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Evaluating the Effectiveness of Heggerty Bridge to Reading™: Efficacy Study for Grades K and 1

End-of-Year Gains with NWEA MAP Fluency

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Understanding ESSA Evidence

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Educators search for high-quality research and evidence-based interventions to strengthen grant applications, to support comprehensive and targeted schools, 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 through matching.
- 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 matched, 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

EFFICACY STUDY SUMMARY
MAP FLUENCY, GRADES K&1
2023-2024

PROGRAM DESCRIPTION

Bridge to Reading includes all the components teachers need to provide comprehensive foundational skills instruction in approximately 30 minutes or less. The daily instruction includes 6-8 phonemic awareness skills alongside systematic phonics lessons, with student practice pages, decodable texts, multi-sensory learning aids, and progress-monitoring tools.

STUDY DETAILS

Analysis Sample Sizes

- 3 Heggerty schools, 454 students
- 3 Comparison schools, 493 students

Demographics

47% White | 43% Hispanic | 25% ELL | 6% SPED

Time Frame

August 2023 - May 2024

Implementation Description

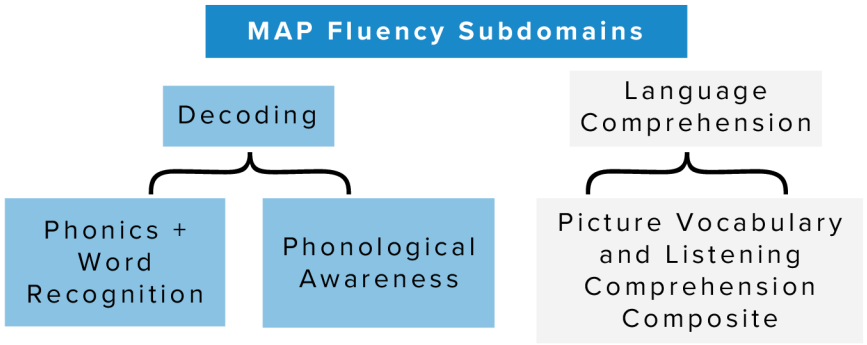
- Teachers used Bridge to Reading every day for their phonics skill instruction during their daily reading block

Methodology

- Using Matching Frontier, students from Heggerty schools were matched with demographically similar students with similar BOY MAP Fluency scores
- EOY MAP Fluency scores were compared between the two groups

STUDY CONTEXT

Heggerty hired LXD Research as a third-party researcher to investigate the impact of the Bridge to Reading core foundatinal skills curriculum on early literacy skills in Georgia. Three schools were selected to use Bridge to Reading and 3 schools served as a comparison. The comparison schools used Fountas and Pinnell Guided Reading and Word Study, and Heggerty Phonemic Awareness and developed their own scope and sequences. LXD Research compared performance on the district's assessment of NWEA MAP Reading Fluency from the Beginning-of-Year (BOY) and End-of-Year (EOY) to understand the impact of Bridge to Reading on student literacy growth.



KEY FINDINGS

Kindergarteners:

1. had significantly higher Fall-to-Spring score gains than comparison students for the Phonics and Word Recognition subdomain, (equivalent to 1.2 additional months of schooling*)
2. by Spring, had a significantly higher proportion of students in top Zone of Proximal Development (ZPD) levels demonstrating more phonological awareness mastery than comparison students

First graders:

1. had significantly higher Spring scores than comparison students and significantly higher Fall-to-Spring gains in both Decoding subdomains (equivalent to 2.6 additional months of schooling in Phonics and Word Recognition and 3.2 extra months in Phonological Awareness)
2. by Spring, had a significantly higher proportion of students in top ZPD levels, demonstrating more phonics and word recognition mastery than comparison students

Kindergarteners and first graders using Bridge to Reading had higher gains in phonics domains of MAP Fluency by Spring than comparison students.

*Months of schooling calculated as Difference in Gains/Comparison Gains *9 months in a school year

SKILL GROWTH

A key aspect of the Bridge to Reading approach is the focus on decoding skills: phonics and word recognition and phonological awareness. This is reflected in significant positive findings for both Kindergarten and First grade on decoding domains of the MAP Fluency assessment relative to the comparison group.

Phonics + Word Recognition

- Kindergarten students had significantly higher gains from Fall to Spring.[1]
- First grade students had significantly higher Fall-to-Spring gains[2] and significantly higher overall Spring scores.[3]

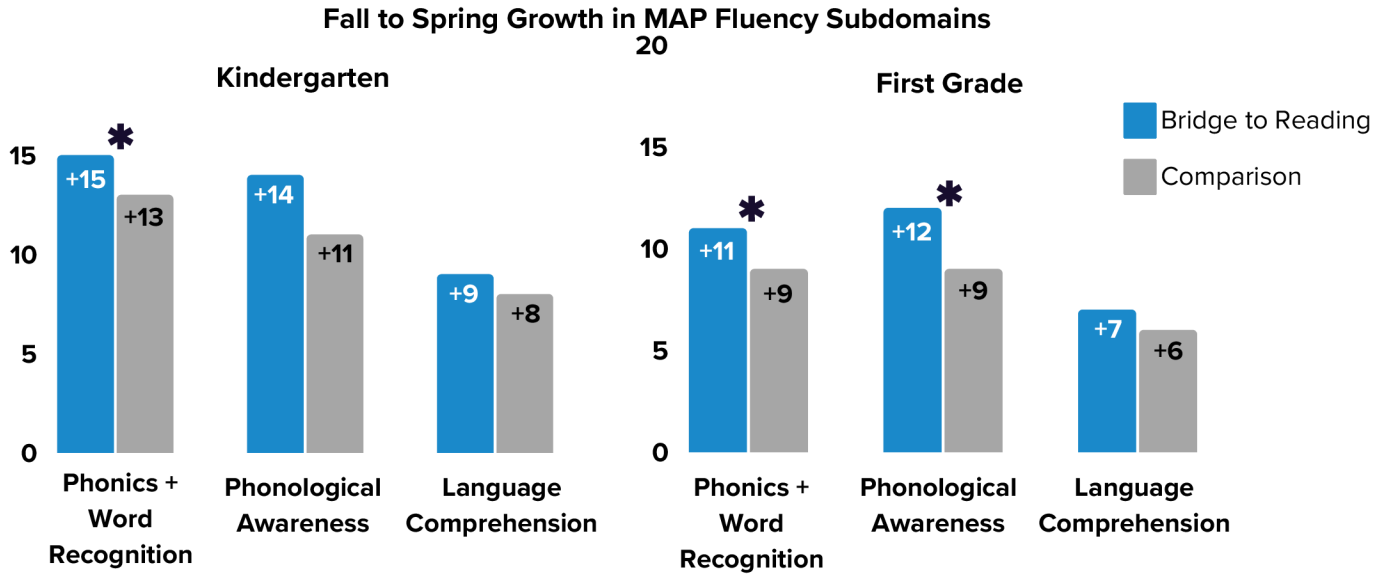
Phonological Awareness

- Kindergarten students had descriptively higher gains from Fall to Spring.
- First grade students had significantly higher Fall-to-Spring gains[4] and significantly higher overall Spring scores.[5]

Language Comprehension

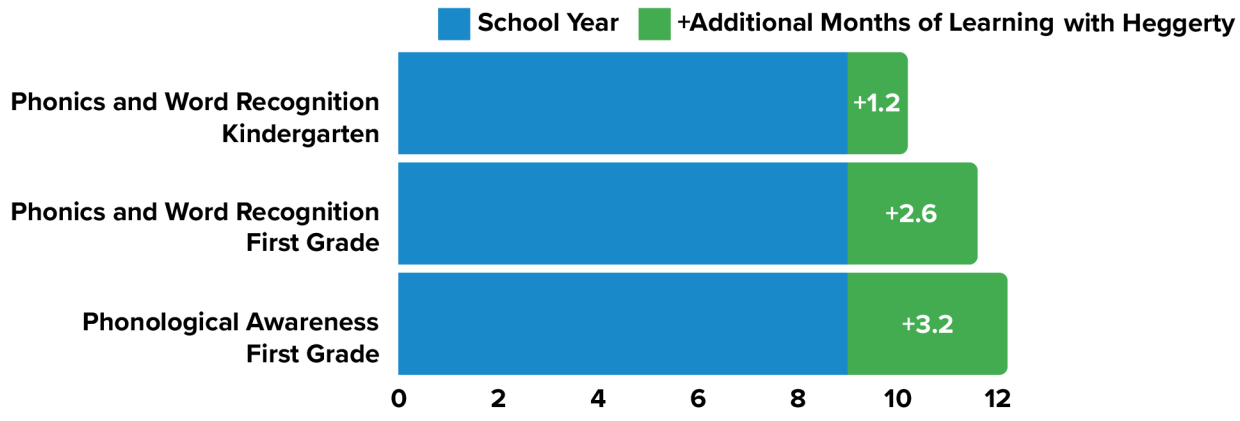
- Both conditions and grade levels made similar gains in Language Comprehension.

1. F(1, 514) = 6.56, p<.05, ηp2 (Effect Size) = .01 **2.** F(1, 413) = 14.01, p<.001, ηp2 = .03 **3.** F(1, 412) = 15.47, p<.001, ηp2 = .04 **4.** F(1, 413)=13.54, p<.001, ηp2 = .03 **5.** F(1, 412) = 14.61, p<.001, ηp2 = .03



*representing significance
note: all values are rounded to nearest whole number

Contextualized Subdomain Growth



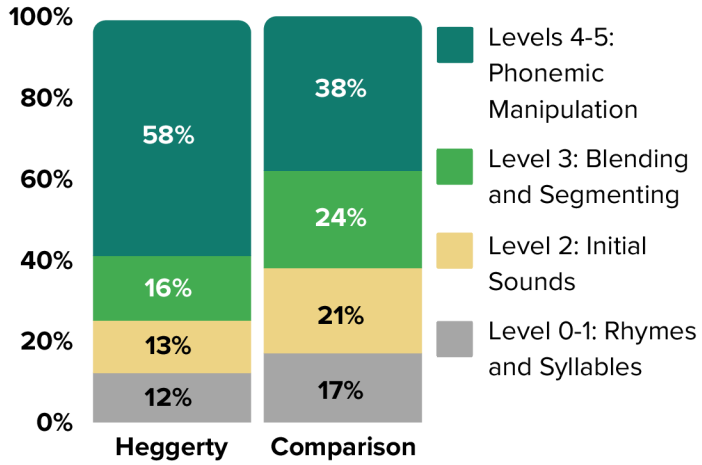
Additional months of schooling calculated as difference in gains/comparison gains *9 months in a school year

SKILL MASTERY WITHIN DECODING DOMAINS

The Zone of Proximal Development (ZPD) refers to the gap between what a student can do on their own and what they can do with help. The ZPD levels correspond to specific skills students are close to mastering. Under the Decoding subdomains of Phonics and Word Recognition and Phonological Awareness, there are 5 skill levels in which students must advance to achieve mastery in those subdomain categories.

