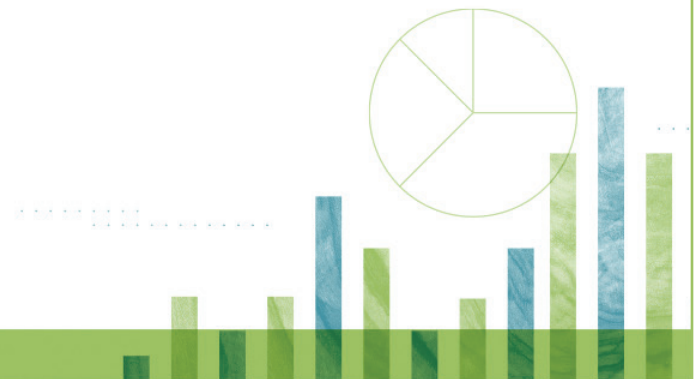




# Cleveland COUNTY Research Study

The Impact of the *Reading Horizons*® Method  
Implementation on Student Learning

Cleveland County Schools  
2021–2022 Academic Year



Where reading momentum begins

## Introduction

During the 2021–2022 academic year, Cleveland County Schools in Shelby, North Carolina, implemented the *Reading Horizons Discovery*® curriculum, which features the Reading Horizons® method based on the science of reading, in 49 classrooms across 16 elementary schools 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 for practice and application of the skills learned. RHD was designed to teach the RH method to students in kindergarten to third grade. Finally, Reading Horizons supports districts in using its software-embedded assessments (e.g., Spelling and Word Recognition Assessment and Check-Ups) and tools to evaluate the impact of RHD on student growth.

Cleveland County Schools, Reading Horizons, and Elite Research LLC collaborated to evaluate the impact of implementation and student performance, as measured by the *Reading Horizons Implementation Integrity Rubric* (RHIIIR) and the *Dynamic Indicators of Basic Early Literacy Skills* (DIBELS 8) assessment, respectively.

Elite Research, LLC found that outcomes increased from the beginning to the end of the year for all grade levels, and there were 43 significant interaction effects of teacher-level variables on student learning. Of significant note, implementation integrity of the RH method demonstrated small to large effects (Cohen's  $d$  ranged from .124 to .842) on student performance over the school year for all grades, controlling for demographics.

## Methodology

### PURPOSE

During the 2021–2022 academic year, Cleveland County collaborated with Reading Horizons (RH) 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.

### RESEARCH QUESTIONS

The following guiding research questions informed the study design:

1. To what extent do teachers implement RH with integrity, as measured by the *Reading Horizons Implementation Integrity Rubric* (RHIIIR)?
2. How much do students grow as a result of exposure to the RH method throughout the 2021–2022 school year?
3. What is the relationship between teacher implementation of RH and student performance and growth, measured by the DIBELS 8 assessment composite scores and the relevant individual subscales?

### STUDY DESIGN

This study employed a one-group pre-post quasi-experimental design. Elite conducted a four-level mixed model regression analysis accounting for the nested structure of the data (e.g., repeated measures nested within student, classroom, and school). Analysis was conducted within grade to allow for proper comparisons. A pre to post variable that captured average student performance at the beginning, middle, and end of year assessment points was included in the model. Key demographic covariates included in the models were Gender, Special Education, English Language Learner status, and Race/Ethnicity to account for selection bias. To assess the primary research question, the implementation integrity score developed by Reading Horizons (see discussion below), which was measured at the teacher level, was included in the model and interacted with the pre to post variable. This cross-level interaction was conducted to assess the impact of levels of implementation integrity on the outcome of interest over time. The results were considered statistically significant by the What Works Clearinghouse threshold of a  $p$ -value less than 5% ( $p < .05$ ).

