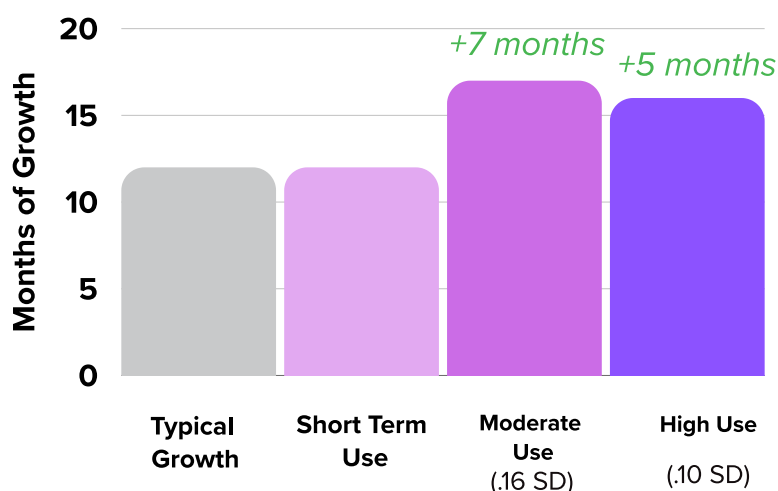
In the middle school band, grades 6 through 8, usage tilted toward the intensive end. About a third were non-users and just over 40% of students were High Use, leaving a smaller comparison pool and thinner Moderate and Short-Term groups. The tilt grew steeper with each grade: roughly a third of sixth graders were High Use, compared with more than four in ten seventh graders and well over half of eighth graders, while the share of non-users fell from about 40% in sixth grade to a fifth by eighth grade.

Middle School Grades: Sustained Use Mattered Most

In the grades 6–8 band, sustained engagement mattered more than frequency. Short-term use showed no statistically significant advantage over non-use. Moderate Use students gained approximately 7 additional months of reading progress, and High Use students gained approximately 4 months. For this cohort — many of whom experienced disrupted foundational literacy instruction during the 2020–21 remote learning year — Coursemojo worked best as a complement to teacher-led instruction rather than a high-frequency independent tool. The key implementation message is sustaining engagement past 12 weeks (Moderate and High are combined below to emphasize this finding).

The pattern also reflects the composition of the grade band: eighth grade High Use students entered the year significantly further below grade level than their peers, suggesting that some students in this group may benefit from more intensive foundational intervention alongside or prior to a comprehension-focused platform like Coursemojo.

Middle School: Translated Effect Size - Impact of Intervention



Graph notes: Effect sizes are from a school fixed-effects ANCOVA model controlling for baseline reading score, grade, FRPL eligibility, and multilingual learner status. Each group is being compared to Non-Users. Additional months are calculated using Lipsey et al. (2012) typical annual growth norms for grades 6-8 reading. Short-Term Use did not reach statistical significance in the grades 6–8 model ($p = .052$).

Note: Grade 6 is intentionally included in both grade bands to reflect variation in elementary and middle school grade configurations. Grade-band estimates therefore share Grade 6 students and are not independent.

CONCLUSION

This study provides meaningful evidence that Coursemojo supports literacy growth for students across grades 5–8 at a charter school network in Northern California. Across both grade bands studied, students who used Coursemojo outperformed comparable peers who did not, with effects that were strongest among students who sustained engagement over time. Translated into practical terms, sustained Coursemojo users gained the equivalent of up to 6 additional months of reading progress compared to similar non-users. These gains occurred among a student population that is 77% economically disadvantaged and 26% multilingual learners — the core population this network serves — adding meaningful equity relevance to the findings.

The engagement analysis indicates that implementation quality shapes outcomes as much as access. Patterns differed by grade band:

Elementary School: A clear dose-response pattern emerged — more consistent engagement produced stronger gains at every level of use. Even short-term users outperformed non-users, suggesting the platform produces benefits across a range of implementation intensities in these grades.

Middle School: Sustaining engagement past 12 weeks was the critical threshold; frequency above that mattered less. The most intensive users in this band included a disproportionate share of eighth graders who entered the year significantly below grade level — students who likely needed more foundational intervention alongside or prior to a comprehension-focused platform. Future deployments should pair Coursemojo with foundational intervention for students well below grade level.

