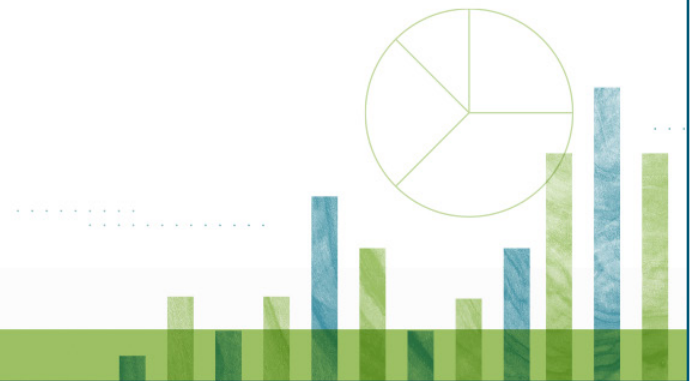Reading Horizons

Beaufort County
SCHOOLS
Research Study

The Impact of *Reading Horizons Discovery*® on K–3 Literacy Outcomes

Beaufort County Schools
2022–2023 Academic Year

DESIGN MEETS ESSA EVIDENCE TIER 3
PROMISING RESULTS

Introduction

During the 2022–2023 academic year, Beaufort County Public Schools in Washington, North Carolina, implemented the *Reading Horizons Discovery*® (*RH Discovery*) curriculum, which features the Reading Horizons® (RH) method based on the science of reading, with 1,242 students across 83 classrooms in grades K–3.

The RH method delivers engaging, explicit, systematic phonics instruction through a multisensory approach based on Orton-Gillingham principles. Instruction is cumulative and organized in a sequence that enhances learning and simplifies teaching. Each sound of the English language is explicitly taught along with the letter(s) representing the sound. Five Phonetic Skills are taught to help students recognize short and long vowel patterns in words and syllables. Two Decoding Skills are presented to show students how to decode multisyllabic words.

The multisensory approach used with the RH method enhances learning and memory by simultaneously engaging auditory, visual, and kinesthetic modalities during instruction. A unique marking system is employed to draw student attention to the features and patterns of English and give visual cues for pronunciation. Throughout instruction, students are provided with engaging activities to practice and apply the skills learned. *RH Discovery* was designed to teach the RH method to kindergarten to third-grade students. Finally, RH supports districts using its software-embedded assessments (e.g., Spelling and Word Recognition Assessment and Check-Ups) and tools to evaluate the impact of *RH Discovery* on student growth.

Beaufort County Public Schools, Reading Horizons, and Learn Platform by Instructure collaborated to evaluate the impact of implementation and student performance as measured by the Reading Horizons Implementation Integrity Rubric (RHIIR) and mCLASS achievement scores (published by Amplify), respectively.

Learn Platform found that outcomes increased for some classrooms from the beginning to the end of the year. There were **four** statistically significant effects of teacher-level variables on student learning. Of note, implementation integrity showed small to moderate effects (Cohen's d ranged from .04 to .22) on outcomes for all grades, controlling for demographics, with one statistically significant, large effect in kindergarten (effect size of d = .62).

Methodology

PURPOSE

During the 2022–2023 academic year, Beaufort County Public Schools collaborated with Reading Horizons to study the implementation of RH and explore the relationship between the implementation of the RH method and student learning outcomes in grades K–3.

1. Was teacher participation in professional learning associated with student literacy outcomes?

2. Was implementation of *RH Discovery* associated with student literacy outcomes?

STUDY DESIGN

This study employed a treatment-only study with appropriate statistical controls. This study took place in six elementary schools in Beaufort County Public Schools in North Carolina during the 2022–2023 school year. Analyses included 83 teachers and 1,242 students from kindergarten through third grade. Researchers used mCLASS achievement assessment scores (i.e., DIBELS Composite, phonemic awareness, letter sounds, and decoding) as the student achievement outcome. Researchers also conducted multilevel models examining whether differences in *RH Discovery* implementation predicted student outcomes. Researchers used fall 2022 and spring 2023 teacher surveys and classroom observations to investigate program implementation. Analyses included descriptive statistics, correlations, partial correlations, and multilevel models. Researchers examined *RH Discovery* implementation and relationships between teacher professional learning, program implementation, and student literacy outcomes.