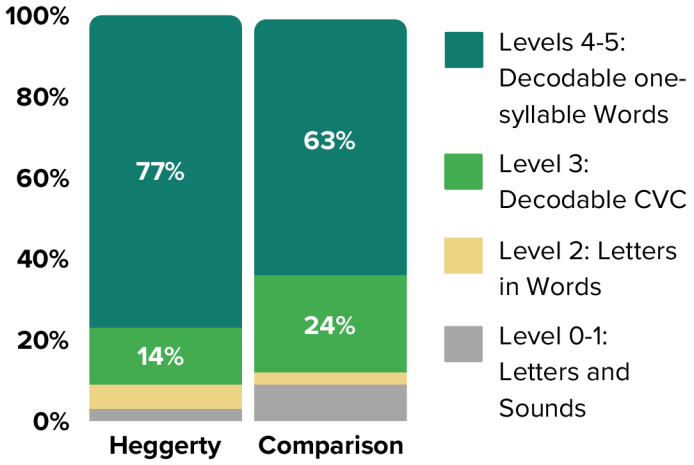
While both Kindergarten Heggerty and comparison groups started with similar proportions of students in each skill level for the Phonological Awareness Subdomain, by the EOY, Bridge to Reading students had a significantly higher proportion (58%) of students in the highest ZPD levels 4-5 (i.e. demonstrating phonemic manipulation abilities) compared to comparison students (38%).[1]

Kindergarten Phonological Awareness by ZPD Skill Level



1. $\chi 2 = 22.35$, $p < .001$, Cramer's V = 0.21 (medium effect)

First Grade Phonics and Word Recognition by ZPD Skill Level



2. $\chi 2 = 14.03$, $p < .01$, Cramer's V = 0.18 (medium effect)

First Grade Heggerty and Comparison groups started with similar proportions of students in each skill level for Phonics and Word Recognition subdomain, but by the EOY, Bridge to Reading students had a significantly higher proportion (77%) of students in highest ZPD levels 4-5 (i.e. decoding one-syllable words) compared to comparison students (63%).[2]

HIGHLIGHTED QUALITATIVE FINDINGS

Based on interviews with instructional coaches and surveys from K and 1st grade teachers:

- Educators consistently noted the high quality of Bridge to Reading's scope and sequence and materials
- Educators saw growth in phonics skills, reading behaviors, and student confidence levels:
  - Decoding words, transferring reading to writing, and using hand motions while reading
- Teachers expressed how the program increased their confidence in their own knowledge of literacy instruction by learning along with their students and colleagues

"We've seen levels improve on the phonics continuum. We've seen progression. I don't have anybody on CVCs and short vowel sounds anymore, and I don't think that's ever happened in my other two years."
- First Grade teacher, Bridge to Reading

Evaluating the Effectiveness of Heggerty Bridge to Reading™: Efficacy Study for Grades K and 1

End-of-Year Gains with NWEA MAP Reading Fluency

Conducted by Rachel L. Schechter, Ph.D., Anna Robinson, M.A., and Isabella Ilievski, Ed.M.
LXD Research at Charles River Media Inc.

Abstract

In a study examining the efficacy of Heggerty's Bridge to Reading program during the 2023-2024 school year, LXD Research measured the program's impact on kindergarten and first-grade students' reading outcomes on the NWEA MAP Reading Fluency assessment. Results indicated that first graders using the program demonstrated significantly greater growth in the Decoding subdomains of Phonics and Word Recognition and Phonological Awareness than their comparison group peers. Kindergarteners in the Heggerty Bridge to Reading program also showed significant growth in Phonics and Word Recognition but nonsignificant gains in Phonological Awareness. Both grade levels showed strong gains in Language Comprehension, but these gains did not differ significantly from the comparison group. End-of-year scores further confirmed higher performance for Heggerty students in Decoding domains, indicating enhanced skill acquisition in foundational literacy. This mixed-method study included teacher surveys and educator interviews which highlighted educators' perceptions that supported the quantitative findings that Bridge to Reading was highly effective. Educators also indicated that, once they were comfortable with the program, Bridge to Reading improved their confidence with Reading education, and expressed appreciation for the structured, systematic nature of Bridge to Reading. Educators indicated that Bridge to Reading was well-aligned with Science of Reading theory, and included supportive professional development.

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Introduction

Learning to read is not an innate skill; it requires systematic and explicit instruction (Honig et al., 2018). Most children begin kindergarten as pre-readers, often lacking crucial early literacy skills such as phonemic awareness (Castiglioni-Spalten & Ehri, 2003). The COVID-19 pandemic further exacerbated these challenges, disrupting reading development for many students in grades K-3 and leaving them without the foundational skills needed for reading success (Kuhfeld et al., 2022). Even children who were not yet in kindergarten at the onset of the pandemic have been affected, with kindergarteners and first graders starting the 2022-2023 school year at lower achievement levels compared to previous years (Barshay, 2023). Despite efforts to mitigate pandemic-related learning loss, phonological awareness scores have continued to decline since 2019, indicating a persistent struggle in early reading skills (Curriculum Associates, 2023).

A growing number of states have enacted legislation mandating that schools adopt curricula consistent with the principles of the science of reading (Schwartz, 2022; Schwartz, 2023a; Schwartz, 2023b). This evidence-based approach prioritizes the explicit and systematic instruction of essential reading skills, including word recognition and language comprehension, with a focus on decoding, phonemic awareness, letter instruction, connected text reading, vocabulary, and grammar (The Reading League, 2022; Petscher et al., 2020). According to the Institute of Education Sciences' What Works Clearinghouse guide (WWC), building reading proficiency begins with teaching students to recognize and manipulate speech sounds and connect them to corresponding letters. Phonemic awareness, which involves identifying and manipulating the smallest sound units (phonemes) in words, is particularly important for decoding regular monosyllabic words, which account for approximately 70% of such words in English. Initiating this instruction early in a child's education is crucial, as it prepares students to sound out and blend letters into simple words—a key step toward achieving reading proficiency (Foorman et al., 2016).

Heggerty's Bridge to Reading™ is a foundational skills curriculum that pairs explicit phonics instruction with phonemic awareness lessons. Bridge to Reading provides all the components teachers need to provide comprehensive instruction in 30 minutes a day within the literacy block.

Heggerty partnered with LXD Research to conduct a third-party evaluation of the Bridge to Reading program as it was implemented for Tier 1 instruction during the 2023-2024 school year in Hall County School District in Georgia. For their Tier 1 curriculum, the comparison elementary schools use Fountas and Pinnell Word Study, or teachers create their own curriculum with various resources from personal experience and research. This study has a quasi-experimental design; Students in multiple schools who used Bridge to Reading were matched and compared to students who did not use the program.

Bridge to Reading combines Heggerty phonemic awareness lessons with explicit daily phonics instruction. The Teacher's Editions focus on building teacher knowledge with a comprehensive scope and sequence, explicit language, and guidance for Tier 1 instruction. Daily phonemic awareness lessons include up to eight phonemic awareness skills: Rhyme, Phoneme Isolation, Blending, Segmenting, and Manipulation, and provide phoneme-grapheme connection activities, ample support with explicit teacher language, hand motion guidance, and QR codes for additional digital resources via myHeggerty to help build teacher knowledge and confidence with delivering the curriculum. Each phonics lesson outlines daily preparation details and materials, target skills, unit concepts, and has supplemental, dynamic strategies such as "Jump In and Jump Out" for assessment and review, and, "Boost and Expand" to differentiate instruction. On day 4 of each week, a Multilingual Learner Connection activity is provided for additional English Language Learner (ELL) support.

Evaluation Questions

The evaluation aims to answer the following questions:

1. How does Bridge to Reading impact student achievement on NWEA MAP Fluency in schools that implement the program compared to schools that do not implement the program?
2. What is the nature and extent of the Bridge to Reading implementation?
3. What is the nature and extent of literacy program implementation in comparison schools?
4. What are teacher and instructional coaches' perceptions about the quality and impact of Bridge to Reading?
    a. What are teachers' and instructional coaches' initial reactions to Bridge to Reading, and associated materials, content, pacing, and professional development?
    b. What suggestions do they have for improvement?

Methods

Design

This study used a mixed-methods approach, including a matched quasi-experimental design complemented by teacher surveys and literacy coach/educator interviews. This combination of methods allows researchers to understand how the materials are being used in the classroom, gather teacher feedback, and discern the perceived impact of the program while also quantifying academic achievement.

Bridge to Reading is being implemented in Hall County, Georgia; a rural school district with a total of 37 schools, 20 of which are elementary schools (National Center of Education Statistics, 2023). According to hallcounty.org (2023), the district serves approximately 26,000 students. The demographic makeup of the students includes 47% Hispanic/Latino, 44% White, 5% Black or

African American, 3% of students are two or more races, and 1% Asian or Asian/Pacific Islander (U.S. News, 2023). Academically, 32% of elementary students in Hall County Public Schools tested at or above the proficient level for reading (U.S. News, 2023).

The district assembled a team of principals and instructional coaches from across the district to create the pilot program that became the focus of this study. Three schools received a new curriculum (Bridge to Reading) during the 2023-2024 school year. The comparison schools were selected from the remaining schools in the district that were using the "business as usual" reading curriculum. Students were pre-tested within the first four weeks of school using *MAP Fluency* formative assessments, tested again in Winter 2023/2024, and were tested again in Spring 2024. In exchange for participation, district leaders received a personalized version of the study results to inform district decision-making and free professional development from Heggerty for the Bridge to Reading schools.

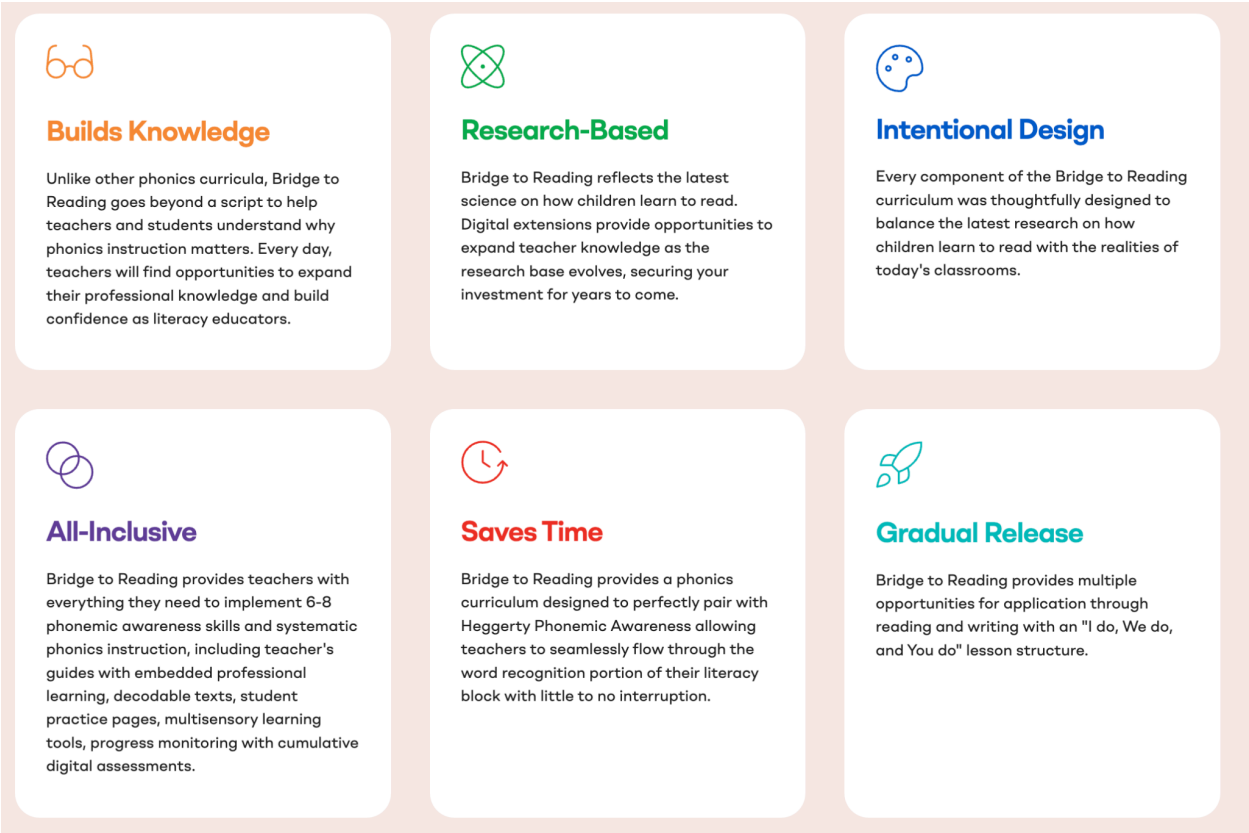
Treatment Group: Program Key Features

The Heggerty Bridge to Reading curriculum combines Heggerty Phonemic Awareness lessons with daily explicit phonics instruction. The program features:

