
The science that's missing from Science of Reading laws

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In the long-running reading wars, proponents of phonics have won. States across the United States of America, both [liberal](#) and [conservative](#), are passing laws designed to change the way students are taught to read in a way that is more aligned with the [Science of Reading](#).

[States](#), [schools of education](#), [districts](#), and – ultimately, the hope is – teachers, are placing a greater emphasis on phonics. Meanwhile, the ‘[three-cueing](#)’ method, which encourages students to guess words based on context, has been marginalised. It’s been a striking and swift change.

But there has been much less attention paid to another critical component of reading: [background knowledge](#). A significant [body of research](#) suggests students are better able to comprehend what they read when they start with some understanding of the topic they’re reading about. This has led some [academics](#), [educators](#) and [journalists](#) to call for intentional efforts to build young children’s knowledge in important areas like science and social studies. Some school [districts](#) and [teachers](#) have begun integrating this into reading instruction.

Yet new state reading laws have almost entirely omitted attention to this issue, according to a recent [review](#). In other words, building background knowledge is an idea supported by science that has not fully caught on to the Science of Reading movement. That suggests that while new reading laws might have [real benefits](#), they may fall short of their potential to improve how children are taught to read.

“It’s an underutilised component,” said Dan Trujillo, an administrator and former teacher in the San Marcos Unified School District in California. “There’s a lot of research about that: The more a reader brings into a text, the more advanced their comprehension will be.”

However, translating this research into legislation or classroom instruction – at a moment when curricular decisions are increasingly fraught – may not be straightforward.

Reading requires comprehension, not just decoding

Researchers sometimes speak of two major components of reading: decoding words and then comprehending their meaning. (This is known as the Simple View of Reading, although researchers now say it’s a bit [oversimplified](#).)

Decoding means turning the text into cognisable words. Phonics – using letter sounds to determine a word – is a critical part of this process. This has been a key focus of the Science of Reading movement and the laws that have followed.



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But the ability to read doesn't end there. Readers also need to be able to comprehend the words they have sounded out. It's not just the dictionary definition that counts either, but the meaning in specific contexts. That's where background knowledge comes in.

"The main determinant of understanding a text is how much knowledge a reader brings to reading," noted a [2020 review](#) published in the journal *Reading Research Quarterly*.

Consider the knowledge required to understand the following seemingly simple sentence, which summarises a [recent Chalkbeat story](#): 'House Republicans seek to cut Title I funding by nearly \$15 billion.'

It assumes the reader knows that 'House' is a legislative body in the United States federal government (not a place where someone lives); that 'Republicans' make up one of the major political parties; and, most importantly, that 'Title I' is a source of funding for schools. Readers who know all this can easily interpret the sentence; otherwise, it's all but meaningless. Decoding skills are necessary to read but not sufficient.

That's because all writing assumes that readers have some level of background knowledge. After all, it would be unwieldy to pause to describe, for example, the United States House of Representatives.

"A whole lot is omitted when a person speaks or writes on the assumption of common ground, on the assumption that you and I both have knowledge that we share," said Daniel Willingham, a cognitive psychologist at the University of Virginia.

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Some argue that knowledge is [less relevant](#) today with the availability of internet search engines. Why do students need to memorise basic facts if they can just Google them?

But looking up every unknown word or concept is time-consuming and gets in the way of comprehension. Imagine stopping to search for a key

term every few sentences of this article – it would be exhausting and difficult to keep all the new information straight. Plus, searching for the right terms or interpreting searching results may also require background knowledge.

In other words, Google can help fill in gaps in knowledge, but it can't easily fill a chasm.

"Background knowledge is not just an incidental aspect of reading instruction," one recent [review of research](#) concluded. "Instead, explicitly teaching background knowledge should be considered foundational to increasing competency in reading."

State laws don't address knowledge – and solutions aren't easy

In the last few years, most states have enacted legislation that seeks to improve students' reading skills. These laws typically emphasise multiple tenets of effective reading instruction, including phonics and comprehension – but the role of knowledge in reading comprehension has gotten scant attention.

"Building content and background knowledge as a foundation for reading comprehension are almost completely absent from this legislation," concluded a [recent report](#) released by the Shanker Institute, a think tank affiliated with the American Federation of Teachers. (A handful of states mentioned knowledge in their legislation, but only briefly.)

This omission has been noticed already. "Unfortunately, the Science of Reading has often been interpreted far too narrowly as exclusively focused on foundational skills," the Knowledge Matters Campaign, which focuses on



raising awareness about the role of knowledge in reading, [noted](#) last year. “Our charge is to bring knowledge into the vibrant and dynamic conversation about the Science of Reading.”

Part of the challenge is that – unlike the lessons from phonics research – it’s not obvious how schools should address the importance of background knowledge. There is, after all, a near infinite amount of knowledge in the world. Schools can’t give students all the knowledge they need to read all the texts they will encounter.

“It’s daunting,” said Willingham. “There’s not a quick fix here.”

Some educators have said the answer is adopting a curriculum that integrates important texts in science, history and other topics into reading instruction. That way, students will start to build their knowledge on issues that they will likely encounter in what they read. That’s the approach a number of districts have adopted, including San Marcos Unified, a large district north of San Diego.

“They have to read about something,” said Trujillo, the San Marcos administrator. “You might as well read about something in science – sound or how plants grow – or social studies – the area, the people, the Constitution.”

Some have also [argued](#) that schools should devote more time during the school day for regular instruction in science and social studies, which get relatively little attention in elementary grades. But there aren’t clear research-based answers here. Although there is solid evidence that knowledge is an important part of reading, there is [less](#)

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[research](#) on *how* schools should go about building knowledge in a way that translates into improved reading skills.

One [recent study](#) provides some encouragement to advocates of knowledge building: researchers found that students who attended charter schools that taught a knowledge-focused curriculum made large reading gains on state tests. Still, the study could

not show whether these improvements came from the curriculum itself or other features of the charter schools.

Separately, there are political and cultural questions about what sort of knowledge – and whose knowledge – is taught. Some have [worried](#) that codifying essential knowledge will privilege elites’ conception of what is important, while giving short shrift to the contributions of historically marginalised groups. This issue may be particularly challenging for policymakers to navigate at a moment when classrooms have become a cultural battleground.

Esther Quintero, a senior fellow at the Shanker Institute, rejects this dichotomy. She says that careful attention should be paid when designing a curriculum to include a broad swath of history and culture. Ultimately, she believes a knowledge-focused approach may benefit disadvantaged students the most.

“There’s an equity argument to be made for knowledge-building curricula – it levels the playing field for kids,” she said. “Everybody is exposed to the same content. Otherwise, you leave it up to chance.”

[Chalkbeat](#) (chalkbeat.org) is a non-profit news organisation covering public education.

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