

# Tying Together the Common Core of Standards, Instruction, and Assessments

Fewer, clearer, higher standards will point the United States in the right direction for developing an education system that prepares high school graduates who are college-ready.

**By Vicki Phillips and Carina Wong**

After more than 20 years of messy thinking, mistakes, and misguided direction, policy makers have finally given teachers and students a solid set of standards in mathematics and literacy. The Common Core of Standards only begins the process of moving academic performance in these subjects to the levels we need, but it's such a relief to have them. Now, the Race to the Top funding and the federal investments in state assessment systems have targets that make sense.

The anticipated adoption of the Common Core by 48 states (only Texas and Alaska are not on board) also indicates genuine political will to move away from disparate standards across the country. The bottom line? K-12 public education is as close as it has ever been to saying every high school graduate must be college ready.

Having a set of common standards also lays the groundwork for developing assessments aligned with those college-ready standards and for developing teaching tools that are aligned with both the standards and the assessments. It is a mountain of work, but it's work that is essential for creating a system of education that is cohesive and coherent.

Why core standards, why choose college-ready as a goal, and what do we do next? For two years, the education team at the Bill & Melinda Gates Foundation has been collecting evidence about and thinking

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through answers to these questions. We've begun to make substantial investments in some of the answers. Gates partnered with the Council of Chief State School Officers and the National Governors Association to develop the Common Core of Standards and is investing in next steps, to the extent that it's appropriate for the foundation.

First, we want readers to understand that we do not come to the issues as "think tank experts" who are clueless as to what it's really like on the ground in schools and classrooms. One of us is the education director of the foundation, the other is head of its

College-Ready Work Team. We've been involved in this work for a long time, from the bottom up and the top down, as teacher, program administrator, and teacher development director. We worked together at the National Center on Education and the Economy when it launched the first significant effort to set high standards and align assessments with them. Its New Standards Project in the 1990s formed an alliance of states and districts, and we helped them adopt the language of standards and link them to performance assessment systems.

Later, we teamed up again — as state superintendent and as bureau director for assessment — in the Pennsylvania State Department of Education. There, we worked around an illogical — but typical — set of standards (politically difficult to change) and managed to improve the state assessment system somewhat by clarifying targets for teachers and reducing the standards covered. Moreover, one of us has experience implementing standards-based reforms as the superintendent of both a mid-sized Pennsylvania district and an urban Oregon school district.

The vision of a sensible and challenging education for all students has always been central to this work, but when we were dealing with states and school districts, we often stumbled at trying to move systems. There were too many pieces to change at the same time, and never enough money and a lack of political stamina at all levels. The No Child Left Behind Act helped set priorities, but the prescriptive accountability measures made it difficult for some districts and states to use assessments as levers for good practices.

With the Common Core of Standards, many things now become possible. Because states will be working from the same core, we can create broad-based sharing of what works but, at the same time, provide local flexibility to decide how best to teach the core. The new standards also provide a platform

for innovation, a structure that can support creative strategies for teaching core content in math and literacy.

## **RATIONALES FOR THE COMMON CORE AND COLLEGE READY**

Some justifiably worry about common standards. The Common Core of Standards, however, points state policy making in the right direction without imposing rigid specifications about how states should use them. Analyze the standards, and you'll see an underlying theme of "fewer, clearer, higher" standards for math and literacy. They're designed to be more manageable for teachers and to focus on preparing students for college.

The evidence for adopting college ready as a goal could not be stronger. Using the evidence, our College-Ready Work Team defines "ready" as access to two-year transfer programs or four-year colleges with the knowledge and skills to succeed in freshman-year core courses — in other words, no remedial work. This expectation is just as important for young people who enroll in occupational certificate programs after high school; success in these programs and in on-the-job training requires the skills and knowledge embedded in the core standards.

The Gates Foundation advocated for fewer, clearer, and higher standards because evidence supports the need for students to have certain skills as they move into college, including:

- Academic skills and content that are basic but also encompass big ideas in the disciplines;
- Cognitive skills, such as problem solving, collaboration, and academic risk taking;
- Academic grit/academic relationships, such as being motivated to do demanding work and being engaged in it; and
- College knowledge, or knowing how to apply for college successfully and navigate the system. ("College Knowledge" is the title of a book by David Conley of the University of Oregon, who is analyzing college admission and freshman-year requirements for the Gates College-Ready Work Team.)

