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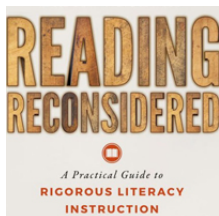
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## Why Background Knowledge is Crucial for Literacy

*An excerpt of "Reading Reconsidered" by Doug Lemov, Colleen Driggs and Erica Woolway*

*By Doug Lemov, Colleen Driggs and Erica Woolway*  
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The authors of *Reading Reconsidered* sit down with Marty West on the [The EdNext Podcast](#).  
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*In the new book [Reading Reconsidered: A Practical Guide to Rigorous Literacy Instruction](#), Doug Lemov, Colleen Driggs, and Erica Woolway offer clear guidance on how to teach students to be better readers. In this excerpt, they illuminate why background knowledge is so important to reading comprehension. Lemov, Driggs, and Woolway are leaders of the Teach Like a Champion team at Uncommon Schools, where they work to design and implement teacher training and principal training programs based on the study of high-performing teachers.*

Reading nonfiction poses a double challenge for most students. Comprehension of nonfiction often demands a strong base of prior knowledge, but reading nonfiction is also one of the primary ways such a base of knowledge is built. Nonfiction, in other words, both relies on and develops knowledge, and the significance of this paradox is far reaching.

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# READING RECONSIDERED



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We can start with the practical. One of the most forceful arguments in the Common Core is that students should read significantly more nonfiction than most currently do. This argument is intended to address a gap in preparation. Much of what many students must read in college is nonfiction—often complex and dense nonfiction—but their reading during their middle and high school years is usually heavily weighted toward fiction, often, as we discussed in chapter 1, insufficiently complex fiction. Thus students arrive on campus unprepared to read what is required of them.

So students need to read more nonfiction to be ready for college. And they will need to be able to read more of it for the gateway assessments that will get them there, not only any Common Core assessments but the redesigned SAT, which will focus intensively—even more so than in the past—on cross-disciplinary reading from the sciences, social sciences, and history, and which will include at least one excerpt from a key founding document of the United States every year. [1]

But even beyond these pragmatic arguments, success in middle and high school demands that students “read to learn.” They must glean knowledge from articles, textbooks, essays, research summaries, and the like to thrive in both social and hard sciences. And of course a broad and deep base of knowledge doesn’t just assist students in reading nonfiction texts: it makes successful readers of fiction too, just as the knowledge that students derive from reading isn’t exclusively from nonfiction. No matter how you feel about assessments like the Common Core and the SAT, this broader urgency of preparation drives their design.

So it is important not only to read plenty of nonfiction and to read it in a way that adds as efficiently as possible to a student’s knowledge base but also to read fiction in the same way. But we note a further challenge here. Students often like reading nonfiction less because it’s less engaging. We think it’s also worth reflecting on how we can help them enjoy it more, and our reflections on these challenges form the basis of this chapter.

Before we look at the connection between knowledge and reading comprehension, we should parse some terms. It’s not just nonfiction that students need more

of. It's *nonnarrative* nonfiction. Despite its terrible name, this term makes a critical distinction.

Nonnarrative nonfiction (NNNF) is nonfiction that *does not tell a story*, as memoir and biography do. Rather, the main goal of NNNF is to disseminate information, as an article would, or present an argument, as an essay would. It's the difference between reading "Letter from Birmingham Jail" and reading *The Autobiography of Malcolm X*. We use the term deliberately and in place of the more common term "expository" writing because to us it encompasses a wider array of texts, many of which are growing in relevance and importance with the rise of electronic media: interviews, speeches, opinion pieces (including op-eds and columns but also blog posts and less formal writing), letters, and primary historical documents, for example.

When teachers decide to read nonfiction in class, they most often read its narrative forms, precisely because of their accessibility. Reading narrative nonfiction is important. Much of our compendium of personal favorites—to read and to teach—is made up of memoir and biography, but it is also worth noting that these are the forms of nonfiction that *most closely resemble fiction* and therefore are most intuitive to students already. They have been familiarized with basic narrative conventions since the earliest stories they have heard, and this familiarity is reinforced with every movie or sitcom they watch. Less familiar forms of nonfiction—ones that lack a beginning, middle, and end or an identifiable storyteller, or that employ different organizing principles, for example—pose much bigger challenges. Thus, in this chapter, we place particular emphasis on tools teachers can use to read nonfiction's nonnarrative forms more frequently, engagingly, and successfully.

