



PowerUp® &
the Science of Reading



What is the Science of Reading?

The Science of Reading is evidence from the accumulation of five decades of research on reading acquisition and instruction that has been conducted using gold-standard methodologies. This evidence has:

- 1 Established our understanding of how students learn to read
- 2 Identified effective instructional practices, and
- 3 Clarified instruction for students who have difficulty learning to read.

Why is the Science of Reading important to students in grades 6–12?

Learning to read is not a natural act; rather, it requires explicit, systematic, and cumulative instruction that is also diagnostic and responsive. The science of reading solidifies an understanding of how language and writing systems work by informing the why, what, and how of effective instruction, both including and going beyond phonics. Although instruction informed by reading science is necessary for all students, it is essential for students who are at risk for reading difficulties due to dyslexia, developmental language

disorder, deficits in executive function, status as an English Learner, or other factors. This approach can be especially important to struggling readers in grades 6–12 given the diversity of adolescents' learning needs and to ensure instructional time is focused on research-based practices. Ultimately, instruction that is informed by the science of reading is the only proven way to ensure students can become proficient readers and confident learners across the curriculum.



The Elements of Structured Literacy

How Lexia PowerUp Does It

EVIDENCE | The Why

APPLICATION | The What

The Science of Reading Says

How Lexia PowerUp Does It

Phonology

The sound system of language is known as phonology.

Phonological and phonemic awareness are necessary components in learning to read and are predictive of reading success (Blachman, 1995; Liberman & Liberman, 1990; NICHD, 2000).

Students build phonological and phonemic awareness activities through activities focused on blending, segmenting, and sound manipulation.

Phonics

Phonics is a method for teaching word reading by correlating sounds with letters or groups of letters.

Proficient reading comprehension relies on automatic associations of sounds and letters. Well supported by research, instruction that matches sounds to letters or groups of letters—phonics—develops accurate decoding and spelling skills (Ehri, 2014; Hoover & Gough, 1990; NICHD, 2000; Tremain, 2018).

Students engage in activities that increase their awareness of the orthography of English, such as matching sounds to letters, learning syllable types and rules for syllable division, and building knowledge of reliable spelling patterns.

Syllable Knowledge

An understanding of six syllable types and rules for syllable division is a necessary component of reading.

Instruction that aids students in determining where long words divide into syllables and how vowels in syllables are pronounced is beneficial to fluent reading. When reading is effortless, cognitive resources are available for the reader to focus on meaning (Perfetti, 1985).

Students are taught the six orthographic syllable types—closed, open, silent-e, vowel pairs, r-controlled, and consonant-le—that facilitate the accurate recognition of monosyllabic and multisyllabic words.

Morphology

The study of morphemes, or meaningful units of words, is known as morphology.

Knowledge of morphemes facilitates decoding and provides a springboard for vocabulary development. Morphology bridges the gap between alphabetic reading (i.e., word-level reading) and comprehension (Adams, 1990).

Students learn meaningful word parts to support decoding and vocabulary development through activities that teach common prefixes, roots, suffixes, and Greek combining forms.

Syntax

Syntax refers to the order and relationships of words in sentences as well as the structure of sentences in oral and written language.

Success with complex texts is dependent on a reader's understanding of sentences with one or multiple clauses (Foorman, Herrera, et al., 2015; Foorman, Koon, et al., 2015).

Students develop an understanding of syntax through activities that teach them about parts of speech, parts of sentences, and sentence structure and how this structure impacts meaning.

EVIDENCE | The Why

The Science of Reading Says

As the primary goals of reading and writing are determining and communicating meaning, it is important for students to understand the meanings or shades of meanings of words (NICHD, 2000).

APPLICATION | The What

How Lexia PowerUp Does It

Students build vocabulary knowledge through Word Study activities that connect decoding and word meaning. Comprehension activities explicitly teach and review key academic vocabulary words to support a deep understanding of texts.

Semantics

Vocabulary knowledge and word relationships are referred to as semantics.

The Principles of Structured Literacy

How Lexia PowerUp Literacy Does It

Explicit

Explicit means that concepts and skills are directly taught and practiced. In PowerUp, students learn skills and concepts explicitly through clear models and targeted practice.

Systematic

Systematic refers to a logically ordered presentation of concepts and skills that progresses from simple to complex. The PowerUp scope and sequence follows a developmental sequence and orders the concepts and skills that are to be taught from simple to complex.

Cumulative

Cumulative indicates that new learning is built on prior learning. In PowerUp, as foundational concepts and skills are taught and practiced to automaticity, students' knowledge continuously increases through the introduction of more complex concepts and skills.

Diagnostic and Responsive

Diagnostic and Responsive signify that students' instructional needs are identified, and instruction is designed accordingly. In PowerUp, students' progress is frequently monitored and instruction adapts as needed.

The Simple View of Reading



First introduced in 1986, the Simple View of Reading states that reading success is dependent on both word recognition and language comprehension. If a student does not have adequate underlying skills in all of these areas, reading success is compromised (Gough & Tunmer, 1986; Hoover & Gough, 1990).

Adolescents reading below grade level struggle with reading for a variety of reasons: inefficient word-recognition skills, insufficient syntactic knowledge, a lack of adequate reading skills and strategies, or, most likely, a combination of these reasons.

To support struggling adolescent readers who have varied skill profiles, PowerUp has an auto-placement component that assesses students' strengths and weaknesses to provide 180 unique placement profiles

across the three strands of the program: Word Study, Grammar, and Comprehension. Students progress through each strand at their own pace.

In Word Study, students learn skills and concepts that advance their accuracy, automaticity, and fluency by focusing on the reliable and recurring pattern in spoken and written words. In the Grammar strand, students improve written composition and reading comprehension skills by focusing on how written language works. And in the Comprehension strand, students learn skills and strategies that help them analyze literary and informational texts of increasing complexity for deeper meaning and understanding.

