

# A Comparative Study of the RedThread Foundations Curriculum

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# Introduction

Learning how to read is an exciting time in a young child’s life. In these early years, children are introduced to the foundational skills, how letters and sounds connect to build words that form sentences, all of which can lead to the wondrous reading adventures that lie ahead for them. Yet many of our young children have been robbed by historical circumstances of the benefits of early literacy instruction. Studies show that three years after the start of the COVID-19 pandemic, **almost 60% of our nation’s children cannot read at grade level**. Literacy in American schools is still in crisis as evidenced by the most recent Nation’s Report Card (e.g. National Assessment of Educational Progress) scores.

Recent reforms across the United States have recognized the urgency to improve children’s skills. Today more than 45 states have issued new laws calling for instruction based on the science of reading. Collectively, states are requiring school districts to move toward a structured literacy approach that relies on systematic and sequential instruction on foundational skills and knowledge-building programs. Responding to the need for evidence-based programs, this paper reports the results of an innovative structured literacy program on children’s developing decoding, oral reading, and comprehension skills. Using a quasi-experimental study, it examines short-term gains in reading skills among first-grade students in a high-poverty district who were significantly below grade level.

## Together, the research provides several key takeaways:

1. A high-quality curriculum with coaching support can significantly and efficiently improve children’s decoding skills.
2. Improvements in decoding skills are associated with improvements in oral reading and comprehension.
3. Established routines in a structured literacy program enhance children’s decoding and reading proficiency.

## How Do Children Learn How to Read?

It's a journey! Children begin developing the knowledge and skills they will need to learn to read from birth. As children hear spoken language in their environment, they then begin to understand and later produce spoken (oral) language. Through listening to others and then learning to speak themselves, they are gaining exposure to and knowledge of the sounds of their language. This knowledge then lays the foundation for their development of phonological awareness and later *phonics skills*, which are integral for them to associate speech sounds with letters and begin to read print.

## Why is Teaching Phonics so Important?

***Reading is not an instinctive, natural process***, like learning to speak verbally or learning to walk. Each letter in English corresponds to multiple sounds – think of the /a/ in the word 'cat' or the /a/ in the word 'late' or the /a/ in the word 'ball' or the /a/ in the word 'zebra.' As a result, children need to be explicitly taught phonics – the code of letter-sound relationships – and then practice it frequently.

Research has consistently shown the effectiveness of systematic phonics teaching in helping children make significant progress in reading. Scientific studies have found that **students who receive explicit phonics instruction outperform those who receive non-systematic or no phonics instruction.**

A systematic approach to phonics is particularly beneficial for struggling readers and those with reading difficulties. The use of visual aids, such as letter symbols, magnetic letters, or letter tiles, can be especially helpful in allowing children to manipulate letters and sounds to make new words. By providing them with the foundational skills they need to understand and apply spelling patterns, children can quickly learn to recognize letter-sound relationships and decode unfamiliar words, leading to fluent reading.

## Students benefit from instruction that is explicit, systematic and sequential:

**Systematic:** instruction moves through a specific scope and sequence that progresses from easy to complex and includes review and repetition

**Explicit:** students are directly taught about letters, words, and spelling patterns

**Sequential:** lessons progress in a logical order and build upon prior knowledge

*Therefore, with a solid foundation in phonics, children will become better equipped to become fluent readers and confident writers.*

### Key Study Questions

It is critical for young children to develop these foundational skills early on when they are first learning to read. First grade plays a pivotal year for ensuring that children have a solid understanding of the alphabetic insight, and the speech-to-print match essential for decoding. This study was designed to examine the degree to which these initial phonics skills are developed and their effects on oral reading and comprehension skills.

Specifically, the goal of the study was to address the following questions:

1. **Do children learn fundamental skills using the RedThread Foundations curriculum** compared to a control who used a well-known curriculum?
2. **What is the impact on children's overall reading gains** as measured by oral reading and comprehension?

