

INTRODUCTION

“No single truth does not mean no truth.”

—Iain McGilchrist

This book describes the science and art of teaching in action. It focuses first on knowledge and then on specific techniques, activities, strategies, and routines that teachers can do in Tier 1 classroom settings. The goal it sets is to help teachers teach reading in ways that prevent reading difficulties from developing.

The mission of preventing reading difficulties is one close to my heart. As a reading specialist and special education teacher, I taught dozens of upper-elementary-aged children who had profound reading and writing deficits. For these students, the opportunity for prevention had passed. My job was to help them overcome full-blown difficulties. But when I began classroom teaching in 1991, I was ill equipped to do this. My special education teacher preparation program provided me with one—that’s right, ONE—reading course, and I knew very little about the fundamentals of the reading process, why children developed reading difficulties, and what specific instructional practices were especially effective in helping kids overcome their reading, writing, and spelling challenges.

Thankfully, I learned a lot about both reading theory and instructional practice from my classroom experiences, reading initiative

workshops, training in the Wilson Reading System, and eventually a reading specialist certificate. By 2011, when assigned to teach a literacy block for my school's lowest-achieving third-grade readers, I felt confident and knowledgeable enough to design and then run (with a coteacher) a specialized program. This program was a great success: In each of three consecutive years, with only one exception, every low-achieving third-grader who went through the program made moderate-to-large gains in oral-reading fluency, significant gains in writing achievement, and at least one-year's worth of growth on schoolwide assessments.

Even after this experience, however, I still didn't deeply understand how reading occurs in the brain or what the root causes of various reading disabilities were. It wasn't until later, when I started my own literacy business and dived into reading research, that I gained much needed knowledge on how the reading process works and why some instructional practices are more effective than others.

Research Base and Bedrocks of Belief

My conviction that certain classroom practices are superior to others is built upon evidence and experience. First, decades of research point to types of instruction that are especially effective for teaching children to read, write, and spell. I call this body of knowledge the "golden threads." Second, I have worked for more than 29 years in public and nonpublic education systems, teaching hundreds of kids, discussing literacy with dozens of administrators, and working with scores of teachers. Every experience teaches me something, and as the years go by, I more clearly see how science and art intersect and interact, and I more clearly understand what can be done to help children learn how to read, write, and spell.

It was Dr. Richard Gentry who kick-started my deep exploration of how science illuminates the foundational reading process and the instructional practices we use to teach it. For that, I am grateful. Richard was the one who told me that to write a book about spelling instruction (which I was working on at the time), I had to understand how reading arises at a fundamental level. And so I dug in.

In scholarly journals and books, I found studies, articles, and chapters authored by brilliant researchers, including Linnea

Ehri, Marilyn Adams, Bruce McCandliss, Usha Goswami, and Anne Castles. Their research and writing were illuminating and influencing.

- “Learning to Read and Learning to Spell: Two Sides of a Coin” by Linnea Ehri in *Topics in Language Disorder*, 2000; also, “Phases of Word Learning: Implications for Instruction With Delayed and Disabled Readers” by Linnea Ehri and Sandra McCormick in *Theoretical Models and Processes of Reading*, 1989
- “The Three-Cueing System” by Marilyn Adams in *Literacy for All Issues in Teaching and Learning*, 1998
- “Hemispheric Specialization for Visual Words Is Shaped by Attention to Sublexical Units During Initial Learning” by Yuliya N. Yonchevaa, Jessica Wise, and Bruce McCandliss in *Brain and Language*, 2015
- “Educational Neuroscience for Reading Researchers” by George Hruby and Usha Goswami in *Theoretical Models and Processes of Reading*, 2013
- “Ending the Reading Wars: Reading Acquisition From Novice to Expert” by Anne Castles, Kathleen Rastle, and Kate Nation in *Psychological Science in the Public Interest*, 2018; also, “Helping Children With Reading Difficulties: Some Things We Have Learned So Far” by Genevieve McArthur and Anne Castles in *npj Science of Learning*, 2017

Equally enlightening was the information I found in books beautifully written by literacy scholars who make use of neuroscience insights. Here are a few that were (and still are) especially important to me:

- *Language at the Speed of Sight: How We Read, Why So Many Can't, and What We Can Do About It* by Mark Seidenberg, 2017
- *Proust and the Squid: The Story and Science of the Reading Brain and Reader, Come Home: The Reading Brain in a Digital World* by Maryanne Wolf, 2008/2018
- *Reading in the Brain: The New Science of How We Read* by Stanislas Dehaene, 2009
- *Overcoming Dyslexia: A New and Complete Science-Based Program for Reading Problems at Any Level* by Sally Shaywitz, 2003/2020