## MEASURES

**Implementation integrity** – The RHIIR contains five indicators that measure implementation integrity across four levels of practice:

- **Level 1 Emerging:** The educator is still learning about this element or is in the early stage of planning how to do this in the classroom.
- **Level 2 Exploring:** The educator has begun experimenting with this element in the classroom but has yet to form daily habits that directly impact student learning.
- **Level 3 Engaging:** The educator consistently implements this element, has identified lessons learned, and made minor improvements. Consistent practices translate to impacts on student learning.
- **Level 4 Empowering:** The educator can leverage the program's full intent, making meaningful adaptations that equitably serve all students.

To measure implementation of the RH method, classroom observation scores across all five indicators of the RHIIR were averaged, creating three groups of educators whose overall rubric score averages were  $X_1=1.0$ ,  $X_2=2.16$ , and  $X_3=3.4$ , respectively. The reliability estimate for the composite rubric scores was adequate and desirable for this type of analysis (scale: 1 to 4; reliability=.764).

**Student performance** – The DIBELS 8 assessment.

DIBELS 8 is a timed assessment that includes six grade-specific reading subscales: letter naming fluency, phonemic segmentation fluency, nonsense word fluency, word reading fluency, oral reading fluency, and maze.

The following are subscales used for the analysis:

- 1) phonemic segmentation fluency;
- 2) nonsense word fluency;
- 3) word reading fluency; and
- 4) oral reading fluency.

These subscales were selected given their close alignment to the learning outcomes identified in the *RH Discovery* curriculum.

## Overview of Program Implementation

Cleveland County Schools is a public school district with 28 schools, 990 teachers, and 14,200 students. In fall 2017, Cleveland County Schools implemented the

*RH Discovery* curriculum in six pilot schools. Cleveland County Schools selected Reading Horizons because they saw early results with students due to the *RH Discovery* program's simple marking system. Cleveland County Schools also sought a program that offered students a consistent phonics program and deep levels of implementation support.

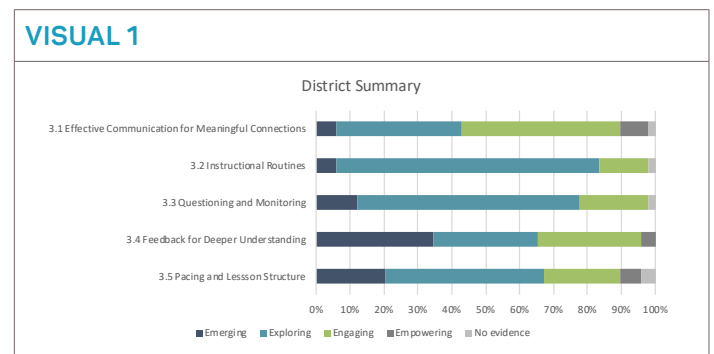
During the 2017–2018 school year, Cleveland County Schools purchased and implemented the direct instruction curriculum and software and supported their implementation by offering Reading Horizons' in-person professional learning to all teachers. They also provided the Reading Horizons' Coaching Days, which is approximately two days of support per year. In the 2021–2022 school year, 12 of the 15 elementary schools fully implemented *RH Discovery* in grades K–2 as Tier 1 phonics curriculum. Cleveland County held six professional learning sessions throughout the year to support implementation. A typical Tier 1 (full class) lesson occurred whole class daily, for approximately 30 minutes, from August through June. In addition, all elementary schools utilized *RH Discovery* to support students in grades K–3 at the Tier 2 and Tier 3 levels. For the 2022–2023 school year, Cleveland County Schools will have more than half of the elementary schools implementing *RH Discovery* in grade three.

## Results

### Question 1: To what extent do teachers implement RH with integrity, as measured by the *Reading Horizons Implementation Integrity Rubric (RHIIR)*?

Across the 49 classrooms where RH methods were observed, most teachers demonstrated evidence of Exploring or Engaging levels on the progression of practice for each of the five key indicators of implementation integrity.

#### VISUAL 1



**Question 2: How much do students grow as a result of exposure to the RH method throughout the 2021–2022 school year?**

As a result of exposure and teacher use of the RH method, students’ composite, nonsense word fluency, and oral reading fluency scores across all grade levels increased from pre to post. Phonemic segmentation fluency scores also increased for grades K–1, and word reading fluency scores increased for grades 1–3.

