Learning Ally®

Beyond the Buzzwords:

A Guide and Glossary for Brain-Based Reading Instruction

Literacy,
The Great American Divide

Reading is essential to the human condition. According to the National Center for Education Statistics (NCES), 21% of adults in the U.S. (about 43 million) fall into the illiterate/functionally illiterate category.

This issue starts in childhood. Sixty-five percent of fourth graders in the U.S. read below proficiency levels. These students are 400% more likely to drop out of high school. For the most vulnerable students – Black, Indigenous, and People of Color (BIPOC); low income; multilingual learners; and students with learning disabilities – the crisis is even more acute and has persisted for decades.

Providing reading instruction that is grounded in the science of reading may be one giant step toward a solution, especially for millions of children and adolescents from marginalized communities.

Children who struggle to read grow up with less economic prosperity, more physical and mental health issues, and deep feelings of failure. Low literacy rates also directly correlate to the increased juvenile and federal crimes and dependence on social welfare. Improving our nation's literacy rates has important financial ramifications; low levels of literacy result in $225 billion in U.S. workforce productivity losses.

This Guide and Glossary will explain two major theories underpinning the science of reading, as well as other key terms vital to the science of reading conversation.

65%

Percentage of U.S. Fourth Graders Who Read Below Proficiency Levels

400%

Percentage of Fourth Graders Reading Below Grade Level Who Are More Likely to Drop Out of High School

U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, National Assessment of Educational Progress (NAEP), 2019 Reading Assessment.

An Overview of Reading Instruction

Our history is fraught with debate and conflict over reading instruction. The term "reading wars" refers to the debate among educators and literacy experts on the most effective approach to reading: **(1) that of balanced literacy** or **(2) one with more explicit focus on foundational skills, like phonics.**

Dr. Molly Ness argues that the disagreement over effective reading instruction has become unnecessarily divisive, especially when a decades-old interdisciplinary body of research reveals that reading is an integration of word recognition and language comprehension.

"Reading is not an innate skill. For too long, educators believed that learning to read is a natural process, like learning to talk. Science over the past forty years says this belief is not true. Humans are not born with brains that are wired to read. We must be taught to read through explicit, systematic instruction."

— Dr. Maryanne Wolf

Brain-Based Reading Instruction

Brain-based reading instruction (instruction informed by the science of reading) refers to the interdisciplinary research that reading experts, especially cognitive scientists and psychologists, have conducted on how the brain learns to read. Over four decades in the making, this body of knowledge highlights the multifaceted nature of reading acquisition.

Groundbreaking findings from renowned research institutions help translate brain-based research into classroom instruction.

Importantly, the science of reading is not a trend. Nor is it singularly focused on one particular instructional component. Research indicates that the explicit, sequential, and systematic instruction of literacy skills is particularly effective for students at risk, including multilingual learners and those from high-poverty backgrounds. Teachers need to facilitate a systematic process that is consistent and comprehensive.

Leading Theories and Terms in Reading Development

A critical part of making large-scale changes to reading instruction is introducing teachers to the two major theoretical underpinnings of reading acquisition: the **Simple View of Reading** (Gough & Tunmer, 1986) and **Scarborough's Reading Rope** (presented by Hollis Scarborough, 2001). Both theories are powerful ways to capture elements necessary in curriculum and instruction.

