

Read Better Be Better Implementation and Impact Evaluation Final Report

Dennis Ciano, Alicia Okpareke,
Alyssa Blanchard, Lenay Dunn

June 2025

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Suggested citation: Ciano, D., Okpareke, A., Blanchard, A., & Dunn, L. (2025). *Read Better Be Better Implementation and Impact Evaluation Final Report*. WestEd.

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Executive Summary

WestEd conducted an evaluation of Read Better Be Better (RBBB), a supplemental literacy program for kindergarten through third grade “readers” using a peer learning model with 4th-8th grade “leaders.” The evaluation examined both the implementation and impact of the program. To assess the impact, WestEd used a matched-comparison design with more than 1,200 students across two districts that have implemented Read Better Be Better (RBBB) programming for several years. The quasi-experimental study described in this report found that students participating in RBBB showed greater improvement in reading and literacy outcomes compared with nonparticipants. RBBB students demonstrated statistically significant growth in reading fluency for 2nd and 3rd grade students and in foundational reading skills such as phonemic awareness and decoding for kindergarten and 1st grade students. Third grade RBBB students scored statistically significantly higher than comparison students on the state English Language Arts exam. The study demonstrated, at Tier II of the Every Student Succeeds Act evidence level, that students participating in RBBB are improving key reading and literacy skills—more so than if they were not participating in RBBB after-school programs. The key findings from the implementation and experience data highlighted the essential roles of program coaches and club sponsors. Coaches generally felt prepared by their training, but requested more classroom management support, especially for K-1 students. Reader recruitment was largely successful despite transportation and scheduling barriers; while leader recruitment was impacted by competing activities. Reader and leader pairing were established using both random and purposeful methods. The continuity of these pairings throughout the program was affected by attendance challenges, particularly due to low leader attendance arising from schedule conflicts.. Overall, program staff noted positive trends in implementation and staff experiences with opportunities for targeted adjustments to optimize program delivery and effectiveness.

Introduction

Recent national assessments have highlighted a concerning trend in elementary reading proficiency: a substantial proportion of students are not meeting proficiency standards. Students who do not read at grade level by the end of 3rd grade are less likely to graduate from high school. In Arizona, National Assessment of Educational Progress (NAEP) 4th grade reading achievement scores of at or above proficiency have remained around 30 percent since 2013, recently dropping to 26 percent (U.S. Department of Education, 2024).

To address these challenges, state and local education efforts have focused on enhancing foundational reading skills for elementary students. These efforts include the implementation of structured literacy programs that emphasize explicit instruction in areas such as phonological awareness, phonics, vocabulary, reading fluency, and comprehension (National Reading Panel, 2000). To support structured literacy programs offered in the classroom, schools may also offer tutoring or other supplemental programs to improve students' reading skills. According to a systematic review and meta-analysis of 89 randomized controlled trials of tutoring programs, tutoring consistently improved student learning outcomes (Nickow et al., 2023). Peer tutoring—when older students tutor younger ones—offers both academic and social benefits for students, fostering supportive learning environments in which young learners can improve literacy skills through personalized attention and interaction (Rohrbeck et al., 2003; Leung, 2015).

Read Better Be Better (RBBB), an educational nonprofit in Arizona, developed a supplemental literacy program designed to incorporate peer tutoring with structured literacy instruction to improve reading outcomes for students in kindergarten through 3rd grade. “Readers” participating in the program are paired with trained upper elementary and middle school student “leaders” for two sessions per week after school over the course of a semester. The leaders engage with the readers by using a structured read-together program to model and practice basic reading skills and help readers increase their interest and skills in reading. This study evaluates the impact of RBBB on readers' literacy and reading outcomes.

The Impact Study

WestEd, an independent nonprofit educational research agency, conducted a research study of RBBB's "core" (2nd and 3rd grade) and "early grade" (kindergarten and 1st grade) after-school reading programs. The purpose of this study was to answer the question "Do RBBB students show more progress in literacy than students who do not participate in the program?"

Study Questions

There were three specific research questions for this matched-comparison study:

1. What is the impact of participating in RBBB's core program on 3rd grade students' reading comprehension and achievement as measured by the Arizona Academic Standards Assessment (AASA) in 3rd grade English Language Arts (ELA) when compared with the reading comprehension and achievement of similar students who do not participate?
2. What is the impact of RBBB's core program on 2nd and 3rd grade students' foundational reading skills as measured by district benchmark assessments compared with the foundational reading skills of similar students who do not participate?
3. What is the impact of RBBB's early grade program on kindergarten and 1st grade students' foundational reading skills as measured by district benchmark assessments compared with the foundational reading skills of similar students who do not participate?

Study Design

WestEd utilized a quasi-experimental design to examine the effect of RBBB programs on students' literacy and reading achievement. Students who participated in the program were compared with a control group of nonparticipating students matched on key characteristics, using propensity score matching. This statistical technique reduces selection bias by equating groups based on their probability of being assigned to a treatment condition. This study used one-to-one propensity score matching, pairing each RBBB participant with a control group student who did not participate in the RBBB program, calculated through logistic regression. This regression considers various covariates believed to influence treatment probability. Student-level covariates included fall reading benchmark scores, grade level, gender, English Learner status, race/ethnicity, and special education status. Additionally, RBBB participants were matched with peers from the same district and school year.

Propensity Score Matching

Propensity score matching is a statistical technique used to reduce selection bias by equating groups based on the probability of being assigned to a treatment condition. This approach enables researchers to infer the causal effect of a treatment or intervention on an outcome. In one-to-one propensity score matching, each participant in the treatment group is matched with a participant in the control group who has the most similar propensity score. The propensity score is calculated using logistic regression to estimate the probability of treatment assignment, considering various covariates that are thought to influence that probability by matching participants with similar scores and covariates.

