

Knowledge Matters Campaign

Restoring Wonder and Excitement to the Classroom





Knowledge Matters Campaign

Restoring Wonder and Excitement to the Classroom

Nearly every major goal of American education—from improving reading comprehension and critical thinking to enhancing problem solving and creativity—is knowledge based. Without a solid foundation of content knowledge built from the first days of a child’s school experience—in history, science, the arts and more—the ambitious goals of raising academic standards and improving student outcomes simply cannot be met. This basic, unassailable idea—that the actual content of a child’s education matters—is among the most firmly established principles of cognitive science. Yet it remains dimly understood by most parents, policymakers, and even teachers. If it were well understood, elementary education in America would look very different.

Fifty years of research definitively shows that knowledge is vital to language comprehension—the starting line for all other learning and analysis. Broad, shared knowledge is vital to citizenship, too, yet the curriculum of many schools has narrowed. To address this challenge, we must ensure that history, science, geography, art, and music are generously taught to all students, especially those least likely to gain such knowledge outside school.

The research is complicated but the takeaway is simple: Building knowledge must become Job One for American education. The Campaign’s goal is to ensure that this simple message is heard and that it resonates with everyone—from parents and publishers to teachers and policymakers.



Knowledge needs champions—and that’s what this Campaign is about.

The Challenge



Despite decades of well-intentioned education reform efforts and billions of dollars in increased spending, the National Assessment of Educational Progress (NAEP)—the most-trusted report card on America’s education system—shows devastatingly little progress in reading comprehension for generations of our children. In 1971, 50th percentile 17-year-olds scored 288; today they score 289. Students at the 90th percentile scored 342; today they score 340. And students at the 10th percentile scored 225; today they score 232—nine points below their high of 241 in 1988.

The lack of progress is frustrating, but it’s not surprising. The ability to read, write, listen and speak with understanding is not a “skill” like riding a bike or throwing a ball. Comprehension and communication depend on a body of broadly shared knowledge,

but American schools spend astonishingly little time building it—and our most disadvantaged students get the least.

Our lack of progress raising reading achievement parallels decades of unprecedented efforts to reform education. But none of our efforts—to raise standards, improve teacher quality, or hold schools accountable—are aimed at ensuring all children get a rich, well-rounded education. “The mistaken idea that reading is a skill,” notes University of Virginia cognitive scientist Daniel Willingham, “may be the single biggest factor holding back reading achievement in the country. The knowledge base problem must be solved.”

Sixteen Minutes a Day

Sixteen minutes. That’s how little time K–3 teachers report spending on social studies each day. Science gets a whopping nineteen minutes. The situation is not much better in grades 4–6, where just 45 minutes a day are devoted to both social studies and science. Children love learning about the world and learning new words. Knowledge and vocabulary are closely connected—and the early grades are when the knowledge and vocabulary gaps that afflict disadvantaged children are smallest and thus easiest to close.

Reading is essential—but it need not steal time from science and social studies. In fact, time away from those subjects is likely to make reading comprehension worse, not better. If instructional time were rebalanced, giving roughly 45 minutes a day to each essential subject, there would be time for science experiments, social studies projects, and language arts skills—as well as ample time for reading scientific, historical, and fictional texts. Or, in schools that prefer to maintain a long language arts block, sets of historical and scientific texts could be used to develop listening, speaking, reading, and writing skills while also building essential content knowledge. Either approach