States face many choices in moving toward fewer, clearer, higher standards. When considering *fewer*, are the academic expectations for students the same no matter what type of postsecondary education they want? What is absolutely necessary to be successful in credit-bearing college courses? How can secondary courses be reorganized to provide sufficient time to learn the core content? To be *clearer*, evidence indicates states must be sure their standards are coherent (minimal repetition and with "big ideas" that

### **The Gates Foundation acknowledges risks in setting on the table a coherent system of college-ready standards, aligned assessments, and teaching tools.**

thread the content together), are aligned to assessments, and use formative assessments to determine proficiency. *Higher* does not mean piling on content. Rather, it means being able to apply learning, to transfer learning from one context to another, and to measure up to international standards.

Some of these criteria already are in play in our education system through limited programs, such as Advanced Placement courses and the International Baccalaureate. States also can borrow ideas from the curricula and assessments in other countries or from the popular International Cambridge Exam system, provided they acknowledge and consider different demographic and system contexts.

### WHAT SHOULD HAPPEN NEXT?

The Common Core of Standards takes the guesswork out of determining what students should know and be able to do. The Common Core, however, doesn't tell states what the standards look like in practice. Moreover, the Common Core will become useful to teachers and policy makers only when it's part of a larger system of next-generation assessments that track how much students know and how well they know it.

We know how difficult it is to revise state assessment systems — the ever-present balancing act between quality and cost, the need to maintain trust among educators while seeking improvements, and the long lead time necessary for changes. The opportunity before states, however, is not simply to change their assessment systems. The Common Core represents an opportunity to totally redesign assessment systems, using the standards and the college-ready goal as the guides.

Teachers would welcome state assessment systems that measure what they consider challenging classroom work and are technically valid. That's why the Gates Foundation's overall strategy considers high-quality assessments a critical resource for teacher effectiveness and teachers' capacities to prepare students for college-level work. Bill Gates has said emphatically that teachers deserve to have access to the tools and supports they need every time they step into the classroom. "Doctors aren't left alone in their offices to try to design and test new medicines," he told an education forum in November 2008. "They're supported by a huge medical

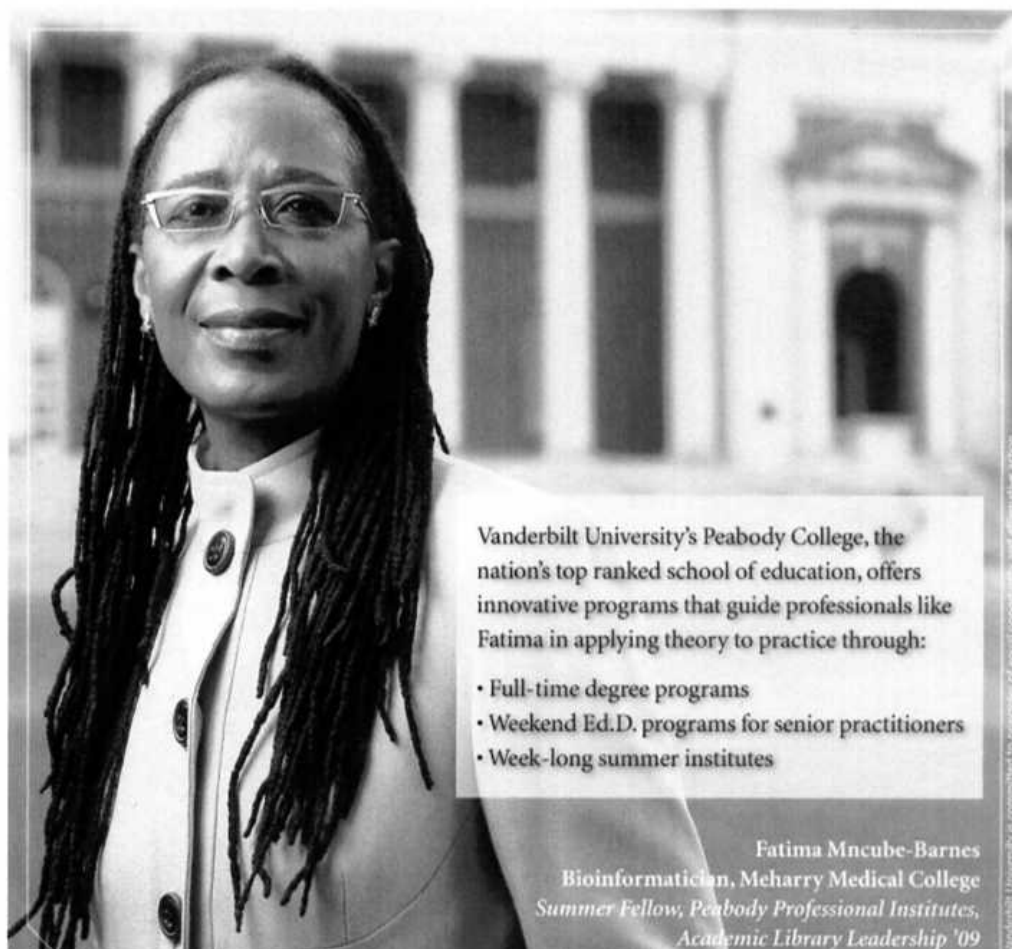
research industry. Teachers need the same kind of support."

