EDITORS NOTE
Closing the reading achievement gap is crucial to ensuring success for all learners. This Spotlight will empower you with expert advice on helping students with complex texts; the best ways to teach reading to students who have grown up on digital devices; research outlining how to help students transfer knowledge to new texts; guidance for identifying and serving older students struggling to read; and more.

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Closing the Reading Achievement Gap

3 Big Mistakes to Avoid When Helping Readers Grapple With Challenging Texts

By Sarah D. Sparks

Students progress faster when they are challenged to read difficult texts—but doing so may be a daunting task for teachers working with students who are struggling to read.

In a recent online discussion with the nonprofit Read Washington, Tim Shanahan, the founding director of the University of Illinois at Chicago’s Center for Literacy, and a distinguished professor emeritus, highlighted tactics to avoid and offered better alternatives for teachers to support students as they tackle difficult texts.

1. Don’t focus on meeting a student ‘at their level’

Beginning readers in the earliest grades benefit from repetition and easy to sound-out words—think of Dr. Seuss’s *Green Eggs and Ham* or Eric Carle’s, *Brown Bear, Brown Bear, What Do You See?*—but research suggests students who have mastered basic decoding make faster progress if they grapple with more complex texts.

Research suggests students learn more with more difficult texts, as long as they have instructional support. For example, one 2017 study found 3rd graders who started as weak readers outscored even proficient readers when they used texts written two to four grade levels above their initial reading level as part of paired-reading exercises.

More-difficult texts may have more academic vocabulary and syntax, or require more understanding of literary devices and practices in different genres. Shanahan noted that it is more helpful in the long run—even for struggling readers—to learn tools to break down difficult texts rather than using more simplified reading passages. These might include asking students to paraphrase each sentence in a difficult text to check meaning; or to rewrite a passage that includes sentences with multiple clauses, phrases, or parentheticals.

2. ‘Don’t get ahead of the author’

The better a student understands the subject of a text, the easier it is to read it—even when the text itself is difficult. In fact, studies suggest a poor reader who is well-versed in a particular subject often can make up for low comprehension simply by relying on their own background knowledge.

Supporting information can exacerbate students’ tendency to use their background knowledge to replace their comprehension, especially if it ends up repeating the text instead of simply providing context. For example, Shanahan recalled working with a high school teacher in Illinois who was preparing her class to read works by William Shakespeare. Shanahan agreed that students may need context about cultural differences in the plays written 400 years ago, but “she said, ‘We’re reading, ‘Romeo and Juliet.’ So to prepare them, I explained to them that there are these two families, and the two families are feuding, and the boy and the girl fall in love’ ... And I said, ‘Wait a minute. That’s not the prior knowledge. That’s the story that they’re about to read,’” Shanahan said.

Explaining words or concepts that can be gleaned through the text itself provides less opportunity for students to practice “reading to learn,” he said.

3. Don’t overload on vocabulary

Low academic vocabulary is one of the most common problems for struggling readers, but Shanahan cautioned that teachers should be careful in choosing which words to define for students.

“We want to build a lexicon or a dictionary in everybody’s head, and we want that list to get longer and deeper and richer as they go through school,” he said. “but we also teach vocabulary to enable their understanding of the text we’re about to read, and those are two really different goals.”

Rather than preteaching extensive vocabulary lists for each text, Shanahan said it is more important for students to learn how to recognize when they don’t know the meaning of a word and it is interfering with their ability to comprehend a text. Students should also learn how to figure out word meanings on their own, either through clues and close reading of the text itself or through outside tools, such as dictionaries.

For example, he suggested teachers use more passive vocabulary scaffolding, such as a glossary or a vocabulary wall, and give exercises in which readers explain clues in a text that shows the meaning of a particular word.
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Sara Shorey, Principal
John Adams Elementary School
Santa Ana Unified School District, California

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Why Printed Books Are Better Than Screens For Learning to Read: Q&A

By Alyson Klein

Students who want to read about dinosaurs, delve into English literature classics, or just immerse themselves in a good story have plenty of options: Traditional paper books, e-readers, audio books, tablets, computer screens, even their phones or smart watches.

