



# The Science of Reading

**Tools and Resources to Support Your Literacy Instruction**



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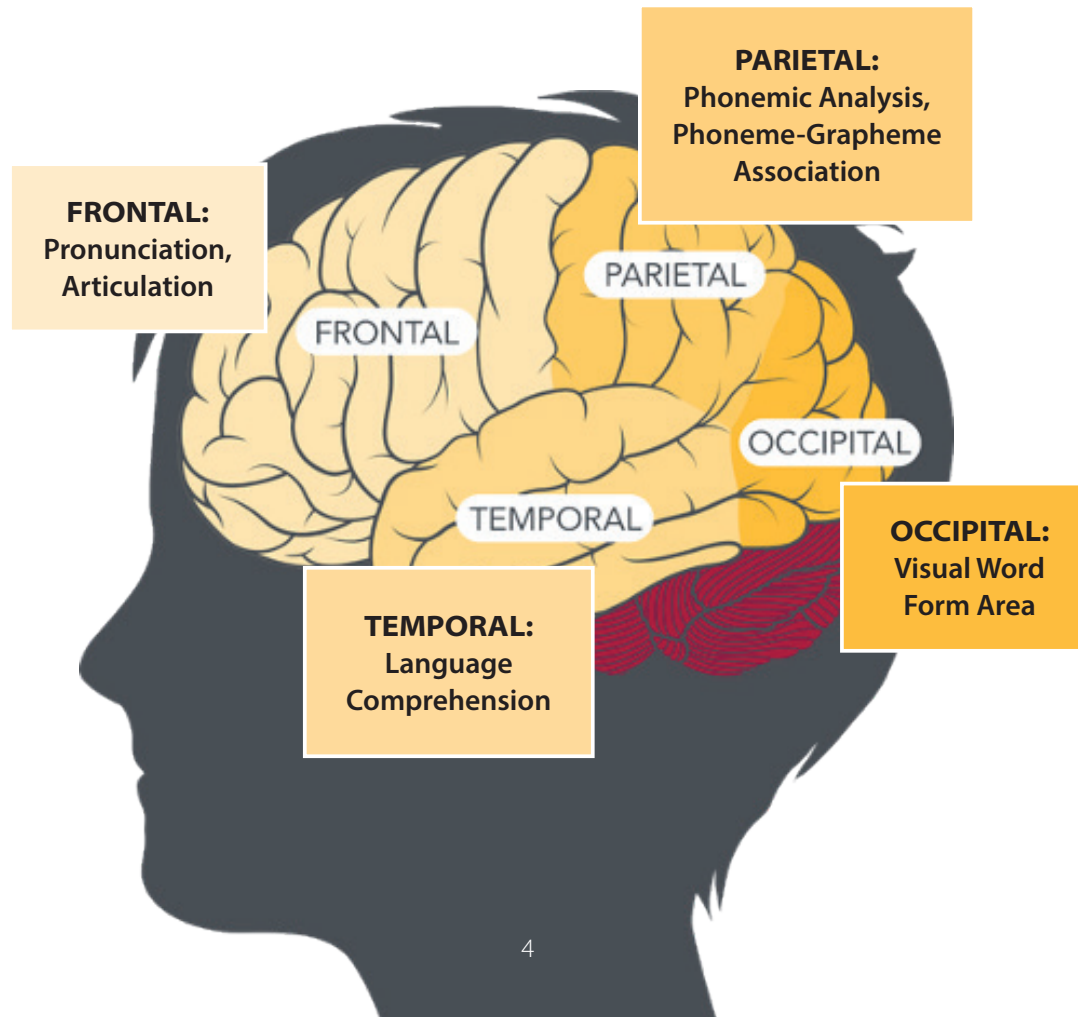
# THE COMPLEXITIES OF TEACHING READING

# TEACHING READING IS COMPLEX

*“Teaching reading IS rocket science.”—Dr. Louisa Moats*

Teaching reading is a complex process that incorporates decades of research into how students learn and how reading should be taught. Educators understand that teaching students to read fluently is the key to their overall academic success.