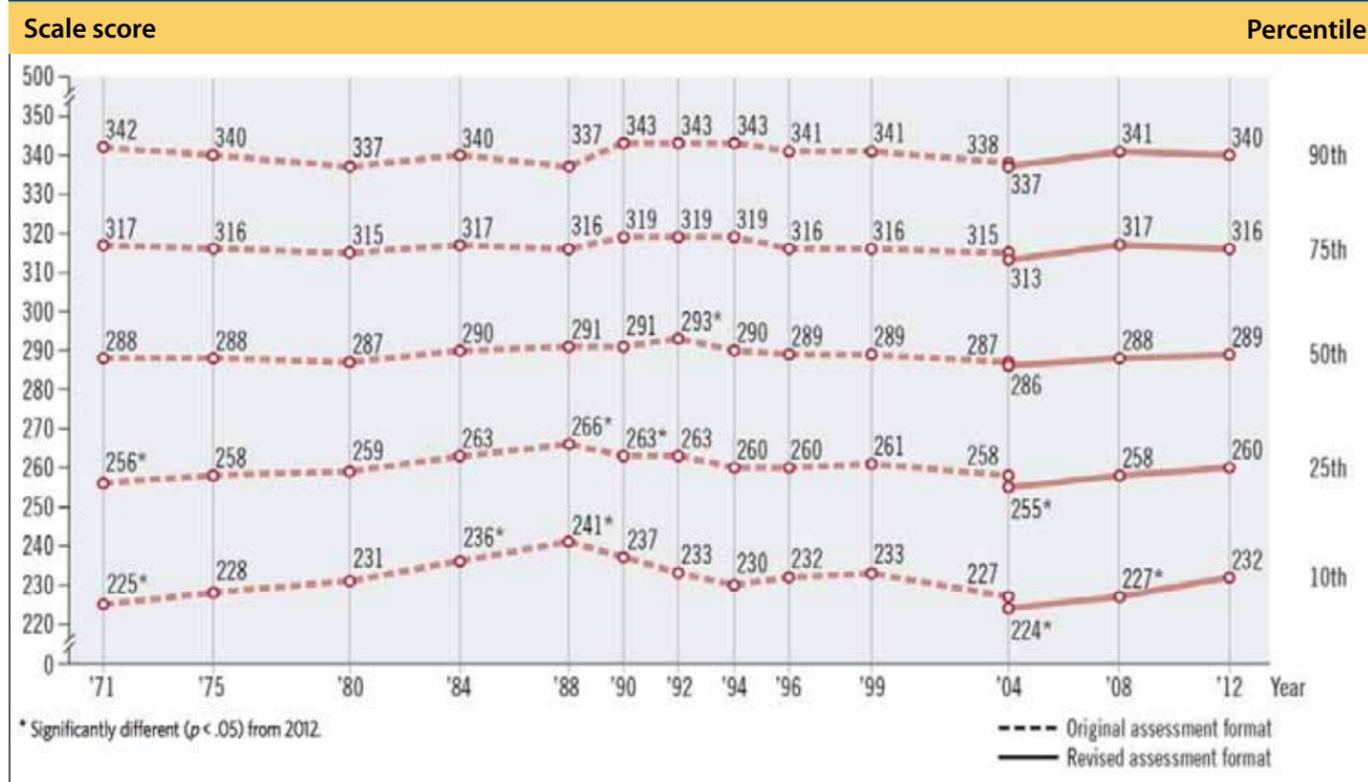
would boost children’s reading skills, knowledge, and vocabulary, leading to better comprehension and a strong foundation for more advanced studies.

Knowledge-rich curricula are far more engaging to children than narrowly focusing on reading and math skills. From ancient civilizations to far-away galaxies, our universe offers wonders that young people eagerly explore when they are given the opportunity. Greater comprehension, critical thinking, engagement, curiosity, and equality will be our reward for reimagining the elementary years.

Greater comprehension, critical thinking, engagement, curiosity, and equality will be our reward for reimagining the elementary years.



NAEP Reading Percentile Scores for 17-Year-Olds, 1971–2012



Average Number of Minutes per Day Spent Teaching Each Subject in Self-Contained Classes, by Grades

	Grades K-3	Grades 4-6
Reading/Language Arts	89 mins.	83 mins.
Mathematics	54 mins.	61 mins.
Science	19 mins.	24 mins.
Social Studies	16 mins.	21 mins.

Only teachers who indicated they teach reading/language arts, mathematics, science and social studies to one class of students were included in these analyses. Report of the 2012 National Survey of Science and Math Education, Table 4.2.