When it comes to learning, however, are all these mediums created equal? Which are best for comprehension, and which are best for younger students? And how will the increasing digitization of books reshape reading instruction?

To unpack those questions, Education Week spoke with Maryann Wolf, the director of the Center for Dyslexia, Diverse Learners, and Social Justice at the UCLA Graduate School of Education and Information Studies. Wolf is also the author of Reader, Come Home: The Reading Brain in a Digital World, published in 2018 by Harper Collins.

Is it a good or a bad idea to have students read on a screen versus on a real piece of paper?

The reality is more complex than a nice, neat, tidy binary. If only it were that simple.

The reality is that we have very interesting data that stretches from 3-year-olds all the way through young adulthood, which suggests there are advantages and disadvantages of each medium, depending on the purpose or intention.

Reading development begins well before any teaching. For young children, physical books are best, audio is second best, and tablet is a clear third. And the reason is that there is a certain double-edged sword here. On the one hand, the tablet is more engaging. On the other hand, it’s a passivity of engagement. It is over-utilizing what we call the novelty reflex that human beings have. This is the last thing we want for child development because we’re wanting them to learn to focus. Instead, they are learning to be distracted.

The most common two words after the child goes off the screen: ‘I’m bored.’ Why? Because they are overstimulated. So between zero and five, the evidence has become quite clear that children’s use of the screen is helping to develop the opposite of what we want in focusing of attention.

The brain never had a single gene or a single region that was specific for reading. Reading is an invention. And what the brain has is the capacity to make new connections among its genetically programmed parts, like vision and language and aspects and cognition. So what reading does, and that’s why the 0-to-5 period is important, is it takes those regions that had been developing for five years, and it connects them.

We can use digital screeners [diagnostic tests that can be paper or digital] to see what [a student’s] development is like. So we want to see: Do they know their letters? Do they know the sounds? Do they have any idea that the sounds are spelled by letters? What is the vocabulary like? We also want to take a look at processing speed.

So even from the start, digital can be used in excellent ways, as a screener [to get an initial handle on a student’s skill level] and as a form of practice for children.

There are fewer people reading physical books these days. What are the implications of that trend?

The perception of the students is that they’re better readers on the screen. They believe that they’re better on the screen because they’re faster. They are faster, but they are faster because they [are] basically scrolling, word spotting, skimming, scanning. That means we have a need to really hone these deep reading skills in print, and then teach their use on digital screens.

We know that print has advantages because it encourages the time-consuming deep reading processes. But in the future, we’re not going to have people like me. We’re going to have most people who are just digital natives. The question is: how do we get the brain to be a deep, empathic, critical, insightful thinker?

Books are really one of the greatest tools for the mind and should never be lost until we are assured that the same processes that were advantaged there are not being diminished by the other mediums.

When are screens helpful?

You heard me say from the start, this is not a binary, right? And I really am very serious about that.

Print has more advantages for children’s learning than screens. However, children who are struggling, like those with dyslexia or those who have a really limited background knowledge on a subject, you can use digital complementary programs for giving that child practice.
Teachers Are Told to ‘Activate Prior Knowledge.’ Here’s How That Works in Reading

By Sarah Schwartz

When students are reading something new, teachers often try to get them to draw on their prior knowledge to help them understand the text in front of them.

Doing this can help kids make sense of ideas that are unfamiliar. But it can also be a hard skill to master.

A new study suggests an approach that can help. The research, published in the Journal of Education Psychology earlier this month, finds that teaching elementary students about conceptually related topics—and explicitly showing them how to make connections between vocabulary words and ideas—can help them apply their knowledge in new contexts.

The finding has implications for a critical part of reading instruction: comprehension.

Over the past few years, some education advocates have promoted reading curricula that aim to develop students’ content area knowledge in social studies and science.

These programs are motivated by the large evidence base showing that background knowledge is an important component in reading instruction. The more children know about a topic, the better they can understand a book or article about it: If students are taught a lot about the American Revolution, they’ll understand texts about the American Revolution better.

But it’s less clear whether knowledge-building programs can have a broader effect. To extend the example above, will they be able to apply that knowledge to understand other political movements? Will it improve their reading comprehension in social studies topics as a whole?

