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Phonics and the Way to Meaning

Children open a book. They notice strange squiggles and lines meandering across the pages. They wonder: What are these odd markings? Quickly they learn that these markings are called letters, and they can be used to access the words on the page, to bring stories to life, to learn new things about the world beyond, and to spark their imagination. This curiosity about books, and the thirst to know, is innate in children, but they need to be taught how to translate those strange squiggles into meaning.

IN THIS CHAPTER

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Key Phonics Research

English is an alphabetic language. We have 26 letters in our alphabet. Alone and in combinations, these letters and spellings stand for the 44 sounds in English. Phonics instruction is the teaching of these spelling-sound correspondences. Learning the basic phonics skills we typically teach in Kindergarten, Grade 1, and Grade 2 gives students a tool to access, or sound out, approximately 84 percent of the words in English text. That's a powerful tool!

But reading is more than sounding out words. Once we sound out a word, we have to attach it to meaning. We string together the meanings of the words in a sentence and attach them to what we already know to understand the message. From seeing a simple handwritten sentence at home, “This Saturday we are going to the zoo,” or “Buy more apples,” to hearing a tale about three pigs, or encountering an informational book about how trains go, children are eager to crack the code of our written language to enjoy stories and build knowledge.

Phonics plays a crucial role in helping children crack that code. Educators have always known this. What's relatively new, though, is the neuroscientific research that is showing us why phonics is key.



Teaching young readers to read by blending, or sounding out, words is getting their brains wired to be skilled readers.



Children “read the world” from the moment they are born. They are eager to crack the code of our written language.

What Brain Research Tells Us

How exactly does a young child learn language? How do we get students on the fastest track to become skilled, successful readers? Researchers, such as cognitive psychologists, are helping us answer that question by taking pictures of the brain as readers read. These mental images, called functional MRIs, show how the parts of the brain work together to help us read. This brain research has compelled professionals from neuroscience, psychology, school practitioners, speech and language pathologists, and other fields to begin a national conversation about how best to teach children to read. This work, and this important dialogue, is known as the *Science of Reading*. Like all scientific inquiry, it is ongoing, and continued research from many fields will unveil new discoveries that inform instruction. Today, however, it's essential that we maintain professional conversations about phonics, but embrace the settled science. What is undeniable is that the mental pathways used by skilled readers are quite different from those used by unskilled readers.

