

SCIENCE OF READING IMPLEMENTATION

BRIEF #8

USING the SCIENCE of IMPLEMENTATION to IMPLEMENT the SCIENCE of READING

Co-Authored by the Science of Reading Fellowship Team: Patricia Albornoz, Kelley Bendheim, Dennis Davis, Alesa Falcone, Kiara Felts, Rebecca Griffith, Rhonda Grode, Micere Keels, Julia Lashley, Kindel Nash, and Paola Pilonieta





INTRODUCTION

The urgency of improving reading instruction is highlighted by the most recent National Assessment of Educational Progress results, which show that slightly more than half (58%) of North Carolina's fourth-grade students are reading at or above the basic level of proficiency, which is below pre-pandemic levels of reading proficiency. When these numbers are disaggregated, it becomes clear that the burden of low reading proficiency is carried by children with fewer family and community resources. Only 47% of children in economically disadvantaged families scored at or above basic reading proficiency compared to 72% of children in not economically disadvantaged families. These disparities highlight the need to ensure that schools and teachers serving children in low-income families have professional development, coaching support, and curriculum tools needed to deliver evidence-based instruction.

The Science of Reading (SoR) implementation case studies shared in Briefs 2 through 6 make clear that improving reading instruction “requires a culture of shared leadership that engages teachers, specialized personnel, coaches, principals and administrators, families, and the community as partners around a set of common, aspirational values and beliefs.”

Prior to the [2021 Excellent Public Schools Act legislation](#), North Carolina teachers were using an unstructured system that enabled many to utilize ineffective practices associated with the belief that exposure to text, including looking at pictures and guessing the words, would be enough for most children to become proficient readers. Now, the common goals detailed in the [Excellent Public Schools Act legislation](#), requires educators across the state to transition reading instruction practices from an unstructured system that enabled many to utilize ineffective practices associated with the belief that exposure to text, including looking at pictures and guessing the words would be enough for most children to become proficient readers, to a system of structured literacy based on the understanding that reading is learned through [sequenced instructional practices of teaching increasingly complex skills](#).

Common knowledge is being developed through [Language Essentials for Teachers of Reading and Spelling \(LETRS\) training](#) and ongoing support from the Department of Public Instruction. LETRS training provides NC's early elementary teachers with strong foundational knowledge in research-based understandings of how children learn to read. By the end of the 2024-25 school year, [over 44,000 kindergarten through fourth-grade teachers in traditional elementary schools across the state had completed the comprehensive training on the SoR.](#) All new educators who don't have training in structured literacy will also have to complete LETRS training.

Now, teachers and schools need strong implementation plans for making small and large shifts to ensure that all students, especially those from lower-income and lower-educated families, have the best chance of becoming proficient readers.

Becoming a proficient reader requires learning several increasingly complex skills:

- Oral Language, including awareness of words through listening and speaking in a language-rich environment.
- Phonological Awareness, including awareness of speech sounds and the ability to identify the sounds that make up parts of words.
- Phonics, including the ability to match letters with the sounds they represent.
- Vocabulary, including knowledge of words, their definition, and the concrete items they represent.
- Decoding, including the ability to use knowledge of letter-sound relationships, including knowledge of letter patterns, to correctly pronounce written words.
- Fluency, including the ability to read connected text with accuracy, expression, and at an appropriate rate.
- Comprehension, including the complex process of reading text and constructing meaning from text.
- When the components of proficient reading are listed out in this way, it is easier to see that very intentional instruction is needed.

CRITICAL LESSONS FROM THE SCIENCE OF IMPLEMENTATION

Just like there is a science to teaching reading, there is a science to implementing change that can guide North Carolina schools through an urgently needed change process that must be done in ways that are manageable for educators. Implementation is the structured process by which schools and educators can build systems in the state's department of education, each school district, and each individual school to ensure that all teachers use the most effective reading instruction practices.



In the remainder of this brief, lessons from the science of implementation are combined with recommendations from the SoR Implementation Fellows to increase the likelihood that districts, schools, and individual classroom teachers will make sustainable shifts in increasing students' exposure to reading instruction aligned with the SoR. The Fellow's recommendations are particularly insightful because classroom teachers and literacy coaches are the ones who are closest to and familiar with students' needs.