Most states rely on single, standardized assessments, now used to measure student achievement, as a central component to measuring teacher effectiveness, which is not ideal. States need to move their assessment systems to higher levels — as the Race to the Top guidelines specify — by giving teachers examples of formative assessments aligned to college-ready core standards. States also need to build platforms for data that teachers can use to improve their instruction. Together, these provide the base for re-designing state assessment systems.

The Gates Foundation has sorted out the tasks ahead and placed its college-ready investments behind helping teachers improve their practice through intentionally designed tools, strategic partnerships, and incentives for the tools to go to scale.

### WHAT TO EXPECT IN MATH

Instead of strategies that constrict teaching, the partners working with Gates are developing tools




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## The College-Ready Work investments

The Gates Foundation will spend an estimated \$354 million between 2010 and 2014 to:

- Help states build a framework that could be the foundation for a common proficiency conversation;
- Develop prototypes of both formative and summative assessments in math and literacy that, by design, are aligned to the core standards, provide challenging work for students, and help teachers provide meaningful feedback to students;
- Develop syllabi that lay out a course that connects the standards, assessments, and instruction but depends on teachers using their own creativity in the classroom.
- Seed new intermediaries for validation and item bank development, and designing new models of professional development;
- Develop specifications for new technology-based instructional platforms that would help states deliver high-quality assessments aligned to the core standards and help districts acquire time-relevant data to improve instruction;
- Develop new ways of thinking about psychometric rules that guide tests in order to get higher quality and more valid items that can be used for large-scale assessment and accountability systems;
- Develop new scoring technology and new forms of diagnostic assessments; and
- Explore how to support student academic success, build their academic tenacity, and surround them with responsive education environments.

that will show teachers what is possible when they use fewer, clearer, and higher standards. The tools will provide an image of standards-based instruction that comes alive because of teacher creativity and flexibility.

The Common Core of Standards is broadly written, so the partners are analyzing the knowledge and skills underneath them. They're adding next-generation assessments to that base. Their course designs and assessments can be used as single modules or linked together to make a full course. They will work in traditional or in more proficiency-based classrooms.

The approach doesn't duplicate other strategies, such as the familiar backward mapping of content. We know, for example, that influencing practice in math is a very different ball game than what is needed for literacy. In the past, higher standards just meant more math. A decade ago, completing Algebra I became the standard; now, the standard is completing Algebra II. But evidence about college expectations for learning tells a different story: Students need more agility at data analysis and statistics

than advanced algebra. Moreover, college-ready skills, according to the Common Core of Standards, need to be more conceptual and less procedural.

