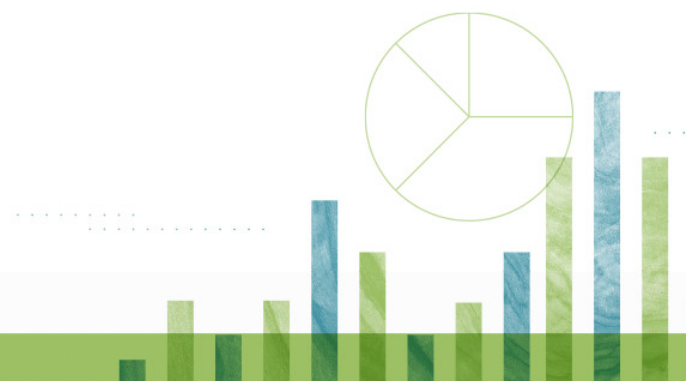![Reading Horizons]

Council Rock
SCHOOL DISTRICT
Research Study

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

Council Rock School District

2022–2023 Academic Year

DESIGN MEETS ESSA EVIDENCE TIER 3 PROMISING RESULTS

Where reading momentum begins

Introduction

During the 2022–2023 academic year, Council Rock School District in Newtown, Pennsylvania, implemented the *Reading Horizons Discovery®* curriculum across 30 classrooms, impacting 718 students in grades K–2. This curriculum uses the Reading Horizons® (RH) method, which is grounded in the science of reading and designed to enhance literacy through structured, phonics-based instruction.

The RH method is characterized by its engaging, explicit, and systematic approach to phonics instruction, using a multisensory strategy based on Orton-Gillingham principles. Instruction is cumulative and organized in a logical sequence that simplifies teaching and enhances learning. Each sound of the English language is explicitly taught, along with the letter(s) that represent it. Students also learn Five Phonetic Skills that help them recognize short and long vowel patterns in words and syllables and Two Decoding Skills for decoding multisyllabic words.

The multisensory approach of the RH method enhances learning and memory by engaging auditory, visual, and kinesthetic modalities simultaneously during instruction. A unique marking system draws student attention to the features and patterns of English, providing visual cues for pronunciation. Engaging activities are incorporated throughout the instruction to practice and apply the learned skills. *RH Discovery* is specifically designed for students in kindergarten through third grade. Additionally, RH supports districts with software-embedded assessments and tools, such as the Spelling and Word Recognition Assessment and Check-Ups, to evaluate the impact of *RH Discovery* on student growth.

The Council Rock School District collaborated with Reading Horizons and Learn Platform by Instructure to evaluate the implementation and impact of the Reading Horizons Implementation Integrity Rubric (RHIIR) to measure fidelity of implementation, and DIBELS 8th Edition assessment scores, published by the University of Oregon, to evaluate student learning outcomes.

Learn Platform's analysis revealed that outcomes improved in some classrooms from the beginning to the end of the academic year. Notably, there were **seven** statistically significant effects of teacher-level variables on student learning. The implementation integrity of the RH method, as measured by the RHIIR, showed statistically significant results, with moderate to large effects on outcomes in kindergarten (Cohen's d ranged from .33 to .44), even when controlling for demographics.

Methodology

PURPOSE

During the 2022–2023 academic year, Council Rock School District collaborated with Reading Horizons to study the implementation of *RH Discovery* and explore the relationship between this implementation and student learning outcomes in grades K–2.

RESEARCH QUESTIONS

The following guiding research questions informed the study design:

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

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

STUDY DESIGN

This study was conducted as a treatment-only study with appropriate statistical controls, conducted in six elementary schools within the Council Rock School District in Pennsylvania during the 2022–23 school year. The analysis included 30 teachers and 718 students from kindergarten through second grade. For student achievement outcomes, researchers used DIBELS 8th Edition assessment scores, which assess components such as DIBELS composite, phonemic awareness, correct letter sounds, and words decoded correctly. Researchers also conducted multilevel models to examine whether differences in the implementation of *RH Discovery* predicted student outcomes.