We know more today about how children learn to read, causes of reading difficulties and how to prevent them, and the essential components of effective reading instruction than ever before.



# MOST STUDENTS CAN LEARN TO READ

Nearly all students are capable of [learning to read](#):

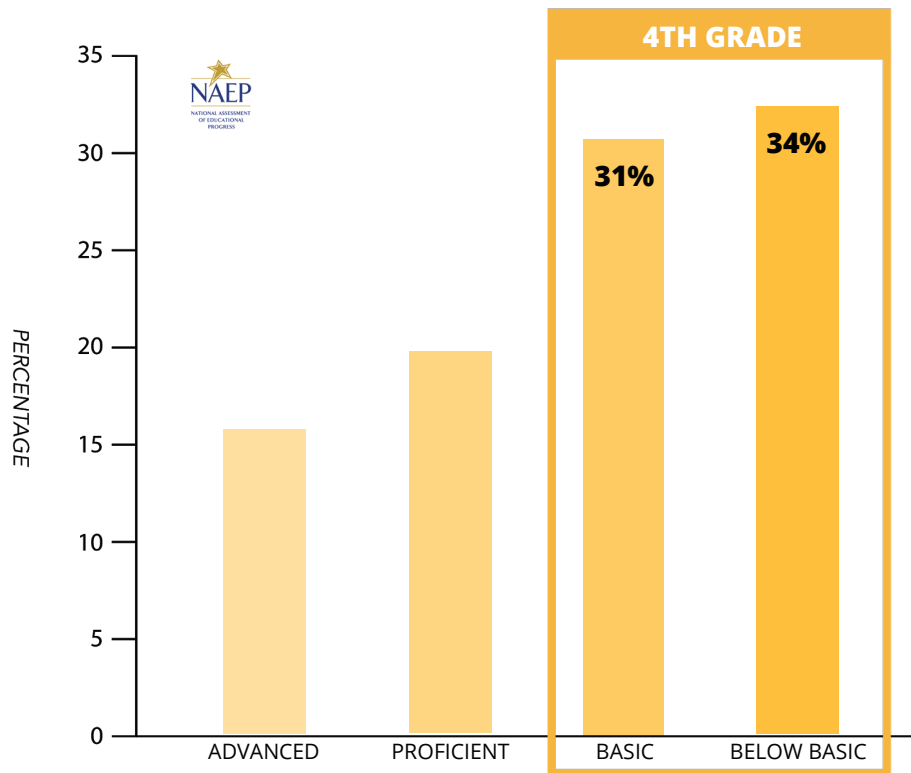
- About 20 percent of elementary school students nationwide have serious problems learning to read
- At least another 20 percent are at risk for not meeting grade-level expectations

The National Institute of Health estimates that only [5% of young readers](#) have cognitive impairments that are severe enough to prevent them from acquiring the skills they need to become fluent readers.



# LEARNING TO TEACH READING IS ALSO COMPLEX

Educators understand the importance of literacy and care deeply about helping students succeed. Unfortunately, most teacher preparation programs and professional development series do not prepare teachers to understand and effectively implement the science of reading in their daily instructional practices.



Only  
**51%**  
of higher education  
teaching preparation  
programs include the  
science of reading



# RESPECTED AUTHOR SAYS READING FAILURE IS UNNECESSARY

Dr. Louisa Moats, renowned literacy expert, former vice president of the International Dyslexia Association® and author of the **LETRS** professional development series, believes most reading failure is unnecessary. In her article [\*Teaching Reading Is Rocket Science: What Expert Teachers of Reading Should Know and Be Able to Do\*](#), Dr. Moats says that classroom instruction is the critical factor in preventing reading challenges. Teaching IS rocket science, but it is science with clear, specific, practical instructional strategies that all teacher should learn, know how to implement, and be supported in using.



Louisa Moats, Ed.D.

