BookNook

ESSA Level III Research Brief

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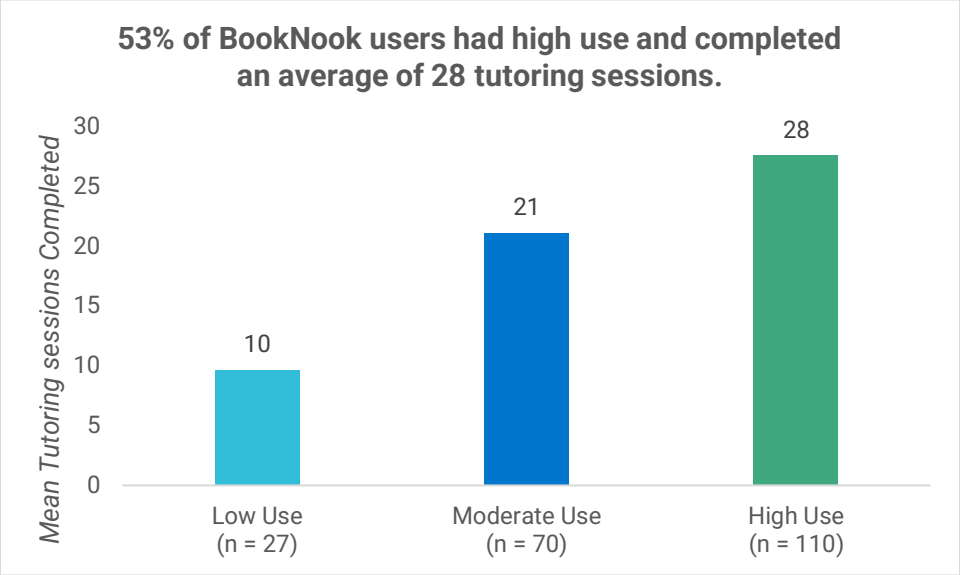
Key Findings

BookNook Implementation

On average, BookNook users completed 23 tutoring sessions across 11 weeks. Most students (65%) used BookNook in an after-hours school-based support program.



Note. Low Use included students who completed 1-15 tutoring sessions, Moderate Use included students who completed 16-24 tutoring sessions, and High Use included students who completed 25-30 tutoring sessions.

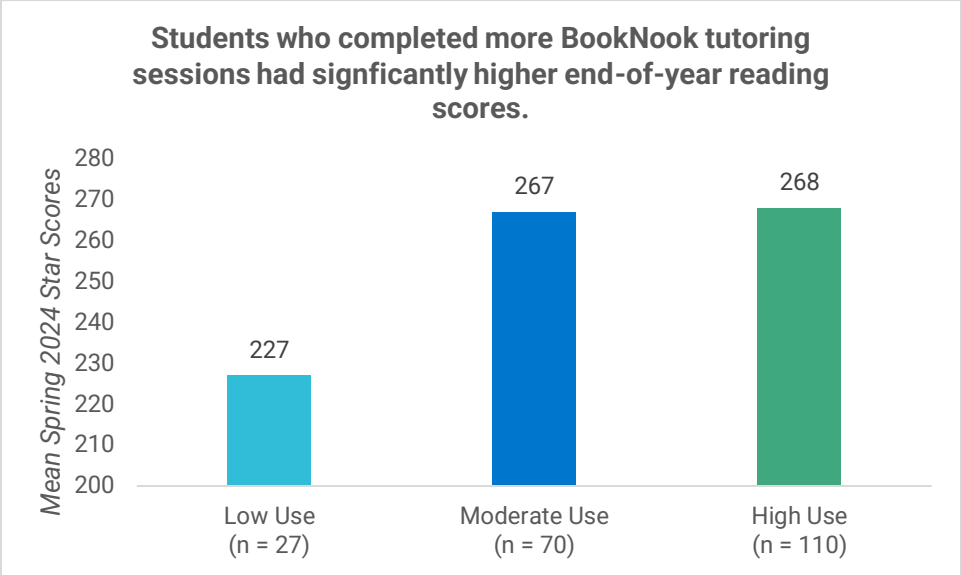
Outcome Findings

On average, students who completed more BookNook tutoring sessions had significantly higher end-of-year reading test scores (p = .017), accounting for fall test scores, special education, and English language learner designations.

> *This means that a student at the 50th percentile who completed 5 additional BookNook tutoring sessions would be expected to move to the 53rd percentile (i.e., 3 percentile point improvement) on their reading test.*

Students in the moderate and high use groups had significantly higher end-of-year reading test scores compared to the low use group (Hedges' g = 0.26 for both comparisons).

Key Findings



There were no statistically significant differences between a matched sample of BookNook users and non-users on end-of-year reading test scores, but the data was trending in a positive direction (Hedges' *g* = 0.05).

Study Overview

BookNook contracted with LearnPlatform by Instructure, a third-party edtech research group, to examine the impact of usage of its online tutoring program on student literacy outcomes. This study was designed to satisfy evidence requirements *(Promising Evidence)* according to the Every Student Succeeds Act (ESSA; see Appendix A). Detailed study results are included in Appendix B.

Overview of Samples, Measures, and Methods

Samples. The study included two samples from a large public school district in California: a sample of BookNook users-only and a matched sample of BookNook users and non-users. The users-only sample included 207 grades 1-5 students from 9 schools, whereas the matched sample included 414 grades 1-5 students from 58 schools. The students in both samples (i.e., users-only/matched) had similar demographics and were racially diverse (i.e., 45/47% Hispanic/Latino, 37/38% Asian, 4/5% Black/African American, 5/4% Multi-racial; 3% Filipino, and 2% White). The samples also included students designated as receiving special education (SpEd; 15/14%) and having English language learner status (ELL; 54/56%).