Researchers used teacher surveys and classroom observations from both fall 2022 and spring 2023 to investigate program implementation. Analyses included descriptive statistics, correlations, partial correlations, and multilevel models. Researchers examined the *RH Discovery* program implementation and the relationships between the program implementation, teacher professional learning and knowledge, and student literacy outcomes.

Measures

Professional learning participation—Researchers assessed teachers' involvement in professional learning using surveys that focused on their participation in Reading Horizons' professional learning and its implementation. The surveys were completed by teachers at two points: fall 2022 and spring 2023.

Implementation integrity—To assess the fidelity of the *RH Discovery* program, researchers conducted classroom observations of the *RH Discovery* lessons using the Reading Horizons Implementation Integrity Rubric (RHIIR). This rubric includes five indicators to measure implementation integrity and categorizes performance into four levels: Emerging, Exploring, Engaging, and Empowering. To quantify implementation fidelity, observation scores across all five indicators were averaged. Out of the **28** teachers observed, the average score was **2.87** (SD = 0.67) on a scale of 1 to 4, where 1 corresponds to "Emerging" instruction and 4 to "Empowering" instruction. **59%** of teachers achieved observation scores of three ("Engaging" instruction) or higher.

Student performance—Researchers used the DIBELS 8th Edition assessment scores as the student literacy achievement outcome. The assessment included DIBELS composite, phonemic awareness, letter sounds, and decoding subscale scores.

Overview Of Program Implementation

Council Rock School District in Pennsylvania comprises 14 PK–12 schools, serving 10,449 students and 745 teachers. The population is 87% White, 1% Black or African American, 3% Hispanic or Latino, and 3% Two or More Races. Approximately 2.7% of families are low-income. During the 2022–2023 school year, the district continued its fourth consecutive year of implementing direct instruction curriculum and software. For the first three years, Reading Horizons was implemented in Intervention classrooms. To support the implementation, Reading Horizons provided in-person professional learning and coaching for all teachers. In a pilot initiative, six out of the ten elementary schools implemented *RH Discovery* in grades K–2 as their Tier 1 phonics curriculum.

A typical Tier 1 (full class) lesson was conducted daily for approximately 30 minutes, from November to June.

Results

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

Researchers examined how many different professional learning supports teachers used during the 2022–23 school year. The most common support reported was initial training provided by an *RH Discovery* facilitator, reported by 100% (n = 30) of participants. The next most used support was participation in Reading Horizons coaching days, reported by 90% (n = 27) of teachers. The least common support was software training, used by only 7% (n = 2) of participants (see Figure 1).
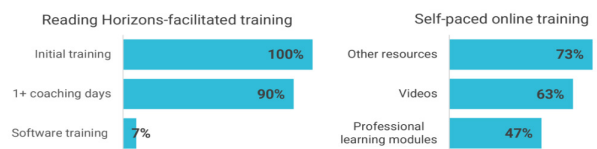

Figure 1. Teacher participation in RH Discovery professional learning (n = 30)

Participation in *RH Discovery*-facilitated professional learning had statistically significant, positive associations in first grade (p < .05), such that students in classrooms where teachers had completed more *RH Discovery*-facilitated professional learning achieved higher scores in DIBELS composite, phonemic awareness, correct letter sounds, and words decoded correctly (Figure 2).
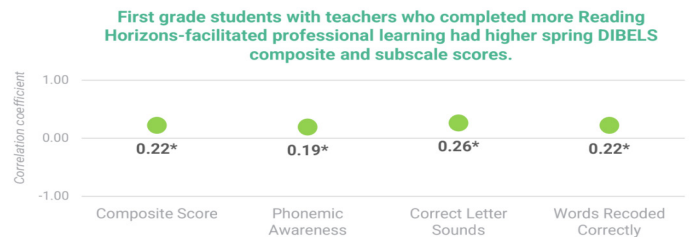

Figure 2. Association between RH Discovery-facilitated professional learning participation and first-grade student DIBELS performance (n = 154)

Participation in online self-paced professional learning had statistically significant associations in kindergarten and first grade (p < .05). In kindergarten, students in classrooms where teachers completed more self-paced online professional development from Reading Horizons had statistically significantly

higher spring DIBELS composite, phonemic awareness, correct letter sounds, and words decoded correctly scores (p < .05). In first grade, students in classrooms where teachers completed more self-paced online professional development from Reading Horizons showed significantly lower scores in spring DIBELS composite, correct letter sounds, and words decoded correctly (p < .05), as illustrated in Figure 3.