**VISUAL 2**

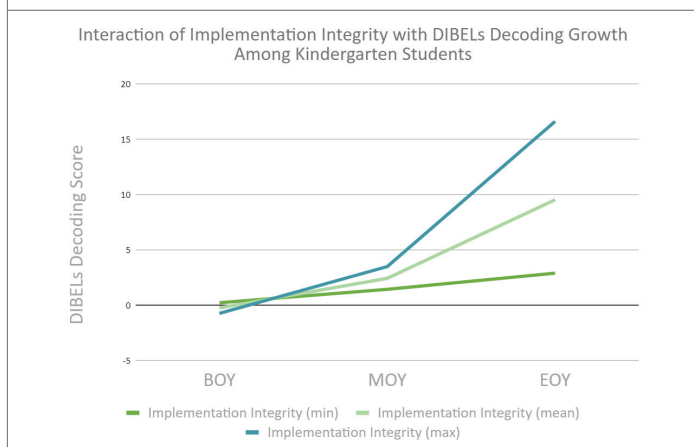
Green + indicates statistically significant, positive results. N/A indicates that no observations were gathered for the particular subscale.

Scale	Grade K	Grade 1	Grade 2	Grade 3
Composite Score	+	+	+	+
Phonemic Segmentation Fluency	+	+	N/A	N/A
Nonsense Word Fluency	+	+	+	+
Word Reading Fluency	N/A	+	+	+
Oral Reading Fluency	+	+	+	+

**Question 3: What is the relationship between teacher implementation of RH and student growth?**

To measure implementation of the RH method, classroom observation scores across all five indicators of the RHIR were averaged, creating three groups of educators whose overall rubric score averages were  $X_1=1.0$ ,  $X_2=2.16$ , and  $X_3=3.4$ , respectively. Average student growth from the middle to the end of the year was significantly higher for students in classrooms where teachers scored higher on the rubric than in classrooms where teachers scored lower on the rubric, particularly on the *Nonsense Word Fluency* subscale (see Visual 3).

**VISUAL 3**



Teacher implementation integrity impacted student growth the most in kindergarten, first, and second-grade classrooms:

- For kindergarten students, teacher classroom ratings impacted the composite score ( $d = .124$ ) and phonemic segmentation fluency ( $d = .230$ ), nonsense word fluency ( $d = .842$ ), word reading fluency ( $d = .368$ ) scales over time. In all instances, higher classroom ratings indicated higher outcome scores compared to lower classroom ratings by EOY.
- For first-grade students, teacher classroom ratings impacted the phonemic segmentation fluency ( $d = .295$ ) and scale over time. In this instance, higher classroom ratings indicated higher outcome scores compared to lower classroom ratings by EOY. It should be noted that composite score and word reading fluency were also significant interactions but had negative effects or an incorrect ordering.
- For second-grade students, teacher classroom ratings impacted the composite score ( $d = .140$ ), nonsense word fluency ( $d = .258$ ), word reading fluency ( $d = .337$ ), and oral reading fluency ( $d = .177$ ) scales over time. In all instances, higher classroom ratings indicated higher outcome scores compared to lower classroom ratings by EOY.

**Conclusions**

In all analyses, student performance outcomes increased from pre-test to post-test in all instances.

Implementation integrity of the RH method, as measured by the classroom observation scores on the RHIR, was statistically significant and showed small to large effects (Cohen’s  $d$  ranged from .124 to .842) on outcomes for all grades, controlling for demographics.

Substantial effects of observer ratings on composite scores, phonemic segmentation fluency, nonsense word fluency, and word reading fluency over time were identified for kindergarten students. Of particular note was a large effect size for observer ratings over time on nonsense word fluency.

The results of the study exploring the relationship between implementation and outcomes (Research Question 3) demonstrates that the RH method, as is implemented via its K–3 literacy solutions, meets the What Works Clearinghouse ESSA Tier 3 requirements – *Promising Evidence*.

THIRD PARTY RESEARCH FIRM