“The million dollar question in education is, ‘How far can all of our interventions travel?’” said James Kim, a professor of education at Harvard University and the lead author on this new study.

Kim and his colleagues set out to investigate that question.

Creating a ‘unifying intellectual structure’

The study included 30 elementary schools in one urban school district in the southeastern United States. These schools used a mix of different reading methods in 1st and 2nd grades.

Researchers randomly assigned the schools to either treatment or control groups. In the control group, teachers conducted their usual science or social studies instruction.

Treatment group teachers delivered thematically related literacy lessons about how scientists study past events. These students also read books on related topics during the summer between 1st and 2nd grades.

The lessons that the treatment group teachers used across both grades were all building toward the same theme: how scientists study past events.

First graders learned about how animals survive in their habitats, 2nd graders about how paleontologists studied prehistoric animals and events. The goal was to help students in the treatment group build a set of interrelated knowledge, called a schema.

A schema is a sort of mental framework—what Kim called a “unifying intellectual structure.” It helps readers keep facts and ideas related to the same concept in one place in their mind. That way, they can retrieve and apply them when they need to use this knowledge to understand something new. And they can add related things they learn into the schema, building it out to be more complex, robust, and interconnected.

To do this, teachers in the treatment group did thematically-connected read-alouds, had students read text, and explicitly taught vocabulary like “survival,” “adaptation,” and “extinction.” They also had students apply their knowledge, using these words and concepts to write and discuss, and participate in collaborative research projects.

Students in the control group were learning similar content to students in the treatment group. But these control group students didn’t get the same support aimed at helping them build a schema.

Measuring transfer

On a science content test, the students who received the intervention outperformed their peers, suggesting that this focus on building interconnected conceptual understandings made a difference.

They also did better than control group students on general reading comprehension tests, and by the fall of 2nd grade, students in the treatment group showed less summer learning loss than students in the control group.

These are the two kinds of outcomes that
knowledge-building interventions usually test, said Kim: whether students learn the content they’re being taught, and whether it moves the needle on reading comprehension more generally. But he and his colleagues also went one step further.

They wanted to see exactly how far students could transfer the knowledge that they learned, using the mental models that they had created. Would they be able to draw connections to new topics on their own?

The researchers gave students three separate passages to read. All three were conceptually related to what students had learned about paleontologists studying dinosaurs, but the texts varied in how explicitly they drew those connections.

The first was very similar to what the students had learned in both the treatment and control groups. It also focused on paleontologists, but it introduced a new species that students hadn’t learned about—ammonites, an extinct type of shellfish.

The second passage was about archeologists studying the ruins of Pompeii. It used some of the same vocabulary and concepts, and it drew a few explicit connections to paleontology—for example, saying the event was “like a mass extinction” and describing the remains as “fossilized humans.”

The last passage, about genealogists mapping people’s descendants, had the fewest explicit supports. It was still conceptually related—about how scientists study past events—but the passage didn’t include any of the language students had learned.

Students who had been through the intervention did better on comprehension assessments of the first and second passages than their peers in the control group. But there wasn’t a difference for the third passage.

Using assessments like these presents a more fine-grained picture of what students actually know than general comprehension tests, Kim said.

The paper’s recommendation, that policymakers introduce these kinds of content-aligned reading assessments, would pose steep challenges in most states, where English/language arts standards are content-agnostic and districts vary in the topics they cover. Only one state, Louisiana, has experimented with such a test.

But gauging transfer can be useful for individual educators in a more informal setting, too, Kim said.

“If you know how far kids are transferring knowledge, it’s a signal to teachers of what they need to go back and discuss,” he said.
A literacy leader cultivates an environment where educators feel empowered to provide personalized instruction to meet everyone’s needs. As a result, students believe in their abilities to improve and develop the intrinsic motivation and passion they need to become lifelong learners.

According to a study conducted by the Wallace Foundation, “leadership is second only to teaching among in-school influences on student success.” The researchers found little evidence of academic success without effective school leadership. Additionally, research shows that, when schools and districts prioritize literacy development, students achieve higher levels of overall academic success. Principals and district administrators have a responsibility to develop a culture of literacy to promote independent reading in their schools—and, in turn, improve overall student performance.