Study Limitations

This evaluation uses a quasi-experimental matched comparison design, which substantially reduces but does not eliminate the possibility that unobserved differences between groups account for some portion of the observed effects. Coursemojo use was teacher-selected rather than randomly assigned, meaning that differences in teacher practice, instructional philosophy, or school-level priorities may have influenced both who used the platform and how consistently. Additionally, this study does not capture what instructional supports or interventions were in place for striving readers — a meaningful gap given that approximately half to nearly two-thirds of students began the year below grade level, and schools serving struggling readers often layer in additional targeted supports that could influence end-of-year outcomes independent of Coursemojo use. Findings are specific to this charter school network in Northern California and the 2025–26 school year, which may limit generalizability to other settings. The one-year timeframe captures immediate literacy impacts but does not address whether observed gains persist or compound over time.

Recommended Next Steps

Future evaluations should prioritize building a larger comparison pool to enable more precise subgroup-level analyses, particularly for students who entered the year significantly below grade level, and to examine whether those students benefit from foundational intervention prior to or alongside Coursemojo. A multi-year follow-up examining whether outcomes improve as younger cohorts consolidate foundational literacy skills would clarify whether patterns observed here reflect temporary cohort effects or more durable program-population dynamics. School-level implementation data — including teacher facilitation practices, program launch timing, and conditions that supported or disrupted sustained engagement — would allow future analyses to connect outcome patterns to specific instructional decisions. Expanding the evaluation to additional regions of the charter school network or comparable schools would establish whether the grade band findings and the 12-week threshold generalize beyond the Northern California context.

Supporting Statistical Detail

USAGE GROUP DEFINITIONS

Relevant to: report page 2, usage frequency and grade-level sample sizes; page 5, engagement findings

Students were classified by how long they engaged with Coursemojo and how often they engaged during that period. Grade-level sample sizes appear in the table on page 2.

Group	Operational Definition
No Use	No recorded platform activity. Students with only a single day of recorded activity were reclassified into this group as a data integrity step.
Short-Term Use	Fewer than 12 weeks from first to last recorded use, at any frequency
Moderate Use	12 or more weeks from first to last use, fewer than 1.5 average active days per week
High Use	12 or more weeks from first to last use, 1.5 or more average active days per week

Note. Short-Term Use students are retained in all statistical analyses reported in this appendix. Figures in the body of the report display No Use, Moderate Use, and High Use only, so that charts contrast sustained engagement with no engagement.

ANALYTIC SAMPLE AND BASELINE EQUIVALENCE

Relevant to: report page 1, study details and methodology; page 6, study limitations

BOY and EOY DIBELS composite scores were standardized within each grade, which allows outcomes to be compared across grades 5 through 8. Baseline equivalence was assessed on BOY scores against the What Works Clearinghouse standard of 0.25 SD.

Grade	n Users	n Non-Users	Cohen's <i>d</i>	Within 0.25 SD?	<i>t</i> -test
5	810	589	-0.069	Yes	$t(1397) = 1.20, p = .229$
6	974	648	0.000	Yes	$t(1620) = -0.01, p = .993$
7	594	297	0.107	Yes	$t(889) = -1.47, p = .142$
8	693	170	0.423	No — matched	$t(861) = -4.40, p < .001^*$

Note. Grades 5 through 7 met the baseline equivalence standard as observed. Grade 8 did not, so a matched comparison sample was constructed for that grade before any outcome analysis. Of the 170 grade 8 non-users, 36 had incomplete data on EOY score, FRPL status, or multilingual learner status and were excluded prior to matching; matching then pruned 30 of the remaining 134, leaving 104 matched comparison students. All grade 8 results reported here use the matched sample.

Supporting Statistical Detail

PROFILE COMPARABILITY

Relevant to: report page 1, sample demographics

Standardized mean differences between users and non-users on the grades 5–8 sample.

Variable	Users	No Use	Standardized Mean Difference
FRPL	78.00%	75.40%	0.062
IEP	15.3%	15.7%	-0.012
Multilingual Learner	30.10%	18.30%	0.271

Groups were comparable on economic disadvantage, Special Education and English learner status

Variable	Users	No Use
Latinx	69.20%	41.60%
AAPI	19.90%	38.30%
Black	7.20%	13.70%
White	1.30%	2.90%
Other	2.40%	3.50%

Groups differed in racial and ethnic composition, reflecting which schools within the network adopted Coursemojo; school fixed effects absorb between-school compositional differences.

BENCHMARK MOVEMENT BY USAGE GROUP, GRADES 5–8

Relevant to: report page 1, key findings; page 3, benchmark movement chart

This table is the source for the movement chart on page 3 of the report.