Our Least-Advantaged Children Are Thirsty for Knowledge

For those who are fortunate enough to have the broad knowledge that is taken for granted in America, it can be hard to see the benefit of knowing such a wide range of facts, ideas, and concepts. Frankly, much of it seems out-of-date and useless. But spend some time living abroad—or speaking with those who have not been so fortunate—and the challenge of not knowing what you’re expected to know becomes painfully clear.



Sonia Sotomayor Discovers a World She Had Missed

In an interview with NPR’s Terry Gross, Sonia Sotomayor explains that at Princeton, she discovered that there’s a world she had missed:

One day talking to my first-year roommate ... I was telling her about how out of place I felt at Princeton, how I didn’t connect with many of the experiences that some of my classmates were describing, and she said to me, “You’re like Alice in Wonderland.”

And I asked, “Who is Alice?”

And she said, “You don’t know about Alice?”

And I said, “No, I don’t.”

And she said, “It’s one of the greatest book classics in English literature.

You should read it.”

I recognized at that moment that there were likely to be many other children’s classics that I had not read... Before I went home that summer, I asked her to give me a list of some of the books she thought were children’s classics, and she gave me a long list and I spent the summer reading them.

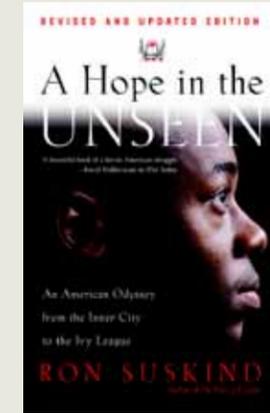
That was perhaps the starkest moment of my understanding that there was a world I had missed, of things that I didn’t know anything about... [As an adult] there are moments when people make references to things that I have no idea what they’re talking about.



Maya Angelou Educates Herself

In his book, Achievement Matters, former National Urban League president Hugh Price shares this anecdote about Maya Angelou:

Ms. Angelou told me that when she was growing up on her grandparents’ farm, she often went to the little store they owned. She would gaze at the shelves and spot, say, a can of Boston baked beans.... She told me she would say to herself, “I know what baked beans are, but what is Boston?”... Ms. Angelou told me she would then head to the library to learn all about Boston and its history.



Cedric Jennings Has to Work Twice as Hard

Students struggle when they are not given the opportunity to learn essential knowledge, as this example from a paper by the Thomas B. Fordham Institute’s Robert Pondiscio reveals:

In 1994, Ron Suskind published *A Hope in the Unseen*, the story of a bright, ambitious young man from one of the worst high schools in Washington, D.C. who defies the odds to win acceptance at Brown University... You can grow up as dirt poor as its protagonist, Cedric Jennings, and still achieve at the highest levels academically—all the way to the Ivy League.

There is a brief but telling moment in the book when a Brown professor asks his class how many of them have ever been to Ellis Island. Cedric has never heard of it. “Ellis Island is not a core concept in Southeast Washington,” Suskind wrote. Rather it is “the sort of white people’s history passed over in favor of Afrocentric studies.”

Because of his lack of background knowledge, Cedric is at a decided disadvantage. He struggles through a lecture in which some students barely take notes and others literally sleep in class. “So many class discussions are full of references he doesn’t understand,” Suskind reports. “Maura knows what to write on her pad and the sleepers will be able to skim the required readings, all of them guided by some mysterious encoded knowledge of history, economics, and education, of culture and social events, that they picked up in school or at home or God knows where.”

Sotomayor, Angelou, and Jennings are the lucky ones. They had just enough opportunity and drive to find the knowledge they needed. But such drive should not have been necessary. All children should be given essential knowledge at school.



The Knowledge Standard: Broad, Rigorous, Cumulative, and Equitable

In addition to curricular narrowing, another great challenge is the erroneous perception that schools are already building knowledge. For example, some language arts teachers believe that any complex text—on any topic—can be used to develop and practice reading comprehension strategies. But reading with understanding depends far more on what a child already knows about the topic in the text than any strategy she might use to try to understand the text.