# THE 'READING IS NATURAL' MYTH



# READING IS LEARNED

Humans are not hardwired to read. Our ability to learn spoken language is so natural we hardly remember learning to speak. Reading, on the other hand, is not at all natural; it is a more-or-less modern innovation. In fact, anthropological records indicate the oldest alphabet is likely no more than 8,000 years old, a blip in time from an evolutionary standpoint.

Benjamin Riley's article, [Drawing on Reading Science Without Starting a War](#), gives some good news! With explicit phonics instruction, children can learn how written letters relate to sounds, allowing them to decode text. Students will transition from decoding text to becoming fluent readers with practice. Teachers should always make books and other texts available for reading practice, but this should never take the place of direct reading instruction.

Comprehension strategies have their place, but they will never compensate for students' lack of vocabulary or content knowledge; use them but don't overuse them. In the article, [How We Learn](#), Daniel Willingham cites compelling evidence that students must be able to decode fluently before any reading strategy can be effective.

This [Science of Early Learning: How Young Children Develop Agency, Numeracy, and Literacy](#) article provides excellent information about:

- How young children develop a sense of self (p. 4)
- How young children learn the meaning of the alphabet (p. 8)
- How young children become fluent readers, learn to understand what they read, and learn to express their ideas in writing (pp. 8–11)

# WHAT IT'S LIKE TO LEARN TO READ

For many of us, learning to read appears to come naturally. We do not recall HOW we learned to read; we just know the words on the page started to make sense at some point. Struggling readers will never forget the challenges they faced, many of which continue for them today.

While the debate rages on, Willingham believes we are more aligned than polarized. In his blog, [Just how polarized are we about reading instruction?](#), he cites six statements about children learning to read he believes most educators would be hard pressed to disagree with:

- The vast majority of children first learn to read by decoding sound.
- A very small percentage of children teach themselves to read without adult input.
- Children who receive systematic instruction in phonics can decode much more quickly than those who receive haphazard instruction.
- Phonics instruction is not a literacy program.
- Researchers have discovered that claims students are bored by systematic phonics instruction, which might negatively impact reading motivation, don't hold up.
- That said, there's certainly the potential for reading instruction to tilt too far in the direction of phonics instruction.

# THE SCIENCE OF READING

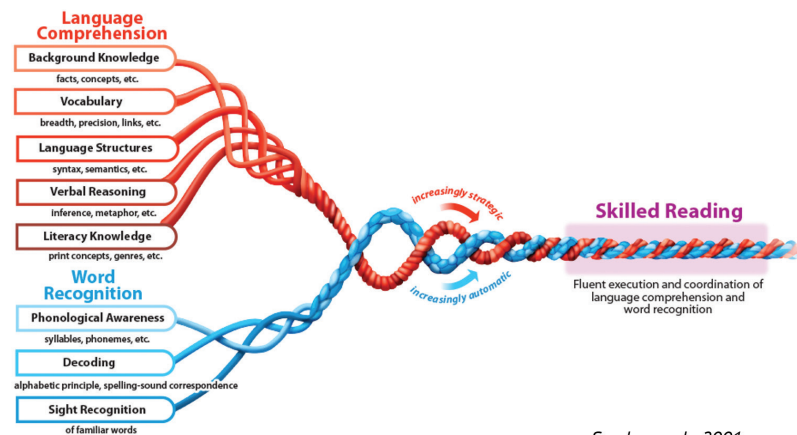
# THE SIMPLE VIEW OF READING

In 1986, psychologists Philip Gough and William Tunmer developed a scientific theory of reading comprehension they called “the simple view of reading.” Essentially, it states:

- Strong reading comprehension can only happen when both decoding and language comprehension are strong
- The formula seems simple:  $D \times L = RC$   
(Decoding x Language = Reading Comprehension)

[Hollis Scarborough](#) expanded on this idea in 2001 with the “Reading Rope,” a simple and elegant model showing that when word recognition and language comprehension subskills combine, reading happens.

