

Three Core Shifts to Deliver on the Promise of the Common Core State Standards in Literacy and Math

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The Common Core State Standards were developed through an unprecedented state-led initiative that drew on the expertise of teachers, parents, administrators, researchers and content experts from across the country. The Standards define a staircase to college and career readiness, building on the best of previous state standards and evidence from international comparisons and domestic reports and recommendations. Most states have now adopted the Standards to replace previous expectations in English language arts/literacy and mathematics.

Three core shifts in literacy and math, deeply grounded in the Standards themselves, offer a way to focus implementation on the few things that have the most significant return for students. These shifts should guide all aspects of implementing the Standards—including professional development, assessment design, and curriculum. Standards by themselves cannot raise achievement. Standards don't stay up late at night working on lesson plans, or stay after school making sure every student learns—it's teachers who do that. And standards don't implement themselves. Education leaders from the state board to the building principal must now act to make the Standards a reality in classrooms. By describing these three core shifts, we aim to ensure that expectations for teaching and learning are clear, consistent, and tightly aligned to the goals of the Standards themselves.

The English Language Arts & Literacy Standards: Reading and Writing Grounded in Evidence from Rich, Complex Texts

The English Language Arts & Literacy Standards provide a clear progression of learning goals in reading, writing, speaking, and listening for teachers of ELA as well as science, social studies, and technical subjects. These learning goals build a staircase of increasing complexity with the aim of preparing all students for success in college and careers by the end of high school. This is not the case today; only 35 percent of U.S. 12th graders scored at or above the “proficient” level on the NAEP reading test in 2005.¹ Only 1 in 10 8th graders are on target to be ready for college-level work by the time they graduate from high school.² The Standards attempt to address our lagging performance with three key shifts.

1. *Building knowledge through content-rich nonfiction*

The evidence is strikingly clear that reading content-rich nonfiction about history, social studies, science and the arts in elementary school is critical for later reading growth and achievement. Research shows that students need to be grounded in information about the world around them in order to develop a strong general knowledge and vocabulary that is necessary for becoming a successful reader. However, today students read overwhelmingly stories in elementary school; on average, less than 10 percent of elementary ELA texts are nonfiction.³

¹ NAEP, “Nation’s Report Card” 2005

² ACT, *Forgotten Middle: Improving Readiness for High School*, 2008

³ Educational Leadership; *The Case for Informational Text*, 2004

To be clear, literature plays an essential role in cultivating students' reading skills and developing their love of reading, and the Standards celebrate the role literature plays in building knowledge and creativity in students. The Standards therefore strongly recommend that all students equally read rich literature in elementary school as well as content-rich nonfiction. In later grades, the Standards empower history, social studies, and science teachers to equip students with the skills needed in college to read and gain information from content-specific nonfiction texts.

The Standards emphasize careful reading—the close rereading of texts to ensure understanding—so the quality of texts that student encounter also matters. To become prepared for career and college, students must wrestle with a wide variety of high quality texts from across diverse genres, cultures, and eras. These excellent texts model for students the type of thinking and writing that they should aspire to in their own work.⁴

2. *Reading and writing grounded in evidence from text, both literary and informational*

The Common Core State Standards place a premium on writing to sources by using *evidence* from texts to present careful analyses, well-defended claims, and clear information. Rather than asking students questions they can answer solely from prior knowledge or experiences, the Standards prioritize questions that require students to have read a text or texts with care. That is, student must be able to answer a range of questions using evidence and inferences drawn from the text itself. The Standards also require the cultivation of narrative writing throughout the grades. Narrative writing enables students to develop a command of sequence and detail that is an essential component of the argumentative and informative writing that predominates in later grades.

The Standards' focus on evidence-based writing to inform and persuade is a significant change from current practice. Today, the most popular forms of writing in K-12 are based on student experiences and opinion—which alone will not prepare students for the demands of college and career. In a project by professors in Minnesota that rated the college-readiness of high school students' writing, student chose overwhelmingly to submit personal narratives or opinions and the professors overwhelmingly judged the writing as “not college ready.”

3. *Regular practice with complex texts and its syntax and vocabulary*

Text complexity is a main focus of the Common Core because the ability to comprehend complex text is the most significant factor differentiating college-ready from non-college-ready readers. The Standards therefore build a staircase of increasing complexity in the texts that students are expected to read in order to prepare them for the demands of college and careers.

The complexity of text is determined by a number of factors, including syntax (i.e. sentence structure) and vocabulary. In order to achieve a command of complex materials, students must be able to access the key academic vocabulary common to those texts.⁵ For this reason, the Standards require a focus on the academic vocabulary that appears commonly across genres and content areas and which is essential for understanding (e.g. *ignite* and *commit*).