Usage Group	More Than a Year of Growth	One Year of Growth	Less Than a Year of Growth
No Use	10.7%	72.5%	16.8%
Short-Term Use	9.7%	72.5%	17.8%
Moderate Use	16.2%	75.9%	7.9%
High Use	16.2%	74.2%	9.7%
All users combined	15.3%	74.3%	10.4%
Sustained users (Moderate + High)	16.2%	74.5%	9.3%

Note. The chart on page 3 displays the sustained users row against the No Use row. Because benchmark movement is a categorical outcome rather than a raw score, it can be pooled across grades without standardization.

Supporting Statistical Detail

READING SKILL MOVEMENT BY GRADE BAND

Relevant to: report page 4, elementary benchmark profiles; page 5, middle school benchmark profiles

Key finding: across both grade bands, the share of sustained Coursemojo users reading at or above grade level increased from the beginning to the end of the year.

Grade Band	Usage Group	Percent Point Change from BOY to EOY in At/Above Benchmark	Chi Square Test
5–6	High & Moderate Users	+3.5	$\chi^2(1) = 6.40, p = .011^*, OR = 1.65$
5–6	Non-Users	–4	$\chi^2(1) = 5.92, p = .015^*, OR = 0.65$
6–8	High & Moderate Users	+10	$\chi^2(1) = 58.83, p < .001, OR = 3.55$
6–8	Non-Users	+0.3	$\chi^2(1) = 0.007, p = .931, OR = 1.03$

Note. Percent point change from BOY to EOY refers to the change in the share of students who are at or above grade level from the beginning to the end of the year.

Key finding: across both grade bands, students made meaningful improvement, advancing from below grade level to at or above grade level in just one year.

Grade Band	Usage Group	Percent Point Change from BOY to EOY in Below Benchmark	Chi Square Test
5–6	High & Moderate Users	–7.1	$\chi^2(1) = 21.05, p < .001^*, OR = 0.45$
5–6	Non-Users	–2.8	$\chi^2(1) = 2.98, p = .084, OR = 0.77$
6–8	High & Moderate Users	–8.1	$\chi^2(1) = 32.3, p < .001^*, OR = 0.45$
6–8	Non-Users	–5.5	$\chi^2(1) = 10.03, p = .002^*, OR = 0.62$

Note. Percent point change from BOY to EOY refers to the change in the share of students who are below grade level from the beginning to the end of the year.

Supporting Statistical Detail

PRIMARY MODEL: CROSS-GRADE ANCOVA

Relevant to: report page 5, elementary and middle school dose-response figures

Outcome: EOY within-grade z-score. Covariate: BOY within-grade z-score. Predictors: usage group and grade, with FRPL status, multilingual learner status, and IEP status as demographic covariates. The school fixed-effects model is the primary reported result; the baseline model is shown for transparency.

Grades 5–6

Model	Overall Model Fit	Short-Term Use	Moderate Use	High Use
Baseline (no school FE)	$F(8, 1787) = 859.5, p < .001, R^2 = .794$	+0.040 SD, $p = .216$	+0.080 SD, $p = .020^*$	+0.108 SD, $p < .001^*$
With school FE (primary)	$F(24, 1771) = 294.7, p < .001, R^2 = .800$	+0.139 SD, $p = .001^*$	+0.190 SD, $p < .001^*$	+0.228 SD, $p < .001^*$

Grades 6–8

Model	Overall Model Fit	Short-Term Use	Moderate Use	High Use
Baseline (no school FE)	$F(9, 1869) = 767.1, p < .001, R^2 = .787$	+0.008 SD, $p = .838$	+0.099 SD, $p = .005^*$	+0.025 SD, $p = .359$
With school FE (primary)	$F(19, 1859) = 400.4, p < .001, R^2 = .804$	+0.084 SD, $p = .067$	+0.156 SD, $p < .001^*$	+0.083 SD, $p = .060$

Note. Each usage group is compared to No Use. Effect sizes in both bands are larger once school-level variation is controlled, indicating that differences between schools were masking the usage effect in the baseline model. In grades 5–6 the pattern is a clear dose-response gradient. In grades 6–8 there is no dose-response gradient; Moderate Use shows the largest effect, and High Use and Short-Term Use do not reach significance.

POOLED TREATMENT EFFECT

Relevant to: report page 1, translated effect size chart; page 3, reading growth across all grades

The same model structure, with all users combined against non-users, produces the headline effect size for each grade band reported on the summary page.