- In a 2000 report, the National Reading Panel identified five components essential to reading and that, when taught skillfully and thoroughly, are highly effective:
  - Phonemic awareness—the awareness of the smallest units of sound (phonemes) and the ability to manipulate these sounds
  - Phonics—a way of teaching that stresses the acquisition of letter-sound correspondences and their use in reading and spelling
  - Fluent text reading—reading with accuracy, at an appropriate rate, and with expression
  - Vocabulary—the understanding of words and meanings
  - Comprehension—understanding the connected text



Scarborough, 2001



Click [here](#) to read more about what this means and how to apply it

# UNDERSTANDING THE SCIENCE

In a recent blog, Dr. Louisa Moats, [explains](#) that the term “science of reading” represents an emerging consensus based on thousands of studies conducted across the world, in many languages, that revealed a great deal about how we learn to read.

The research strongly supports the effectiveness of teaching phonics systematically, explicitly, and cumulatively. Early instruction in phoneme awareness is critical to helping students learn to read. Building vocabulary and background knowledge of text, as well as a content-rich curriculum, are key to supporting the development of language and reading comprehension skills.

Although there are thousands of studies to support the understanding that the human brain is NOT hardwired to read naturally, that students need explicit phonics instruction to understand how to connect letters, this research has not made it into many elementary school classrooms.

In fact, teacher-preparation programs are not teaching the science of reading because many administrators and faculty either don’t know of the science, or dismiss it outright.

For teachers, taking in the all of what the science of reading holds can be overwhelming. [LETRS](#)® (*Language Essentials for Teachers of Reading and Spelling*) training helps teachers learn how to deliver phonics lessons with small-group activities to ensure they meet the needs of students wherever they are in the “learning to read” process.

Teachers also learn how to incorporate all the areas of reading and literacy as detailed in Scarborough’s rope, including oral language and writing to meet the needs of all students.



Click here to [read](#) about how the Bethlehem Area School District implemented the science of reading after participating in **LETRS** training

## EDVIEW360 WEBINAR SERIES

To learn more about the science of reading and other literacy topics, visit [EDVIEW360 Webinar Series](#) to hear from experts in the field. Topics include:

- *How Executive Function Affects Early Childhood Language and Literacy Skills*, featuring Dr. Lucy Hart Paulson
- *Phonological Awareness, Reading, and Writing: What Teachers Need to Know*, featuring Dr. Carol Tolman
- *Is the Science of Reading Influencing Mainstream Educational Practices? Not Enough*, featuring Dr. Susan Brady and special guest Dr. Louisa Moats

AND IT WORKS!

# STORIES OF SUCCESS

- [Read this article](#) to understand how **LETRS** professional learning changed the way reading was taught, and how it positively impacted student achievement, in Stark County, OH.
- Danville, PA had a similar success story, and influenced the way reading instruction evolved in Seattle, WA as a result. Read that story [here](#).



# HOW IT WORKS



# ADDRESSING THE READING CRISIS

The research supporting the science of reading clearly indicates that the Structured Literacy approach to instruction is the most effective. Teachers, who have greatest impact on student achievement over all other factors, need professional learning that develops their understanding of Structured Literacy, and provides strategies to help them apply this learning to their practice.



*LETRS (Language Essentials for Teachers of Reading and Spelling)* is a powerful professional learning experience that effectively prepares teachers to address the reading crisis. Authored by literacy experts Dr. Louisa Moats and Dr. Carol Tolman, *LETRS* gives teachers the tools they need to teach language and literacy skills to every student, bridging the gap between research and classroom practice.

Aligned to the IDA Structured Literacy Standards, *LETRS* develops teaching practices proven to be effective in preventing and remediating reading difficulties for students of every age, including special education, English language learners, and students needing focused interventions.

Flexible delivery options include online delivery or a combination of online and face-to-face sessions, making *LETRS* to meet the specific needs of educators.



View the *LETRS* syllabus today! Visit [voyagersopris.com/LETRS/sample](https://voyagersopris.com/LETRS/sample)