**So, what can you do to promote a culture of literacy among students and educators?**

1. **Create a literacy plan**

   The acclaimed author and aviator Antoine de Saint-Exupéry once stated, “a goal without a plan is just a wish.” These words are especially true for achieving literacy goals in your building or district. Achieving your literacy goals requires an intentional and strategic implementation plan—especially if many of your students are reading well below grade level.

   First, engage all district stakeholders—including teachers, administrators, families, students, and community partners—to determine specific student needs. Consider gathering information via online surveys, personal interviews, and focus groups. Compare current student outcomes with performance goals. You can use all of this information in concert to identify reading achievement gaps and determine where to prioritize.

   Next, take inventory of pedagogical practices and reading interventions currently being used. Are any interventions or strategies not working the way they should be? Is PD necessary to help staff understand how to implement interventions? Be sure to achieve a full understanding of the current situation, use cases, and the downstream impact before retiring an intervention or adding a program to your district’s toolbox.

   Communicate an overarching literacy plan that clearly outlines your vision and mission to educators, parents, and students. As you plan your literacy initiative, consider research-backed solutions that develop reading skills for both proficient readers and those students in need of intervention.

To discover how DreamBox Learning can help close reading achievement gaps in your organization, visit dreambox.com/solutions/reading
Give your students choice and voice
Offering students choices about their learning increases motivation, engagement, and overall academic performance. Educators know that choice and control during reading instruction is especially important.

In a study of more than 140,000 students, researchers found that students who reported higher levels of interest and confidence in their reading abilities also achieved significantly higher levels of reading growth. Therefore, the reading development program you choose for your school or district should consider the passions and interests of readers.

Classroom teachers can achieve higher levels of reading motivation by providing a range of texts that expand students’ interests and build background knowledge. By allowing students to select which topics and lessons to work on, they remain invested in the learning experience.

Use adaptive technology to scale differentiated instruction
Differentiated instruction is a student-centered approach to teaching that is designed to address the needs of all learners, regardless of their backgrounds or skill levels. By adapting instructional approaches to meet the needs of the individual learner, educators can improve reading achievement across the entire student population.

Many educators find that adaptive technology can successfully support instructional differentiation at scale. Adaptive technology captures each student’s learning data as they work in the program and personalizes instruction by delivering in-the-moment scaffolding. Classroom teachers can quickly differentiate reading instruction to meet each student’s needs by implementing adaptive reading programs. As a result, educators can provide the most effective and meaningful learning experiences for every student.

Emphasize evidence-based strategies and tools
Any literacy development tools or strategies leaders implement should be backed by extensive efficacy research and proof of their impact. This ensures you’re investing your budget into interventions that have been proven to work.

Under the Every Student Succeeds Act (ESSA), school leaders are incentivized to prioritize evidence-based instructional tools and strategies to increase the impact of educational investments on academic achievement. Evidence for ESSA provides the most up-to-date and user-friendly review of research based on the ESSA tiers. Similarly, the What Works Clearinghouse (WWC), established by the Institute of Educational Sciences, uses tiered, evidence-based methods to evaluate the effectiveness of instructional programs.

Both DreamBox Reading programs are research based. DreamBox Reading Plus received an ESSA Strong rating for its research, demonstrating a significant impact on reading proficiency. The solution has also been proven effective across numerous third-party studies.

To discover how DreamBox Learning can help close reading achievement gaps in your organization, visit dreambox.com/solutions/reading
Implement your literacy program with fidelity

Choosing a strong, evidence-based literacy intervention program for your school or district is an important first step in your literacy plan. But to actually achieve your literacy goals takes another critical step: You need to use the program as intended—with fidelity—to ensure maximum results.