The Every Student Succeeds Act (ESSA; 2015) defines four levels of evidence for educational programs, interventions, and strategies. This study meets the standards for ESSA Tier II, “moderate evidence,” because it (a) employs a well-designed and well-implemented quasi-experimental design, (b) includes more than 350 participants from more than one study site, and (c) demonstrates at least one statistically significant positive effect on an outcome that is relevant to the program and no overriding statistically significant and negative effects on relevant outcomes. This study was peer reviewed by an internal WestEd researcher who is a What Works Clearinghouse (WWC)-certified reviewer. The reviewer examined the study against the WWC standards, using version 5.0 of the *What Works Clearinghouse Procedures and Standards Handbook* (WWC, 2022) to affirm that it would meet WWC standards with reservations, the highest rating available for a quasi-experimental study.

ESSA Tier II, Moderate Evidence

This study meets the criteria for ESSA Tier II, moderate evidence, due to the following components:

- well-designed and well-implemented quasi-experimental design
- sample size greater than 350 participants from multiple sites
- includes at least one statistically significant ($p < 0.05$) positive effect on a relevant outcome and no overriding statistically significant and negative effects on relevant outcomes

Method

Setting

RBBB is designed to support students who require additional assistance with reading. The program has established specific eligibility criteria—including students who meet the district’s requirements for demonstrating that they need reading support beyond the core literacy program offered during the school day—to guide teachers in recommending it to parents. This study was conducted with students who attend elementary schools in two school districts in Arizona. The RBBB core and early grade after-school programs were available at select (or “a subset of”) schools in participating districts. Over the course of 10 weeks, students met twice per week after school and moved through the RBBB curriculum, in which student leaders read aloud to readers and led them through a targeted set of questions to reflect on the text. These sessions took place in the school buildings and were supervised by a program coach hired and trained by RBBB and a school employee who served as the “program sponsor,” assisting with recruitment and logistics. RBBB is an auxiliary after-school program, so participation is mainly limited to students who can stay after school, making transportation and availability potential barriers to involvement. Student participation was voluntary.

Sample

This study included an overall sample of 1,282 students in kindergarten through 3rd grade in two Arizona school districts—one large urban district and one large suburban district.

Core Program

The sample included 920 2nd and 3rd grade students, of whom 460 participated in the RBBB core program and 460 were in the comparison group. Approximately 45 percent of the students in the 2nd and 3rd grade sample were male and 55 percent were female. The majority of students, 54 percent, were Hispanic/Latino; approximately 30 percent were White/Caucasian; 11 percent were Black/African American; and the remaining 5 percent comprised small percentages of Native American, Asian, and Native Hawaiian/Pacific Islander students and students who identified as Two or More racial/ethnic groups. Only one district, District B, provided data on students’ economically disadvantaged status. Approximately 62 percent of students in that district who were included in the 2nd and 3rd grade sample were considered economically disadvantaged.

District A had 129 students from seven elementary schools in the RBBB participant group and 129 students in the comparison group. District B had 331 students from seven elementary schools in the RBBB participant group and 331 students in the comparison group. For the

propensity score matching, 90 percent of the comparison students for the 2nd and 3rd grade sample were drawn from schools with RBBB students. Priority was given to students from the same schools, but it was not a strict requirement for matching, particularly if there were better matches on other student characteristics. In District A, comparison students were drawn from 14 elementary schools, including the seven schools participating in RBBB. In District B, comparison students were drawn from the same seven elementary schools that students in the RBBB participant group were drawn from.

Early Grade Program

The sample also included 362 kindergarten and 1st grade students, of whom 181 students participated in the RBBB early grade program and 181 were in the comparison group. Approximately 51 percent of the students in the kindergarten and 1st grade sample were male and 49 percent were female. The majority of students, 60 percent, were Hispanic/Latino; approximately 23 percent were White/Caucasian; 10 percent were Black/African American; and the remaining 7 percent comprised small percentages of Native American, Asian, and Native Hawaiian/Pacific Islander students and students who identified as Two or More racial/ethnic groups. District B was the only district that provided data on students' economically disadvantaged student status, and approximately 65 percent of students in District B who were included in the kindergarten and 1st grade sample were considered economically disadvantaged.

District A had 132 students, from seven elementary schools, in the RBBB participant group, and 132 students in the comparison group. District B had 49 students, from three elementary schools in the RBBB participant group, and 49 students in the comparison group. For the propensity score matching, 61 percent of the comparison students for the kindergarten and 1st grade sample were drawn from schools with RBBB students. In District A, comparison students were drawn from 11 elementary schools, including the seven schools participating in RBBB. In District B, comparison students were drawn from seven elementary schools, including the three schools participating in RBBB.

Data Sources

This report was informed by data across three school years (2021/22, 2022/23, and 2023/24) and two primary data sources: (1) program participation data provided by RBBB and (2) student literacy achievement data, foundational reading skill data, and demographic data provided by participating districts. Program participation data indicated which students participated in RBBB programs. Student literacy achievement data included the state's English Language Arts (ELA) standardized achievement exam data for 3rd grade students. Foundational reading skill data included benchmark assessment data for kindergarten through 3rd grade students. One participating district used the FastBridge benchmark reading assessment, and the other used

the Dynamic Indicators of Basic Early Literacy Skills (DIBELS) benchmark reading assessment. Both of these assessments are described in the Measures section.