The math strategy in which the foundation is investing gets at the details in the standards. It uses a technology-based program to map specific math and cognitive skills that can guide assessment and provide a clear target for teachers as they decide what students need to be college ready. Teachers and state assessment systems will be able to draw from a bank of assessments — formative and summative — that set performance targets. Once the research is completed on field trials, the assessments will be universally available. Moreover, the initiative will provide an assessment blueprint for math that could be an alternative to current state assessments.

The instructional packages being developed by our partner organization, the Shell Centre at the University of Nottingham in Great Britain under the aegis of the University of California Berkeley, encourage teachers to use assessments differently. Each unit will be anchored on a task or a set of tasks and suggest interventions that address difficulties students may be having, follow-up questions, and how teachers can manage classroom discussions. Optimally, these instructional/assessment packages will evolve into a sequence of math modules for grades 8-11. We may add other grades as the initiative progresses. The work also is developing summative end-of-course tests in order to establish college-ready expectations. They won't look like the summative tests states use in their assessment systems now, and they aren't intended to be used for accountability. Their purpose is to show how state accountability systems could look — measuring performance aligned to fewer, clearer, higher standards, assessing students' abilities to use what they've learned, and giving teachers data that they actually can use to improve their practice. They will be an image of the possibilities.

The Shell Centre is working on a set of 20 instructional modules with assessments and end-of-course tests for each grade level.

## WHAT TO EXPECT IN LITERACY

Literacy is not as self-contained as math. As the Common Core of Standards makes clear, literacy skills cross subject-area boundaries but are not formally taught once students enter the middle grades (direct instruction often ends at 3rd grade). The focus of English/language arts in the middle grades tends to highlight narrative reading and writing, while college-ready skills emphasize reading multiple and complex texts and writing that calls on students to present and defend arguments. Generally, middle grades teachers are not prepared to teach literacy this way.

As with math, our partner for the literacy strategy is mapping the details of the skills underneath the broad Common Core of Standards. The instructional modules, however, are open-ended and adaptable to several core subjects. Think of literacy as a spine; it holds everything together. The branches of learning connect to it, meaning that all core content teachers have a responsibility to teach literacy. Currently, however, there is no way to assess literacy because it is so diffused among the core courses. Under the partners' literacy initiative, teachers in English/language arts, social studies, and science will be able to draw from the same assessment bank — again, formative and summative — and adapt assess-

## Outline of a Literacy Module

This module uses social studies content for a persuasive essay (argumentation is one of the most frequently assigned modes in college-ready writing). The ladder of assignments (from pretest to final draft), scoring rubrics (for advanced, proficient, and "not yet" levels), and summative assessment can apply to a persuasive essay for English/language arts and written assignments in science. The assignment addresses several specific standards in the Common Core of Standards document.

*Formative assignment prompt:* The Declaration of Independence states that "All men are created equal." Is equality possible? After reading a variety of opinions and analyses, write an essay that addresses the question and support your position with evidence from your readings.

The *formative assignment scoring rubric* describes the three levels of proficiency for these demands and qualities: Focus, reading, claim, evidence, text structure, and conventions.

The *summative assessment* differs from the formative assignment in that *it is not taught* and provides data about how well students have internalized the critical thinking and writing involved in the formative assignment. Students are writing a timed assessment in class, so the scoring rubrics are adjusted somewhat for leeway on composition and conventions.

*Summative prompt:* Read the following two articles that state opposing positions on the meaning of "freedom." Write a brief essay in which you argue for one position or the other.

## Piloting Mathematics Units

The Shell Centre has developed two kinds of math units for teachers in grades 8 to 11: units that develop students' conceptual understanding of the content and units that apply previously learned content to problem solving. Both types:

- Give students the opportunity to learn the Common Core of Standards;
- Use discussion, team work, and other nonlecture modes of learning;
- Suggest next steps for instruction based on student performance;
- Help teachers identify common misconceptions and mistakes by students and suggest ways to address them;
- Use different tools, such as individual mini white boards or poster boards, to foster discussion among students; and
- Include formative assessments and end-of-course assessments for each grade level.

Depending on the outcome of the field trials, the work may be extended to grades 6 to 12.

ments to their content. The literacy strategy anchors performance expectations at three levels of demand, rather than by grade levels, allowing middle grades teachers to choose the best match for students. Each module also will include specific strategies for students struggling with the assignments.