When individual educators make improvements that produce positive outcomes, they can be replicated in other classrooms, scaled up to the building level, and shared across the state.

The science of implementation informs us that it is difficult to make collective change without a shared vision and shared understanding of why aligning one's practices with the SoR will lead to improved outcomes.

Consistent with this, the Fellows recommend that it would be helpful for administrators to complete a more comprehensive training on SoR principles. This training should be almost as in-depth as the one teachers receive. In contrast, the current LETRS for administrators training provides a more conceptual understanding of the issues. Additionally, all teachers and literacy support staff in charter and private schools where LETRS is not offered should receive an alternative comprehensive free SoR training, such as [Reading Rockets Reading 101](#). All students deserve to be in classrooms with teachers who have the knowledge and skills to utilize the instructional practices that have been shown to give students the best opportunities to become proficient readers.

The science of implementation informs us that change plans need to be guided by a clear understanding of the current state of practice in all classrooms that provide reading instruction.

Consistent with this, the Fellows recommend the need for greater administrator engagement with instructional accountability, such as more frequent classroom observation and teacher coaching. The Fellows noted that this is an aspect of implementation where administrators with limited SoR knowledge stumble in the change process. If the principal and assistant principal (the leaders of the building) don't know what to look for to know whether teachers are aligning their instructional practices with the SoR, they are limited in their ability to ensure that students receive the most effective instruction. Fellows pointed out meaningful implementation differences between schools where the leadership completed the more comprehensive versus the brief training.

The science of implementation informs us that ongoing systems of support are necessary for educators to take what they learn in professional development workshops and use it to change their teaching practices.

Consistent with this, the Fellows recommend that training cannot be viewed as a one-and-done process. Teachers, paraprofessionals, and administrators need ongoing collective learning and shared feedback on how school systems, such as block schedules, instructional practices, and the use of data to group students for supplemental support, align with the SoR. Ongoing implementation support can come in the form of professional learning community discussions on topics such as research-based methods of enhancing curriculum materials to be responsive to students' needs. Ongoing shared capacity-building experiences are an important part of maintaining momentum.

The Fellows also highlight the need for schools to set aside time for vertical planning across several grade levels. It is not enough for teachers of a particular grade level to know what each other is doing and use similar instructional practices; they also need to know what is happening in the grade before and after. Vertical planning that seeks to align reading instruction across several grade levels can reduce learning gaps. Vertical planning would also

strengthen individual teachers' professional learning by providing exposure to effective instructional practices that have been implemented at other grade levels.

The science of implementation informs us that teachers need strong systems, such as connected reading and writing blocks, and effective tools such as sequenced curriculum materials aligned with the SoR to make improving their instructional practices easier.

Consistent with this, the Fellows stressed the need for stronger guidance from the state and district regarding aspects of reading instruction that should not be left to the discretion of individual schools. One set of needed guidance includes having a very short list of reading curricula and instructional tools with the best evidence regarding effectiveness. Another set includes requirements regarding how the school day should be scheduled to ensure that students in the earliest grades have ample blocks of time for reading and writing instruction, in whole-class and small intervention groups, so that struggling readers don't get left behind. The Fellows noted that in most schools, the administrators who make many of these critical decisions have limited knowledge of the SoR. Without strong guidance from the state and district, individual teachers have to take on the burden of convincing their principals to invest in systems and resources such as updated curricular materials, which is an added weight that classroom teachers shouldn't have to carry.



Additionally, there was much they still had to learn about using new assessment tools and how to match students to targeted interventions. A significant component of effective implementation of the SoR is matching instructional strategies to individual students' needs. Brief standardized screening assessments administered multiple times over each academic year enable teachers and administrators to quickly see whether the whole class and each student is making adequate progress. Individual struggling readers can then complete diagnostic assessments to identify the skills that are lacking and strategically select the instructional intervention that best teaches those skills.