The primary outcomes included students' literacy achievement, measured by the ELA portion of AASA, and foundational reading skills, assessed through district-administered benchmark reading assessments. The AASA is administered annually to 3rd grade students in the spring. District benchmark assessments are given to 2nd and 3rd graders three times per year—in the fall, winter, and spring—to measure growth and progress throughout the school year. These assessments are considered established measures, providing a framework for evaluation of student progress and program impact.

Measures

AASA ELA. AASA for ELA measures students' mastery of the Arizona Academic Standards in ELA. All Arizona public school students in 3rd through 8th grade take the grade-level AASA assessments in ELA and mathematics (Arizona Department of Education, 2023). The 3rd grade ELA assessment evaluates skills such as reading comprehension, vocabulary, and the ability to interpret and analyze texts.

FastBridge. District A used the FastBridge benchmark reading assessment (Christ et al., 2018)¹. The FastBridge curriculum-based measure reading (CBM-R) assessment is a measure of oral reading fluency that is used to measure growth in early literacy skills. Students in all grades attempt the CBM-R assessment; however, students who are not yet able to read the text take the early reading assessment. Students taking the FastBridge earlyReading assessment are evaluated on prereading skills, including concepts of print, letter names, letter sounds, nonsense words, onset sounds, sentence reading, sight words, and word segmenting.

DIBELS. District B used the DIBELS benchmark reading assessment (University of Oregon Center on Teaching and Learning, 2020). The DIBELS benchmarks are a set of standardized short-form tests used to assess early literacy skills in students from kindergarten through 6th grade. The DIBELS measures for 2nd and 3rd grades include three passages read aloud (oral reading fluency), a reading comprehension measure (DIBELS Maze), and a composite score. In kindergarten and 1st grade, DIBELS also includes prereading skills in letter names, phonemic awareness, letter sounds, decoding (nonsense words), word reading, oral reading fluency, and Maze fluency.

¹ For more information about the FastBridge assessment, view the [*FastBridge Formative Assessment System for Teachers Technical Manual*](#).

Common metrics among FastBridge and DIBELS scores. Benchmark assessments are typically administered three times per year (beginning, middle, and end of the school year) to monitor progress and identify students who may need additional instructional support. CBM assessments like DIBELS and FastBridge are well-established progress monitoring tools and are considered by researchers to be useful measures for informing reading instruction (Christ et al., 2013). Because both benchmark assessments for 1st through 3rd grades have a common subtest (i.e., oral reading fluency) administered under similar directions, albeit with different forms and passages, WestEd created standardized scores of students' reading fluency rates. To account for students in different districts taking different assessments, we created standardized scores using each assessment's local mean and standard deviation. In addition, DIBELS and FastBridge earlyReading provide a composite score. We created standardized scores for the DIBELS and FastBridge earlyReading composites for students in kindergarten and 1st grade, using the same procedures that were used for oral reading fluency.

Baseline Equivalence

WWC guidance indicates establishing baseline equivalence for quasi-experimental design studies. To assess baseline equivalence, WestEd used a propensity score matching model to create a comparison group from the district pools of non-participating students.

After matching, we compared the standardized fall benchmark oral reading fluency rates between the students in the RBBB core program (RBBB-core) and their matched-comparison group students to test whether the two groups were similar prior to RBBB program delivery. The difference between group means was not statistically significant ($p = 0.674$) and yielded a small standardized effect size for the difference (Hedges' $g = 0.031$). Likewise, we compared the standardized fall composite scores between the students in the RBBB early grade program (RBBB-K1) and the matched-comparison group students. The difference between group means was not statistically significant ($p = 0.987$) and yielded a small standardized effect size (Hedges' $g = 0.002$).²

Per WWC guidelines, baseline differences less than or equal to 0.05 standard deviations automatically satisfy the baseline equivalence standard and do not require statistical adjustment (WWC, 2022). Given the nonsignificant and small observed differences between the samples on academic variables, we concluded that the matched samples were comparable and suitable for impact analysis without additional statistical adjustments. Further, the groups did not differ significantly on key demographic variables. This demonstrates that the RBBB students and comparison students did not meaningfully differ on their academic achievement at the beginning of the year or their demographics and that the study met the standard to establish baseline equivalence.

² To align with WWC standards, Hedges' g was used as the effect size measure to assess baseline equivalence.

Analytic Plan

WestEd followed the WWC reporting guidelines (WWC, 2021) for reporting study results. For the AASA ELA assessment, a general linear model was used to compare the average scale scores of RBBB participants with those of a comparison group, controlling for baseline oral reading fluency.

A mixed-effects model analyzed benchmark assessments, comparing average scores for RBBB students and comparison students across fall, winter, and spring. This model accounted for repeated measures and distinguished between fixed effects (time and group) and random effects (individual variability), allowing for the assessment of main effects and interactions over time.

Key Findings

Core Program

AASA ELA

RBBB 3rd grade students overall had statistically significant positive outcomes on the state ELA exam compared with similar students who did not participate in RBBB. In the analytic sample of 723 3rd grade students, AASA ELA 3rd grade scale scores ranged from 2,405 to 2,584, with an average of 2,486 and a standard deviation of 28 points. WestEd compared the scale scores of students who participated in RBBB against those of the comparison sample students while controlling for their fall benchmark standardized oral reading fluency rates. Third grade students who participated in RBBB scored 3.47 scale score points higher on AASA ELA than the comparison group did after adjusting for baseline covariates. The difference was statistically significant ($p = 0.025$) with a corresponding effect size of $d = 0.12$ and amounts to, on average, RBBB students scoring 4.9 percentile points higher than comparison students did on the AASA ELA. Table 1 provides descriptive and inferential statistics for this comparison. When AASA ELA scores were examined for each district separately, RBBB students' scores were higher than comparison students' scores, but the differences were not statistically significant.