- *Brain Words: How the Science of Reading Informs Teaching* by Richard Gentry and Gene Ouellette, 2019
- *Essentials of Assessing, Preventing, and Overcoming Reading Difficulties* by David Kilpatrick, 2015

Viewed through the lens of reading instruction, the quote that kicks off this introduction speaks to two ideas: (1) There is no single best way of teaching children to read, and (2) no single best way does *not* mean no best ways at all. In fact, some instructional practices are better than others, and by *better*, I mean more effective at teaching students to read. But what are these effective practices? And when and where do we use them?

Determining what practice to use in any given situation or classroom involves the art of balancing research knowledge and professional judgement. Someone once asked me, “What gives you the authority to write about reading difficulties? And how will you decide what practices to include in a book?” My reply was to point to the researchers and writings I previously mentioned. Each has contributed to my understanding of the reading process and the instructional practices that effectively bring it about; collectively, the research and writings describe a bedrock of knowledge (truths, if you will) that provides the foundation for this book.

The Science and Art of Reading Instruction

Researchers know a lot about how kids learn to read. The science is established, and the theory that flows from it is increasingly defined, stable, and predictive. But although scientists are skilled at pointing out what types of instruction work best, they are less accomplished at turning their elemental insights into practices that teachers can do in their classrooms on Monday morning. This may be one reason the field of teaching still isn’t moving large numbers of students to the point of proficient reading (National Assessment of Educational Progress [NAEP], 2019). Societal issues, such as poverty, addiction, and inequity, can also be blamed for stagnant reading scores. Or perhaps the sheer scope of bringing millions of teachers to proficiency on reading theory and best instructional practice slows the progress of our nation’s children.

Uninformed and ideological thinking in the field of education might be a limiting factor, too. Sadly, even in the face of ever-accumulating evidence, a more fully realized way to teach reading has yet to take root in all classrooms. By this, I mean that many educators, from primary grade teachers to professors of education, have not completely integrated the empirically derived information that cognitive science and neuroscience have revealed regarding how reading arises and develops in the brain.

In some cases, educators haven't even learned the basics. More than a decade ago, studies found that teacher preparation programs lacked attention to concepts put forth in 2000 by the National Reading Panel and that those involved in training pre-service and inservice teachers were not well acquainted with the concepts of phonemic awareness, phonics, fluency, vocabulary, and comprehension (Joshi et al., 2009a; Joshi et al., 2009b). Fast-forward a few years and things weren't much better. A 2019 survey found more than 25 percent of teachers teach students to use decoding strategies as a last resort rather than a first line of attack (Loewus, 2019). The survey also found 1 in 5 professors confused phonemic awareness with letter-sound correspondence. And a 2016 *Journal of Childhood & Developmental Disorders* article stated the following:

Although the Science of Reading provides considerable information with regard to the nature of dyslexia, its evaluation and remediation, there is a history of ignorance, complacency, and resistance in colleges of education with regard to disseminating this critical information to pre-service teachers. (Hurford et al., 2016, para. 1)

This book aims to provide information on what is known about the science of reading (i.e., the information empirical study has revealed about the reading process) and to describe and explore the instructional practices that flow from it. Thus, upcoming chapters present facts on how reading arises in the brain as well as techniques, activities, and routines that lead to lots of learning in the areas of phonology, orthography, and language comprehension.

Here, I want to clearly state that teaching phonic skills and fostering a love of reading are in no way antithetical. Also, framing reading instruction as a war between two opposing armies—one

waving the banner of code-first, the other flying the flag of meaning-first—is misleading and unhelpful, and I strongly disagree when professors (or any educators, for that matter) define the reading process in binary terms. For me, the metaphor of warring camps is heard primarily in higher-ed haggling and media reporting, not in discussions between classroom teachers. The most skillful teachers I know are not rigidly ideological but rather flexible, open-minded, and—above all—practical, constantly striving to figure out what instructional practices will best teach their students to read.

Reading is a complex, multifaceted activity that arises from a convergence of numerous subprocesses. Although researchers have identified many of its discrete features, I think it is a mistake to go too far down the path of reductionism, for the act of reading has an *emergent* quality to it; a fluent reader is something far greater than the sum of his neural parts, and the reading process is holistic and interactive, with many pieces influencing each other in myriad ways. Because the reading process is complex and because readers develop in different ways for different reasons, I believe it is best to have a teaching stance that is inclusive, not exclusive, as well as flexible. We can instruct large groups *and* small. Our instruction can be direct and explicit, *as well as* expansive and creative. We should teach decoding and encoding (in some cases, a lot of it) *as well as* metacognition and meaning (in some cases, a lot of it). And we can set up our classrooms so children are learning to read *and* reading to learn, which can be done if we program extended reading opportunities that allow students to pull it all together, building critical word recognition skills *as well as* increasing their ability to derive meaning from text.