Kindergarten students with teachers who completed more self-paced professional learning had higher spring DIBELS Composite scores, while first grade students had lower scores.
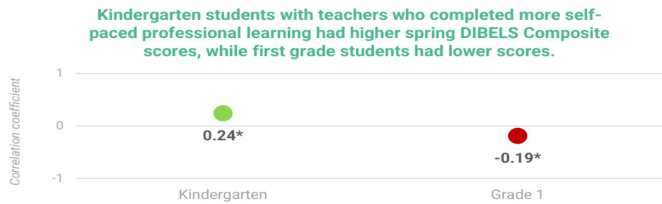
Figure 3. Association between self-paced RH Discovery professional learning and spring 2023 DIBELS composite scores for kindergarten (n = 177) and first grade (n = 154) students

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

Researchers conducted multilevel models examining whether students in classrooms where teachers had an average observation score of **three or higher** achieved higher spring DIBELS Composite scores compared to classrooms with an average observation score below three. These models included fall DIBELS achievement, free/reduced lunch status, and English language learner status as covariates.

Findings indicated moderate effect sizes and statistically significant differences in kindergarten, where students of teachers with an observation score of three or higher demonstrated better outcomes compared to students of teachers with lower scores (p < .05); see Figure 4.

Compared to those with a low observation score, kindergarten students in classrooms with medium and high observation scores performed better on their end-of-year DIBELS composite.
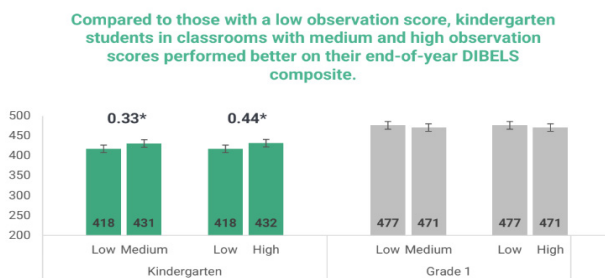
Figure 4. Effect sizes from multilevel models examining mean differences between in spring 2023 DIBELS student performance for teachers with low, medium, and high observation scores

The effect sizes of 0.33 and 0.44 for kindergarten students suggest that a student from a comparison group, if placed in a classroom with high implementation integrity, would be expected to perform **13 percentile points higher**. These results indicate that kindergarten students in Council Rock schools are likely to perform better when taught by teachers who implement the curriculum with integrity.

Conclusions

Teachers participated in professional learning activities to build the knowledge needed to impact practice. Every teacher participated in an initial Reading Horizons-facilitated training, and 90% participated in at least one coaching day. Most teachers (73%) also used self-paced professional learning resources.

Researchers conducted a series of partial correlations that controlled for free/reduced lunch status, English language learner status, and fall DIBELS composite scores to investigate the relationship between teacher participation in Reading Horizons professional learning and student literacy outcomes.

In first-grade classrooms, more teacher participation in Reading Horizons-facilitated professional learning was statistically significantly associated with higher scores in DIBELS composite, phonemic awareness, correct letter sounds, and words decoded correctly. Kindergarten students in classrooms where teachers completed more self-paced online professional development had significantly higher scores in spring DIBELS composite, phonemic awareness, correct letter sounds, and words decoded correctly. However, the opposite was true in first grade, where students in classrooms with teachers who completed more self-paced online professional development exhibited statistically significantly lower scores in spring DIBELS composite, correct letter sounds, and words decoded correctly.

Researchers conducted a final set of multilevel models to examine whether variations in *RH Discovery* implementation could predict student outcomes. This analysis revealed statistically significant differences in the "words decoded correctly" subscale scores among kindergarten students based on class observation scores.

This study satisfies ESSA evidence requirements for Level III (Promising Evidence) due to its study design and the positive, statistically significant findings.

Reading Horizons