### Our Methodology

Two elementary public charter schools from a high poverty school district were recruited for this study. Both schools resided in the same neighborhood and had similar economic demographic characteristics.

## Our Methodology, cont'd

Seven first-grade classrooms agreed to participate in the study; four in the treatment group, and three, in the control. All teachers were women and African-American; similarly, most children were African-American, with about 20% Latinx. Class size varied from 23-27 children, with a total sample size of 173 first graders (T=98; C=85).

Prior to the start of the study, children were administered a standardized assessment (TOWRE), a criterion-referenced assessment (e.g. adapted CORE), both of which were designed to examine children's phonological skills, and an informal reading inventory (e.g. QRI) to measure their oral reading and comprehension skills. These measures are described in more detail below.

**Phonological decoding.** The Test of the Word of Reading Efficacy (TOWRE) is an individually administered standardized assessment designed to measure children's fluency in phonetic decoding skills. The child is given a list of pseudo-words and asked to read as many as he or she can in two minutes. The total score is equal to the number of accurate pronunciations within the time frame. (Torgesen et al., 2015). Raw scores are converted to grade equivalent scores for easy interpretation.

**Phonics skills.** Children's phonics skills were measured using an adapted version of the CORE, a phonics measure designed by Scholastic Books. Since it was the beginning of the year, the assessment measured the child's knowledge of uppercase and lowercase letter names, consonant sounds, reading short vowels, and spelling. CORE-PS is a reliable and valid assessment of elementary-aged students' decoding and reading phonics knowledge (Reutzel et al., 2014).

**Oral reading and comprehension.** The Qualitative Reading Inventory (QRI) is a published informal reading inventory, designed to measure a child's oral reading skills, miscues, and reading comprehension. Children are asked to read a paragraph at a particular 'grade level' based on their performance on the CORE. If miscues exceed five per paragraph, the child is then given an easier paragraph; if the child reads rather fluently with minimal miscues, a more difficult passage is given. Following the oral reading, the administrator asks the child comprehension questions about the passage.

## Procedures

The study took place over a 12-week period. Prior to instruction, children were individually pretested in treatment and control classrooms in the Fall, 2023. Following pretesting, children in the treatment group received instruction in the RedThread Foundations curriculum, while those in the control group received instruction from a commonly used systematic phonics curriculum. Both groups of children received the same amount of time in phonics instruction.

After two weeks of intervention, researchers conducted a fidelity checklist to determine how closely each teacher followed the daily lesson plan. Subjective measurements, such as quality of instruction and child engagement were also noted. ***Since both treatment and control conditions were highly scripted, high fidelity to the program was found in the majority of classrooms.***