Finally, although I've used a good deal of “both-sides-now” language in the previous paragraphs, I do not advocate instruction that is “balanced” at all times. There are times to focus on one skill more than another. Capable readers who are ready to explore genre, authors' purpose, and metacognition strategies can be given these things. Meanwhile, those students who are still trying to “break the code” should receive higher doses of systematically taught encoding and decoding. But we don't want to go overboard! Reading is always about meaning, and rich literature and comprehension activities should always be part of the reading curriculum (Shanahan, 2017a).

The Components of Reading Success

The instructional practices included in this book are grouped into four categories. I think of these categories as the components of effective reading instruction, Grades preK to 3. Because each component reinforces the other, literacy instruction works best when all these components are firmly in place:

- **Teacher-used instructional techniques**, such as wait time, distributed practice, direct and explicit instruction, activating multiple senses, and instant error correction.
- **Activities and strategies that build language comprehension**, which includes background, topical, and vocabulary knowledge, as well as metacognition, grammar, and syntax. Practices such as shared reading, interactive read-alouds, teaching metacognition strategies, and vocabulary word sorts fall into this category.
- **Activities and strategies that build word recognition**, which include phonological awareness, letter combinations and sounds, spelling and phonics (from basic patterns to multisyllabic words), and the study of morphemes, from affixes to roots (English, Greek, and Latin). Activities in this category also include shared, guided, and independent reading.
- **Extended and extensive reading** (meaning bouts of reading, 15 or more minutes in length, in a wide variety of books), which often occurs during guided and independent reading time and which gives students opportunities to practice both language comprehension and word recognition.

Each component can be taught through any number of techniques, activities, routines, and/or strategies, which I collectively call practices. The practices in this book straddle the science of reading and my ongoing work with classroom teachers. Additionally, they are useful for teaching low-achieving readers *as well as* typically achieving readers, and they are effective with young children *and* many older children. Also, I hope you find my choices to be logical, easy to implement, and removed from the pendulum swings and paradigm shifts that plague education. Finally, none of the practices in this book is programmatic, meaning all practices can be integrated (to varying degrees) into Tier 1 classroom instruction, reading interventions, and any number of instructional frameworks,

from balanced literacy and reader's workshop to basal reading programs such as Reading Street and Wonders.

Regarding instructional frameworks from balanced to basal and beyond, I leave many aspects of integrating the practices in this book up to your professional judgement. After all, each of you is teaching within a specific educational ecosystem. For example, one reviewer of this book has expertise in a dual-immersion classroom. Her thought is that if you teach this type of classroom, "you may want to hover in comprehension lessons a little longer" because vocabulary and language structures are still at the emergent level in primary grades. I couldn't agree more. Meanwhile, if you teach in a balanced-literacy classroom, you may want to give certain students more practice with phonics-spelling-morphology, which could come about by using decodable text, extra bouts of rereading, and additional activities that explicitly and directly teach phonics-spelling patterns. Conversely, if your classroom is basal-based, you may want to slice away ineffective workbook pages, too much shared reading, and time-consuming summative assessments in order to make room for more guided and independent reading, as well as guided writing.

When best practices are used, many students with problems in their early years do not have long-term difficulties. This is wonderful news! If we identify areas of concern early and instruct specifically and effectively, many serious reading difficulties might never arise. As research states, interventions can greatly reduce the number of children with continuing difficulties in reading, perhaps even below 2 percent (Torgesen et al., 2003; Vellutino et al., 2000). But this does not mean that reading difficulties that stem from neurological differences do not exist. On the contrary, I fully acknowledge that some readers need further, specialized instruction, especially those with diagnoses such as dyslexia and dysgraphia.

This book's ultimate purpose is to have more kids reading on their own. We will start by learning about the brain and then move to how reading takes place through the interactions of brain areas and circuitry. Our examination of foundational reading will be via the models of "the Eternal Triangle" and "the Simple View of Reading." Both will help us quickly grasp how reading difficulties arise. The rest of the book is then devoted to instructional practices that give all students the foundational reading skills they need and prevent reading difficulties from occurring. Thank you for joining me in the important action of teaching children to read!