Table 1. RBBB Core Program and Comparison Group Differences in AASA ELA Scale Scores

Measure	Group	N	Mean	Pooled standard deviation	Mean difference	Significance level	Standardized effect size
AASA ELA scale score	RBBB-core	364	2,488.14	28.27	3.47	0.025	0.12
	Comparison	359	2,484.67				

Differential Impact by Demographic Groups

We explored the possibility that different demographic groups of students may have benefited more or less from participating in the RBBB core program by testing for impact-by-group interactions on our primary outcome, the AASA ELA score. Data indicated a significant impact-by-gender interaction. Considering differential impact among genders, male RBBB participants scored +7 points higher ($p < 0.001$) than comparison male students did. However, female RBBB participants scored similarly (nonsignificant) to comparison female students. This suggests the possibility of greater benefit of the program for male students on a general outcome measure like AASA ELA.

Data did not indicate significant differential impact interactions on AASA ELA scores for other demographic groupings of students, such as English Learner students or students grouped by race/ethnicity. However, we noted that although the impact-by-race interaction effect was not statistically significant when considering differences among all ethnic groups, the comparison of Latino/a students who participated in the RBBB core program (+7 points) with Latino/a students in the comparison group was statistically significant ($p < 0.001$).

Benchmark Assessments

Second and 3rd grade students who participated in the RBBB core program showed significantly more growth in reading fluency skills than students in the comparison group did. Oral reading fluency was the common foundational skill assessed across both districts' benchmark assessments. RBBB students and comparison students began the year with similar standardized scores on fall district benchmark assessments for oral reading fluency (0.64 and 0.62), and this difference was not statistically significant ($p = 0.674$). This means that RBBB students and comparison students began the school year at a similar level of oral reading fluency. At the end of the year, the average standardized oral reading fluency score for RBBB students was 0.79, whereas the average score for comparison students was 0.64. The 0.15 standardized score difference was statistically significant ($p = 0.001$) with a corresponding effect size of $d = 0.23$.

and indicates that, on average, RBBB students performed 8.95 percentile points higher than comparison students. Table 2 provides descriptive and inferential statistics for the comparison.

Oral Reading Fluency Scores by District

We also disaggregated the analyses by district. For these analyses, we present scores on their original scale of word count per minute (wcpm) for easier interpretation. The RBBB students in District A averaged 105.66 wcpm on the FastBridge CBM-R at the end of the school year, whereas the comparison students averaged 92.95 wcpm. This difference was statistically significant ($p = 0.017$) with a corresponding effect size of $d = 0.31$ and indicates that, on average, RBBB students performed 12.06 percentile points higher than comparison students did.

The students in District B who participated in RBBB averaged 106.70 wcpm on the DIBELS oral reading fluency (ORF) assessment at the end of the school year, whereas the comparison students averaged 99.31 wcpm. This difference was statistically significant ($p = 0.011$) with a corresponding effect size of $d = 0.21$ and indicates that, on average, RBBB students performed 8.25 percentile points higher than comparison students did.

Composite and Subtest Scores by District

The DIBELS benchmark includes a composite score based on the ORF, nonsense word fluency (decoding skill), and Maze (comprehension skill) subtests. Because District A's benchmark assessment, FastBridge, consisted only of ORF scores, composite and subtest scores can be presented only for District B. We present group differences in District B by the DIBELS composite and for each subtest. In District B, RBBB students' scores at the spring benchmarking period were higher by an average of 4.3 scale score points on the composite, 7.39 wcpm on the ORF subtest, 0.24 points on the nonsense word fluency subtest, and 2.1 points on the Maze subtest. The impacts of RBBB on the DIBELS composite and on all subtests except nonsense word fluency were statistically significant in District B. Table 2 provides the mean difference between groups, statistical significance level, and standardized effect size for each comparison. Statistically significant ($p < .05$) differences between the RBBB group and the comparison group are noted with bold text.

Table 2. RBBB Core Program and Comparison Group Differences on Benchmarks

District	Measure	Group	N	Mean	Pooled standard deviation	Mean difference	Significance level	Standardized effect size
A & B	Fall oral reading fluency z-score	RBBB-core	424	0.64	0.79	0.02	0.674	0.031
		Comparison	413	0.62				
A & B	Spring oral reading fluency z-score	RBBB-core	424	0.79	0.68	0.15	0.001	0.23
		Comparison	413	0.64				
A	Oral reading fluency	RBBB-core	123	105.66	41.25	12.71	0.017	0.31
		Comparison	114	92.95				
B	Oral reading fluency	RBBB-core	299	106.70	35.43	7.39	0.011	0.21
		Comparison	299	99.31				
B	DIBELS composite	RBBB-core	299	439.95	29.47	4.30	0.014	0.15
		Comparison	299	435.65				
B	DIBELS Maze	RBBB-core	299	13.44	7.75	2.11	< 0.001	0.27
		Comparison	299	11.33				
B	DIBELS nonsense word fluency	RBBB-core	299	24.45	15.24	0.24	0.849	0.02
		Comparison	299	24.21				

Early Grade Program

Benchmark Assessments

Kindergarten and 1st grade students who participated in the RBBB early grade program showed more growth in early reading skills on the benchmark assessments overall (composite scores) and in subtest skills such as phonemic awareness and decoding than did similar students who did not participate in RBBB.