## **The Key Challenge: Background Knowledge**

One reason why the fact that nonfiction texts both build and rely on background knowledge is so critical for teachers to consider is the tendency for its effects to compound over time. In reading, the more you know, the more you learn. Educators often refer to this as the Matthew Effect, in reference to a line in the Bible that details the rich getting richer and the poor getting poorer. In reading, it means that when you know a little about a topic going in, the text adds more knowledge and detail to your framework—easily and naturally deepening your understanding and building connections to existing knowledge while still leaving you enough processing capacity to be able to reflect on the nature of the ideas in the text.

This is great news if you start out with broad and deep knowledge, but less positive if you don't. When you know very little about a topic, it's easy to be confused or overwhelmed by new information. You can hold just a small fraction of it in your working memory, but you don't really know enough to decide what's most important and worth prioritizing. What you attend to is likely to be a combination of signal and noise. The new knowledge can easily become a morass of disjointed facts too daunting to prioritize or weave together in a cohesive way. Instead of comprehending an argument as a whole, you'd risk remembering a random detail here or maybe confusing two facts there. Or you'd just miss things. You might finish not much further along than you started.

Consider this sentence:

As the desert sun climbs overhead, the kangaroo rat burrows deep in the sand and rests until evening.

For a reader with the background knowledge to know that the desert sun's "climbing" implies that it is moving toward the point where it is hottest and where that heat is deadly to mammals, there is not much of an inference to make—survival demands that the rat hide until the sun goes down. But if the reader merely knows that deserts are hot—not deadly hot—or that we are talking about the scorching midday sun, then the rat's behavior is, if not inexplicable, at least subject to multiple interpretations. Maybe the rat is afraid. The passage loses its intended meaning. An uninformed reader is misunderstanding as much as failing to understand.

And there are even subtler knowledge requirements implied by the sentence. A reader familiar with the conventions of species naming is likely to recognize instantly (that is, in the time it takes to process it while decoding the sentence) that the kangaroo rat is a species of rat, not a creature that's half kangaroo and half rat, and that it doesn't look like a kangaroo. Its name is metaphorical, not literal, and given merely because it can jump far. Worse, uninformed readers are likely to suffer these misunderstandings in silence. The passage seems "obvious" to those who have the necessary knowledge, and the barriers to meaning to those who lack that knowledge are both inscrutable and often invisible, so misunderstandings are likely to endure.

Research bears this out. Cognitive psychologist Daniel Willingham notes that a student's background knowledge is among the strongest factors predicting his or her reading comprehension. As he wrote recently in his blog, "Once kids are fluent decoders, much of the difference among readers is not due to whether [they're] a 'good reader' or 'bad reader'

(meaning [they] have good or bad reading skills). Much of the difference among readers is due to how wide a range of knowledge they have. If you hand me a reading test and the text is on a subject I happen to know a bit about, I'll do better than if it happens to be on a subject I know nothing about." [2]

A 1988 study by Recht and Leslie is often cited as a compelling bit of proof. The researchers divided a group of young readers into two groups. One half of the readers had been shown by previous assessments to have strong reading skills—from decoding to comprehension—but they knew little about baseball. A second group comprised students with much lower reading skills, but with solid baseball knowledge. Both groups were given a passage about a baseball game to read and asked a series of comprehension questions. The result was that “weaker” readers with baseball knowledge outperformed the “good” readers without it. [3] They simply had the context to understand what was happening when, let's say, “Roberts sacrificed Martin to second.” For them, Martin was now in scoring position, and Roberts was in the dugout. But this was not clear to their peers. As perspicacious as their reading might have been, their lack of knowledge betrayed them. What they needed to know was left unsaid.

“Every passage that you read omits information,” Willingham writes. “All of this omitted information must be brought to the text by the reader. Otherwise the passage will be puzzling, or only partly understood.” [4] And of course this is particularly obvious with passages about baseball, but it's just as true of passages about kangaroo rats in the deserts or about life in Colonial times or even *Tuck Everlasting*.



