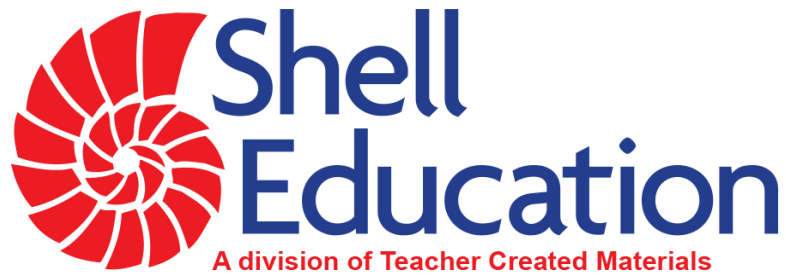


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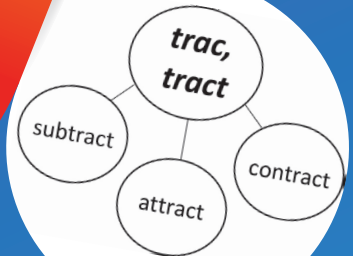


What the
**Science
of Reading**
Says
about

Aa



apple



Word Recognition

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This foundational information lays the groundwork for continued understanding of how to engage students with solid literacy instruction. Several institutions provide briefs or guides that present research in easily digestible formats. The Institute of Educational Sciences/What Works Clearinghouse Practice Guides provide educators with sound instructional practices related to a range of literacy skills. Additionally, the International Literacy Association provides Leadership Briefs that highlight integral pedagogy with a strong research base.

The Focus on Word Recognition

The English language has an alphabetic writing system that is filled with complexities and nuances, rules and exceptions. For students to understand what they read, they must be able to access the words on the page. This requires explicit instruction on how letters work and how words work. Students need consistent opportunities to engage with new phonemic awareness and decoding skills, as well as ample time to read and reread for fluency. The instruction must be presented systematically, in an order that allows for students to move into more complex skills as they master simpler skills.

Word recognition encompasses a range of skills that must weave together for successful reading. That is why word recognition is an integral part of the Simple View of Reading equation and the bottom strand of Scarborough's Reading Rope. Teachers can ensure reading success for their students by entrenching them in the important and fundamental components that lead to successful word recognition. These key components include phonological awareness, phonics (decoding), sight word recognition, and fluency.

According to the What Works Clearinghouse practice guide *Foundational Skills to Support Reading for Understanding in Kindergarten Through 3rd Grade* (Foorman et al. 2016), research finds strong evidence for the need to do the following:

- Develop awareness of the segments of sounds in speech and how they link to letters.
- Teach students to decode words, analyze word parts, and write and recognize words.

Further, the report indicates moderate evidence that reading connected text daily supports reading accuracy, fluency, and comprehension; additional evidence supports teaching academic language skills.

Word Recognition Progressions

Word recognition skills are most effectively attained in a systematic progression. Therefore, systematic instruction should align with the progressions shown in figures I.5 and I.6.

Figure I.5—Phonological Awareness Progression

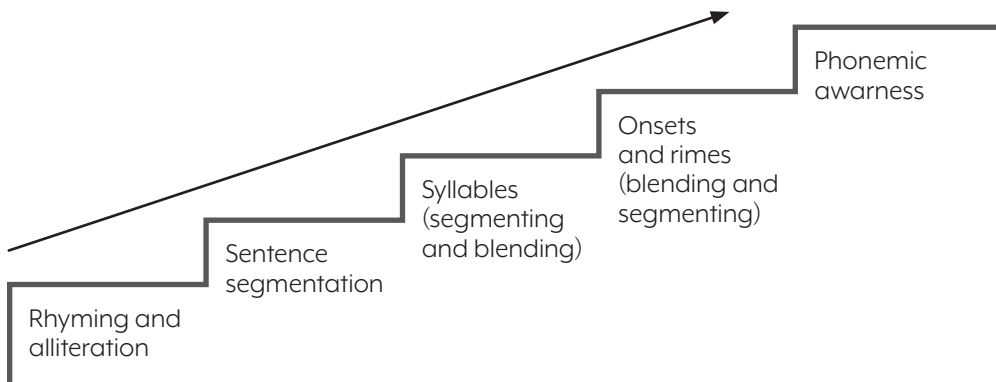
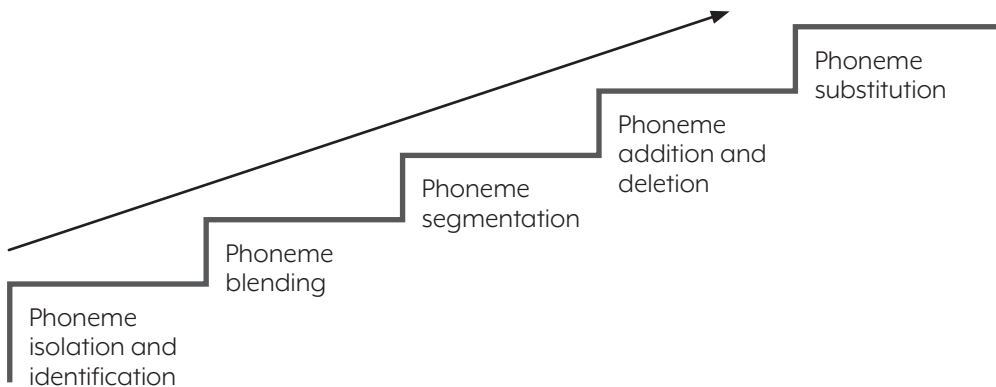