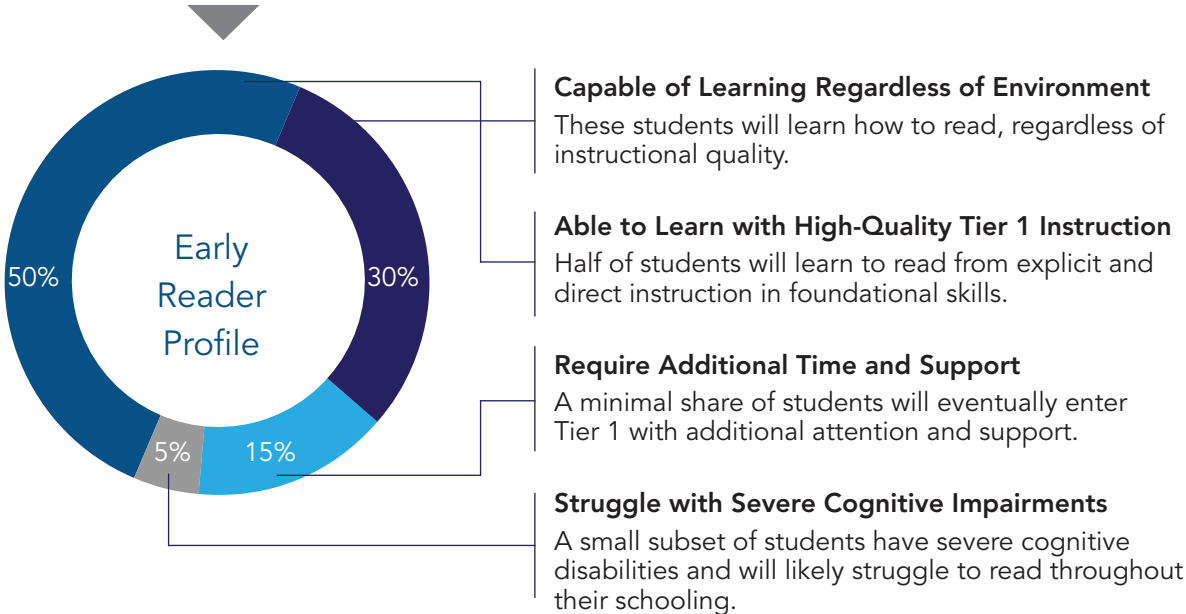


Researchers use fMRI technology to learn which regions of the brain are activated during various reading and writing activities.

Almost All Students Have the Cognitive Capacity to Read

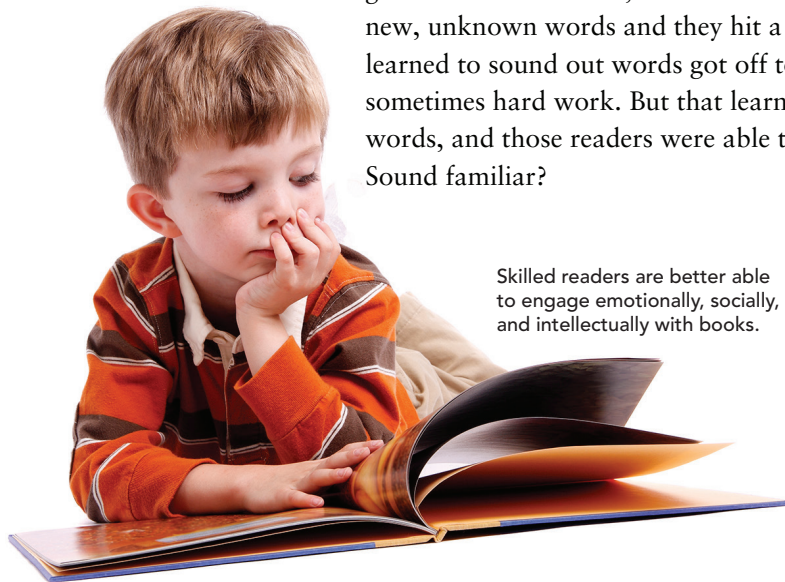
95%

of elementary students, regardless of background, are cognitively capable of learning to read when they receive sufficient direct instruction on the foundational skills of reading



Researchers have been able to connect specific reading practices to how skilled and unskilled readers access text.

These cognitive researchers have also been able to connect specific reading practices to how skilled and unskilled readers access text. For example, a brain research study out of Stanford (2015) taught the participants one of two ways to read a new alphabetic text: either sounding out the words using phonics, or learning words by sight as whole units. What did they find? The participants who read by sounding out words activated the parts of the brain that skilled readers use to access text. What about those readers who were taught to read by memorizing words by sight as whole units? Their brains behaved in the same way as the brains of unskilled readers. It is important to note that the participants who learned by sight words got off to a faster start, but that learning was not transferrable to new, unknown words and they hit a wall. The participants who learned to sound out words got off to a slower start. It was work—sometimes hard work. But that learning transferred to new, unknown words, and those readers were able to surpass the sight word readers. Sound familiar?



Skilled readers are better able to engage emotionally, socially, and intellectually with books.

The goal of any phonics instruction is to teach the basic phonics skills early and efficiently.



Sounding Out Words vs. Memorizing Sight Words

This research finding is powerful evidence that teaching young readers to read by blending, or sounding out, words is getting their brains wired to be skilled readers. In contrast, focusing from the beginning on learning large numbers of words by sight as whole units, is actually teaching these readers to behave like poor readers. This is not how we want to start our students on the pathway to becoming skilled, fluent readers. Unfortunately, too many of our students spend the first year or two in school focusing primarily on reading texts by memorizing sight words and story patterns. Is this the case with your students?