- 170 lessons (34 weeks) of logically sequenced, step-by-step lessons that follows the Gradual Release of Responsibility Approach (I Do, We Do, You Do) to introduce new phonics concepts, helps students build confidence through Tier 1 whole group instruction, and promotes independent reading through frequent individual practice opportunities. This approach has been linked to higher literacy and reading skills (Fisher & Frey, 2021).
- The curriculum is designed to meet the needs of a diverse range of learners by providing daily differentiated instruction activities, targeted assistance, and resources to maximize every learner's potential.
- Instruction incorporates meaningful decodable passages and an aligned library of decodable books. These resources engage students while reinforcing their learning at regular intervals.
- Bridge to Reading offers a short, whole class, or small group assessment to measure the encoding skills of all learners three times during the school year. The results of this assessment can be combined with data gathered from universal screening assessment tools and internal assessments around early literacy skills. The results can be used to inform instruction for reteaching, small groups, and/or intervention.
- The Weekly Word Check is designed to be a quick and efficient way to monitor children's ability to apply phonemic awareness and phonics knowledge to spelling words using the sound-spelling relationship and Red Words taught that week.
- Student READ (Ready, Engaged, Active Decoders) workbooks provide opportunities for independent practice, applying sound-spelling relationships, developing decoding skills, improving fluency, practicing encoding, and mastering high-frequency Red Words.

- The Bridge to Reading curriculum offers grade-level specific visual aids and resources to strengthen alphabet knowledge, illustrating the multiple sounds letters stand for, and promoting articulation awareness to recognize mouth placement and help guide children in producing and differentiating letter sounds.
- The myHeggerty digital component of the program provides teachers with flexible access to instructional resources, including: on-demand professional development, a digital edition of the curriculum, manipulatives and interactives to support instruction, and a variety of additional support and training materials for teachers.

Figure 1. Main Features of Bridge to Reading



Comparison Group: Core Reading Program

Fountas and Pinnell Guided Reading and Word Study

The comparison group was selected from schools that were implementing the district's "business-as-usual" reading curriculum - The Fountas & Pinnell Classroom™ (FPC) Guided Reading Collection. This FPC program provides small-group instruction through a collection of leveled texts (Fountas & Pinnell, 2022) for grades K-6. The collection offers original A-Z level texts. Each title has an accompanying lesson folder to support small-group instruction. By grouping students

at similar reading levels and selecting a text at their instructional level, teachers can scaffold students' growth by challenging them at the edge of their ability to process text incrementally (Fountas & Pinnell, 2022). The FPC Guided Reading Collection facilitates differentiated, small-group reading instruction to meet students where they are, and help them progress as readers.

The Fountas & Pinnell Phonics, Spelling, and Word Study System (PWS) provides lessons to expand children's reading and writing skills (Fountas & Pinnell, 2022). The lessons focus on phonics, spelling patterns, high-frequency words, word meaning/vocabulary, word structure, and word-solving actions in whole-group and individual/small-group contexts. The program takes an inquiry approach and encourages students to construct their understanding of letters, sounds, and words. Connections are provided to mentor texts and examples for applying principles. Guidance is given for assessing student learning within lessons and in the online Assessment Guide. Additional digital classroom materials in Online Resources support instruction (Fountas & Pinnell, 2022).

Assessment Description

NWEA MAP Reading Fluency

The primary outcome of this study is literacy scores derived from the MAP Reading Fluency Assessment. NWEA's MAP Reading Fluency is an adaptive assessment tool introduced in 2018 to support both universal screening and progress monitoring in early reading. Within a 20-minute session, it assesses students' oral reading fluency, literary comprehension, and foundational reading skills, making it useful for evaluating performance throughout the school year, and detecting potential reading challenges such as dyslexia.

The MAP Fluency tool includes benchmark tests conducted three times a year, which assess various aspects of reading fluency, comprehension, and foundational skills. The Foundational Skills Benchmark test focuses on two main domains: Decoding and Language Comprehension. Decoding is divided into Phonological Awareness and Phonics and Word Recognition, while Language Comprehension includes Vocabulary and Listening Comprehension.

Students receive scaled scores in the decoding subdomains and a composite score for language comprehension, along with performance levels across all four subdomains. The MAP Fluency assessment does not provide an overall scale score. Researchers analyzed these subdomain scores to assess student outcomes in these key reading areas.

Educator Feedback Methods

Teacher Survey: The goal of teacher surveys was to solicit feedback from educators in both conditions on their phonics and literacy instruction experiences at the end of the school year

during which the Bridge to Reading intervention took place. Surveys were created by the research team and shared with the principals of schools in the study, who distributed the surveys to their teachers. A total of 34 K-1 teachers (21 treatment and 13 comparison) completed an online survey.

Educator Interviews: Six semi-structured interviews were completed via Zoom with literacy coaches and other educators from both the treatment and comparison schools. These interviews were conducted with the goal of learning about program implementation, and perceptions of Bridge to Reading program efficacy.

Sample Description

Student Characteristics by Group

Three schools were randomly selected from the schools in the district that were using the business-as-usual reading curriculum. These schools had similar-sized student populations in each grade level.

The first grade comparison group experienced significant attrition from Fall to Spring (22%), with the majority of the attrition occurring in a single school (for full details, see Table A1 in the Appendix). Due to the high attrition rate, a post-hoc retrospective analysis was conducted focusing only on students who had data available at both the beginning (BOY) and end of the year (EOY). The analysis primarily focuses on students who were not already meeting or exceeding expectations in foundational skills, as these students are likely the ones who would benefit most from continued intervention and monitoring.

Table 1a. Demographic Data for Students in Analytic Sample by Grade and Group

	Race/Ethnicity			Gender		
		Heggerty	Comparison		Heggerty	Comparison
Kindergarten	Hispanic White Multiple Other	33% 59% 4% 4%	47% 39% 3% 11%	Female	48%	49%
1st Grade	Hispanic White Multiple Other	34% 60% 3% 3%	60% 29% 3% 8%	Female	46%	48%

Table 1b. Percent of Students with Limited English Proficiency, Special Ed., and Section 504 Status by Grade and Condition

Grade	Condition	Number of Students	English Language Learners	Special Education	Section 504
Kindergarten	Heggerty	231	18%	5%	1%
	Comparison	289	23%	4%	0%
1st Grade	Heggerty	223	23%	7%	0%
	Comparison	204	38%	9%	0%

Differences in Demographics and Baseline Scores

Students in both grades who used Heggerty Bridge to Reading (N = K: 232, 1st: 223) were not statistically different from comparison students (N = K: 289, 1st: 204) regarding gender, Special Education status or 504 status (for full details, see Tables 1a and 1b, above). However, there were statistical differences regarding minority ethnicity status for both grade levels (Grade K: $\chi 2 = 20.28$, $p < .001$, Grade 1: $\chi 2 = 40.44$, $p < .001$) and English Language Learners (ELL) status for first graders ($\chi 2 = 11.93$, $p < .001$). Comparison schools had a higher proportion of minority students and a higher proportion of first grade ELL students. Therefore, these demographics were controlled for in the analysis to determine the effects of the Bridge to Reading program. Refer to Table 1-1a for more specific demographic percentages.

Kindergarten baseline scores were equivalent per Evidence for ESSA standards (standardized mean differences < .25 SD). However, What Works Clearinghouse (WWC, 2022) allows baseline differences with effect sizes between 0.05 and 0.25 with statistical adjustment (i.e., included in statistical models; WWC, 2022). Therefore, baseline scores for Phonological Awareness and Language Comprehension were included in the final models. More details on the baseline equivalence scores can be found in the Appendix.

First grade baseline scores, specifically in Language Comprehension, did not meet equivalence standards. Therefore a matching procedure known as the 'balance-sample size frontier' was used to build a well-matched comparison group from the existing sample. This method is outlined by King, Lucas, and Nielsen (2017) and implemented via the R package MatchingFrontier, developed by Dr. Noah Greifer.

The Matching Procedure & Groups

The matching procedure is designed to ensure comparability between treatment and comparison groups, with a specific focus on achieving balance across various sample sizes while minimizing participant exclusion. The procedure was applied to first grade only, as a result of significant demographic differences, particularly in minority status, were significant. The model incorporated

baseline subdomain scores and demographic variables, including gender, minority status, ELL status, SPED status, and 504 status.

Demographic differences, particularly in minority status, were substantial, making it challenging to achieve equivalence between groups without eliminating a substantial portion of the comparison group. Therefore, priority was given to matching baseline scores in order to bring the groups within the threshold for ESSA equivalence and WWC statistical adjustment. As a result of the matching procedure, the research team excluded 10 comparison students due to poor fit, resulting in a final 1st-grade sample of 223 Heggerty students and 194 comparison students. The two conditions were still significantly different regarding ELL and Minority status. As such, these covariates were included in tests of main effects of the Heggerty program, along with baseline subdomain scores. More information about the baseline equivalence can be found in the Appendix.

Results

Student Outcomes

Researchers used ANCOVAs to examine whether there was a significant effect of Heggerty's Bridge to Reading program on end-of-year student reading outcomes in NWEA MAP Reading Fluency. The analyses controlled for students' Fall 2023 Foundational Domain Scores (i.e., baseline scores), ethnic minority status, and ELL status (first grade only). Comparing the two subdomains of Decoding (Phonological Awareness, Phonics, and Word Recognition) necessitated correction for multiple testing. Therefore only p-values less than 0.025 were accepted as a significant finding for Decoding outcome. Effect sizes for ANCOVAs are reported as partial eta squared (η_p^2), a measure of the proportion of variance that is uniquely attributable to the specific independent variable and accounts for the effects of the other variables. All analyses were conducted using the statistical software packages R 4.1.2 and JASP 0.18.3.

A key aspect of the Bridge to Reading approach is the focus on decoding skills: phonics and word recognition and phonological awareness. This is reflected in significant positive findings for both grades on decoding subdomains of the MAP Fluency assessment relative to the comparison group.