Measures

Professional learning participation—Researchers used a teacher survey to assess professional learning participation. Teachers completed the survey in fall 2022 and spring 2023 on their participation in Reading Horizons professional learning and implementation.

Implementation integrity—Researchers used classroom observations of *RH Discovery* lessons using the Reading Horizons Implementation Integrity Rubric (RHIIR). The rubric contains five indicators that measure implementation integrity across four levels of practice: Emerging, Exploring, Engaging, and Empowering. To measure the implementation of the

RH method, classroom observation scores across all five indicators of the RHIIR were averaged. A total of **83** teachers had classroom observations. The average teacher observation score was **2.56** (SD **= 0.85**) on a scale from 1 ("Emerging" instruction) to 4 ("Empowering" instruction). **31 percent** of teachers had observation scores at or above a three ("Engaging" instruction).

Student performance— Researchers used the mCLASS standardized assessment as the student literacy achievement outcome. The assessment included DIBELS composite, phonemic awareness, letter sounds, and decoding subscale scores.

Overview Of Program Implementation

Beaufort County Public Schools, North Carolina, has fourteen PK–12 schools, serving 5,926 students, and 454 teachers. The population is 44 percent White, 31 percent Black or African American, 18 percent Hispanic or Latino and 7 percent Two or More Races. Approximately 46.7 percent of families are low-income. During the 2022–2023 school year, Beaufort County Public Schools implemented the direct instruction curriculum and software for the fifth consecutive year. They supported their implementation by offering the Reading Horizons' in-person professional learning and coaching to all teachers. All five elementary schools implemented *RH Discovery* in grades K–3 as their Tier 1 phonics curriculum. A typical Tier 1 (full class) lesson occurred in the whole class on a daily basis, for approximately 30 minutes, from August through May.

Results

Question 1: Was teacher participation in professional learning associated with student literacy outcomes?

Researchers examined how many different professional learning supports educators used during the 2022–2023 school year. The most common support reported was initial training from a Reading Horizons facilitator, reported by 85 percent (n = 29) of educators. The next most used supports, participation in Reading Horizons coaching and teacher completion of online training modules, were reported by 68 percent and 62 percent of educators respectively (n = 23 and 21). The least common support was software training (47 percent, n = 16; Figure 1).

Over half of teachers completed the initial training with a RHD-facilitator and/or participated in one or more coaching days. Most teachers also used self-paced training resources.

Figure 1. Teacher participation in Reading Horizons professional learning (n = 34)

Participation in *RH Discovery*-facilitated professional learning was statistically significant in kindergarten and second grade (p < .05), such that students in classrooms where teachers completed more Reading Horizons-facilitated professional learning had higher DIBELS Composite, Phonemic Awareness, Letter Sounds, and Decoding scores (Figure 2).
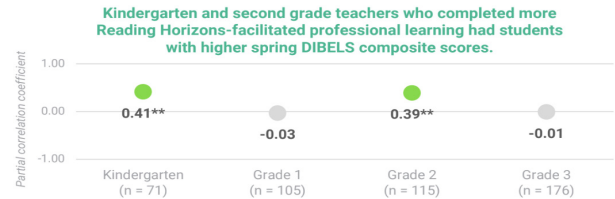

Figure 2. Partial correlations between RH Discovery-facilitated professional learning and student spring 2023 DIBELS composite scores

Participation in online self-paced *RH Discovery* professional learning was statistically significant in kindergarten, first, and second grades (p < .05). In kindergarten, students in classrooms where teachers completed more *RH Discovery* self-paced online professional development had higher spring DIBELS Composite, Phonemic Awareness, Letter Sounds, and Decoding scores (p < .05; Figure 2, Table 1). In first and second grade, teacher participation in more self-paced online professional development was related to higher Phonemic Awareness (Grade 1, p < .01) and Decoding scores (Grade 2, p < .01; Figure 2). No other relationships were statistically significant, including for third-grade students.
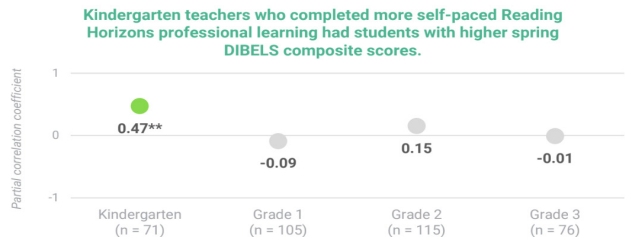