The Role of Orthographic Mapping

So you might be saying, “Well, I don’t sound out many words when I read. I know a lot of words by sight.” And you’re right. But, let’s examine how you got to this point. The research shows that in order to be able to recognize a word by sight, it has to be stored in our working memories. The process of storing these words is called *orthographic mapping*. That’s a fancy term for a concept you already know. By sounding out words and attending to both the sounds and spellings in the words, you are mapping each word into your memory. It takes most readers four to twelve exposures to a word in context, by sounding it out, to commit it to memory. Some researchers think it takes even less. The critical point is that we attend to both the letters (spelling patterns) and sounds. Once it’s in your memory, you can access it automatically.



Students need to be able to access as many words as possible automatically so that their mental energies can be devoted to understanding a text.

It takes most readers four to twelve exposures to a word in context, by sounding it out, to commit it to memory.

However, when learning words by sight, the focus is on the shape of the word, and only pieces of it, such as a beginning letter-sound. As a result, full orthographic mapping doesn't happen and it is more difficult to access that word automatically when reading.

The Goal of Automaticity

The goal of any phonics instruction is to teach the basic phonics skills early and efficiently. We know that as students progress through the grades they encounter increasingly more complex texts. As we read, we have a limited amount of mental energy we can devote to the reading process. We need students to be able to access as many words as possible automatically (through phonics and word study instruction, as well as with robust vocabulary work) so that their mental energies can be devoted to understanding a text that has sophisticated vocabulary and concepts. Students will need to use context clues and background knowledge to access these more challenging words and ideas—and they need their mental energies available to do that.

The Simple View of Reading

Most reading researchers for the past three decades have defined reading comprehension as a product of “language comprehension” and “decoding.” Gough and Tunmer (1986) originated this formula and called it “The Simple View of Reading”:

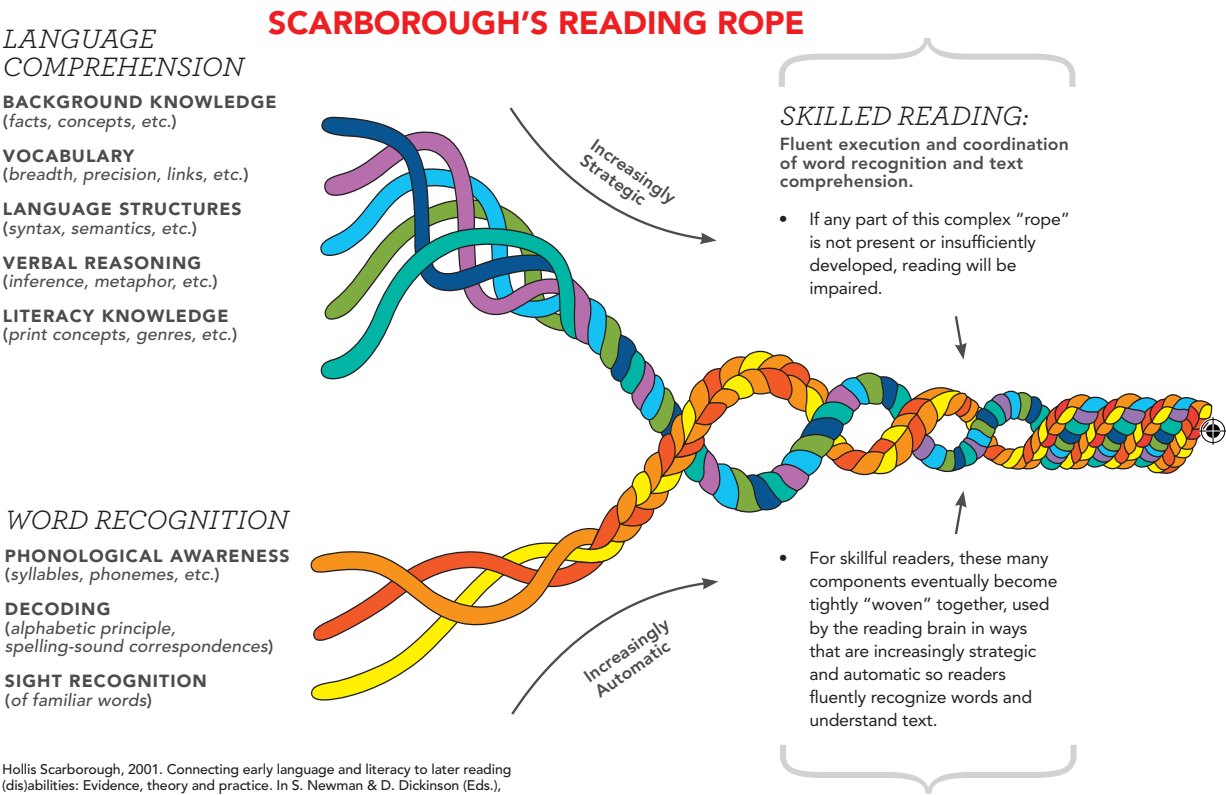
Decoding (D) x Language Comprehension (LC)
= Reading Comprehension (RC)