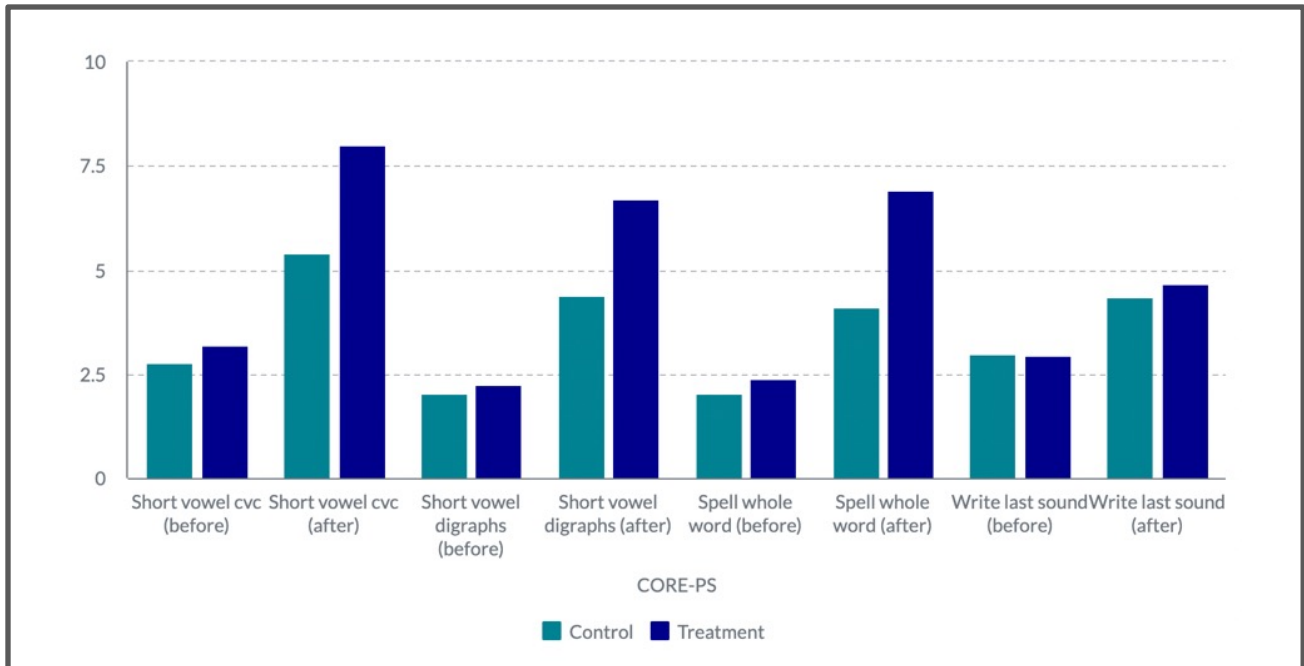
## What We Found

Our pre-test measures indicated no significant differences between treatment and control groups prior to treatment. This was promising since it would suggest that any differences found in gains might be due to the differences in a program's effectiveness rather than due to prior learning. At this initial step, it was evident, however, that children already knew their letter names, both upper and lower-case, scoring at ceiling for both assessments. These subtests were subsequently dropped from post-tests due to their lack of variability. Similarly, scores on the QRI were not significantly different prior to treatment.

## Results

***Our results showed dramatic gains in favor of the RedThread curriculum.*** Children made significant and important gains in their identification of short vowel words, digraphs, and spelling short vowel whole words compared to the other well-known program. These differences were not only statistically significant but also educationally significant.

Figure 1.  
Gains in scores as a result of a 6-week intervention with RedThread curriculum

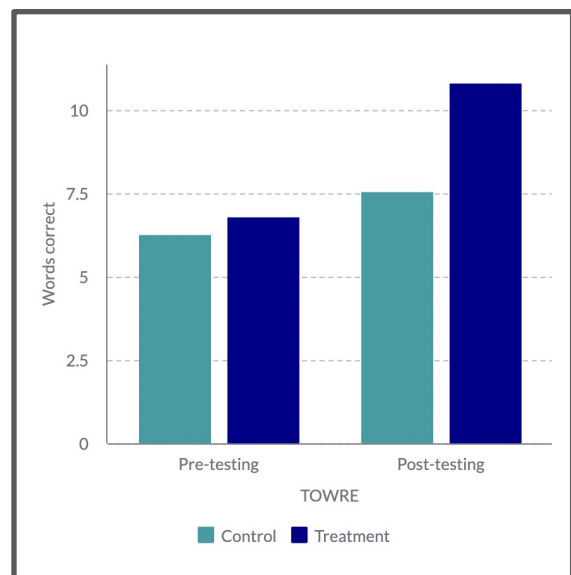


Looking at the standardized measure of phonetic decoding (e.g. TOWRE), we saw a similar pattern. **There were striking gains in children’s scores due to the RedThread curriculum.** Prior to treatment, children were about a standard deviation below norm in their scores; following the treatment, they were near average.

Moreover, the effect sizes showed that these gains were educationally meaningful. Effect size indicates the magnitude of the differences between groups. It is the difference between the average or mean outcomes in two different groups. Note that both of these groups received phonics instruction.