Figure I.6—Phonemic Awareness Progression



Recognized Phonemes

Phonemes are the individual, unique units of sound in the English language. These sounds help distinguish words and meanings of words. Letters and combinations of letters, or *graphemes*, represent each of these sounds. See figure I.7. **Note:** Due to accents and dialects, there are lists that vary from this specific representation.

that included *win*, *Kip*, *pig*, *big*, and *wig* was prominently displayed on the front wall. Students were reading—with enthusiasm, with energy. There was an air of unbridled excitement in the room. Students practiced the letter name and its sound, found it in words, and used it in short sentences. Students had mini whiteboards in their laps and were writing short vowel *i* words, then drawing “quick pics” of a range of words prompted by the teacher.

The letter *i* opened doors to reading and gave joy to learning. That systematic and explicit process was providing students with a natural pathway to discover more words, uncover more language, and learn. Soon after the explicit lesson was over, students engaged in a range of activities to reinforce their learning. Jen worked her way around the room, pausing when a six-year-old exclaimed, “Hey Mrs. Lady, watch me read this book!” She knelt down and listened to a new reader reading. Proud. Loud. “Kip hit it. What will Kip pick?” The words rang clearly and Jen smiled along with this newly confident reader. This integral step in becoming a reader had been learned, practiced, and was on its way to mastery.

Navigating This Book

Each of the first five chapters of this book showcases important research that supports the instruction of word recognition in the classroom. This includes literacy, mathematics, science, and social studies classrooms.

Chapter 1	Phonological Awareness
Chapter 2	Phonics—Systematic and Explicit
Chapter 3	Beyond Foundational Phonics—Multisyllabic Words and More
Chapter 4	Sight Recognition—Familiar Words
Chapter 5	Fluency

These chapters are structured to bridge the gap between the science of literacy instruction and classroom practice. Each chapter begins by examining the research with a thoughtful and critical eye. Following the research, you will find instructional implications. These implications identify how the research should impact the work of educators in classrooms today. Next, you will find key terms

for teacher understanding. Each of these key terms is defined and showcased in a classroom example.

Each chapter also includes research-based instructional strategies. These strategies are aligned to grade-level bands. However, many of these strategies have utility across grade levels and can be modified to support students beyond the bands suggested. Each chapter closes with the following sections:

- **Top Must-Dos:** A summary of research implications, the must-do list supports all teachers as they navigate taking the science of reading directly into their classrooms.
- **Further Considerations:** Offering additional insights about effective instruction, this section also includes (as appropriate) guidance for moving away from practices that are not supported by research.
- **Reflection Questions:** A short list of questions to use as conversation starters for professional learning or for self-reflection.

The final chapter in this book, written by guest author Alan Becker, explores how to seize every opportunity to take word recognition instruction beyond the language arts block and discover the power of cross-content connections.

Take a deep breath. While we as educators do not have a Hippocratic oath, we know the great responsibility we face each day. Louisa Moats (2020b) said it best: “Teaching reading is rocket science.” Let’s build the literacy rocket together.

She will practice this strategy of building sight words with small groups all week, eventually including all the high-frequency words they practiced as a whole group. These frequent opportunities to practice orthographic mapping of high-frequency words and irregular words will help students learn them as sight words that can be read with ease.