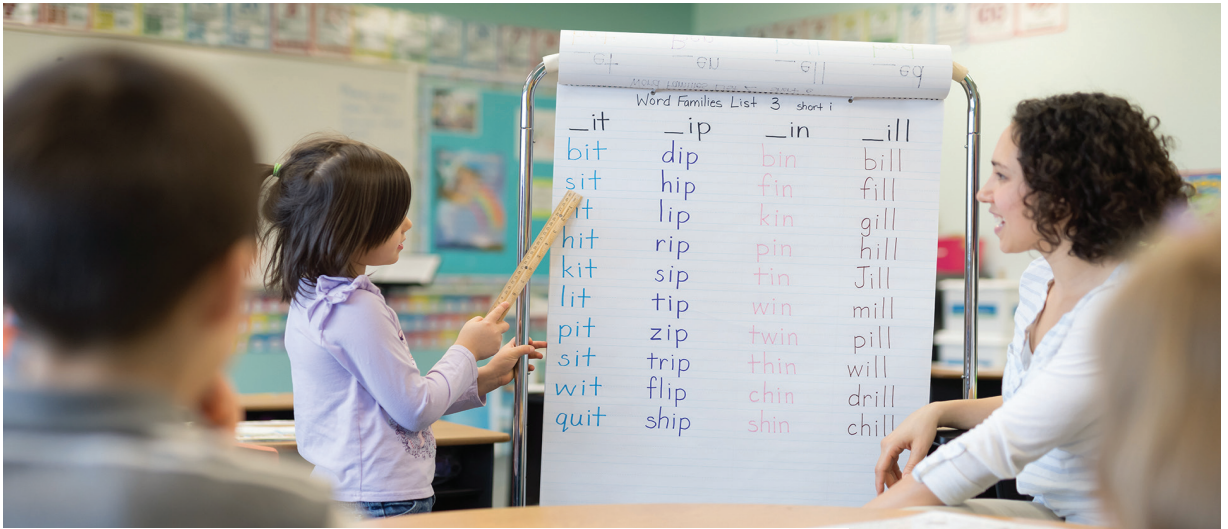
What This Research Means

In 2001, researcher Hollis-Scarborough developed a rope graphic to convey The Simple View of Reading formula. What it suggests for instruction is that for readers to have strong comprehension, they must have strong language comprehension and word recognition.

Throughout this and upcoming chapters, we will keep this research in mind as we explore the key characteristics of strong phonics instruction. We will also examine the most common and serious obstacles you might encounter as you teach phonics—and we’ll look at ways to overcome these obstacles so we can maximize student learning. Whether you have 15 minutes, 20, 30, or more for phonics instruction, those minutes must be as high-impact as possible. But it all starts with an understanding of the efficacy of the materials you are using, and that will be our starting point as well.



