

What Students Really Need to Learn

Top-performing nations set their instructional sights on far more than basic reading and math skills.

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Students in the United States rank 17th in the world in reading, 23rd in science, and 31st in mathematics on the 2009 Programme for International Student Assessment (PISA). Our betters in math include Slovakia, Hungary, and Poland. Meanwhile, our economic competitors turn in performances that rank them at the top of global student achievement tests. We're far behind China, Singapore, Canada, Australia, and Japan—and we're increasingly aware of it.

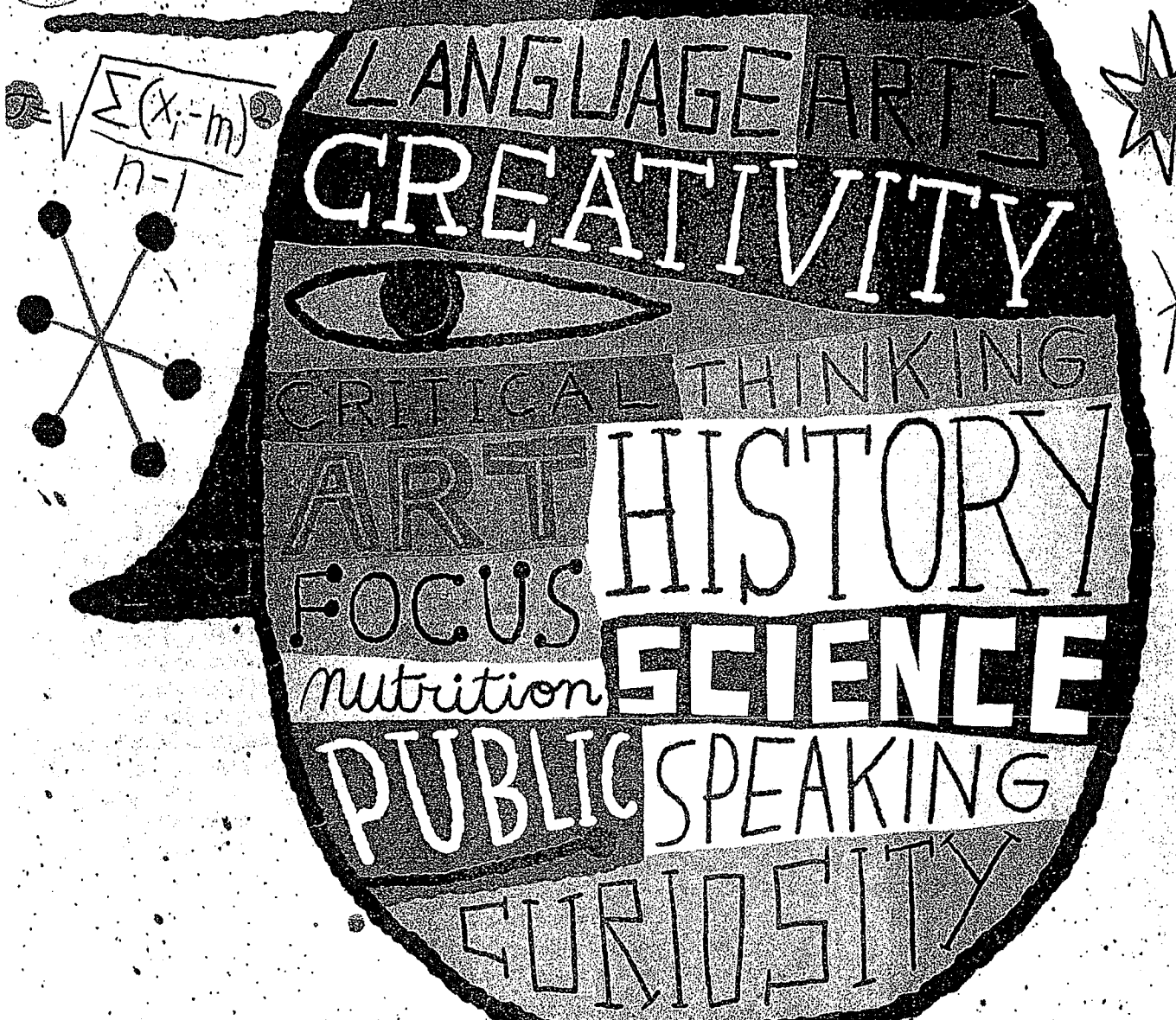
Most U.S. researchers have reacted to these scores by zealously examining the country's education structures. Studies and reports abound on such topics as standards and testing, class and school sizes, and professional development. Both our data systems and our

professional development do need improving. But such structural improvements alone appear unlikely to reverse the course of the United States' education decline.