While flexible, the literacy instructional modules keep a constant focus on high standards of performance to make this assurance in their Race to the Top applications, and they could reshape state summative assessments. A system of these modules could help develop a literacy consensus around the meaning of scores and proficiency. Think about state assessments that might include extended projects, strong essays, and performance tasks requiring conceptual understanding and transfer of knowledge.

The core partner for literacy is a new team, Literacy by Design, working under the aegis of the Education Trust. Literacy by Design is developing reading and writing modules for grades 6-8. These could become a syllabi and even a separate literacy course. The foundation partners also are exploring the possibility that a collection of summative literacy assessments could become the basis for a college-ready *literacy score*.

Learn more about the Common Core of State Standards initiative  
[www.core-standards.org](http://www.core-standards.org)

Subscribe to a mailing list to get updated information about the standards effort from the Council of Chief State School Officers  
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Both the math and the literacy instructional packages include rubrics and examples of student work. Both also will require investments in strong professional development for teachers as they adapt to this new system.

The technical partner for the math and literacy tool development and the general assessment work

is the Center for Research on Evaluation, Standards, and Student Testing (CRESST) at the University of California Los Angeles. Teachers need to know that the assessments are technically sound. CRESST is mapping two frameworks for states: One is the content and skills in the Common Core of Standards, the other is the core cognitive skills (for example, problem solving, reasoning, collaboration) that can be layered on the content maps. CRESST

is developing a third framework that will link these two frameworks into an assessment system. CRESST also will validate the assessments being developed by the math and literacy teams.

### SUPPORTING STUDENTS

We realize that developing tools for teachers and ultimately redesigning state assessment systems must be matched with whatever *students need* to be college ready. Student support is an ill-defined area that encompasses a multitude of programs and services, so we've chosen to concentrate on academic support and on what systems (schools, districts, states) can do differently to better support students' academic success.

Two assumptions guide our work on student supports:

- College-ready students have identifiable key attributes and skills that can be learned. Our instructional tools, as mentioned earlier, focus on the academic knowledge/skills and cognitive strategies necessary to succeed as a college freshman in core content courses. Another attribute is tenacity and underlying beliefs and behaviors that cause students to embrace academic achievement. The final learned attribute of college-ready students is "college knowledge," or the skills to access college and move through the system.
- To dramatically increase the number of students who are college ready, we will need more "responsive" systems. Schools that are

"high demand, high support" develop both academic preparedness and academic tenacity. Responsive districts and states allow such school environments to flourish and encourage innovation. What if the schedule in high schools offered choices such as on college campuses, for example — with day, night, and weekend options or field studies online and abroad?

We will center this student support work on networks of different types, such as state/district partnerships that focus on policies to enable "responsive" schools or collaborations of youth-serving organizations with different strengths. Always, we will be looking for evidence to back up or challenge our assumptions.

### GOING TO SCALE

Through 2010, the college-ready work will continue to focus on developing and validating instructional tools, including a new generation of assessments. While this is going on, we're also investing in the development of technologies, including web-based ones, that will provide immediate analysis of student performance and help with the adoption of the instructional tools. Throughout this process, Gates has been in conversations and analyses with teacher groups, major education policy groups, think tanks, and researchers.

Then, we'll look for additional partners. Within four years, we hope to be implementing the instructional and student support tools in 10 states and 30 school districts, collaborating with several national policy networks to bring the tools to scale, and facilitating the use of the college-ready standards in admission policies of university systems in selected states.

Going to scale in this country also means influencing the vendors of textbooks and assessments. The tools we're developing are prototypes or images of what's possible in classrooms using the Common Core of Standards. They're not models to be followed literally. If policy makers use the tools for their own conversations and decisions about standards and assessment, then vendors will have the same conversations. Moreover, the tools will be "open access."

The Gates Foundation acknowledges risks in setting on the table a coherent system of college-ready standards, aligned assessments, and teaching tools. This is an ambitious agenda. With the current political and financial support for state actions on core standards and new assessment systems, taking risks and being ambitious is the right approach. After all — the future of kids is at stake. **K**

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