Spring Foundational Skills Domain BOY-EOY Growth and Spring Overall Scores

Kindergarten

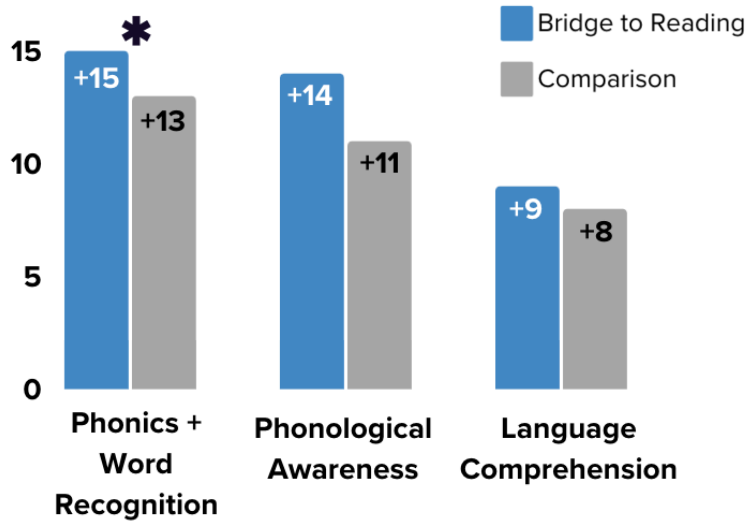
Kindergarten students who used Heggerty Bridge to Reading had significantly higher Fall-to-Spring growth than students in the comparison group for MAP Fluency Phonics and Word Recognition - a subdomain of Decoding: $F(1, 514) = 6.56$, $p < .05$, η_p^2 Effect Size = .01, after controlling for the effect of minority status. Heggerty kindergarten students also had higher gains

in Phonological Awareness than the comparison group, but the difference was not statistically significant. Kindergarten students in the Heggerty group made slightly greater gains in Language Comprehension, but these differences were also not statistically significant. For full details, see Table 2 and Figure 2 below.

Table 2. Fall-to-Spring Growth in MAP Fluency Subdomains: Kindergarten

Domain	Subdomain	Heggerty			Comparison		
		n	mean	sd	*n*	mean	sd
Decoding	Phonics and Word Recognition	228	**15.22**	7.45	289	**13.41**	6.74
	Phonological Awareness	228	**13.53**	9.31	289	**11.32**	9.03
Language Comprehension	n/a	231	**8.61**	8.01	289	**7.58**	7.58

Figure 2. Fall-to-Spring Growth in MAP Fluency Subdomains: Kindergarten



Note. All numbers are rounded to the nearest whole number.

*represents significance

Heggerty kindergarteners' growth in Phonics and Word Recognition can be contextualized as 1.2 additional months of schooling when comparing their growth rate to that of the comparison group. This is calculated as Difference in Gains / Comparison Growth * 9 months in a typical school year. Kindergarten students who used Heggerty Bridge to Reading also had higher scores by the end of the year than comparison students, but these differences were not significant (see Table 3, below).

Table 3. Spring Foundational Skills Scores: Kindergarten

Domain	Subdomain	Heggerty			Comparison		
		n	mean	sd	*n*	mean	sd
Decoding	Phonics and Word Recognition	231	**498.34**	8.72	289	**496.64**	8.27
	Phonological Awareness	228	**499.98**	9.60	289	**497.23**	10.02
Language Comprehension	n/a	231	**496.88**	9.65	289	**494.56**	8.76

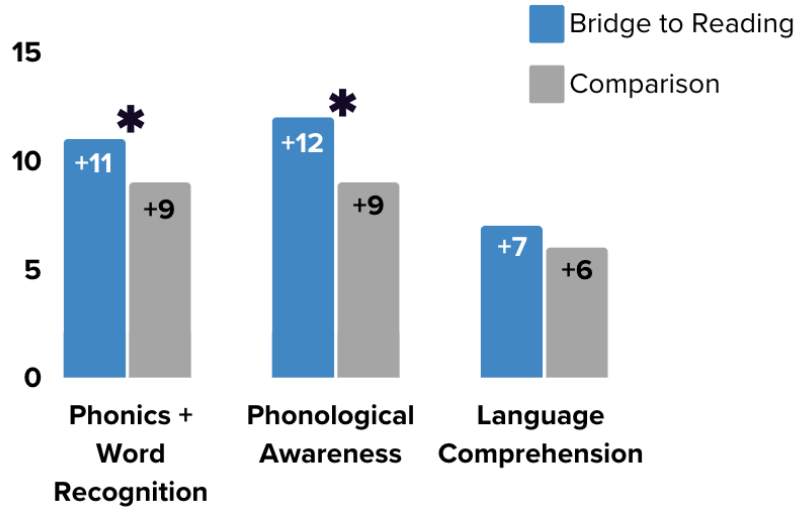
First Grade

In an ANCOVA analysis of Fall to Spring growth, first grade students who used Heggerty Bridge to Reading had significantly higher overall reading score growth than students in the comparison group for both Decoding subdomains of Phonics and Word Recognition ($F(1, 413) = 14.0$, $p < .001$, η_p^2 Effect Size = .03) and Phonological Awareness ($F(1, 413)=13.5$, $p < .001$, η_p^2 Effect Size = .03), after controlling for the effect of minority status and ELL status. Grade 1 Students across conditions made similar gains in Language Comprehension. For full details, see Table 4 and Figure 3 below.

Table 4. Fall-to-Spring Foundational Skills Growth: 1st Grade

Domain	Subdomain	Heggerty			Comparison		
		n	mean	sd	*n*	mean	sd
Decoding	Phonics and Word Recognition	223	**11.11**	6.69	194	**8.61**	6.02
	Phonological Awareness	223	**12.41**	8.98	194	**9.13**	7.59
Language Comprehension	n/a	223	**7.47**	8.28	194	**6.17**	8.50

Figure 3. Fall-to-Spring Growth in MAP Fluency Subdomains: First Grade



Note. All numbers are rounded to the nearest whole number.
*represents significance

Heggerty first grade growth can be contextualized as 2.6 additional months of schooling in Phonics and Word Recognition and 3.2 additional months of schooling in Phonological Awareness when comparing their growth rate to that of the comparison group.

Overall results demonstrated that, by the end of the year, first grade Heggerty students had significantly higher scores than comparison students after controlling for the effects of covariates in both subdomains of Decoding: Phonics and Word Recognition, $F(1, 412) = 15.47$, $p < .001$, η_p^2 Effect Size = .04, and Phonological Awareness, $F(1, 412) = 14.61$, $p < .001$, η_p^2 Effect Size = .03. For full details, see Table 5, below.

Table 5. Spring Foundational Skills Scores: 1st Grade

Domain	Subdomain	Heggerty			Comparison		
		n	mean	sd	*n*	mean	sd
Decoding	Phonics and Word Recognition	223	**506.49**	8.90	194	**502.74**	8.75
	Phonological Awareness	223	**507.66**	10.08	194	**503.19**	8.93
Language Comprehension	n/a	223	**502.88**	9.35	194	**499.62**	9.40

Performance Levels within Language Comprehension Domain

Performance levels for Listening Comprehension and Picture Vocabulary, the two subdomains of Language Comprehension, are based on raw scores and do not change from Fall to Spring.

Listening Comprehension

At both grade levels K and 1, there were no significant differences between groups regarding the proportion of students in each listening comprehension performance level (e.g. below, approaching, meets expectations) at the beginning of the year or at the end of the year. Both groups saw a reduction in the percentage of students below expectations and, subsequently, an increase in the percentage of students meeting or exceeding expectations. For full details, see Figures 4 and 5, below.

Figure 4. Listening Comprehension by Performance Expectation: Kindergarten

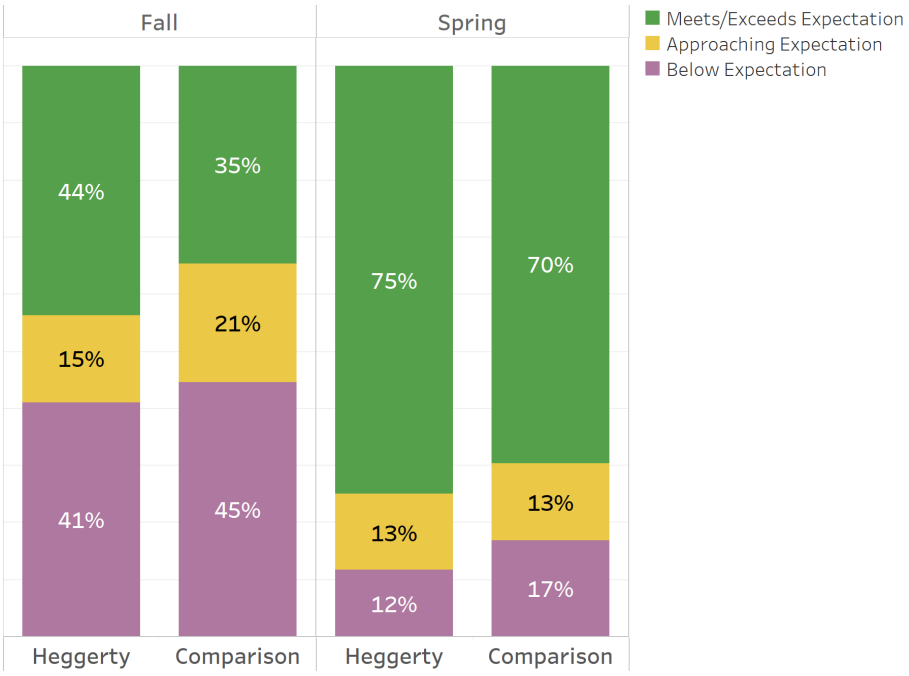
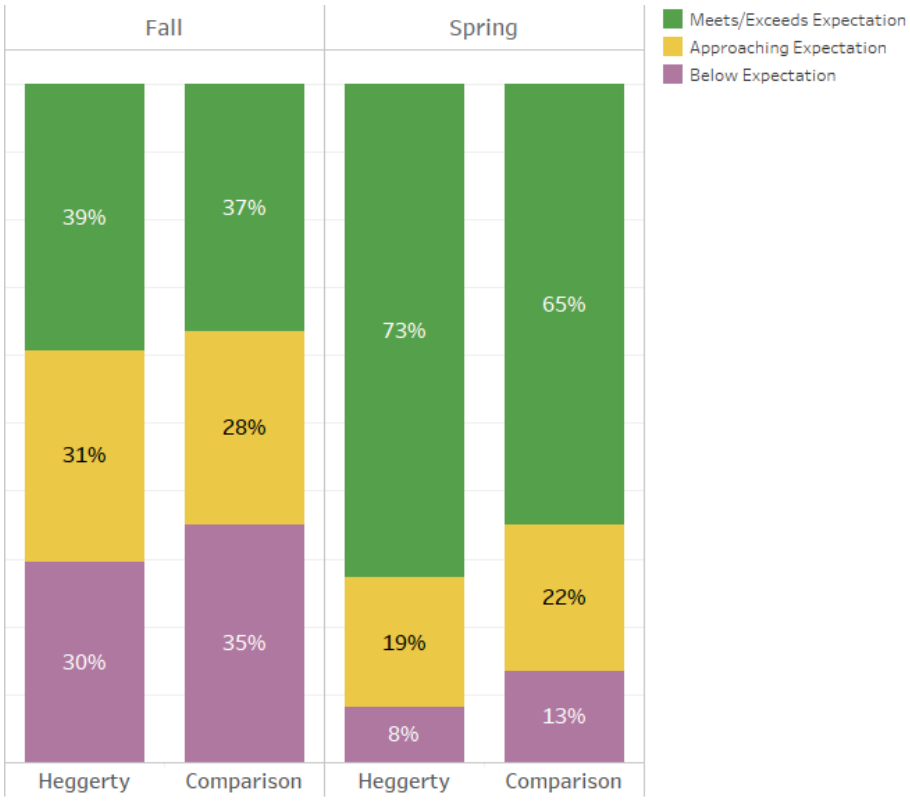