Composite Scores

To assess growth, WestEd compared standardized composite scores of students who participated in the RBBB early grade program with those of students who did not over the course of the school year. At the fall benchmark, the two groups had similar standardized composite scores (0.35 and 0.36) and this difference was not statistically significant ($p = 0.987$). This means that RBBB students and comparison students began the school year at a similar level of overall reading skills. At the spring benchmark, RBBB students had an average standardized composite score of 0.52, whereas comparison students had an average score of -0.03 . The 0.55 standard score difference was statistically significant ($p < 0.001$) with a corresponding effect size of $d = 0.60$ and indicates that, on average, RBBB students performed 22.4 percentile points higher than comparison students did on the spring benchmark exam.

Composite Scores by District

We also disaggregated the standardized composite scores by district. District A students who participated in the RBBB early grade program had an average standardized composite score of 0.71, whereas the comparison students had an average score of 0.28. This difference was statistically significant ($p < 0.001$) with a corresponding effect size of $d = 0.57$ and indicates that, on average, RBBB students performed 21.45 percentile points higher than comparison students on the spring benchmark exam.

The RBBB early grade students in District B had an average standardized composite score of 0.32, whereas the comparison students an average score of -0.19 . This difference was statistically significant ($p = 0.002$) with a corresponding effect size of $d = 0.68$ and indicates that, on average, RBBB students performed 24.96 percentile points higher than comparison students did on the spring benchmark exam.

Subtest Scores by District

RBBB students demonstrated more growth in subtest skills such as phonemic awareness and decoding than the comparison group. Both the FastBridge and DIBELS benchmark assessments have multiple subtests for the kindergarten and 1st grade levels. We examined each subtest comparison at the spring benchmark period. In District A, students who participated in RBBB's

early grade program scored significantly higher than their comparison peers did on four of four FastBridge subtests: +9.9 points on letter sounds, +5.6 points on nonsense words, +13.6 points on sight words, and +2.6 points on word segmenting.

In District B at the spring benchmark period, students who participated in the RBBB early grade program scored significantly higher than their comparison peers did on two of three DIBELS subtests: +9.2 points on letter sound fluency and +6.8 points on nonsense word fluency. Although the RBBB students scored +5.2 wcpm on ORF, this difference was not statistically significant.

Group differences for FastBridge and DIBELS composites and subtests are presented in Table 3, which also provides mean differences between groups, statistical significance levels, and standardized effect sizes. Statistically significant ($p < .05$) differences are noted with bold text.

Table 3. Early Grade RBBB and Comparison Group Differences on Benchmarks

District	Measure	Group	N	Mean	Pooled standard deviation	Mean difference	Significance level	Standardized effect size
A & B	Fall benchmark composite z-score	RBBB-K-1	167	0.35	0.82	0.01	0.987	0.00
		Comparison	151	0.36				
A & B	Spring benchmark composite z-score	RBBB-K-1	167	0.52	0.93	0.55	< 0.001	0.60
		Comparison	151	-0.03				
A	Benchmark composite z-score	RBBB-K-1	125	0.71	0.75	0.43	< 0.001	0.57
		Comparison	114	0.28				
B	Benchmark composite z-score	RBBB-K1	42	0.32	0.75	0.51	0.002	0.68
		Comparison	37	-0.19				

District	Measure	Group	N	Mean	Pooled standard deviation	Mean difference	Significance level	Standardized effect size
A	FastBridge letter sounds	RBBB-K1	132	21.90	25.39	9.85	0.001	0.39
		Comparison	132	12.05				
A	FastBridge nonsense words	RBBB-K1	132	21.64	12.46	5.60	< 0.001	0.45
		Comparison	132	16.04				
A	FastBridge sight words	RBBB-K1	132	46.03	31.17	13.56	< 0.001	0.43
		Comparison	132	32.47				
A	FastBridge word segmenting	RBBB-K1	132	30.10	10.04	2.59	0.036	0.26
		Comparison	132	27.51				
B	DIBELS letter sound fluency	RBBB-K1	42	23.13	26.05	9.18	0.006	0.35
		Comparison	37	13.95				
B	DIBELS nonsense word fluency	RBBB-K1	42	24.00	13.88	6.78	0.029	0.49
		Comparison	37	17.22				
B	DIBELS oral reading fluency	RBBB-K1	42	39.88	38.14	5.20	0.548	0.14
		Comparison	37	34.68				

The Implementation Study

To better understand program implementation and staff experiences, WestEd and RBBB codesigned several research questions.

Study Questions

There were three specific research questions for the implementation study:

1. How do contextual factors affect the implementation and success of RBBB?
2. How were key components of the RBBB program implemented?
3. In what ways did implementation vary?

Study Design

The implementation study was structured to gain an understanding of the implementation of core and early grade programs using a descriptive design. To achieve this, surveys and in-depth interviews were conducted with program coaches and school sponsors to capture their perspectives, experiences, and insights into the program's procedures and functioning. In addition, the design utilized programmatic documentation and administrative data to provide further context and depth. WestEd staff also conducted observations of RBBB programming in schools. This approach allowed the study to highlight both areas of success and opportunities for improvement within the programs' implementation.

Method: Implementation

Setting

The implementation study was conducted in the same two districts as the impact study. The RBBB core and early grade after-school programs were available at select schools within the

participating districts. Program staff, coaches, and sponsors supported 10 weeks of programming that occurred twice a week.

Sample

Program Coaches

During the 2023-2024 academic year, 38 RBBB program coaches were invited to participate in the study. Out of those invited, 8 coaches from the 2 participating districts completed the survey. This represented a 21% response rate. Those who completed the survey were offered the opportunity to participate in a follow-up interview and 5 program coaches completed an interview with a WestEd research team member.