Grade Band	Overall Model Fit	Estimate	SE	<i>t</i>	<i>p</i>	95% CI
5–6	$F(22, 1773) = 320.7, p < .001, R^2 = .799$	0.178 SD	0.037	4.78	$< .001^*$	[0.105, 0.252]
6–8	$F(17, 2084) = 481.9, p < .001, R^2 = .797$	0.103 SD	0.038	2.73	$.006^*$	[0.029, 0.177]

Note. Controlling for school, BOY score, grade, FRPL status, IEP status and multilingual learner status, students who used Coursemojo scored significantly higher at end of year than non-users in both grade bands.

Supporting Statistical Detail

“ADDED GAINS” EFFECT SIZE CALCULATION AND INTERPRETATION

Relevant to: report page 1, translated effect size chart; page 5, both dose-response figures

Every effect size below is the advantage of one usage group over non-users on the EOY DIBELS Composite, estimated from the school fixed-effects ANCOVA model, expressed as additional months of reading growth beyond what a non-user would be expected to gain in the same year.

Worked example — all Coursemojo users compared to non-users, grades 5–6, against a typical annual reading gain of 0.36 SD:

$$\text{Proportion of typical growth} = 0.182 / 0.36 = 0.506$$

$$\text{Additional months of reading achievement} = 0.506 \times 12 \text{ months} = 6.07 \text{ months}$$

Table A1. Months of Gains Conversion Table

Grade Band	Comparison	p-val	Effect Size vs. Non-Users	Typical Gain	Conversion	Months of Gains
5–6	Short-Term Use vs. No Use	< .001	0.166	0.36	= 0.166 / 0.36 = 0.461	5 months
5–6	Moderate Use vs. No Use	< .001	0.183	0.36	= 0.183 / 0.36 = 0.508	6 months
5–6	High Use vs. No Use	< .001	0.212	0.36	= 0.212 / 0.36 = 0.589	7 months
5–6	All Users vs. No Use (pooled)	< .001	0.182	0.36	= 0.182 / 0.36 = 0.506	6 months
6–8	Short-Term Use vs. No Use	.052	0.070	0.27	not significant	not reported
6–8	Moderate Use vs. No Use	< .001	0.160	0.27	= 0.160 / 0.27 = 0.593	7 months
6–8	High Use vs. No Use	.006	0.104	0.27	= 0.104 / 0.27 = .385	5 months
6–8	All Users vs. No Use (pooled)	.003	0.100	0.27	= 0.100 / 0.27 = .370	4 months

Note. Pooled rows combine all usage groups into a single user category and compare it to non-users. Months of gains equal the conversion value multiplied by 12 months, truncated to whole months. Reference values are drawn from Table 5 in Lipsey et al. (2012).

Supporting Statistical Detail

INTERPRETING MONTHS OF GROWTH

Relevant to: report pages 1, 3, 5, and 6, wherever months of growth are reported

Months of growth express an effect as a proportion of the reading progress a typical student makes in one year at that grade. Measured annual reading growth declines steadily as students get older — from 0.60 SD in third grade to 0.40 in fifth, 0.32 in sixth, and 0.23 to 0.26 in seventh and eighth — so an identical effect size converts to a larger number of months in the upper grades than in the lower ones. An effect of 0.18 SD is close to six months at grades 5–6 but under four months at third grade, and smaller still in the earliest grades. The figures are gains relative to typical progress at these grades, not an absolute quantity of reading skill. Because each grade band is scaled to its own growth norm, month figures are also not directly comparable between the two bands.

DIBELS Composite was treated as a broad standardized measure rather than a specific subtest, and used without the subtest adjustment: it aggregates across grade-appropriate subtests, including Maze comprehension normed at grade level through grade 8, and is distal from the instruction Coursemojo provides.

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* (NCSE 2013-3000). National Center for Special Education Research, Institute of Education Sciences, U.S. Department of Education.
<https://ies.ed.gov/ncser/pubs/20133000/pdf/20133000.pdf>

ATTRITION TABLE

Relevant to: report page 2, usage frequency and grade-level sample sizes

Traces the reduction in sample size from the original enrolled population through each stage of data preparation.

Description	Grade 5	Grade 6	Grade 7	Grade 8	Total	Lost	% Retained
All students in grades 5-8 with at least one DIBELS score	1,155	1,052	563	874	3,644	—	100%
Students with a valid composite score at <i>both</i> BOY and EOY	1,110	1,033	605	871	3,619	25	99.30%
Students with substantial missing data	1,105	1,017	579	863	3,564	55	97.80%
Grade 8 non-users removed to reach baseline equivalence	1,105	1,017	579	794	3,495	69	95.90%
Students with valid benchmark-level data at <i>both</i> BOY and EOY	872	619	368	794	2,653	842	72.80%



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