**Consequently, the differences between these gains is noteworthy.**

Figure 2:  
Gains on the TOWRE assessment



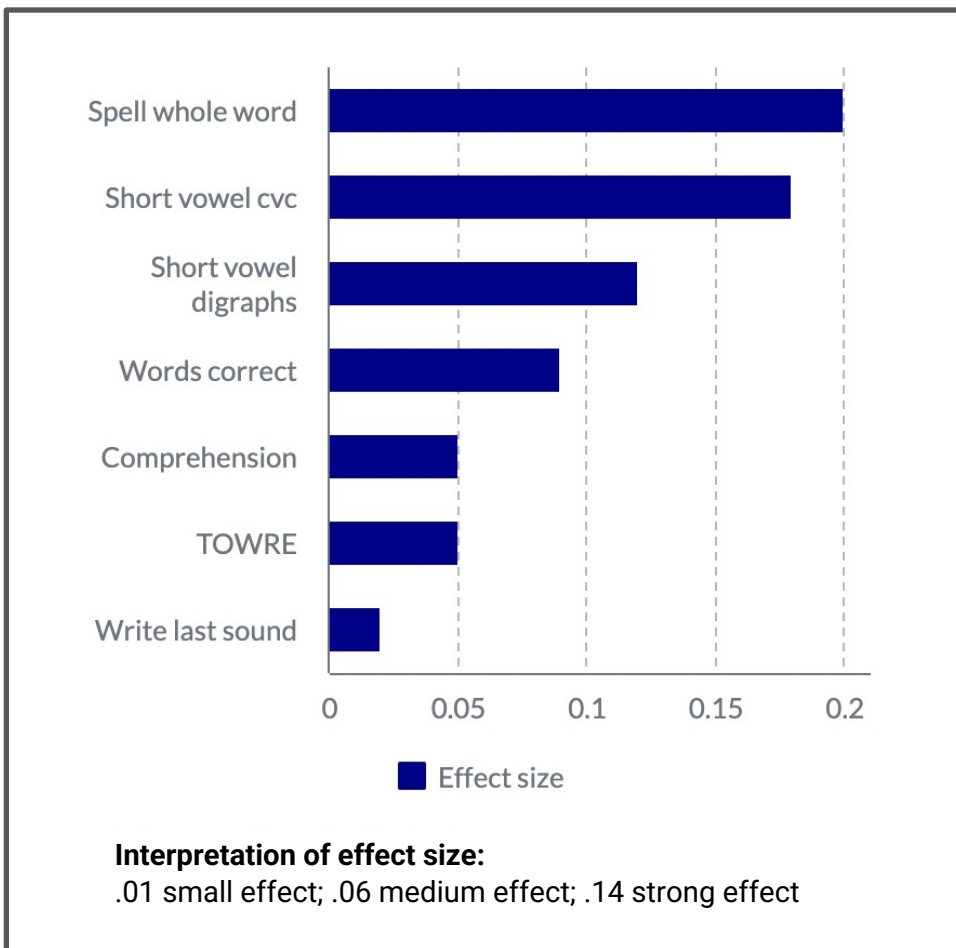


## Oral reading and comprehension

**One of our most exciting findings was the subsequent gains in reading.** Prior to treatment, over half of the children in both groups were at the most basic, or pre-primer, level of reading. Roughly 70% of children were reading below grade level in the treatment group and approximately 75% of children reading below grade level in the control group.

**Following treatment, children in the treatment group grew significantly in their overall reading skills with about half of the children in the treatment group now reading on grade level.** Once again, these differences were statistically significant and educationally meaningful.