To increase fidelity and ensure a successful implementation of the reading program, you will need to:

✓ Offer professional development for teachers to learn how and why to use the program
✓ Provide teachers with the resources and ongoing coaching they need to use the program effectively
✓ Continuously monitor student, classroom, building, and district performance data
✓ Adjust the literacy plan as needed to stay on track toward expected growth outcomes

Look for programs that provide extensive professional development resources, tailored implementation support, and rich, actionable performance data for both teachers and administrators. Many programs have built-in reports that allow educators to track usage data, monitor progress, and inform instruction. By keeping an eye on these metrics, leaders can ensure that tools are being used and determine the return on their investment.

Motivate, motivate, motivate!

Research shows that motivation and reading success go hand in hand. A culture of safe, healthy, and confident learning gives students the intrinsic motivation they need to drastically improve their reading scores. Motivating students to actively participate in their own reading development—that is, developing intrinsic motivation in readers—is one of the most difficult tasks every literacy instructor faces.

School leaders can help motivate students to read by employing district- and building-wide contests that reward students for reading. As mentioned earlier, another critical way to motivate students is by allowing them to choose to read content that inspires them. Educators know that students will put in their best effort when learning material that piques their interests or introduces new and exciting ideas. By providing students with diverse content that reflect their own lives and experiences and texts through which they can view the lives and experiences of others, they gain the ability to understand the world around them.
What Can Schools Do When Older Students Can’t Read?

By Sarah Schwartz

Austin, Texas -

Progression through elementary school is based on the expectation that children will learn the basic foundations of reading in the early grades: kindergarten, 1st, and 2nd.

After 3rd grade, teachers are asking students to read more complex texts, and reading is central to learning across subjects—not just English/language arts, but science, social studies, and math. What happens if kids don’t master these foundational skills by then? And what can schools do to make sure they do?

These questions were at the heart of a March 6 panel conversation at SXSW EDU. The annual education conference, happening in Austin this week, has a host of reading-related programming on the schedule.

Often, when older elementary school students can’t read, it’s because they’re having trouble with a foundational skill, said Brandy Nelson, the academic director for the Reading Reimagined program at the Advanced Education Research and Development Fund, and the panel’s moderator.

“What is probably happening is the student has a decoding challenge,” she said.

Decoding is the process of lifting words off the page—connecting the written letters to spoken sounds, and then blending those sounds together. Research has shown that it’s the foundation of skilled reading, and that teaching students how to do it—teaching them phonics—is the most effective way to help them learn to read words.

This research, and the ensuing implications, has become a cornerstone in the movement known as the “science of reading.”

On this panel, two researchers and a parent advocate joined Nelson to discuss what school systems need to do to support older students who have reading difficulties.

The panelists included Kathy Rhodes, an assistant professor of education at the University of California Irvine, Sonya Thomas, the executive director of parent activist organization Nashville PROPEL, and Jason Yeatman, an assistant professor of psychology at Stanford University’s Graduate School of Education.

They talked about identifying and intervening with students who have decoding challenges, but also the broader social and cultural context that determines the shape of reading difficulties in this country. Reading scores are lower for students of color and students experiencing poverty.

Teaching reading well is an “issue of justice,” said Rhodes.

Read on for three takeaways from the conversation.

1. Educators need to believe that all children can learn

When it comes to students in the upper elementary and middle grades, “there’s a huge belief gap,” said Thomas.

School systems and the educators who work in them have to start with the assumption that all children can learn to read.

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2. School districts need to know the extent and shape of the problem

Not all older elementary students who struggle with reading have foundational
skills deficits. But for those who do, schools need reliable assessments that teachers know how to use and interpret.

Schools need to figure out what students are struggling with exactly, before they start “executing on solutions,” said Nelson.

At Stanford, Yeatman’s lab is building a free library of effective decoding assessments. They’ve also created their own open-access set of assessments, called the Rapid Online Assessment of Reading, or ROAR.

Choosing assessments shouldn’t be treated like a run-of-the-mill procurement process, Yeatman said. Instead, it should be informed by the ways that students are struggling, he said.

3. Teachers need the right tools to address reading difficulties in a culturally responsive way

Older elementary teachers often don’t have the training to teach foundational skills. Even if they did, finding time within the school day to address phonics or phonemic awareness can feel all but impossible with a tight schedule of grade-level content to get through. Experts say that students who have foundational skills gaps should still have access to the same core instruction that their peers are getting.