Program Sponsors

Across the two participating districts, 34 program sponsors were identified and invited to participate in the study. 15 program sponsors completed the survey. This represented a 44% response rate. Those who completed the survey were offered the opportunity to participate in a follow-up interview and 6 program sponsors completed an interview with a WestEd research team member.

Data Sources

This report is informed by data collected during the 2023-2024 school year. The sources of data include: 1) survey responses from RBBB program coaches and sponsors, 2) interview responses from RBBB program coaches and sponsors, 3) a review of programmatic documentation, 4) RBBB administrative data, and 5) observations of four program sessions. The survey and interview data focused on recruitment, eligibility, and program implementation. The program documentation data incorporated curricular materials, while the administrative data encompassed training records for program coaches and leaders, as well as overall attendance data for readers and leaders. During program observations, WestEd evaluators took informal notes on the activities that readers, leaders, and RBBB staff engaged in and how they interacted with RBBB program materials to provide additional implementation context.

Measures

Program Coach Survey

The program coach survey was a 9-item measure administered via Qualtrics, allowing coaches to complete it using their computers or cell phones. The survey included a mix of free response, ranking, and Likert-scale items. These questions were developed by the research team

following discussions with RBBB leaders and an initial review of RBBB programmatic documents. The survey focused on key topics such as reader and leader pairing, attendance, and the use of curricular components.

Program Sponsor Survey

The program sponsor survey was a 15-item measure developed to gather insights about program implementation. Administered via Qualtrics using a computer or cell phone, it included free response, ranking, and Likert-scale response formats. The items were developed by the research team following discussions with RBBB leaders and an initial review of RBBB programmatic documents. The survey's topics included reader identification and selection, reader and leader participation, and program logistics.

Program Coach and Sponsor Interview Protocol

The interview protocols were designed to provide more in-depth insights into program implementation. Conducted via Zoom by a WestEd research team member, each interview lasted approximately 45 minutes and were comprised of open-ended questions that explored survey topics at a deeper level. Program coach interviews included 18 questions across 9 topics, whereas program sponsor interviews consisted of 12 questions on 7 topics.

Analytic Plan

In our study of implementation and staff experiences, we engaged in the following steps to gain insights from the quantitative and qualitative data. Survey data was descriptively analyzed using Stata to uncover patterns and themes in responses. To explore qualitative insights, interview data was analyzed with NVivo software. The research team began by developing a coding scheme and applied descriptive coding to organize and identify initial topics and themes on a small subset of the interviews. This was followed by a second cycle of thematic coding, allowing for a deeper understanding of the themes and patterns in coach and sponsor responses.

Implementation: Key Findings

Program Coach and Sponsor Roles

RBBB relies on program coaches and sponsors to implement the RBBB program. Program coaches are RBBB employees who are tasked with leading the RBBB curriculum. **In interviews, program coaches described their role as managing classroom logistics, which included setting up the classroom, taking attendance, and implementing the curriculum.** Most program coaches reported making a deliberate effort to assist students who were struggling during RBBB sessions. Additionally, some program coaches mentioned serving as leaders in the case of leader absences.

Program sponsors are school employees who serve as RBBB liaisons at the site. In surveys, 6 of 13 sponsors indicated that they were an administrator in their school building, 5 of 13 indicated they were classroom teachers, and 2 of 13 indicated they were a specialist or interventionist. **Program sponsors mentioned recruitment and coordinating logistics with the school as the most important parts of their roles.** One sponsor remarked, “It was explained to me [that] you just have to do the recruitment part and then [the program] runs itself.” Some sponsors expressed confusion over the requirements of the role, with one sponsor saying “There's never a job description of here's what you need to do.”

Collaboration Between Program Coaches and Sponsors

Program coaches and sponsors who worked together valued the support they could offer each other. Interviewees described two main models of collaboration. Some described a model of present collaboration, in which the sponsor remained in the classroom during RBBB sessions and handled classroom management while the program coach led the RBBB curriculum. Others reported a model of remote coordination, in which the sponsor was not physically in the room where RBBB was taking place but served as a resource for logistical matters when requested by the program coach. One program coach who remotely coordinated with their sponsor explained, “I had [the sponsor's] phone number and everything, so if there was a problem at the school, I could easily text her and she'll come and help.”

Program sponsors and coaches noted that because sponsors worked at the school, they had stronger connections with students that they leveraged to provide insights on student behavior and skills to the program coaches. Program sponsors also sometimes acted as mediators between students' parents and program coaches. Some sponsors who had worked with RBBB over multiple semesters noted that their collaboration with the program coach depended on

the coach's experience and comfort level in the classroom. In semesters where they worked with less experienced program coaches, the sponsors provided additional support, while they often employed a hands-off approach with program coaches who had more classroom confidence.

Training for Program Coaches

Program coaches expressed that the training provided by RBBB helped them feel prepared to administer the RBBB program. Some of the specific aspects of the training that they appreciated were role play and details on what to expect from the students and curriculum.

While they generally indicated that the training was helpful, program coaches offered suggestions on areas where training could be strengthened. **Classroom management was an area that many program coaches found to be challenging, and they recommended additional training in this area to help the program succeed.** Some program coaches indicated that additional training for supporting younger students would be helpful for those administering the early grade program. One program coach recommended specific training on classroom management for K-1 students, as strategies effective with kindergarteners might differ from those for 2nd or 3rd grade students. Another program coach suggested that training include instructional tactics for working with K-1 students who do not yet know how to read.