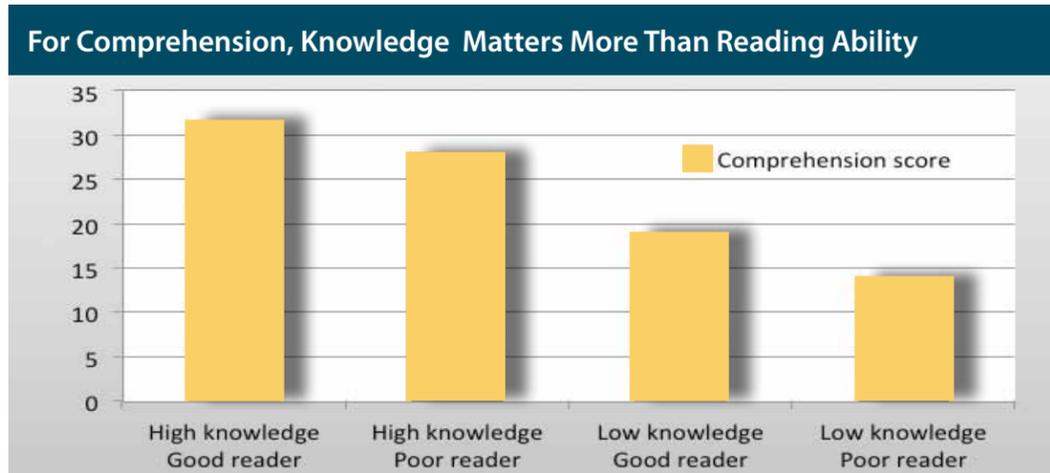
Likewise, some science teachers believe that teaching the scientific method is more important than any particular scientific content; they don't realize the extent to which knowledge of the central concepts of the various sciences is essential to grasping theories, forming hypotheses, and harnessing the scientific method to develop new knowledge.

The scientific evidence of the importance of knowledge to understanding and critical thinking is overwhelming. Consider just one iconic study (which has been replicated by many researchers) by Donna Recht and Lauren Leslie (published in the *Journal of Education Psychology* in 1988), which looked at junior high school students who were either “good” or “poor” readers based on test scores. In both groups, there were some

who knew a lot about baseball and some who knew little. All of the kids were then given a passage describing a half inning of a baseball game along with a test of their comprehension. If reading comprehension were a “skill” that can be taught, practiced, and mastered—the way most schools teach and test it today—then the students who were “good” readers should have had no trouble outperforming the “poor” readers. Yet “poor” readers who knew a lot about baseball easily outperformed “good” readers who knew little about the game. In other words, knowing a lot about the subject made the poor readers good readers.

Evidence like this calls into question what it means to be a strong or weak reader. Children who know more about the world—those with the broadest base of background knowledge and largest vocabularies—are more likely to show good scores on reading tests. The reason is simple: both broad general knowledge and topic-specific knowledge are necessary to extract meaning from language. Once this is widely understood, the response should be clear: Our elementary schools must make building knowledge their top priority. And every major effort in American education—from curriculum development to testing and accountability to policymaking—should ensure that schools and teachers are encouraged and supported to do exactly that.

“Poor” readers who knew a lot about baseball easily outperformed “good” readers who knew little about the game. In other words, knowing a lot about the subject made the poor readers good readers.



Study after study has similar results. For comprehension and critical thinking, knowledge of the topic at hand is essential. From “First Amendment” to “geothermal power,” language aimed at literate adults is full of references, allusions, and metaphors that are not explained. For example, an article on cartography might remind (or inform) readers that George Washington was a surveyor and explain how that helped him map out battle plans, but it would not remind readers that Washington was our first president. This taken-for-granted knowledge is what separates the well-educated—who easily acquire new knowledge from newspapers and the internet—from those who struggle with comprehension. This has serious implications: Since topic-specific knowledge is necessary—and college, career, and citizenship demand at least some familiarity with literally thousands of topics—all students must develop very broad knowledge. While all schools currently build some knowledge, the breadth of knowledge that children need is massively underestimated. Every topic that adults need to read or think about is a topic that students need to learn about.

To achieve such breadth of knowledge, no more time can be wasted. Schools must become far more purposeful in selecting topics to teach, and they must carefully organize those topics so that knowledge builds cumulatively.