But it’s not just logistics. Schools also need to make sure that they’re meeting kids’ diverse cultural and linguistic needs.

Many Black children use a dialect of English, often referred to as African American Vernacular English, said Rhodes. “It has really profound and rule-governed, predictable, morphological and syntactical features,” she said. Schools often plan targeted reading support for young English learners, for example, who are using two different languages, Rhodes said. But bidialectical students need these supports too, she said.
‘Encoding’ Explained: What It Is And Why It’s Essential to Literacy

By Elizabeth Heubeck

A sk an early-elementary teacher what the recently popularized term “science-based reading instruction” means, and the response is likely to include something about decoding—the process of translating words from print to speech by matching letters and their combinations to the sounds they make.

This makes sense, as decoding is an undisputed hallmark of early literacy. So, too, is encoding, decoding’s opposite, whereby a spoken word is broken down into its individual sounds in the act of spelling and writing.

But encoding doesn’t get nearly the attention that decoding does, despite evidence that, from the earliest grades on, writing practice is a powerful aid and complement to reading instruction. As a result, say some literacy experts, students suffer.

“Encoding and decoding go hand in hand; they’re like two sides of a coin,” said Crystal Whitman, an instructional coach at Rosman Elementary School in North Carolina’s Transylvania County. “Our hands have been heavier on the decoding side, so we have some weak spellers, weak writers.”

As literacy experts strongly suggest, encoding is often underrepresented in early literacy instruction, even in programs that claim to be steeped in evidence-based practices.

Education Week spoke to literacy experts, researchers, and educators to find out why and what students miss when their exposure to encoding is irregular or minimal. We also culled strategies from structured-literacy advocates on how to embed encoding into daily classroom instruction.

How did encoding get overlooked?

Literacy consultant Steve Graham has spent more than four decades studying the “hows” of writing: how it develops, how to teach it effectively, and how writing can be used to support reading and learning. The lack of emphasis on teaching writing, he points out, is nothing new.

“In pre-revolutionary days, you could teach someone how to read. But without additional instruction, they didn’t necessarily learn how to write,” said Graham, a professor at Arizona State University’s teachers college.

In many of today’s early-literacy programs, the weight of the pendulum remains firmly rooted on the side of teaching reading over writing. Inadvertently, the recent rise of evidence-based literacy programs based on the 2000 results of the congressional National Reading Panel may be partly to blame.

Heavily publicized nationwide, the panel recommends combining the following techniques for teaching children to read: phonemic awareness, phonics, fluency, guided oral reading, teaching vocabulary words, and reading-comprehension strategy.

The report does reference writing, particularly in the context of phonemic awareness and phonics, as students are learning how to manipulate sounds and letters. But it does not specifically mention encoding—or other granular aspects of writing. And even today, there is much less published research on the elements of effective writing instruction.

“I’ve done a number of national surveys,” Graham said. “Writing and encoding see much less emphasis in the curriculum than reading does.”

Other literacy experts share similar experiences. “Most phonics instruction is heavily focused on decoding. They want kids to learn how to read words. They might do some encoding, but it’s often an afterthought,” said Margie Gillis, a nationally recognized literacy expert and the president of Connecticut-based Literacy How, Inc., a company that creates professional-development curricula for pre-K through middle school.

Reading professor Amy Murdoch says she’s seen schools “plop in” phonological-awareness programs that are disconnect ed to the other important elements of early literacy like spelling and writing.

Why encoding matters, and what it looks like in the classroom

“You can’t separate the different strategies of language,” said Murdoch, an assistant dean and associate professor in the School of Education at Mount St. Joseph University in Cincinnati.

That’s particularly true for encoding and decoding. “We really drive home the point that [decoding and encoding] are reciprocal, and they bootstrap each other,” Gillis said.

The brush strokes that, ideally, children begin practicing even before kindergarten form the essential building blocks of encoding: letters and, subsequently, words and sentences. Teaching proper letter formation through repetition breeds automaticity, which is critical for the writing process, say literacy experts.