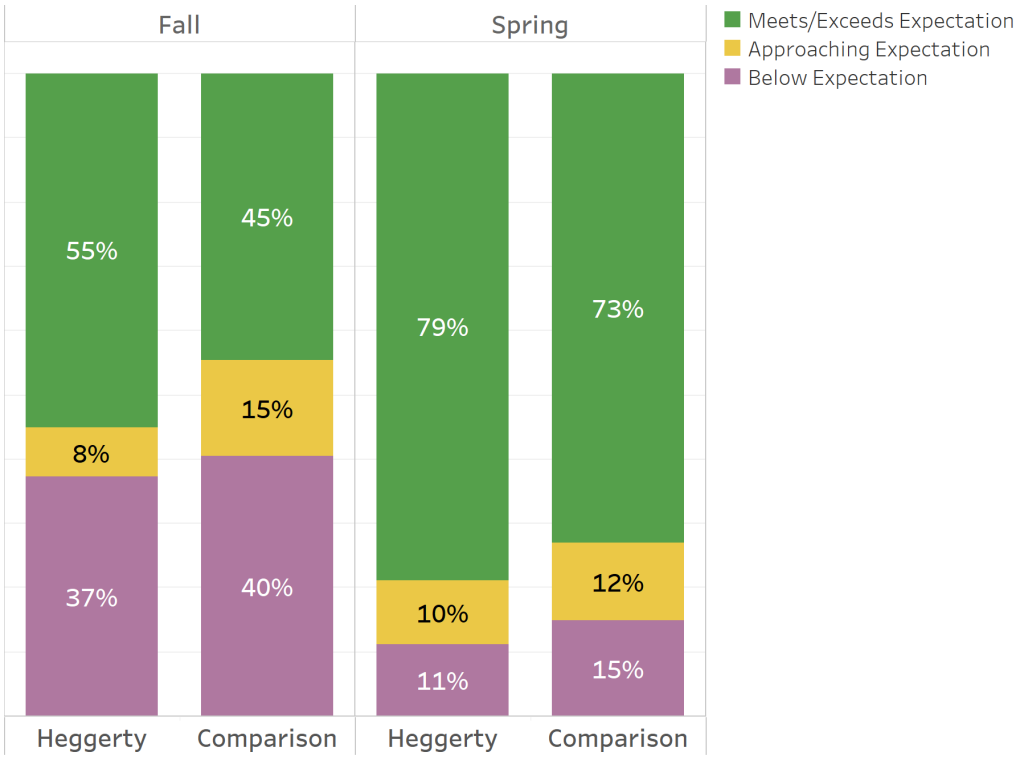
Figure 5. Listening Comprehension by Performance Expectation: Grade 1



Picture Vocabulary

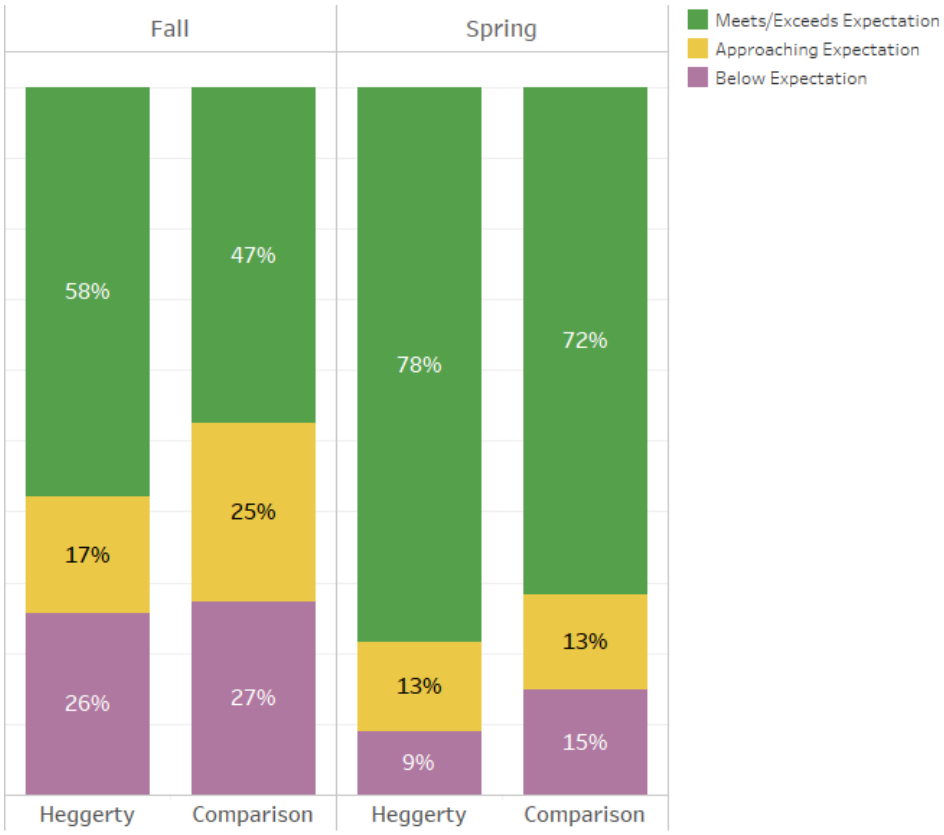
For kindergarten Picture Vocabulary scores at the beginning of the year, there was a significant difference between groups regarding the proportion of students approaching and meeting expectations in picture vocabulary, $\chi 2 = 8.63$, $p < .05$. However, by the end of the year, the Heggerty and comparison groups did not significantly differ in scores. Both groups saw large increases in students meeting or exceeding expectations. For full details, see Figure 6, below.

Figure 6. Picture Vocabulary by Performance Expectation: Kindergarten



For First grade Picture Vocabulary scores, there were no significant differences between groups in fall or spring. Both groups saw a reduction of students below expectations, and a large increase in the percentage of students meeting or exceeding expectations. For full details, see Figure 7, below.

Figure 7. Picture Vocabulary by Performance Expectation: Grade 1



Skill Mastery within Decoding Domain

Unlike the Language Comprehension domain, the definition of on-grade-level shifts throughout the year in Decoding, which makes it difficult to track relative student progress over the course of the school year using benchmarks. Therefore, we instead focused on relative growth in Decoding mastery via the zone of proximal development scores.

The Zone of Proximal Development (ZPD[1]) refers to the gap between what a student can do independently and what they can achieve with assistance. The ZPD levels for Decoding skills correspond to specific skills students are close to mastering. Under the Decoding subdomains of Phonics and Word Recognition and Phonological Awareness, there are 5 distinct skill levels through which students must advance to achieve mastery in both subdomain categories.

[1]Grade-level expectations are aligned with the aforementioned ZPD levels. In the Fall, first-grade students are expected to reach level 3, with anything above that considered 'exceeding expectations.' However, by Winter, meeting expectations requires reaching levels 4 or 5 - the highest possible levels for these skills. By Spring, students are expected to move on to Oral Reading assessments, but if they had not yet mastered Foundational Skills by Winter testing, they were assessed again. Levels 4 or 5 were then only considered 'Approaching Expectations.' This shifting threshold can make it seem as though students are not progressing when, in fact, they are mastering new skills. By grouping students according to their Fall expectations and maintaining this grouping through Spring, the research team could better observe their actual skill development, independent of changing expectations. This approach ensured that the meaning of each skill level remains consistent across time.

Phonics and Word Recognition

At the beginning of the academic year, both Heggerty and comparison schools had similar proportions of kindergarten students in each skill level within Phonics and Word Recognition. By the end of the year, there were more kindergarten Heggerty students reaching levels 3-5 than comparison kindergarten students, but this difference was not statistically significant.

First grade started the year with a similar distribution of students across skill levels in both groups. However, by the end of the year, Heggerty had a significantly higher proportion of first grade students (77%) in the highest ZPD levels 4-5 (i.e., decoding one-syllable words) compared to comparison students (63%), $\chi 2 = 14.0$, $p < .01$, Cramer's V = .18 (medium effect). For full details, please see Figures 8 and 9, below.