Hollis Scarborough, 2001. Connecting early language and literacy to later reading (dis)abilities: Evidence, theory and practice. In S. Newman & D. Dickinson (Eds.), Handbook of Early Literacy Research. Used by permission of Guilford Press.



Explicit and Systematic Teaching

The two words most closely associated with strong phonics instruction are *explicit* and *systematic*. When our teaching lives up to these two terms, we can be assured that we are providing students with the foundational skills they need to read. Explicit and systematic instruction belongs to all of us—all teachers have the decision-making power to provide children with purposeful, steady phonics instruction. In other words, we can be explicit and systematic no matter what phonics and word study program we are using. Whether a school has a so-called traditional approach, or a Workshop/Comprehensive Literacy approach, the important thing to remember is that a teacher’s “program” is a tool, not a curriculum. The tool may be a resource that is purchased—often called a packaged or commercial program—or it might be a district-developed one. The point is, it’s never the whole curriculum. It’s a tool that helps a teacher craft, adapt, and augment based on what students need. And this tool must be flexible to meet a wide range of student needs. This is the main theme of this book, that teachers are the decision-makers, and armed with best practices they can help all children read. As researcher John Hattie writes, “Every student deserves a great teacher, not by chance, but by design.” (Corwin, 2016).



Explicit means that sound-spelling correspondences are initially taught directly to students, rather than using a discovery, or implicit, method. That is, students are taught, for example, that the /s/ sound can be spelled with the letter s. A discovery method is less effective for initial teaching because it relies on students having prerequisite skills that some do not have (e.g., sophisticated phonemic awareness skills). As a result, the implicit method can leave some students behind—either not learning the new content or having difficulties and confusion (Adams, 1990).

Systematic means that the instruction builds from easy to more complex skills with built-in review and repetition to ensure mastery. Two critical aspects of systematic phonics is that the instruction has a clearly defined scope and sequence (rather than being random) and builds from the known to the new in easy steps that make the new learning more obvious and easier to grasp. Think back to the brain research discussed on page 12, and the importance of developing children’s automaticity, and one can infer why a clearly defined scope and sequence supports students’ learning.





Phonics instruction involves talk about words.



Active, Engaging, and Thought-Provoking

I'd like to add three words to the discussion of what strong phonics is. For me, the best phonics instruction is also active, engaging, and thought-provoking. Students are playing with letters and sounds and discussing what they observe about how words work to deepen their understanding of our alphabetic system to read. Phonics instruction involves talk. It involves observation. And it involves ongoing application, with lots of authentic reading and writing experiences to get mastery so that the skills can be transferred to all reading situations. Phonics is dynamic and unlocks the code in a powerful way for early readers. In short, *explicit* and *systematic* do not mean *skill* and *drill*, or *phonics out of context*. In fact, when teachers can lean on a scope and sequence, it allows them to augment; create; and innovate with active, engaging, and thought-provoking ways for students to practice their new learning. As researchers Catherine Snow and Connie Juel (2005) assert:

*Explicit teaching of phonics is...
helpful for all children,
harmful for none,
and crucial for some.*



Making Phonics Instruction Meaningful

I titled this chapter *Phonics and the Way to Meaning* because I want all teachers to plan and deliver engaging phonics instruction with reading for meaning as their daily goal. The whole reason to learn phonics is to decode words and phrases and sentences that are sequentially put together for understanding. Teachers and students need to be aware of the critical connection between phonics and meaningful reading and writing. The simple flowchart at right shows that connection. What is interesting to me is that when I visit classrooms, I can easily tell whether or not the teachers I'm observing are aware of this connection. When they are, I see strong phonics instruction in which the bulk of the lesson is devoted to applying those skills to real reading and writing experiences (where learning “sticks”). When they aren't, I often see the bulk of the lesson devoted to isolated skill-and-drill exercises. Without larger amounts of application to authentic reading and writing experiences (at least 50 percent of each day's phonics lesson), these students run the risk of falling behind or not mastering the content. That's right. At least half of a phonics lesson must be devoted to authentic reading and writing application. This application is in addition to any other reading and writing happening that day during the literacy block.