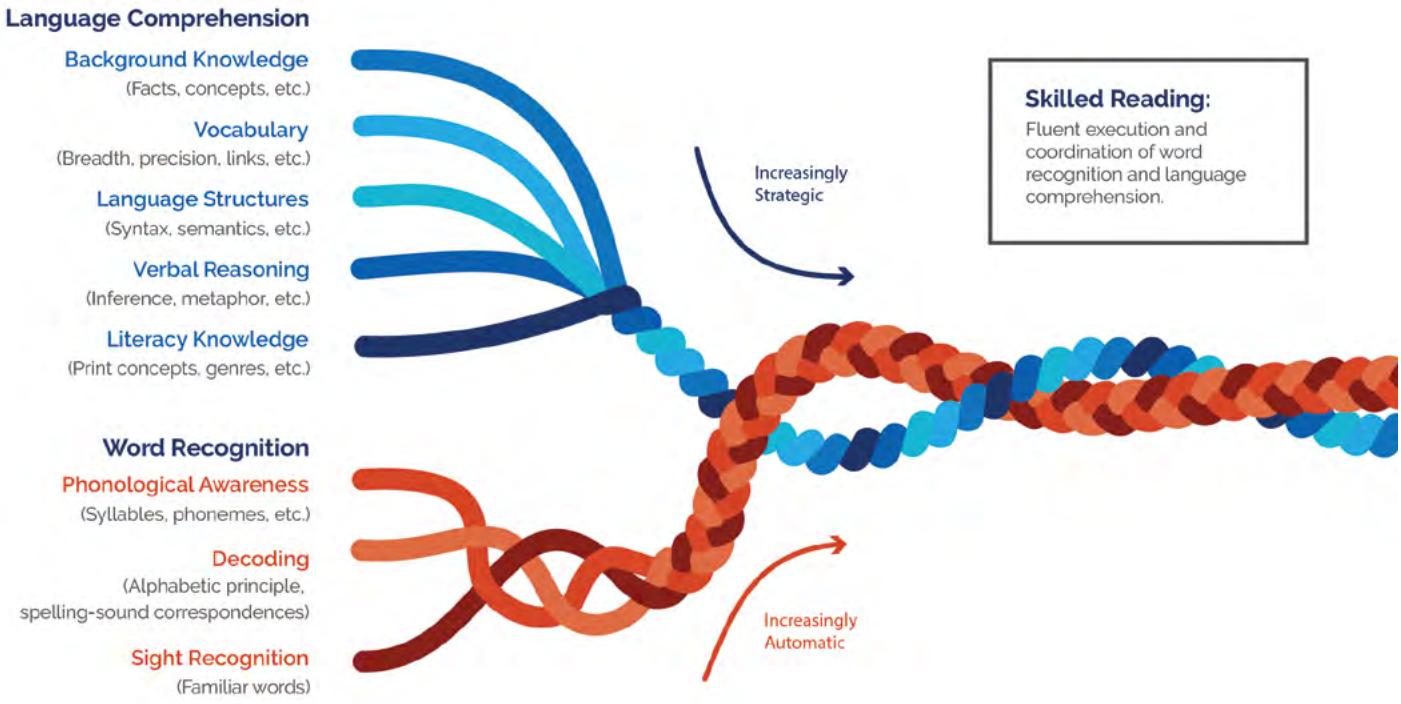
Simple View of Reading

The Simple View of Reading posits that reading is a multiplicative product of language comprehension and decoding. The Simple View of Reading theorizes that reading requires **(1) converting written words into speech** and **(2) understanding the language behind those words.**

Scarborough's Reading Rope

Another useful representation of the multifaceted nature of reading comes from Hollis Scarborough's Reading Rope (2001).

Each of the rope strands contain subskills. Individual strands intertwine, making reading automatic and fluent, so we can devote cognitive energy to comprehension. The strength of the rope as a whole relies on the strength of each individual strand. Notice that the rope is not suggesting a sequential laddering of skills presented.



This image presents reading as two major strands: **(1) language comprehension** and **(2) word recognition.**

Other Essential Aspects of Reading Are Defined Below:

Sight Recognition: Knowing a word by sight rather than needing to break the word apart. When readers immediately know written words and what they mean, they understand more. Readers who have to work to figure out many words in a text can lose track of the overall meaning and waste precious cognitive energy.

Background Knowledge: A reader's understanding of the specific concepts, situations, and problems associated with the words encountered in the text. Knowledge of the topic provides readers enough understanding to make meaning and build onto what they currently know.