**Figure 3.**  
**Summary of RedThread curriculum effect size gains**



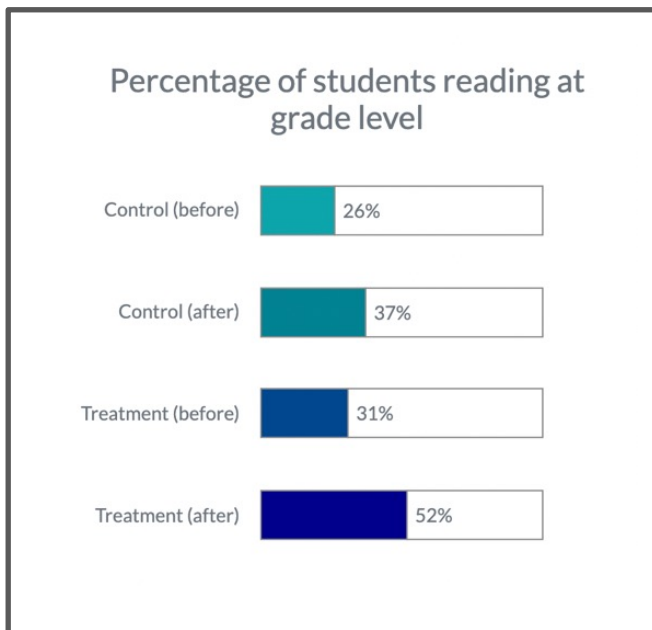
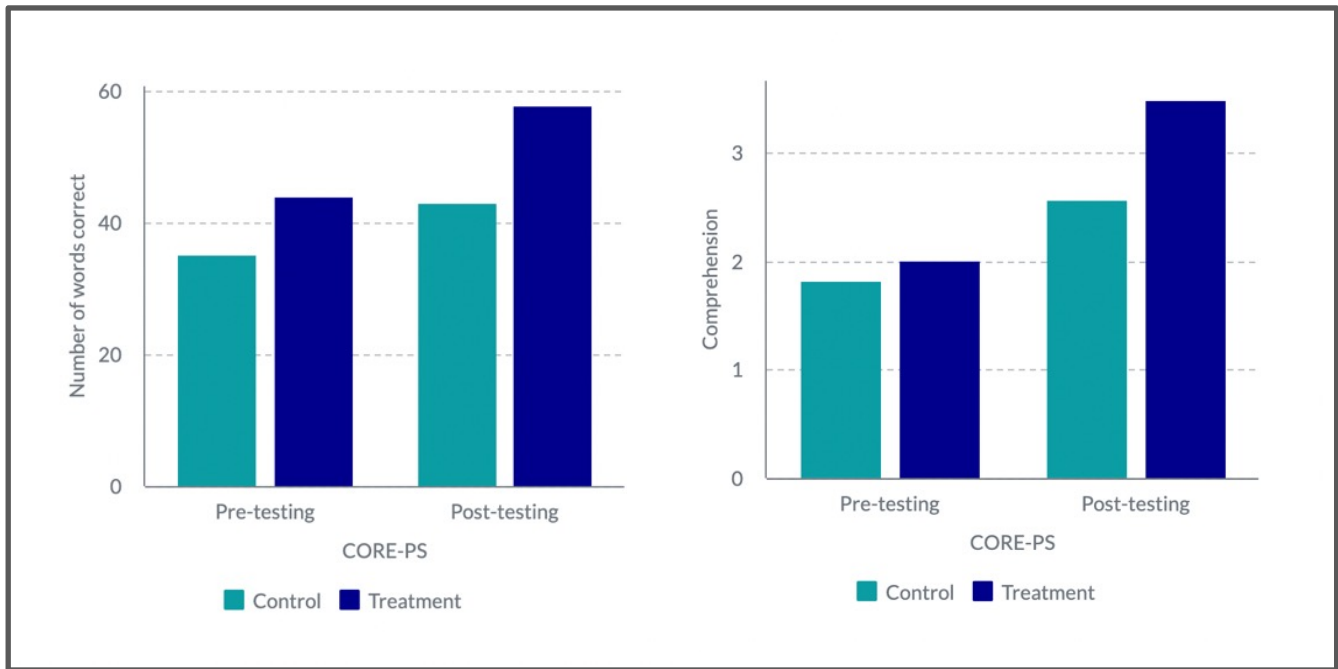
*Children in the RedThread treatment group grew significantly in their overall reading skills, with about half of the children in the treatment group now reading on grade level.*

## Results, cont'd

In the following graph, these differences were evident in the number of words children were able to read correctly, and the number of comprehension questions they answered.