Phonics and Comprehension

Phonics instruction teaches students how to map sounds onto letters and spellings.

The more phonics skills students learn, the better able they are to **decode**, or sound out words.

The more opportunities students get to decode words (including repeated exposure to the same words), the stronger their **word recognition** skills become.

When students begin to recognize many words automatically (through repeated exposure), their reading **fluency** improves. Fluency refers to the ease with which they can read (accuracy and speed). Students' store of sight words increases, thereby lessening the amount of mental energy required to work through words while reading.

Reading fluency improves reading **comprehension**. As sentences become longer and more complex, students need to get through enough words fast enough to make a meaningful chunk. If they don't, their understanding breaks down. If students have to devote too much time to decoding, their reading will be slow and labored. This is characteristic of many struggling readers.



Key Phonics Research

Here are what I think are some of the most important, most useful books and articles on phonics and early reading. One of the goals of this book is to help teachers not only know how to provide effective phonics instruction, but also to feel settled and confident about it. Knowing the foundational research on reading is a part of gaining that sure-footedness.

1. ***Learning to Read: The Great Debate*** by Jeanne Chall (1967). This book, by my beloved former professor, reflects a balanced and scientific approach to how children learn to read. In it, Chall talks about how phonics is critical for students with limited literacy backgrounds or who struggle with reading. She also talks about how it benefits advanced learners, many of whom intuit aspects of English sound spellings through exposure to print and limited instruction, because it helps them systematize that learning and accelerate their growth.
2. ***Becoming a Nation of Readers: The Report of the Commission on Reading*** by Richard Anderson, Elfrieda Hiebert, Judith Scott, and Ian Wilkinson (1985). This survey of all the research on early reading focuses on the role of phonics in the context of a more balanced and comprehensive approach to reading instruction. In it, the authors outline the key characteristics of decodable text, an important teaching tool associated with phonics.
3. ***Beginning to Read: Thinking and Learning About Print*** by Marilyn Adams (1990). I had the good fortune of working with Adams after the release of her now classic book. It is a thorough and academic look at how children learn to read, and it highlights the essential role of systematic and explicit phonics instruction in early reading. It also addresses the key role of phonemic awareness in learning to read and offers support for teachers and publishers in designing a phonemic awareness curriculum.





4. ***Report of the National Reading Panel: Teaching Children to Read: An Evidence-Based Assessment of the Scientific Literature on Reading and Its Implications for Reading Instruction*** by the National Institute of Child Health and Human Development (2000) and ***Preventing Reading Difficulties in Young Children*** by Catherine Snow, M. Susan Burns, and Peg Griffin (1998). These texts confirmed what Chall, Anderson et al., and Adams had previously written and added new understandings about the five key areas of reading instruction—phonemic awareness, phonics, vocabulary, comprehension, and fluency. Recent research and practice adds writing to “the big five” for a strong foundation in early literacy.
5. ***Visible Learning (2009) and Visible Learning for Teachers (2012)*** by John Hattie. Both books offer an important new contribution to our look at phonics instruction (and reading instruction in general) and its statistically significant impact on early learning. As Hattie asserts, teachers need to understand the strategies and instructional practices that are most useful, and in which situations they should and should not be used. With visible teaching, a teacher must continually evaluate the impact of instructional practices and materials on each student (rather than falling in love with specific practices and thereby ignoring their effects). When growth is not occurring, the instruction must change—not the child.
6. ***Ending the Reading Wars: Reading Acquisition from Novice to Expert*** by Anne Castles, Kathleen Rastle, and Kate Nation (2018). This paper, first published in *Psychological Science in the Public Interest*, offers a simple and thorough review of how children learn to read and the impact that phonics has on that process.