Background Information and Research

There is a persistent misconception held by many educators of what sight words are and how they should be taught. This misconception identifies sight words as a list of words that must be learned using a rote memorization technique that usually consists of “skill and drill” practice, or repeatedly reading the words written on flash cards. A thorough review of recent research supporting high-quality instruction in reading shows that sight words are more clearly defined as words students can read by sight, automatically from memory, without needing to decode them. These words include, but are not limited to, high-frequency or irregularly spelled words (Duke and Mesmer 2018; Ehri 1995, 1998, 2014; Kilpatrick 2015, 2016, 2019).

Connection to the Rope

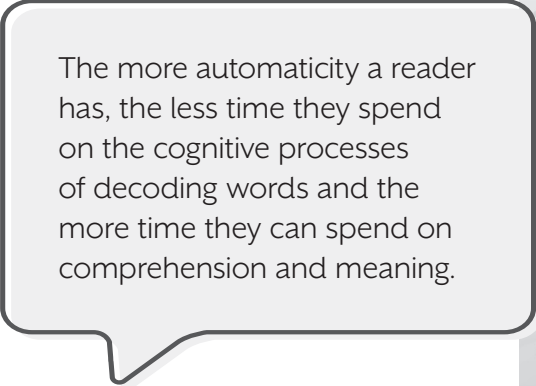
Sight recognition of familiar words is one of the main components under the word recognition strand of Scarborough’s Reading Rope model (2001), the basis for our framework of evidence-based components that lead to the development of skilled readers. This model recognizes that sight-word recognition is foundational to fluent reading. According to Really Great Reading, “Literate adults have a sight word memory of 30,000 to 70,000 words” (n.d.-b, para. 7). The explicit and systematic teaching of phonological awareness, phonemic awareness, and foundational phonics skills to early readers is what scaffolds the building of a library of sight words in adults who are strategic readers.

Implications for Teaching and Learning

Research supports that there are three areas, or stages, of reading development that all work together: phonology (pronunciation), morphology (meaning), and orthography (spelling). For a reader to become more capable, they must be proficient in the understanding of the alphabetic principle and have a large sight-word vocabulary, allowing them to recognize words quickly and accurately. Knowing the studies and reports from teachers in the classroom, leading reading

researchers Duke and Mesmer (2018) warn against the rote memorization approach, where sight words are taught using only the visual identification of the letters. Making connections using letter-sound correspondences, foundational phonics skills, and relationships between words that are known to the reader leads to the ability to read words that are unknown. When working with high frequency and irregular words, teachers need to spend additional time providing explicit and systematic instruction to reinforce their storage in long-term memory.

As students progress as readers, there will be times when they are dependent on decoding, and other times when they are reading words with little effort. The more automaticity a reader has, the less time they spend on the cognitive processes of decoding words and the more time they can spend on comprehension and meaning (Duke and Mesmer 2018; Ehri 1995, 1998, 2014; Kilpatrick 2015, 2016, 2019). The skills that teachers must focus on to create more advanced readers with a larger sight-word vocabulary are phonological awareness, letter-sound skills, and word study.



The more automaticity a reader has, the less time they spend on the cognitive processes of decoding words and the more time they can spend on comprehension and meaning.

Key Terms for Teacher Understanding

This section provides definitions of essential terms educators need to know and examples.

Terms for Words

Sight words, high-frequency words, and irregular words are related terms that can be confusing and incorrectly interchanged. The following table clarifies the differences in each term.

Term and Definition	Example
sight words —words that can be read automatically, quickly, and with little effort	Mrs. Zamora has noticed that her students are struggling with reading the irregular words <i>was</i> , <i>they</i> , and <i>said</i> . She realizes that these are high-frequency words that students see in many of the books they are beginning to read, including the decodable book they will practice reading this week. First, Mrs. Zamora writes these three words on the board and asks students which letters and sounds are familiar to them. She knows that if students can decode parts of the word, it will make it easier for them to remember the parts of the word that are not easily decodable, so she tells students that looking for patterns they know will help them with words that are irregular, like these three. Eli says he recognizes that <i>they</i> starts with the /th/ sound, a digraph they learned a few weeks ago. Mrs. Zamora applauds this answer, and the class quickly brainstorms other words they know that also start with <i>th</i> , such as <i>this</i> , <i>that</i> , <i>thin</i> , and <i>thick</i> ; she lists them on the board. She then explicitly teaches students that <i>ey</i> makes the long <i>a</i> sound. She writes the sentence, “They like to skate.” <i>(Continued)</i>
high-frequency words —words that are most used in the English language	
irregular words —words that do not follow common letter-sound correspondences or phonics patterns and are not easily decodable	