⁴ Coleman, *Ibid.*

⁵ ACT, *Forgotten Middle: Improving Readiness for High School*, 2008

The Mathematics Standards: Focus, Coherence, and Rigor

For years, national reports have called for greater focus in U.S. mathematics education. TIMSS and other international studies have concluded that mathematics education in the United States is a mile wide and an inch deep. In high-performing countries, strong foundations are laid and then further knowledge is built on them; the design principle in those countries is focus with coherent progressions. In the U.S., the design principle has been to teach everything every year that possibly can be taught—as well as many things that can't.

Focus also emerges as an important principle in college and career readiness. Surveys suggest that postsecondary instructors value greater mastery of prerequisites over shallow exposure to a wide array of topics with dubious relevance to college-level work.

There is evidence that state standards have become somewhat more focused over the past decade, but in the absence of standards shared across states, textbooks have not followed suit. Moreover, prior to the Common Core, state standards were making little progress in terms of coherence. States were not fueling achievement by organizing math so that the subject makes sense.

With the advent of the Common Core, a decade's worth of recommendations for greater focus and coherence finally have a chance to bear fruit. New research by William Schmidt has shown that the Standards are world-class and that states with standards that differed the most from the Common Core tended to have lower NAEP scores. Focus and coherence are the two major evidence-based design principles of the Common Core State Standards for Mathematics.⁶

These principles are meant to fuel greater achievement in a rigorous curriculum. Thus, the implications of the standards for mathematics education could be summarized briefly as follows:

Focus: focus strongly where the standards focus

Coherence: think across grades, and link to major topics in each grade

Rigor: in major topics, pursue with equal intensity

- conceptual understanding,
- procedural skill and fluency, and
- applications

Focus

Focus requires that we significantly narrow the scope of content in each grade and deepen how time and energy is spent on major topics in the classroom.

We have come to see “narrowing” as a bad word—and it is a bad word, if it means cutting arts programs and language programs. But math has swelled in this country. The standards are telling us that math actually needs to lose a few pounds.

⁶ Robelen, Erik. “Researchers See Potential for Common Core to Boost Learning.” Education Week. May 2012

The overwhelming focus in early grades is arithmetic along with the components of measurement that support it. That includes the concepts underlying arithmetic, the skills of arithmetic computation, and the ability to apply arithmetic to solve problems and put arithmetic to engaging uses. Arithmetic in the K–5 standards is an important life skill, as well as a thinking subject and a rehearsal for algebra in the middle grades.

Coherence

Coherence is about making math make sense. Mathematics is not a list of disconnected tricks or mnemonics. It is an elegant subject in which powerful knowledge results from reasoning with a small number of principles such as place value and properties of operations. The standards define progressions of learning that leverage these principles as they build knowledge over the grades.

When people talk about coherence, they often talk about making connections between topics. The most important connections are vertical: the links from one grade to the next that allow students to progress in their mathematical education. That is why it is critical to think across grades and examine the progressions in the standards to see how major content develops over time.

Connections at a single grade level can be used to improve focus, by tightly linking secondary topics to the major work of the grade. For example, in grade 3, bar graphs are not “just another topic to cover.” Rather, the standard about bar graphs asks students to use information presented in bar charts to solve word problems using the four operations of arithmetic. Instead of allowing bar graphs to detract from the focus on arithmetic, the standards are showing how bar graphs can be positioned in support of the major work of the grade. In this way coherence can support focus.

Rigor

To help students meet the Standards, educators will need to pursue, with equal intensity, three aspects of rigor in the major work of each grade: conceptual understanding, procedural skill and fluency, and applications.

Each of these three aspects of rigor has its particular advocates. Some people like to stress fluency in computation, without acknowledging the role of conceptual understanding in attaining fluency. Some people like to stress conceptual understanding, without acknowledging that fluency requires separate classroom work of a different nature. Some people like to stress pure mathematics, without acknowledging first of all that application can be highly motivating for students, and moreover that a mathematical education should make students fit for more than just their next mathematics course. Some people like to stress applications, without acknowledging that math doesn’t teach itself.

The Standards do not take sides, but rather they set high expectations for all three components of rigor in the major work of each grade. Of course, that makes it necessary that we first follow through on the focus in the Standards—otherwise we are asking teachers and students to do an impossible job.

Realizing the Potential of the Standards

The Standards provide an opportunity for teachers, principals, and policymakers from across the country to collaborate in a detailed, meaningful way that was impossible when standards were state-specific. Ensuring that the Standards are implemented with fidelity means that the core shifts in literacy and math are clearly visible and driving teaching and learning.

The Standards are a historic opportunity for American education—but the opportunity will be lost if the vision remains only on paper. Implementing the Standards fully and with fidelity is the next challenge.