Vocabulary: The words we need to know to understand what we read. Vocabulary plays a fundamental role in the reading process and contributes greatly to a reader's comprehension.

Semantics: The meaning and interpretation of words, signs, and sentence structure. Semantics largely determine our reading comprehension, how we understand others, and even what decisions we make as a result of our interpretations.

Syntax: Set of rules that determines the arrangement of words in a sentence. Along with diction, it is one of the key ways writers convey meaning in a text.

Encoding and Decoding: Encoding is the process of hearing a sound and being able to write a symbol to represent that sound. Decoding is efficient word recognition and the ability to apply knowledge of letter-sound relationships, including letter patterns, to correctly pronounce written words.

Phonics: A way of teaching reading that stresses the acquisition of letter-sound correspondences and their use in reading and spelling. The primary focus of phonics instruction is to help beginning readers understand how letters are linked to sounds (phonemes) to form letter-sound correspondences and spelling patterns. It also teaches them how to apply this knowledge in their reading.

Orthographic Mapping (OM): The formation of letter-sound connections to bond the spellings, pronunciations, and meanings of specific words in memory. It explains how children learn to read words by sight, to spell words from memory, and to acquire vocabulary words from print.

Dyslexia: A reading disability characterized by inaccurate and/or slow development of skills in printed-word reading and spelling.

Explicit: Important skills and concepts are taught clearly and directly by the teacher; students are not expected to infer them simply from exposure or incidental learning (Archer & Hughes, 2011).

Systematic and Sequential: Skills and concepts are taught in a logical order, with important prerequisite skills taught first (Torgesen, 2006).

"Broadening a child's knowledge base strengthens reading comprehension, builds vocabulary, and deepens agency or knowledge of the world – all of which help them to understand the text more clearly. Background knowledge serves as Velcro to make new learning stick."
— Dr. Molly Ness

Whole Child Literacy™

A Student-Centered Approach to Skills Development

Learning Ally's mission to solve the literacy crisis is driven by research, brain-based reading instruction and an understanding of the academic variables (word recognition and language comprehension), cognitive variables and socio-emotional influences that may impact learning.

We approach literacy skills development with a holistic lens on the unique variables surrounding each student's learning abilities and differences. Bringing the latest research into practice, we support educators to effectively customize their literacy instructional practices to meet each student's specific needs and build each student's intellectual curiosity and confidence to spur academic growth and positively change their life achievements.

Exploring Cognitive Variables and Environmental Factors

Reading instruction does not exist in a vacuum. In addition to the brain-based evidence, environmental and cognitive factors influence students as humans and as learners. A Whole Child Literacy™ approach combines effective reading instruction with a child's cognitive, social-emotional, and environmental variables.

The complicated process of reading is undoubtedly influenced by a child's cognitive processes, including the following:

- **Executive functioning, including planning and problem-solving**
- **Knowledge and understanding**
- **Attitudes and motivation**

The learning process is also impacted by children's social-emotional states. When children – who are less able to regulate their emotions – experience negative emotions (stress, fear, anxiety), they are less successful in learning. These emotions activate the limbic system and interfere with memory generation. As we develop trust with children and create safe learning environments, we improve their chances to learn.

Empowering Educators to Deliver Transformational Change

Our solutions – Learning Ally's PreK-12, Excite Reading™, Audiobook Solution, and our suite of Professional Learning Solutions – align to any school framework and core curriculum, especially in Multi-Tiered Systems of Support (MTSS) and Response to Intervention (RTI) programs. Working together with schools and educators, we can build a strong foundation in reading skills for many more students to become independent, engaged learners who are eager and able to achieve socially, emotionally, and academically for a lifetime of prosperity.

Join us as we tackle the literacy crisis.

For more support in understanding how Whole Child Literacy™ can support your school or district, call 1-800-221-1098.