Figure 8. Phonics and Word Recognition by Skill Level: Kindergarten

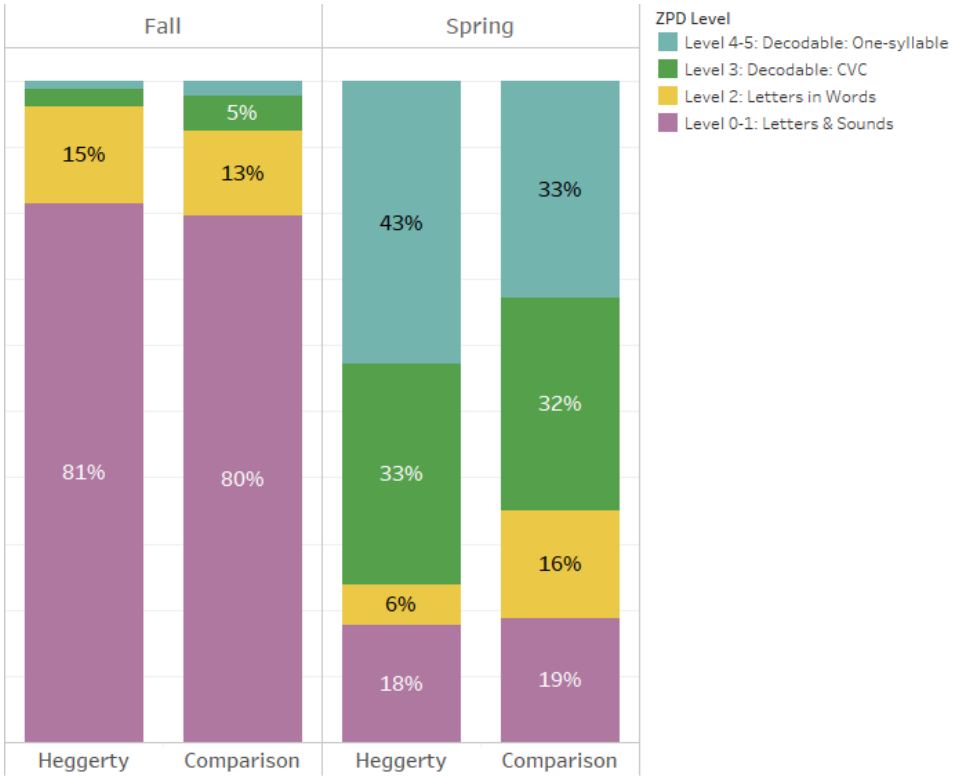
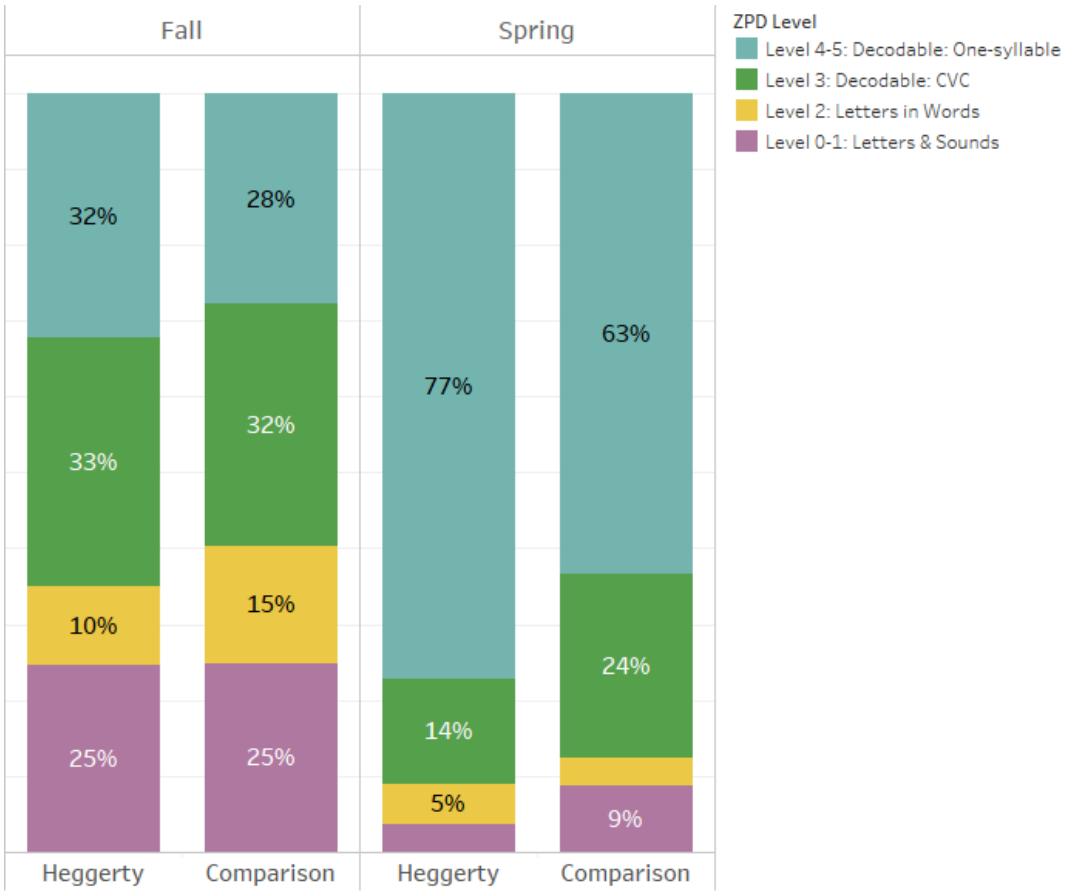


Figure 9. Phonics and Word Recognition by Skill Level: Grade 1



Phonological Awareness

At BOY, Heggerty and comparison schools had similar proportions of students in each skill level within Phonological Awareness across both grades. By EOY, the Heggerty kindergarten group had a significantly higher proportion (58%) of students in the highest ZPD levels of 4 & 5 (i.e. demonstrating phonemic manipulation abilities) compared to comparison students (38%), $\chi 2$ = 22.4, p <.001, Cramer's V = .21 (medium effect). Although first grade Heggerty and Comparison students did not differ significantly, Heggerty students had slightly higher proportions of students in higher ZPD levels. For full details, please see Figures 10 and 11, below.

Figure 10. Phonological Awareness by Skill Level: Kindergarten

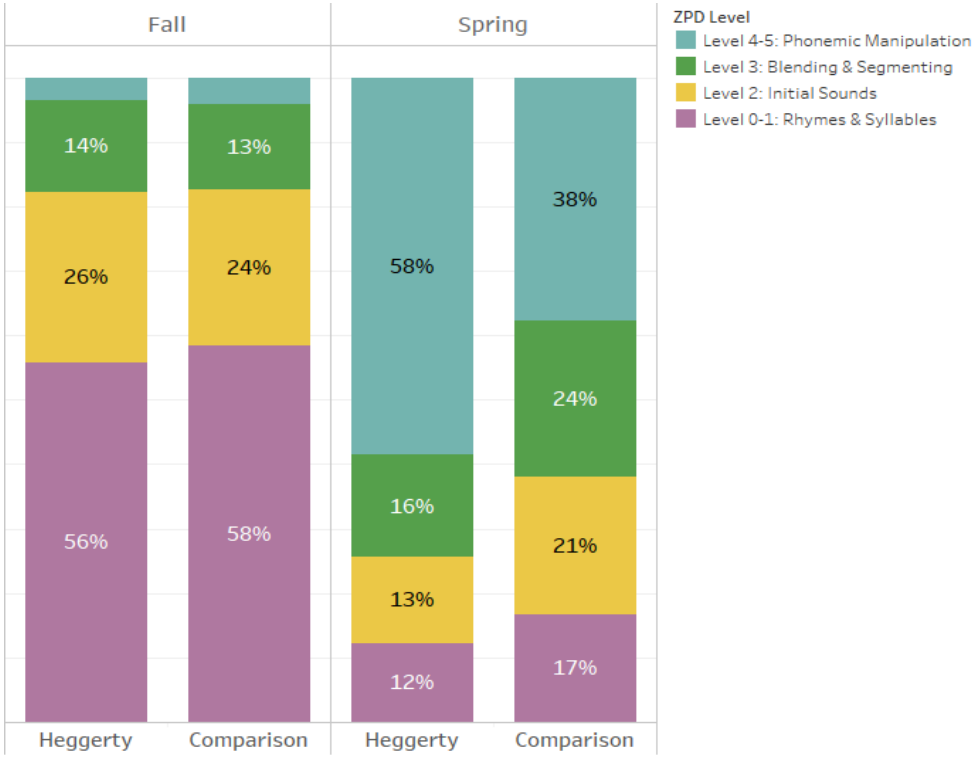
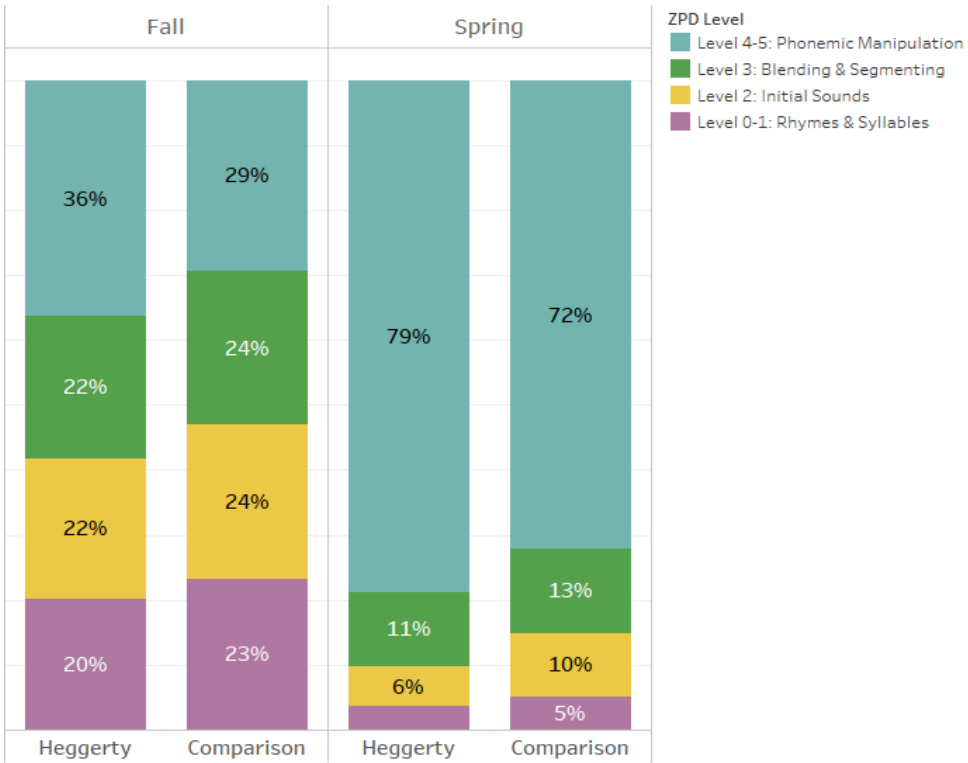


Figure 11. Phonological Awareness by Skill Level: Grade 1



Educator Feedback

Teacher Survey

Comparison

A survey of 13 teachers from the three comparison schools was administered with the goal of understanding business-as-usual instructional practices among grade K-2 instructors. Specifically, 46% of the teachers taught Kindergarten, another 46% taught 1st grade, and 8% taught across grades K-2. Fewer than half of teachers (46%) reported conducting dedicated phonics and decoding instruction five days a week. Reading instruction generally lasted between 76 and 90+ minutes per day. The most commonly employed comprehensive phonics lessons reported were using a gradual release model, recognizing and manipulating phonemes, and practicing reading decodable words in isolation. Approximately half of the teachers used pictures as clues to unfamiliar words.

Most teachers utilized some version of Fountas & Pinnell for reading instruction. Although the Comparison group teachers had no exposure to Heggerty's Bridge to Reading program (the focus of this study), two teachers did report piloting and appreciating the Heggerty Phonemic awareness curriculum. One commented that it "completely transforms phonemic awareness instruction for young learners." While 58% reported the inclusion of phonics instruction in their Tier 1 reading program, only 17% reported that their reading program fully addressed phonics instruction. Additionally, Istation was the primary tool used by the majority of teachers to provide supplemental instruction for Tier 1 students, or when working with Tier 2 and 3 students. The diagnostic assessments were administered two to four times each year, and the results were used to group students and identify intervention needs.

Demographically, 85% of the teachers were female, and 77% were white. The teaching experience varied, with 46% having taught for seven or more years and 31% having taught for one to three years. Most teachers held a master's degree and were trained in reading methods. All teachers reported receiving professional learning and professional development training four or more times a year using Shift the Balance book.

Treatment

A survey of 21 teachers from three treatment schools was conducted to understand instruction for K-1st grade in the 2023/2024 academic year, during which all teachers were asked to implement Heggerty's Bridge to Reading program. 52% taught 1st grade, and 43% taught Kindergarten, and the remaining 15% taught across multiple grades. Teachers reported that instructional practices predominantly involved comprehensive phonics lessons using a gradual release model, recognition and manipulation of phonemes, reading decodable words in isolation, and explicit teaching of phonics patterns. These responses are consistent with the goals of the Bridge to Reading program. Teachers using Bridge to Reading reported more instances of

teaching irregular high-frequency words and reading decodable words in connected texts than the comparison group teachers. The most commonly reported instructional strategy was instructing students to read letters left-to-right through the word.