Student Identification

The RBBB program shares recruiting guidelines with participating schools to ensure that students who are best positioned to benefit from the program are identified to participate as readers. Most program sponsors indicated in the survey that their school had reliable data to assess recruiting criteria such as reading scores, English language proficiency scores, and teacher input. **In interviews, program sponsors demonstrated awareness of RBBB's specific recruiting criteria and said that they adhered to these criteria when identifying readers.** However, one coach mentioned being unable to fully adhere to the recruiting criteria for the early grade program because their school's population had a large number of English Learners, and fully excluding students who could not demonstrate English proficiency would leave them without enough student readers to hold the program.

RBBB primarily relied on classroom teachers to identify student readers. Some program sponsors described parent outreach as a part of the identification process, either from classroom teachers or the sponsor themselves. Two program sponsors explained that they considered availability for the program as a part of their identification process. One coach commented, "I kind of asked the teachers for people for sure who would want to be staying after school. I was kind of clear that I didn't want anybody who was going to blow it off."

In general, program sponsors indicated that their recruitment efforts toward readers were successful. When asked how many students were recruited as readers but chose not to participate, most program sponsors surveyed (seven of thirteen) said that fewer than five students declined to participate as readers. Only two sponsors surveyed indicated that more than ten students who were recruited declined to participate as readers. Program sponsors conveyed that readers were motivated to participate because of encouragement from parents and teachers and because their friends or older siblings had positive experiences with the program. Program sponsors identified time commitment and transportation difficulties as the biggest barriers to recruiting readers.

Program Sponsor on Leader Recruitment

“[In] recruiting the leaders, it was like they were so eager to sign up and do it because they had been a reader.”

The only selection criteria for leaders was that they read above a third grade level. **Program sponsors often selected leaders based on their existing connections to RBBB or to the sponsors themselves.** Students were particularly

motivated to participate in leadership roles if they had been past readers in the program, as one sponsor observed, “recruiting the leaders, it was like they were so eager to sign up and do it because they had been a reader.” To enhance recruitment, some sponsors organized RBBB recruitment rallies with central office support and collaborated with school clubs like student council and honor society, offering service hours as an incentive for students to become leaders. Recruiting leaders was described as challenging in some cases when schools had alternate activities such as clubs or sports for older students to participate in that conflicted with RBBB.

Pairing Readers and Leaders

The pairing of readers and leaders is an essential component of the RBBB model. **In interviews and surveys, program coaches and sponsors described several approaches to pairing readers and leaders.** Regardless of efforts made to pair, attendance played a role in pairs’ consistency in working together.

Some coaches and sponsors indicated that they paired students completely randomly as is recommended by RBBB, using strategies like having readers and leaders “line up” and be paired. Other coaches and sponsors explained that they purposefully paired readers and leaders together based on student characteristics. For example, a reader who was particularly energetic might be paired with a leader who was calm. Program sponsors, who were school employees and had greater knowledge of student behavior and context, often contributed to this purposeful matching strategy.

Some program coaches and sponsors expressed that they employed a dynamic pairing strategy over the course of the program. When partnerships between readers and leaders did not seem to be working, these coaches and sponsors would switch reader-leader pairings in a flexible manner. As one program coach explained, “Several changes [...] were made based on how leaders and readers engaged with one another individually. Some kids just didn’t get along, while others were not able to keep up with each other.” There were also changes in reader and leader pairings due to attendance issues, often temporary, usually in the case of leaders not attending. In these cases, readers were usually paired with another reader-leader pair, or a program coach would act as a leader for the day. During observations, most reader and leader pairs demonstrated strong relationships with each other.

Leader Attendance

In surveys and interviews, low leader attendance was mentioned as a barrier to program success. Interviewees explained that leader attendance was affected by alternate activities that conflicted with RBBB program sessions. Many schools had a “club” structure for older students that could make them unavailable to participate in RBBB and their desired clubs. Afterschool programs, travel sports, and church commitments were all mentioned as alternate activities that negatively impacted leader recruitment and attendance.

Program coaches indicated in surveys that leaders might not attend the RBBB program on a given day because of home responsibilities, alternate activities, tiredness, difficulties with readers, or simply forgetting to attend. One program coach explained that it “could be as simple as ‘I don’t feel like it’ or as complex as ‘I don’t want to deal with this today, I feel I don’t receive enough support and am underprepared to help my reader who is counting on me. It’s too much pressure!’” When leaders were absent the program staff had to rearrange pairs or step in as a leader.

RBBB Session Components

In surveys, most program coaches indicated that the RBBB sessions they administered always included the session components of arrival and snack, attendance, curriculum, round up, and activity time. Of the eight program coaches surveyed, all of them indicated that they always completed arrival and snack and attendance. Seven of eight program coaches said that their sessions always included the curriculum, while the remaining coach said they did so most of the time. Five of eight program coaches said that their RBBB sessions always included round up and activity time, while the remaining coaches said they completed these activities most or some of the time.

In interviews, several program coaches explained that the binder of information they received from the RBBB training contained valuable guidelines, protocols, and resources to help them do

their job and administer the RBBB program components. One coach said, “I depended on my little binder that had all of my info for a bit and it always had all the information I needed. So it was very helpful. I used it quite a lot.”

Coach and Sponsor Insights on Program Successes

Program coaches and sponsors appreciated the opportunity to be a part of reader and leader growth and to build relationships with students. Several program sponsors expressed that they saw readers grow in their reading skills or their love for reading over the course of the program. Program sponsors and coaches also pointed to readers’ growth in confidence as a major success of the RBBB program.