Teachers often refer to the process of figuring out what's left unsaid as *making inferences*. We see colleagues practicing this “skill” to help students get good at it. But no amount of inferencing practice—no amount of asking students to combine what they know with a conjecture about what they don't—would have helped those high readers without baseball knowledge as they sought to grasp what they did not know was missing. In fact, as we will discuss in a moment, it may be that inferencing is not a skill. If it is, it is a skill that is *also* predicated on students having knowledge to enable it to take place.

A paper by Cunningham and Stanovich went further in studying the connection between knowledge and reading. It took results for eleventh graders on an established reading comprehension test and assessed their correlation to several measures of their general knowledge, *not knowledge specific to the passages on the test* as the baseball study had done. [5] There was a “remarkably high correlation between reading comprehension and the measures of cultural knowledge,” Willingham noted. [6] Correlation isn't cause, of course—a point we make throughout this book—so it's possible that the good readers in this second study simply knew more by the time they were tested, but given the relationship between knowledge and reading, that's sort of the point. Whether the knowledge caused the reading comprehension or the reading comprehension caused the knowledge, or both, it is still clear that reading and knowledge are linked in important ways.

Let's return for a moment to the idea of practicing inferencing to help students get better at it. Every text requires constant inference on the part of the reader. However, the size of the inferences students must

make varies with the depth of their prior knowledge about what they are reading. This discrepancy in the size and number of inferences—a sort of regressive tax on lack of knowledge—is likely one of the key reasons that knowledge influences comprehension so deeply.

In *The Knowledge Deficit*, E. D. Hirsch Jr. argues that the ability to make inferences is not actually a formal skill. [7] Although this point may sound abstract, its ramifications aren't. If making inferences isn't a skill—that is, if practicing making inferences in one setting won't necessarily increase the likelihood of your making successful inferences elsewhere—then repetition is of limited value. If you make inferences based in large part on your existing knowledge, making a leap might not be the problem; knowing enough to know where and how to jump might be.

Consider that even the weakest readers have no trouble making inferences about the movies and television shows they watch as part of their constant interaction with popular culture. The problem then clearly isn't with those students' ability to make inferences. In a familiar context, they “get” what's unsaid. Rather, the difficulty must lie in the setting—at least in most cases: the students cannot process the text with enough cognitive bandwidth left over to make inferences, or they lack the vocabulary to follow the narrative, or they lack knowledge. They don't know what it means to burrow or what a climbing sun implies. Yes, it could be that there are also specific cognitive processes that make inferences work differently when made from text rather than visually, but even if that were true, knowledge would almost

assuredly be a significant compounding factor. So in all likelihood, making inferences requires both background knowledge and experience thinking about what's missing from a text—in fact, we'd argue, knowing what sorts of things are often missing in a text is a sort of tacit knowledge that comes from experience. By itself though, a strategy-based approach to practicing making inferences is at least insufficient. Building background knowledge is necessary—and possibly primarily necessary—for students to make effective inferences.

*Doug Lemov, Colleen Driggs, and Erica Woolway are leaders of the [Teach Like a Champion](#) team at Uncommon Schools. Connect with the authors on Twitter at [@DougLemov](#), [@EricaWoolway](#) and [@ColleenDriggs](#).*

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## Notes:

1. College Board, *Test Specifications for the Redesigned SAT*, 2014, <https://collegereadiness.collegeboard.org/pdf/test-specifications-redesigned-sat.pdf>, 9.
2. Daniel Willingham, "School Time, Knowledge, and Reading Comprehension," *Daniel Willingham* (blog), March 7, 2012, <http://www.danielwillingham.com/daniel-willingham-science-and-education-blog/school-time-knowledge-and-reading-comprehension>.
3. Donna R. Recht and Lauren Leslie, "Effect of Prior Knowledge on Good and Poor Readers' Memory of Text," *Journal of Educational Psychology* 80 (1988): 16–20.
4. Willingham, "School Time."
5. Anne E. Cunningham and Keith E. Stanovich, Early reading acquisition and its relation to reading experience and ability 10 years later. *Developmental Psychology* 33 (1997): 934–945.
6. Willingham, "School Time."
7. E. D. Hirsch Jr., *The Knowledge Deficit: Closing the Shocking Education Gap for American Children* (Boston: Houghton Mifflin, 2006).

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