85% of the Bridge to Reading teachers indicated that they administer diagnostic assessments two to four times each year. These assessments were generally used to group students and identify intervention needs. 81% of teachers felt they had a better understanding of what was missing in F&P since using Bridge to Reading. Teachers reported the most perceived impact of Bridge to Reading to be skill development in "Blend Consonant-Vowel-Consonant, application of knowledge during classroom activities that require word decoding, and understanding word patterns." Nearly all teachers (95%) indicated using the program five days per week, and 62% used the program for more than 30 minutes per day. Over half of the teachers grouped students by skill, and the rest grouped by ability.

Professional development was commonly provided through in-person workshops and onsite coaching by Heggerty two to three times per year. Teachers generally found the quality of the professional development to be excellent and engaging, with the right pacing. The learning objectives at these sessions were mostly, if not fully, met. Teachers felt that the Bridge to Reading program required less or equal effort to implement compared to other similar programs. They also felt comfortable leveraging the materials in Bridge to Reading for students who needed additional support and believed that the program was very well aligned with literacy development.

All participating teachers in the Bridge to Reading group were female and white. Their teaching experience varied between 2 - 27 years, with most having taught at their current school for 1-4 years. 52.4% of teachers held a master's degree, and the remaining held a bachelor's degree. Most teachers were explicitly trained in reading methods.

Comparison Group Educator Interviews

Three educator interviews were conducted in November 2023 in each of the three comparison schools to gain a sense of the business-as-usual reading instruction practices. All three participants were instructional coaches with education experience ranging from 18-27 years.

Instructional Coaches Took Initiative in Selecting Resources and Training

The instructional coaches identified using various resources in kindergarten through first grade but primarily using Fountas and Pinnell Guided Reading and Word Study for Tier 1 and Heggerty Phonemic Awareness for Tiers 1, 2, and 3, depending on the school. For interventions, the schools also mentioned using some materials from the Florida Center for Reading Research, but did not identify specifics. While these programs are all options for use, an interviewee discussed one school that developed their own curriculum using a mixture of resources to suit the needs of

their students by actively incorporating phonics. When asked about professional development and training, all the educators brought up doing their own research and finding resources. Through the district, instructional coaches were trained in Orton-Gillingham and had positive feedback. For teachers, the instructional coaches are responsible for relaying training and knowledge.

Treatment Group Educator Interviews

LXD Research conducted three interviews of educational professionals at schools implementing Heggerty's Bridge to Reading in K-1 to understand the perspective of day-to-day implementation and efficacy. The interviewees include a grade-level leader (first grade) with 7 years of teaching experience, a CARES Act Intervention teacher and leadership/literacy team member who had some experience working with Heggerty products, and an instructional coach specializing in curriculum and instruction.

Teachers Prioritized Completing Bridge to Reading Lessons Despite Time Constraints

The interviewees indicated that Bridge to Reading was implemented daily for 30 - 40 minutes. Teachers often found that the lessons took longer than the allocated time, but indicated that they prioritized completing the lessons rather than cutting them to fit within the allotted time. The most commonly used materials from the program are student workbooks and teacher editions. The most popular student manipulatives were the teacher-size red word cards. In contrast, the spell tabs and posters were found to be more difficult to work with due to the inconvenience of the physical properties of the manipulatives. Bridge to Reading as a core program was used in conjunction with Fountas & Pinnell Mini Reading lessons or district-composed materials for comprehension.

Educators Praised Bridge to Reading

Educators were enthusiastic when discussing the quality of the program, reporting that their students benefited from Bridge to Reading's explicit and systematic instruction. They observed progress on their benchmark assessments during the school year and in the day-to-day classroom, specifically in students' ability to break down words and use hand motions while reading. Educators perceived less progress for the second grade students who did not have access to the Bridge to Reading program. Additionally, educators felt that the Bridge to Reading curriculum aligns well with their understanding of Science of Reading research.

Educators Discussed Pacing Support for Struggling Students

The interviewees indicated that it took a little over one month to feel comfortable implementing the Bridge to Reading program with their students, and that their implementation improved with training. This statement implied that subsequent years of program use could be even more effective, as the educators would be prepared to implement Bridge to Reading for the entire school year.

Although interviewees generally approved of the pacing of program implementation, some noted that the pacing of the program could be challenging for some struggling students. To address this, one interviewee suggested further personalization of program use by selecting passages for specific students that best align with their reading levels. Interviewees also suggested that providing additional options regarding length and difficulty of these texts would help to provide support for struggling students.

Educator Confidence & Valuing Professional Development

The interviewees emphasized that teachers were feeling more confident in their own knowledge of literacy instruction and learned along with the students. They reported that professional development provided by Heggerty was well-received by the teachers and instructional coaches. Teachers especially valued the second visit, during which training focused on observing lessons being taught and providing feedback and advice on what could be improved. The Bridge to Reading program overall was received positively.

Conclusion

The results of this study demonstrate that Heggerty's Bridge to Reading program positively impacts early literacy development, especially in the Decoding subdomains of Phonics and Word Recognition, for both kindergarten and first-grade students. First graders in the program showed significantly greater growth in Phonological Awareness and Phonics and Word Recognition compared to the comparison group, while kindergarteners exhibited significant improvement in Phonics and Word Recognition. Although both grade levels experienced gains in Language Comprehension, these improvements were not significantly different from the comparison group. End-of-year data reinforced the program's effectiveness in enhancing foundational literacy skills.

Qualitative data from teacher surveys and interviews supported these quantitative findings, with educators reporting increased instructional confidence and alignment of the program with Science of Reading principles. Teachers also appreciated the structured, systematic nature of Bridge to Reading and its emphasis on professional development, which furthered their ability to implement the program effectively. Overall, the Bridge to Reading program received positive educator feedback, and mixed-method results indicated that the program was a beneficial tool for early reading instruction, fostering significant literacy gains.

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Appendix

List of Figures and Tables

Appendix

Table A1. Students with BOY & EOY Data and Attrition

Grade	Condition	Number of students at BOY	Students with BOY & EOY data	Percent Attrition	Differential Attrition
Kindergarten	**Heggerty**	251	**231**	8%	3%
	Comparison	324	**289**	11%	
1st Grade	**Heggerty**	253	**223**	12%	22%
	Comparison	311	**204**	34%	

Note: Some attrition may have been due to students being assigned the adaptive oral reading test in the spring. This test routes students into either oral reading or foundational skills based on their performance on an initial sentence-picture matching task whereas students assigned the foundational skills test are only evaluated on those specific skills. If students received an oral reading result, it could suggest that they had progressed beyond the need for the initial intervention. However, due to school-level decisions regarding the type of test assigned, it's unclear if all students who could have tested into oral reading were given the opportunity, therefore the analysis was restricted to students with foundational skills tests only.

Table A2. Post-Matching Baseline MAP Fluency Scores: Kindergarten

Subdomain	Condition	Mean Score	SD	ESSA Baseline Equivalence (Mean Difference < .25 $SD_{Comparison}$)
Phonological Awareness	Heggerty	486.44	6.35	✔ 0.08
	Comparison	485.91	6.36	
Phonics Word Recognition	Heggerty	483.29	6.24	✔ 0.01
	Comparison	483.23	6.81	
Language Comprehension	Heggerty	488.27	8.34	✔ 0.17
	Comparison	486.98	7.55	

Table A3. T-tests and Effect Sizes for Baseline Equivalence: Kindergarten

	t	df	p	Hedges' g
Baseline Phonics & Word Recognition Score	−0.11	503.41	0.91	−0.01
Baseline Phonological Awareness Score	−0.95	487.65	0.34	−0.08
Baseline Language Comprehension Score	−1.82	469.49	0.07	−0.16

Note. Welch's t-test.

Table A4. Post-matching Baseline MAP Fluency Scores: Grade 1

Subdomain	Condition	Mean Score	SD	ESSA Baseline Equivalence (Mean Difference < .25 $SD_{Comparison}$)
Phonological Awareness	Heggerty	495.26	9.23	✔ 0.13
	Comparison	494.06	9.28	
Phonics Word Recognition	Heggerty	495.38	8.39	✔ 0.15
	Comparison	494.13	8.45	
Language Comprehension	Heggerty	495.42	9.81	✔ 0.23
	Comparison	493.45	8.51	

Table A5. T-tests and Effect Sizes for Baseline Equivalence: Grade 1

	t	df	p	Hedges' g
Baseline Phonics & Word Recognition Score	−1.51	406.21	0.13	−0.15
Baseline Phonological Awareness Score	−1.31	406.38	0.19	−0.13
Baseline Language Comprehension Score	−2.19	415.00	0.03	−0.21

Note. Welch's t-test.

Figure A1. Matching Frontier Plot with Individual Covariate Balance: Baseline Scores

Note. Starting point for each covariate is the standardized mean difference between treatment and control groups. The matching process relies on a chosen imbalance metric (e.g., pairwise distance or energy distance) to calculate the best balance between groups. This study used 'energy distance,' a measure of dissimilarity between multivariate cumulative distributions (Rizzo & Székely, 2016), rather than one-to-one matching between a treated unit and a comparison unit. By setting parameters to calculate energy distance exclusively between treated and comparison groups and selectively dropping participants from the comparison group, the analytic team aimed to enhance covariate balance.

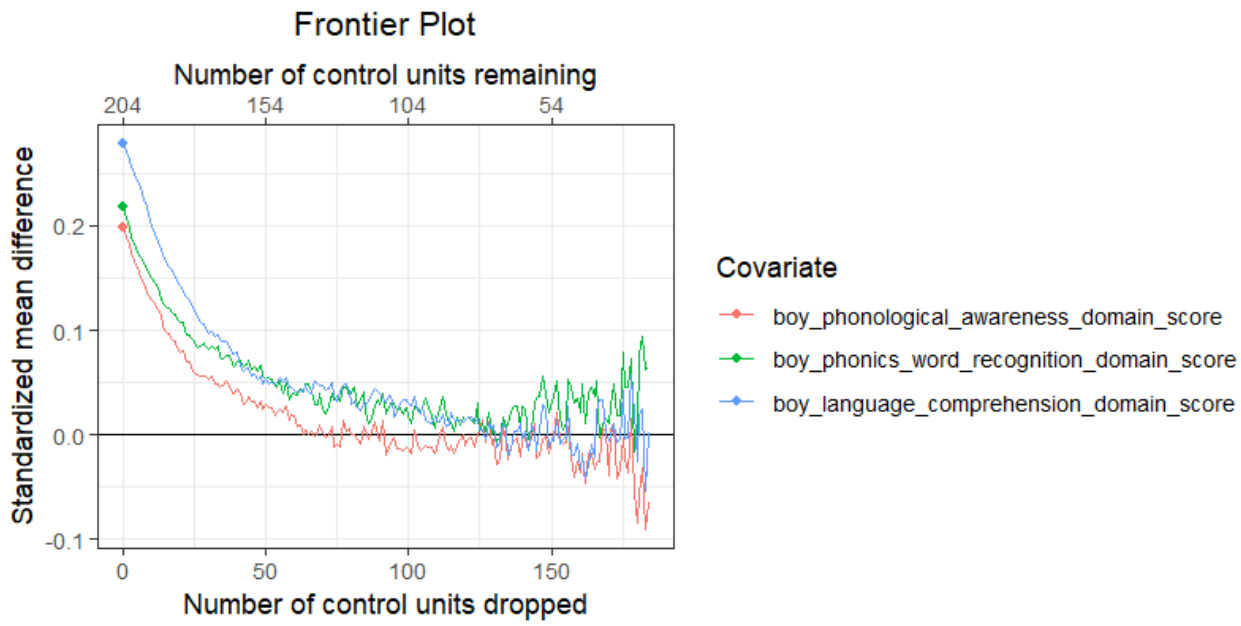


Figure A2. Matching Frontier Plot with Individual Covariate Balance: Demographics