While the Campaign supports a wide array of rich curricula, we do have basic criteria: a school’s curriculum must be broad, rigorous, cumulative, and equitable. A broad, well-rounded curriculum is essential, but not sufficient. Reading books about sports stadiums and studying the chemistry of candy (both real lessons observed in contemporary elementary schools) will not get the job done. A rigorous curriculum eliminates the pop-culture fluff, refocusing instruction on the knowledge, concepts, and procedures that are foundational to each subject area. A cumulative curriculum is the key to making breadth and rigor possible. It

creates a logical structure that makes learning more efficient, ensuring each topic builds on prior knowledge, both within and across grades. This reduces the need for reviewing and previewing, freeing up more time for rigorous content. An equitable curriculum is a natural result of a cumulative curriculum—if that cumulative curriculum is intentionally taught to all students. While some students will need personalized support (including differentiated instruction and extended learning time), and some time should be set aside for students to choose topics they wish to explore, the ultimate goal is for all students to master essential academic content. In the later grades, teachers will be thankful for the cumulative, equitable curriculum—the more knowledge students share, the more teachers have to build on and the less differentiation students require.

The Standards Movement: Calling for Content

For several decades, the public discussion about standards has been conflated with curriculum. They are not the same. Academic standards set the expectations for what students should be able to do; curriculum specifies what knowledge and skills students must learn to meet the standards. The Common Core English language arts standards help clarify this difference by explicitly calling for a coherently structured, knowledge-rich curriculum that spans the essential content areas:

By reading texts in history/social studies, science, and other disciplines, students build a foundation of knowledge in these fields that will also give them the background to be better readers in all content areas. Students can only gain this foundation when the curriculum is intentionally and coherently structured to develop rich content knowledge within and across grades.

The mission of the Campaign is to ensure that this occurs in every elementary school in America. Yet our work is not limited to states and districts that have embraced the

Common Core. Other rigorous college-, career-, and citizenship-ready standards require knowledge-rich curricula, too, and all children deserve a well-rounded education. Besides an essential grounding in the 3 Rs, educated people need a solid embrace of science, history, literature, arts, civics, and much more. Nearly all parents want that for their children—and parents and educators alike are troubled by the curriculum narrowing that follows from a myopic focus on practicing and testing skills.

Unfortunately, some reform advocates and educators have been moving in the opposite direction. Calls to teach “21st Century Skills” such as problem solving, critical thinking, creativity, and cooperation send the signal, often unintentionally, that skill matters far more than knowledge—especially in the age of the internet when we can instantly Google anything. In fact, 21st century skills require a 21st century knowledge base. Cognitive science clearly shows that critical thinking and other skills depend on deep knowledge of the topic as well as broad knowledge to support comprehension and the development

of analogies (which seems especially important for creativity). Neither deep nor broad knowledge can be accessed quickly, even with Google. To have any hope of becoming skilled thinkers in even a few topics, children must get a well-rounded foundation of knowledge in the early years and then have opportunities to go deep into subject matter in later grades. The Campaign will harness enthusiasm for 21st century skills and will help advocates understand that knowledge and skills grow together. In time, they will become advocates for “21st Century Expertise,” recognizing that the more students know, the more they will be able to think critically about.

Looking across the education landscape, we see frustration with narrow curricula and test-driven instruction, widespread desire for higher achievement and greater skills, and a strong call for content-rich curricula, as well as ample quality research showing that building knowledge is the only way to meet our education aspirations. The Campaign has already begun seizing on this energy and channeling it into support for reimagining the elementary years.





Knowledge Matters

For more information, please contact
Robert Pondiscio, Robert@KnowledgeMattersCampaign.org, and
Lisa Hansel, Lisa@KnowledgeMattersCampaign.org.
www.KnowledgeMattersCampaign.org

Art and photo credits: Thinkstock: Cover, pages 2, 4, 7, 9, 11, 12 and 17.
Wikipedia: Sonia Sotomayor on page 6 and Maya Angelou on page 7.