“I’m a stickler for letter formations. If our kids are not forming letters correctly to automaticity, that impedes them in spelling and writing, because they’re having to then think of how to form those letters,” said literacy expert Casey Harrison.
When students develop letter automaticity, they can shift their focus to whatever it is they’re writing, points out Harrison, an Austin, Texas-based licensed dyslexia therapist and founder of The Dyslexia Classroom, which provides resources for dyslexic learners as well as online courses for educators, parents, and therapists.

Carrie Norris, the director of K-8 curriculum and instruction for the Transylvania County schools in North Carolina, has witnessed firsthand the advantages that come with a focus on early letter formation among her district’s kindergartners. “They learn how to do strokes first—students doing horizontal, vertical, diagonal, and circle strokes,” said Norris, who added that she’s seen a significant improvement in students’ ability to form letters correctly when given consistent and step-by-step practice opportunities in kindergarten.

But even the earliest stages of encoding should not be happening in a vacuum, the experts explain. “We are tying muscle movement and tactile kinetic letter formation with hearing the sound and associating it with its name,” said Gillis.

Spelling assignments often miss the mark

Very young students just beginning to connect their understanding of phonetic awareness to writing letters and words may struggle with the fine motor skills these tasks require. Making it fun can help. Gillis suggests having students write on a plate of shaving cream. Colored sand is another favorite, as are grooved surfaces that feel good on students’ fingertips. “It doesn’t have to be ‘drill and kill,’” she said.

Despite ample evidence of the reciprocal and necessary relationship between decoding and encoding, some traditional assignments continue to miss the mark. Take spelling lists, for instance.

“I still see spelling instruction whereby lists of [spelling] words are sent home that may or may not have some spelling patterns in there,” Harrison said. “It makes me realize the deep connection between sound-spelling for reading and sound-spelling for writing is not fully understood.”

She doesn’t suggest getting rid of the age-old spelling list, rather, revising how it’s used. “Spelling instruction should be part of daily literacy lessons,” Harrison said. “But we want students drawing on their sound-symbol knowledge and connections to reading instruction.”

Harrison explains her version of the spelling test. As a former classroom teacher, and now as a licensed dyslexia therapist, she’ll make a video of the spelling concept of the week (for example, spelling with the final /k/ sound or vowel-consonant-e pattern) and use it all week in class as the students focus on decoding and encoding words containing the rule. On Friday, students have their spelling test. Harrison picks 10 to 20 words containing the rule and has the students write the words using the concept they’d learned that week.

When students spell the words correctly, Harrison knows they haven’t simply memorized a list of words they were apt to forget later. Rather, they’ve mastered a phonetic rule of the English language that they could apply to other words they attempt to read or spell.

“I tell them: I can’t teach you every word in the English language. But I can give you the tools to apply to new, unknown words for reading and spelling,” Harrison said.

The science of reading movement has been largely led by advocates of students with language disabilities. And as with decoding, teaching encoding in a systematic, explicit manner can benefit all kids but is particularly critical to those with processing disorders.

“These are our students who are struggling in accessing the phonological code,” Harrison said, referring to students with dyslexia. “They really need it broken down into a very systematic approach, where things are explicitly taught.”

Students who are unable to spell words experience cascading effects like lower scores on assignments and a disconnect between oral and written language, which can lead to poor self-esteem and a negative outlook on schoolwork, Harrison observes. When students become proficient readers and spellers, the opposite can occur.

“I want to empower students,” Harrison said. “We do that by connecting the reading and the spelling.”
How to Make the Science of Reading Work for Teachers
One state took a different path with good initial results

By Lisa Coons

States are making important moves to improve the way reading is taught in their schools, but the choices leaders face aren’t easy. Many are wrestling with new literacy legislation that responds to stagnant national reading scores and teachers’ reports that they did not adequately learn to teach children to read in their teacher-preparation programs.