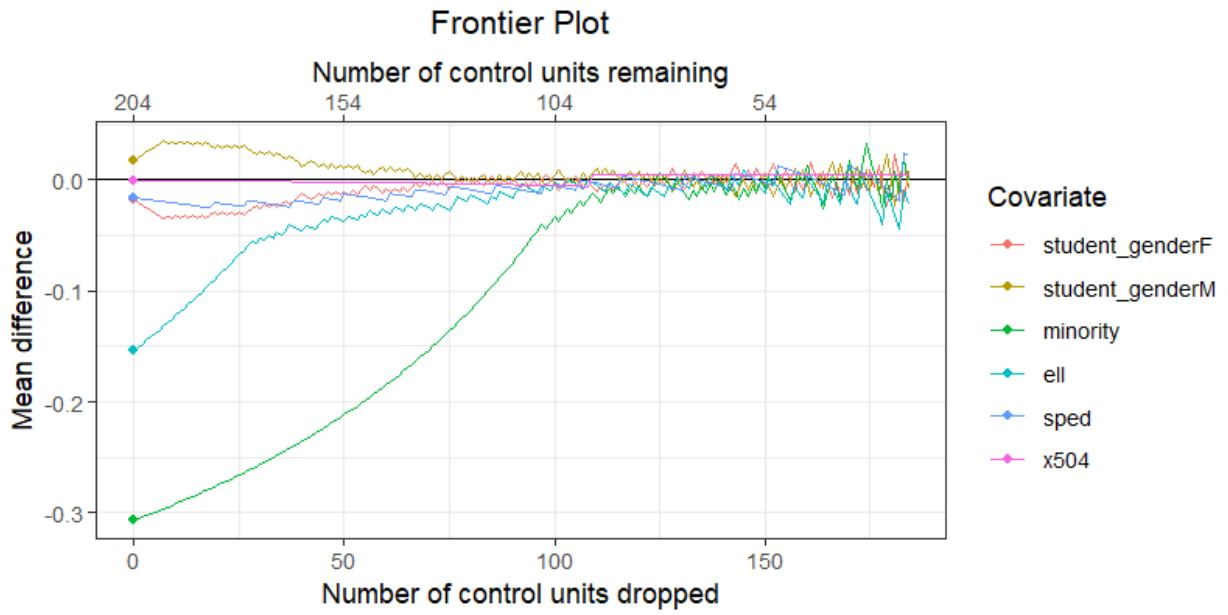
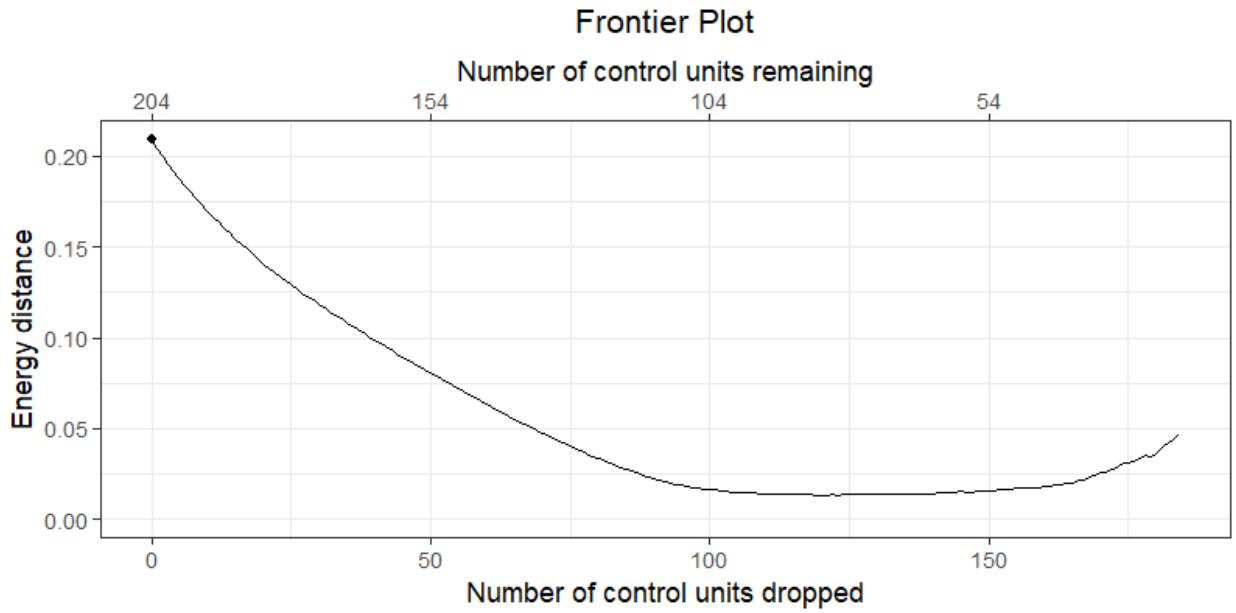


Figure A3. Full Frontier. Relationship Between the Number of Units Dropped and the Imbalance Metric



MAP Fluency ANCOVAs

The ANCOVAs controlled for students' Fall Foundational Domain Scores (baseline), ethnic minority status and ELL status (first grade only). Comparing the two subdomains of Decoding (Phonological Awareness, Phonics and Word Recognition) necessitated correction for multiple testing. Therefore only p-values less than 0.025 were accepted as a significant finding.

Table A6. Kindergarten: Spring Domain Scores

ANCOVA - Spring Phonics & Word Recognition Score

Cases	Sum of Squares	df	Mean Square	F	p	η_p^2
Condition	137.36	1	137.36	1.99	0.16	3.83×10^{-3}
Minority	1431.33	1	1431.33	20.70	< .001	0.04
Residuals	35740.97	517	69.13			

Note. Type III Sum of Squares

ANCOVA - Spring Phonological Awareness Score

Cases	Sum of Squares	df	Mean Square	F	p	η_p^2
Condition	355.46	1	355.46	4.66	0.03	9.01×10^{-3}
Minority	1680.02	1	1680.02	22.04	< .001	0.04
Baseline Phonological Awareness Score	7221.16	1	7221.16	94.73	< .001	0.16
Residuals	39105.97	513	76.23			

Note. Type III Sum of Squares

ANCOVA - Spring Language Comprehension Score

Cases	Sum of Squares	df	Mean Square	F	p	η_p^2
Condition	73.04	1	73.04	1.42	0.23	2.74×10^{-3}
Minority	1635.29	1	1635.29	31.80	< .001	0.06
Baseline Language Comprehension Score	11435.95	1	11435.95	222.37	< .001	0.30
Residuals	26537.14	516	51.43			

Note. Type III Sum of Squares

Table A7. Kindergarten: Fall-to-Spring Domain Score Growth

ANCOVA - Phonics & Word Recognition Gains

Cases	Sum of Squares	df	Mean Square	F	p	η_p^2
Condition	326.43	1	326.43	6.56	0.01	0.01
Minority	102.64	1	102.64	2.06	0.15	4.00×10^{-3}
Residuals	25584.95	514	49.78			

Note. Type III Sum of Squares

ANCOVA - Phonological Awareness Gains

Cases	Sum of Squares	df	Mean Square	F	p	η_p^2
Condition	349.87	1	349.87	4.25	0.04	8.21×10^{-3}
Minority	917.17	1	917.17	11.15	< .001	0.02
Residuals	42276.62	514	82.25			

Note. Type III Sum of Squares

ANCOVA - Language Comprehension Gains

Cases	Sum of Squares	df	Mean Square	F	p	η_p^2
Condition	49.70	1	49.70	0.83	0.36	1.61×10^{-3}
Minority	502.94	1	502.94	8.44	3.83×10^{-3}	0.02
Residuals	30806.11	517	59.59			

Note. Type III Sum of Squares

Table A8. First Grade: Spring Domain Scores

ANCOVA - Spring Phonics & Word Recognition Score

Cases	Sum of Squares	df	Mean Square	F	p	η_p^2
Condition	563.92	1	563.92	15.47	< .001	0.04
Minority	49.51	1	49.51	1.36	0.24	3.28×10^{-3}
ELL	70.65	1	70.65	1.94	0.16	4.68×10^{-3}
Baseline Phonics & Word Recognition Score	14003.97	1	14003.97	384.08	< .001	0.48
Residuals	15021.87	412	36.46			

Note. Type III Sum of Squares

ANCOVA - Spring Phonological Awareness Score

Cases	Sum of Squares	df	Mean Square	F	p	η_p^2
Condition	821.90	1	821.90	14.61	< .001	0.03
Minority	352.64	1	352.64	6.27	0.01	0.01
ELL	93.21	1	93.21	1.66	0.20	4.01×10^{-3}
Baseline Phonological Awareness Score	9680.28	1	9680.28	172.12	< .001	0.29
Residuals	23170.99	412	56.24			

Note. Type II Sum of Squares

ANCOVA - Spring Language Comprehension Score

Cases	Sum of Squares	df	Mean Square	F	p	η_p^2
Condition	165.33	1	165.33	3.07	0.08	7.39×10^{-3}
Minority	246.28	1	246.28	4.57	0.03	0.01
ELL	460.52	1	460.52	8.54	3.67×10^{-3}	0.02
Baseline Language Comprehension Score	7427.46	1	7427.46	137.73	< .001	0.25
Residuals	22218.36	412	53.93			

Note. Type III Sum of Squares

Table A9. First Grade: Fall-to-Spring Growth

ANCOVA - Phonics & Word Recognition Gains ▼

Cases	Sum of Squares	df	Mean Square	F	p	η_p^2
Condition	574.86	1	574.86	14.01	< .001	0.03
Minority	0.23	1	0.23	5.51×10^{-3}	0.94	1.34×10^{-5}
ELL	1.25	1	1.25	0.03	0.86	7.37×10^{-5}
Residuals	16941.13	413	41.02			

Note. Type III Sum of Squares

ANCOVA - Phonological Awareness Gains

Cases	Sum of Squares	df	Mean Square	F	p	η_p^2
Condition	950.94	1	950.94	13.54	< .001	0.03
Minority	28.55	1	28.55	0.41	0.52	9.84×10^{-4}
ELL	26.51	1	26.51	0.38	0.54	9.14×10^{-4}
Residuals	28996.52	413	70.21			

Note. Type III Sum of Squares

ANCOVA - Language Comprehension Gains

Cases	Sum of Squares	df	Mean Square	F	p	η_p^2
Condition	149.49	1	149.49	2.12	0.15	5.10×10^{-3}
Minority	1.06	1	1.06	0.01	0.90	3.62×10^{-5}
ELL	0.03	1	0.03	3.93×10^{-4}	0.98	9.51×10^{-7}
Residuals	29158.99	413	70.60			

Note. Type III Sum of Squares

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