Figure 3. Partial correlations between self-paced RH Discovery professional learning and student spring 2023 DIBELS composite scores

Table 1. Partial correlations between self-paced RH Discovery professional learning and student spring 2023 mCLASS subscale performance

mCLASS subscales	Kindergarten (*n* = 71)	Grade 1 (*n* = 105)	Grade 2 (*n* = 115)	Grade 3 (*n* = 76)
Phonemic awareness (PSF)	0.57**	0.29**	na	na
Letter sounds (NWF)	0.41**	-0.10	0.13	-0.13
Decoding (NWF)	0.35*	-0.18	0.25**	-0.12

Note. *p < .05. **p < .01.
na = Not applicable. Grade 2 and 3 students did not complete the Phonemic Awareness (PSF) subscale in fall 2022 or spring 2023.

Question 2: Was implementation of *RH Discovery* associated with student literacy outcomes?

While controlling for disability status and fall mCLASS achievement, researchers conducted multilevel regression models to investigate whether implementation of *RH Discovery*, as measured by a teacher's average score on the RHIIR was at or above 3, was associated with student outcomes, as measured by higher spring mCLASS achievement scores. The effect sizes comparing teacher groups, which ranged from small to moderate, are shown in Figure 4.
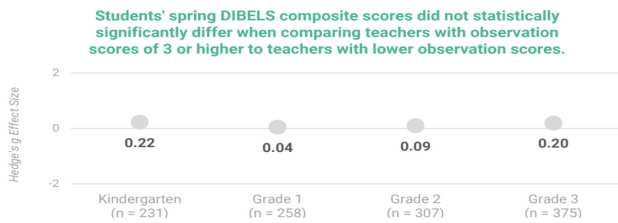
Figure 4. Effect sizes from multilevel models examining mean differences in students' spring 2023 mCLASS composite scores between teachers with an average score of 3.0 or higher compared to those with lower scores

There was one statistically significant difference in student achievement. In kindergarten, teachers with an observation score of 3 or higher had students with statistically significantly higher spring phonemic awareness (PSF) scores compared to teachers with lower observation scores (p < .05, Table 2). No other grade levels or scores were statistically different, indicating students had comparable spring mCLASS achievement across classrooms with differing observation performance (Table 2).

Table 2. Effect sizes from multilevel models examining mean differences in students' spring 2023 mCLASS scores between teachers with an average observation score of 3.0 or higher, compared to those with lower scores

mCLASS subscales	Kindergarten (*n* = 231)	Grade 1 (*n* = 258)	Grade 2 (*n* = 307)	Grade 3 (*n* = 375)
Phonemic awareness (PSF)	0.62*	0.22	na	na
Letter sounds (NWF)	0.16	0.12	0.06	0.34
Decoding (NWF)	0.35	0.03	0.01	0.26

Note. *p < .05. **p < .01.
na = Not applicable. Grade 2 and 3 students did not complete the Phonemic Awareness (PSF) subscale in fall 2022 or spring 2023.

Conclusions

Overall, 85 percent of teachers participated in an initial Reading Horizons-facilitated training and 68 percent participated in one or more coaching days. Most teachers (50 percent) also used self- paced training resources.

Researchers conducted a series of partial correlations while controlling for student disability status and fall mCLASS achievement to investigate the relationship between teacher participation in *RH Discovery* professional learning and student literacy outcomes in spring 2023. Overall, participation in *RH Discovery*-facilitated professional learning was statistically significant in kindergarten and second grades, such that teachers who completed more *RH Discovery*-facilitated professional learning had higher spring mCLASS achievement. Similar relationships were found for self-paced professional learning in kindergarten classrooms, such that greater participation in self-paced professional learning was associated with greater mCLASS achievement in kindergarten, greater phonemic awareness in first grade, and greater decoding in second grade.

Finally, researchers conducted a final set of regressions and multilevel models examining whether differences in *RH Discovery* implementation predicted student outcomes. While the effect sizes of these comparisons ranged from small to moderate, there was one statistically significant difference in student outcomes based on observation scores. In kindergarten, teachers who had an observation score of 3 or higher had students with statistically significantly higher spring phonemic awareness scores.

This study provides results to satisfy ESSA evidence requirements for Level III (Promising Evidence) given the study design and positive, statistically significant findings.