To date, 32 states have implemented mandatory training in science-based reading instruction; more are likely to. It wasn’t long ago that as the chief academic officer for Tennessee’s public schools, I was seeking a program that would ensure that every teacher is equipped with evidence-based knowledge that they could easily translate into classroom practice. My team and I wanted effective training that was also affordable, both in terms of financial outlay and teacher time. We chose to develop our own, homegrown training. Many states have selected packaged options like the popular Language Essentials for Teachers of Reading and Spelling (or LETRS) program, but several are now shopping for a more sustainable model—fewer teacher hours required and lower cost. I’ve talked recently with some leaders in the throes of deciding what program they will adopt and want to offer up Tennessee’s experience as possible inspiration.

Our program, Reading 360, pairs research and theory with a strong emphasis on classroom application. We believe it offers a compelling—and streamlined—model for supporting all teachers as they make the transition to practice based on the science of reading.

Since 2021, over 30,000 Tennessee educators have participated in Reading 360 training, and the feedback has been striking: 97 percent of teachers said they felt equipped to apply what they learned in the training in their classrooms. Teachers report stronger outcomes and earlier reading success in early grades.

Our Reading 360 training has two components: a 30-hour, online course that focuses on theory of action, followed by a week of in-person, cohort-based training that focuses on instructional materials and teaching techniques. During the 30-hour, in-person component, teachers have their curriculum in hand; by the end of the training, they have practiced lessons and they are assessed on how they applied their knowledge to their materials. We know that teacher time is precious, so we designed focused, instructionally grounded training, 60 hours in total.

By comparison, many packaged training programs require 150 hours of independent study of theory and fundamentals, without any connection to teachers’ adopted materials nor opportunity to practice the lesson approaches with their peers. We know that teachers need the opportunity to apply theory to their practice and we know that lesson materials make the expected shifts tangible. Studies have shown that this curriculum-based approach improves teacher practice, and we have seen this firsthand in Tennessee. The education department has made over 200 classroom visits, and we have seen teachers delivering science-of-reading-based instruction through their lessons. In addition, early student progress data show student improvement in developmental reading scores and in statewide reading assessments.

Our Reading 360 training launched following a statewide adoption of high-quality English/language arts/literacy curriculum, along with grants for implementation, so districts had already begun to use district-adopted materials in the classroom. This timing allowed us to connect the training directly to the instructional materials in each district. If districts did not have a current science-based curriculum for reading, they could use the free Tennessee Foundational Skills Curriculum we developed. Our teachers have told us over and over that they were able to apply this training to their classroom because

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How to Make the Science of Reading Work for Teachers
the training showed them how the materials could be used to better teach their students. They felt confident not only in their learning but how to apply that learning and saw swift results.

Finally, our training wasn’t transported in. In early 2021, we hired teacher professional-development expert TNTP and, together, we designed the program. TNTP has deep experience with curriculum-aligned professional learning, so we shared a vision for a focused, curriculum- and instruction-centered learning experience that quickly moved from theory into classroom practice.

Designing time-efficient training left us with enough funding to compensate teachers for their time and to include building and district leaders in the training; stipends were paid to all teachers. Our teachers work tirelessly throughout the year, and it was important to us to acknowledge that we were asking them to go beyond their regular classroom responsibilities. These stipends surely helped to foster the widespread uptake of the training.

The widespread embrace of the new materials was evident in a 2022 survey: Only 4 percent of Tennessee teachers reported that they were using or developing supplements to their materials. This is striking given our history of expecting teachers to develop their own materials and all that we know about the field’s reliance on resources like websites Pinterest and Teachers Pay Teachers.

Many states with a strong tradition of local decisionmaking around curriculum have seemed hesitant to push districts on curriculum change, yet our experience suggests that this hesitation is misplaced. With the right materials and the right support, high-quality curriculum work flourishes in classrooms, and teachers are happy for it.

Our Reading 360 approach is different from what many states have chosen, but its efficiency, popularity, and early signs of success in 2022 testing results make us hopeful that we can help every child in Tennessee learn to read.

In education, we tend to do what we have always done—only now we know to do better. Research pushes us to ensure that teacher training is closely tied to classroom practice, and we have seen the inclusion of instructional materials in the training is key. I hope the Tennessee model provides one option for states to consider as they work to improve their own reading instruction.

Lisa Coons is the chief academic officer of the Tennessee education department. She was formerly the chief of standards and materials for the department.
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