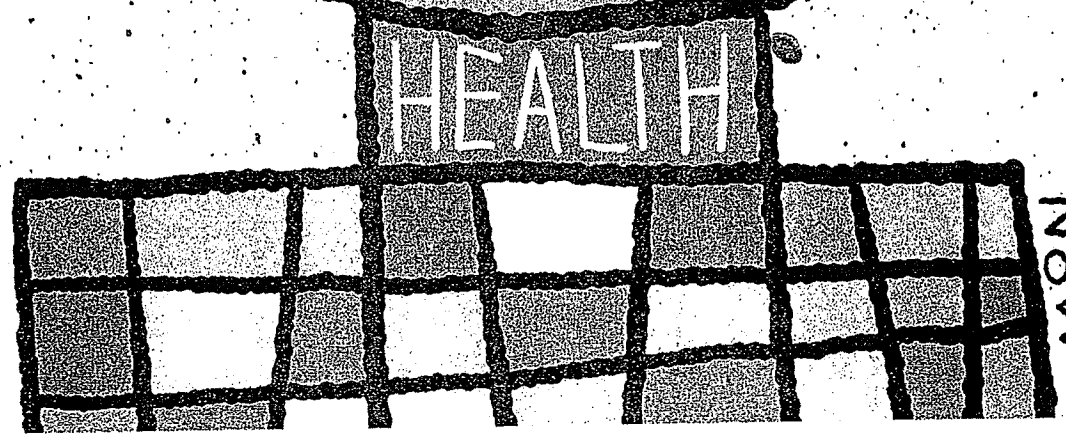
When Learning Expands

We at the nonprofit research organization Common Core (not to be confused with the Common Core State Standards) spent a year looking into whether the United States' mediocre standing on international comparison tests is due to differences in the content that various nations teach (2009). We concentrated on nine nations that consistently outrank the United States on PISA: Finland; Hong Kong (a territory); South Korea; Canada; Japan; New Zealand; Australia; the Netherlands; and Switzerland.

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Handwritten mathematical formula:
$$s = \sqrt{\frac{\sum(x_i - m)^2}{n-1}}$$
 Below the formula is a diagram of a hexagon with dots at its vertices and intersections of its diagonals.



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There appears to be little agreement among these nations about what has become the United States' most recent education obsession—standards and testing. Some high-performing nations have national standards, but some do not. Some test at the state level, some at the national level. Some of those tests are tied to important outcomes, but some are not. This is not surprising, considering that these high-performing nations span four continents, embrace vastly different forms of government, and boast very different demographics and cultural traditions. Educationally and otherwise, the nations have little in common—which makes the one similarity we did find stand out so prominently: The nations whose students score at the top of international education tests share a dedication to providing their students with a comprehensive education across the liberal arts and sciences.

In nearly all of the top-performing nations, the study of the arts, literature, history, geography, civics, reading, science, foreign language, and mathematics is compulsory. Meanwhile, students in only three U.S. states are required to take a foreign language to graduate from high school (Education Commission of the States, 2007). A perusal of the official curriculums, standards, and examinations used in these nations illustrates both the breadth and depth of top nations' dedication to educating their students across the liberal arts. Here are some examples of what other countries are asking their students—both in standards and on national, state, and provincial examinations—to know and be able to do:

- To meet the learning objectives in the visual arts national curriculum framework, 4th graders in Hong Kong visit an artist's studio, study Picasso's *Guernica*, and analyze the works of modernist sculptor Henry Moore.
- Finnish 5th and 6th graders

are required to study the effects of the French Revolution and how the invention of writing changed human life; they trace a topic, such as the evolution of trade, from prehistory until the 19th century.

- Seventh graders in South Korea are expected to know not just about supply and demand, but also about equilibrium price theories, property rights, and ways to improve market function.

- Japanese 7th to 9th graders conduct experiments to find out that pressure is related to the magnitude of a force and the area to which the force is applied.

- Eighth graders from the Canadian

1962 proclamation without a thorough understanding of communism and the Cold War.

When Learning Contracts

While students in high-performing countries read literature, do chemistry experiments, make music, and delve into important historical topics, U.S. students spend countless hours preparing to take tests of their basic reading and math skills. No Child Left Behind (NCLB) is not the only culprit. In recent years, NCLB's intense focus on reading and math skills has dumbed down the curriculum, but so have

students all subjects, their ability to read falters. Cognitive scientists like Daniel Willingham at the University of Virginia's Department of Psychology argue that teaching content is teaching reading. Prior knowledge across subjects enables students to comprehend. According to Willingham (2009a),

Remarkably, if you take kids who score poorly on a reading test and ask them to read on a topic they know something about (baseball, say, or dinosaurs) all of a sudden their comprehension is terrific—better than kids who score well on reading tests but who don't know a lot about baseball or dinosaurs.