As the Fellows worked to shift their instructional practices to align with what they learned about the SoR, they discovered that implementation is stronger when principals and other administrators also understand the SoR. Many implementation constraints are beyond the control of individual teachers. They learned that they need an ongoing professional learning community after completing LETRS training to become skilled in the new instructional strategies. To achieve greater consistency in the instructional strategies that students experience, the Fellows learned that many more members of the instructional team, such as special education, Multilingual instructors, and paraprofessionals, need a strong understanding of the SoR.. They also learned that no school, including charter schools, should be exempt from being required to use the most effective instructional practices.



The [science of implementation](#) can aid in addressing these and many more challenges that districts, schools, and individual teachers face in helping children become proficient readers. Implementation science research has found that [for schools to solve learning challenges](#), students must receive instruction from

- a teacher armed with an **effective intervention**, such as becoming skilled in instructional practices aligned to the SoR;
- who teach in a school with a **culture that promotes effective implementation**, such as providing them with supports such as reading instructional coaches and phonics-based curriculum materials;
- and for learning to occur within an **enabling context**, such as school schedules that facilitate an extended period of connected reading and writing instruction to maximize learning.

There are strong evidence-based practices that can be used to teach children to read, and we must continue the journey to ensure that children in all classrooms are experiencing the instructional strategies and individualized interventions that will give them the best chance of becoming proficient readers. As educators across the state continue their learning journey, the DPI OEL has a free LETRS professional learning community that works through all units of LETRS and is made to support school-level coaches for use in professional learning community meetings. Educators can utilize these resources individually and collectively as school teams.

- [District PLC Support for LETRS® Training: Volume 1](#)
- [District PLC Support for LETRS® Training: Volume 2](#)
- [District PLC Support for LETRS® For Little Learners](#)

North Carolina has invested in providing teachers with high-quality professional development on effective reading instruction. To ensure that we reap the benefits of those investments, educators need time. They need time to engage in professional learning communities at their school to learn how to implement what they have learned, and they need time to plan small group and individual reading interventions based on the new assessments they are required to administer. They also need supportive resources such as curricula and books that make it easier for teachers to deliver evidence-based instruction.

SERIES OF BRIEFS

BRIEF #1

Lessons Along the Pathway to
Implementing the Science of Reading
In North Carolina Classrooms

BRIEF #2

Science of Reading and the
Paraprofessionals in the Classroom

BRIEF #3

Lower and Upper Elementary
Attending to Both Sides of the
Reading Rope

BRIEF #4

Aligning SoR Practices Across
Content, EC, ML, AIG Educators

BRIEF #5

Creating A Master Schedule that
Maximizes the Literacy Block

BRIEF #6

Creating Whole School Change
When Legislative Mandates are
Lacking (focus on charter schools)

BRIEF #7

Role of Parents In Advocating
for Science of Reading Aligned
Instruction in Schools

BRIEF 8

Using the “Science of
Implementation” to Implement
the “Science of Reading”

CO-AUTHORS

PATRICIA ALBORNOZ is a Core Literacy
Teacher in Orange County, North Carolina

KELLEY BENDHEIM is the Assistant Director
of Early Literacy in the Office of Early Learning at
the NC Department of Public Instruction

DENNIS DAVIS is the Associate Professor of Literacy
Education at North Carolina State University

ALESA FALCONE is the Lead ELA Teacher
in Mecklenburg County, North Carolina

KIARA FELTS is a Pre-Kindergarten teacher
in Alamance County, North Carolina

REBECCA GRIFFITH is a Structured Literacy and
Dyslexia Specialist in Forsyth County, North Carolina

RHONDA GRODE is a Reading Specialist
in Wake County, North Carolina

MICERE KEELS is the Policy and Practice Lead at
the North Carolina Early Childhood Foundation

JULIA LASHLEY is an Academic Coach in
Robeson County, North Carolina

KINDEL NASH is a Spangler Distinguished Professor of
Early Childhood Literacy at Appalachian State University

PAOLA PILONIETA is an Associate Professor
of Reading and Elementary Education at the
University of North Carolina at Charlotte

[ACCESS ALL OF THE BRIEFS HERE.](#)