Term and Definition	Example
<p>sight words, high-frequency words, irregular words (<i>cont.</i>)</p>	<p>Students practice reading the sentence together. She also shows them sentences in books they have read with the word <i>they</i> in them.</p> <p>Then Mrs. Zamora has students collaborate with their elbow partners to come up with sentences that use the word <i>they</i>. As students share, she writes the sentences where students can see them: “They are my friends.” “They are going to the baseball game.” “They know how to read.”</p> <p>She will repeat this process throughout the week with the words <i>was</i> and <i>you</i>. Students will recognize the initial and final sound in <i>was</i> and the initial sound in <i>you</i>. It is the vowel sounds that are irregular in these words.</p> <p>The class will practice reading poems, big books, and other texts throughout the week and point out these words so that by the end of the week, the words <i>they</i>, <i>was</i>, and <i>you</i> will be sight words that students will automatically be able to read when they encounter them in the future.</p>

Heart Words

Grades: 2–3

Description

Heart Words is a strategy that teaches students how to read and spell irregular sight words that are largely uncodable. The irregular letter-sound relationships must be remembered “by heart” (Farrell, Hunter, and Osenga 2019; Fessel and Kennedy 2019; Really Great Reading, n.d.-a). Heart Words are considered high-frequency words that need to be read and spelled automatically. Examples of Heart Words are *have*, *some*, and *should*.



Rationale

The purpose of this strategy is to identify the parts of words that are irregular so students can learn those parts quickly as they encounter them in text. The goal is for these words to become sight words that can be read automatically.

Process

1. Display the Heart Word that will be taught. For example, *said*. Ask students which of the letter sounds they know and can decode. In *said*, it would be the initial /s/ and the final /d/.
2. Mark the irregular part of the word with a heart. In the word *said*, the *a* and *i* would be marked with hearts because the vowels do not follow a regular pattern and cannot be decoded. They must be learned “by heart.”
3. Have students say the word, trace the word, and write the word.

Differentiation

- Heart Words will change as students learn more phonics patterns and letter-sound relationships.
- Heart Words can also be grouped by patterns to scaffold instruction.
- Sound-Letter Maps and Elkonin boxes can be used for Heart Word lessons and practice. Students place hearts in the boxes as they map the sounds and then replace them with letters.

Moving Forward: Top Must-Dos

Understanding the differences between sight words, high-frequency words, and irregular words is important when developing lessons that will support students as they become more advanced and fluent readers. Sight-word instruction should be carefully planned, purposeful, and engaging. It should be implemented in daily whole-group lessons as well as delivered in small groups or individually to meet student needs.

Recognize the Phonics inside Sight Words

Sight words can be explicitly taught with some of the same strategies that we learned in Chapters 1 and 2 on phonological awareness and phonics. Asking students what they can identify that they know already about a sight word helps them begin to make connections. Most sight words have an initial or final sound-letter correspondence that students will recognize. Once those are pointed out, students begin to see that most sight words are decodable and can be committed to memory through the practice of reading them and writing them within the context of their books.

Help Students Recognize the Parts That Are Tricky

Examining the structure of a sight word and figuring out its parts quickly help students make connections between the known parts and the unknown. When a word is always irregular or has irregular, not easily decodable parts, the use of a strategy such as Heart Words on page 107 will help students recognize and read it more quickly.



My Teaching Checklist

Are you ready to develop students' skills with sight words so they may be strategic readers? Use this checklist to help you get started!

Sight Recognition: Familiar Words

Look Fors	Description
Students recognize sight words as multi-faceted.	<ul style="list-style-type: none">• Teach students there are parts of these words that can be identified using phonics skills.• Reinforce that some parts of words will not follow traditional phonics patterns.
Students have consistent access to instruction in learning to read sight words.	<ul style="list-style-type: none">• Schedule time each day for students to explicitly learn and practice high-frequency words and irregular words.• Make connections between the letter-sound relationships in high-frequency and irregular words.• Remember that even the most irregular words contain phonics patterns that students can connect to.• Teach students that there are some word parts they will need to know “by heart.”• Encourage orthographic mapping of sight words through engaging, hands-on, sound-letter mapping.• Provide small-group instruction for students who are struggling with making connections between words and seeing the patterns in the high-frequency and irregular words being taught.