No nation that scores competitively on the PISA exam puts skills before content or focuses chiefly on reading and math.

province of Ontario are expected to create musical compositions, conduct a group of musicians, and know musical terms in Italian.

- Dutch 12th graders must know enough about seven events connected to the Crimean War to be able to put them in chronological order.

- Canadian 12th graders in British Columbia are expected to identify the poet who wrote, "Thou art slave to fate, chance, kings, and desperate men" and understand what U.S. Admiral Nimitz meant when he said, "Pearl Harbor has now been partially avenged."

- On a Swiss examination, 12th graders write an essay analyzing John F. Kennedy's October 1962 proclamation that led to the Cuban Missile Crisis.

You simply cannot put events in the Crimean War in chronological order without a deep knowledge of that conflict or analyze Kennedy's October

trends such as the 21st century skills movement, which promotes teaching students skills like entrepreneurship and being media savvy in a manner that is disconnected from content of any significance.

Cognitive scientists have long recognized that the key to acquiring knowledge and mastering skills is to possess a considerable amount of background knowledge (Willingham, 2009b). Yet in the United States, we consistently devalue content mastery as a solution to raising student achievement, asserting that mastery of basic reading and math skills is our top education priority. When asked, "What book should students read?" too often in the United States we answer, "Any book, just as long as they learn to read!"

But reading and knowledge acquisition are not independent—they are intertwined. When we fail to teach

Learning from the Best

As reauthorization of the Elementary and Secondary Education Act (ESEA) approaches, the federal government should hold states accountable for providing comprehensive, high-quality liberal arts education. As currently written, ESEA requires states to care for little beyond basic reading and math skills.

Common Core (the organization) advocates a renewed focus on content knowledge and warns against over-emphasis on skills alone. Requiring states to adopt rigorous prekindergarten through 12th grade standards in a wider range of subjects—including the arts, history, foreign language, and civics—would broaden ESEA's emphasis. This also would encourage states to build arts and foreign language programs, rather than making them the first on the chopping block when times are tough.

When we fail to teach students all subjects, their ability to read falters.

The national education standards in the United States ensure that states will revamp their assessments. Forty-three states and the District of Columbia have adopted the Common Core State Standards, setting high expectations for all students. But the standards will mean little if implemented ineffectively. As the standards themselves state,

Standards are not curriculum. This initiative is about developing a set of standards that are common across states. The curriculum that follows will continue to be a local responsibility. (Common Core State Standards Initiative, n.d.)

As teachers align their curriculums to meet the Common Core State Standards, states and districts should use this opportunity to provide and promote content-rich learning material that will ensure that students acquire the necessary base of knowledge to reach the expectations that the standards set forth.¹

Content Is Key

More and more research is emerging to suggest that we need to make the *content* of education the centerpiece of discussions about education reform. Two studies by ACT have shown that students benefit most from an education that is both broad and deep.

Mind the Gaps (ACT, 2010) found that students are more likely to earn a B or higher in their first-year college courses in every subject tracked—from English to calculus to American history to biology—when they have taken a rigorous core curriculum in high school. Students who have taken a challenging core curriculum are less likely to drop out or need remediation. This reinforces ACT's 2006 finding: Students who take a core curriculum in high school, including four years of English

and three years each of mathematics, science, and social studies, achieve higher ACT scores than those who do not, regardless of gender, family income, or ethnic background.

Far more research should be conducted into the relationship between education content and student achievement. The U.S. Department of Education's Institute for Education Sciences has begun good work in this area through its What Works Clearinghouse. Grover "Russ" Whitehurst (2009), former director of the Institute for Education Sciences and now a senior fellow at the Brookings Institution, recommends that the federal government fund many more comparative effectiveness trials of curriculums and other interventions. Moreover, he points out that states and districts should be supported in choosing curriculums that have demonstrated effectiveness.

First Things First

Every day, the United States seems to move closer to a skill-based, content-free approach to education. Class time once devoted to social studies and art has ceded to more study of reading and math. And our approach to teaching reading has lost to a considerable degree a focus on literature and quality nonfiction.

No nation that scores competitively on the PISA exam puts skills before content or focuses chiefly on reading and math. We must join our desire to compete with other nations with a willingness to learn from them. ■

¹The nonprofit research organization Common Core has developed a content-rich curriculum map that is shaped around the new Common Core English Language Arts standards. The map is available to the public at www.commoncore.org.

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