Figure 4.

**Gains on the QRI** (e.g. number of words read correctly and comprehension score)



As shown in the graph at left, over one-quarter of the children before our study were reading below grade level at the start of school.

***Following the six weeks of the RedThread curriculum, over half of the children are now reading at the first grade level.***

Also of note, gains in word reading and comprehension for the control condition, also receiving phonics instruction, were still substantially below grade level after the six-week period.

## Conclusions

### Our findings lead to several important conclusions.

***First, it is evident that with high-quality, explicit instruction in phonics, children can improve their skills efficiently and effectively.*** This finding is especially exciting given the short (6 weeks!) intervention period. Observational data suggested that these gains might be tied to the specific routines developed throughout the program. For example, we found that even during the assessment period, children would verbally recall the routines within the curriculum to recall certain sounds and digraphs.

***Second, these data suggest that children's ability to decode is directly related to their ability to read orally.*** Children were able to accurately read many more words than those in the control group.

***Third, these results also highlight that attention to phonics does not impinge upon children's ability to answer comprehension questions, a common criticism of phonics instruction;*** in fact, comprehension skills improved as a result of the intervention. In just a short time, children who were taught using the RedThread curriculum improved in decoding words and spelling words. Our results, therefore, may elucidate how reading ability develops in real-time: being able to decode the words leads to being able to understand the ideas the words contain.

It will be important in the future to examine the full range of the phonics program for children and how the curriculum relates to the knowledge-building component to provide a comprehensive reading program for young children that ensures their success in the future.



## About Lavinia Group's RedThread Foundations Curriculum

[RedThread Foundations](#), a phonics program for students from kindergarten to second grade, provides a structured literacy framework that emphasizes explicit and systematic instruction.

Grounded in comprehensive research, key components of the curriculum include phonological and phonemic awareness, rapid and automatic recognition of letter names and sounds, precise letter formation, proficient decoding, and encoding strategies, effective sentence writing techniques, and mastery of irregular and high-frequency sight words.

The phonics program includes detailed Teacher Guides, offering structured lesson plans and instructional strategies, and an extensive library of decodable texts, RedThread Readers, to complement a Student Workbook and other teacher and student materials.

With its emphasis on explicit instruction and systematic progression, it addresses the complexities of the English language using the science of reading.

## About the Authors

**Dr. Susan B. Neuman** is a Professor of Childhood Education and Literacy Development at the Steinhardt School at New York University. Her research and teaching interests include early childhood policy, curriculum, and early reading instruction for children who live in poverty. Previously she served as the U.S. Assistant Secretary for Elementary and Secondary Education under George W. Bush. In her role, Neuman established the Reading First program, the Early Reading First program, and was responsible for all activities in Title I of the Elementary and Secondary Act. She has written over 100 articles and authored and edited 11 books.

**Ms. Lauren Krieger** has a multidisciplinary educational and professional background with experience in early childhood education and intervention, language development, public health, and child protection. She worked as a speech-language pathologist in schools, home environments, and early childhood programs across New York City for more than 10 years, and has worked in the non-profit sector at Doctors Without Borders USA and UNICEF headquarters in New York City.

**Ms. Jefra Rees** is currently a doctoral student in the Teaching and Learning Department at NYU. She brings over two decades of professional experience and a broad knowledge and skill set pertaining to child development, family systems, early education, and working with children and families in stressful contexts. As a direct service provider within the realms of early childhood intervention, addiction recovery, and early childhood education, she has witnessed many successes in both home-based and community-based programs.