Program Sponsor on Leader Growth

“With our leaders in particular, we see huge reading gains from them, even more so than the readers, even more so than the younger kids that we’re targeting. We really see the gains from the leaders.”

In interviews, program coaches and sponsors also identified growth in student leaders over the course of the RBBB program. Several coaches and sponsors spoke to seeing an increase in patience in their leaders over the program. One coach noticed an increase in leaders’ confidence and problem-solving abilities. Coaches and sponsors also expressed that leaders grew in their reading

skills from program participation. One program sponsor explained, “With our leaders in particular, we see huge reading gains from them, even more so than the readers, even more so than the younger kids that we’re targeting. We really see the gains from the leaders.”

Coach and Sponsor Suggestions for Improvement

Table 4. RBBB Challenges and Suggestions for Improvement

Challenges	Suggestions for Improvement
Classroom management and student behavior issues	Additional training for RBBB program coaches
Sticky notes not used to ask questions or make connections	Additional tools to engage readers
RBBB curriculum difficult for K-1 students to grasp	Curricular opportunities to better engage K-1 students

RBBB program coaches and sponsors offered several recommendations to strengthen the RBBB program. As discussed in the “Training” section, **several program coaches and sponsors suggested that program coach training be expanded to cover classroom management in greater depth, as this was the area that program coaches struggled with the most.** Some staff expressed difficulty in keeping students engaged throughout sessions. During observations, WestEd evaluators observed that most readers and leaders were engaged and interested in the sessions. However, sustained engagement of both readers and leaders varied. In addition to training to better address student engagement and behavior, some program sponsors recommended expanding training for student leaders to develop their skills to support struggling readers. One program sponsor suggested using role play during leader training sessions and holding additional leader practice interspersed throughout the program to ensure that leaders continue to feel prepared and comfortable engaging with the curriculum. Another program sponsor proposed that leaders receive additional leadership development opportunities by speaking with college students and other role models.

Program coaches and sponsors also offered suggestions for the RBBB curriculum. Several interviewees mentioned that students struggled to use the sticky notes as intended. One program coach explained, “They were like, look, I drew this butterfly. And I was like, that’s a beautiful butterfly, but your book was on space. I don’t know if that really connects.” In these cases, sticky notes were not being used to ask questions and make connections to the text. A program sponsor suggested using instead “a worksheet or maybe even on technology or something to where the students can see what the question is and have a space where they can write it out or choose their answer.” WestEd evaluators observed that some pairs did not follow the structure of the curriculum during program sessions.

Program coaches also offered suggestions specific to the early grade program. A few program coaches requested that additional training be provided to help coaches understand how to apply classroom management and curriculum techniques to students at a younger age. One program sponsor who had worked with the core program and the early grade program expressed that the K-1 curriculum included “a lot of sit and get” and recommended further tailoring the early grade curriculum: “I think that [the K-1] curriculum just isn’t quite there yet. It is taking what works really well for the third graders, and I think we just need to find some more ways for the kindergarten and first graders to be active participants in those the first two reads.” During observations of the program, some students, both readers and leaders in the early grade and core program, struggled with the reading level of the chosen books.

Interviewees also recommended increasing the variety of RBBB books. **Several program coaches recommended increasing the variety could enhance students’ motivation and interest in the program.** They indicated that readers and particularly leaders sometimes expressed frustration about rereading the same books again and again. One program coach mentioned that the current slate of RBBB books had similar themes, saying “Sometimes it gets repetitive, even though it’s a different book. It’s like, oh, this kid is having a bad day. And then his friend helped him out and now he’s having a good day [...]. I feel like if they [provide] more

books that shows them different cultures, different ways people live and stuff [...] it just brings out [students'] curiosity." Another program coach suggested adding different kinds of books as options, such as chapter books or nonfiction books.

Based on the feedback from RBBB program coaches and sponsors and program observations, WestEd shared suggestions with RBBB leadership to further enhance the program. These included varying the books offered to students in the core and early grade programs to ensure accessibility and relevance, enhancing the curriculum to strengthen student ownership of their reading skill development, and developing a list of "core components" (e.g., "must haves") and flexible components of the program to support implementation. WestEd and RBBB worked collaboratively to address these suggestions and update the program's ongoing data collection activities.

Conclusion

This study examined RBBB's core and early grade after-school reading programs. The findings suggest that the program had a positive impact on student outcomes, as participants demonstrated statistically significant improvement on multiple measures of literacy achievement and foundational reading skills compared with the comparison group. The study demonstrates, at a Tier II moderate evidence level, that RBBB improves the literacy and reading skills of kindergarten through 3rd grade students, including fluency, phonemic awareness, and decoding.

Implementation and staff experience data provided further insights into the program. These results emphasized the essential roles of program coaches and club sponsors in effectively facilitating several aspects of the RBBB core and early grades programs including reader and leader identification, recruitment, pairing, and attendance. Overall, the study suggested positive patterns with opportunities for targeted adjustments to program delivery.

Quasi-experimental design studies are helpful when randomized controlled trials are not feasible, but they have limitations. Without random assignment, preexisting differences between treatment and control groups may affect outcomes, complicating the attribution of effects to the intervention. Uncontrolled factors, such as classroom instruction, might also influence results, and instrumentation differences in assessments can introduce bias. WestEd's analyses attempted to mitigate these issues by standardizing scores and disaggregating results.

A randomized controlled trial would provide more robust evidence of the potential benefits of implementing RBBB, and further research is recommended to add to the body of evidence for RBBB programming. Future studies should consider understanding implementation differences at each site and examining the program in different contexts, such as rural or small school districts.

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