Measures. To understand how the program was implemented, researchers used a student-level usage metric provided by BookNook (i.e., tutoring sessions completed). The school district shared student achievement and demographic data for the purpose of this study. Researchers used students' Renaissance Star Reading Scaled Scores to measure literacy achievement; Fall 2023 scores were used to control for baseline achievement and Spring 2024 scores were used as the outcome measure. Since Star Reading Scaled Scores are vertically-articulated, the analyses did not use separate models for each grade level.

Methods. Researchers used descriptive statistics and *k*-means cluster analysis to examine BookNook implementation. For the outcomes analysis, researchers used linear regression models to evaluate whether BookNook had a statistically significant association with students' Spring 2024 Star Scaled Scores, controlling for their Fall 2023 Star Scaled Scores, SpEd, and ELL designations. Additionally, researchers used propensity score matching to identify a group of non-users who had similar Fall 2023 Star Scaled Scores (i.e., baseline equivalence). This matched sample was used for another set of regression analyses to examine whether students who used BookNook had statistically significant differences in the Spring 2024 Star Scaled Scores compared to non-users.

Conclusions

Results from this study indicate there is a positive and statistically significant association between completing BookNook tutoring sessions and students' literacy outcomes which satisfies ESSA evidence requirements for Level III (*Promising Evidence*). Specifically, this study meets the following criteria:

- ✓ Correlational study;
- ✓ Proper design and implementation;
- ✓ Statistical controls through covariates; and,
- ✓ At least one statistically significant, positive correlation with statistical controls for selection bias.

Appendix A. ESSA Evidence Guidelines

The Every Student Succeeds Act (ESSA) provides schools and districts with a framework for determining which products are evidence-based and have been shown to improve student or other relevant outcomes. Following guidance from ESSA (statute and non-regulatory guidance), Education Department General Administrative Regulations (EDGAR), Standards for Excellence in Education Research (SEER) and What Works Clearinghouse (WWC), LearnPlatform by Instructure classifies the research of interventions into one of the four ESSA evidence levels. For more information regarding the evidence levels, please visit: https://www.instructure.com/resources/product-overviews/ensure-edtech-efficacy-essa-evidence

Appendix B. Detailed Results

The following Appendix includes additional information about the results from this study.

Table B1. Regression results for BookNook tutoring sessions completed on spring 2024 Star Scaled Scores for grades 1-5 students (*n* = 207)

Predictor	Unstandardized Beta Coefficient	Standard Error	t-statistic	*p*-value	Standardized beta coefficient of XY	Standardized beta coefficient of Y	Improvement Index *(1 session)*
Tutoring sessions completed	2.30	0.96	2.40	.017	0.096	0.015	0.555
Fall 2023 Star Scaled Score	0.96	0.05	17.83	<.001	0.774	0.006	--
SpEd	-45.58	0.05	-2.79	.006	-0.106	-0.297	--
ELL	-26.93	13.54	-1.99	.048	-0.087	-0.176	--

Table B2. Comparative outcome analysis by tutoring sessions completed usage cluster on spring 2024 Star Scaled Scores for grades 1-5 students (*n* = 207)

Predictor		Unstandardized Beta Coefficient	Standard Error	t-statistic	*p*-value	Hedges' g
Tutoring sessions completed	Moderate Users vs. Low Users	39.50	19.25	2.05	.041	0.26
	High Users vs. Low Users	40.61	18.70	2.17	.031	0.26
	Fall 2023 Star Scaled Score	0.97	0.05	18.15	<.001	--
	SpEd	-47.66	16.39	-2.91	.004	--
	ELL	-23.93	13.43	-1.78	.076	--

Table B3. Cross-tabulation of grade level by usage cluster

Usage Cluster	Grade 1	Grade 2	Grade 3	Grade 4	Grade 5
Low Use					
Frequency	4	5	9	7	2
Row percentage	15%	19%	33%	26%	7%
Column percentage	24%	8%	16%	18%	6%
Moderate Use					
Frequency	3	21	21	16	9
Row percentage	4%	30%	30%	23%	13%
Column percentage	18%	33%	37%	41%	29%
High Use					
Frequency	10	37	27	16	20
Row percentage	9%	34%	25%	15%	18%
Column percentage	59%	59%	47%	41%	65%

Note. A chi-square test showed that there were no statistically significant differences in usage cluster assignment by students' grade level ($\chi^2(8) = 9.72$, $p = .285$).

Table B4. Comparative outcome analysis by BookNook usage on spring 2024 Star Scaled Scores for grades 1-5 students (*n* = 414)

Predictor		Unstandardized Beta Coefficient	Standard Error	t-statistic	*p*-value	Hedges' g
BookNook Use	BookNook Users vs. Non-Users	7.20	8.16	0.88	.378	0.05
	Fall 2023 Star Scaled Score	0.91	0.03	26.83	<.001	--
	SpEd	-37.55	11.91	-3.15	.002	--
	ELL	-31.07	9.10	-3.41	.001	--
	Race/Ethnicity	-4.32	2.02	-2.14	.033	--

Note. Baseline equivalence was tested prior to comparative analysis and fell within the What Works Clearinghouse (WWC) guidelines (Hedges' g = -.04, p = .533).