A Deeper Look at Deeper Learning

The Report from NASBE’s Study Group on Deeper Learning

Assessments for Deeper Learning

The Link between Civic Education and Deeper Learning

The Employers’ Perspective: Deeper Learning Means Deeper Pockets
March 2014
National Association of State Boards of Education

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Way back when I was a junior in high school, I had the good fortune to be in the English class of the best teacher I ever had (encompassing not only K-12, but college and graduate school). This was not a special course of any kind: it was the standard American literature class taken by nearly every one of the other 794 kids in my 11th grade class (including my classmate Jim Janos, who later became the Minnesota governor known as Jesse “The Body” Ventura, though who at that point was mostly known to me as the guy who often beat up my best friend on the way to school—but that’s another story).

The teacher was David Bane, who was in his early 30s at the time. Mr. Bane’s gift was that he could reach nearly everyone in the class—from the jocks and cheerleaders (this was pre-Title IX) to the kids who were just passing through the class on their way to graduation, to the few who were actually predisposed to reading Twain, Fitzgerald, and Steinbeck.

So how did he manage this? In a way it sounds simple: David Bane was a great prober and questioner, and he had a real intellectual talent for connecting students’ thoughts and actions with larger ideas and knowledge. He constantly challenged us—not so much as a class, but as individuals. He challenged our thinking, our points of view, our ethics, even some of our personal foibles. He knew which passages would stir debate in the class in general, and when a passage would strike one of us as significant to our lives. He could spot kids who were taking an intellectual snooze and draw them out of their somnambulism. He wasn’t afraid to get personal, but he wasn’t harsh or sarcastic, instead showing sincere concern or perhaps a sly grin (e.g., “Kysilko, some might call that ‘intellectual snobbery’—what do you think?”).

He also gave us opportunities to, as he dubbed it, “Do Something!” This was our chance to produce something related to the books or discussions we’d had in class, which could include writing an article or letter to the editor of the city newspaper, the school newspaper, or even our underground school newspaper; interviewing someone about an issue; giving a speech or presentation about one of the issues; writing a story or poem in the style (either straight up or satirically) of one of the authors we were reading; or just reading more by one of those authors.

Nor did he let himself off the hook. He also assigned himself “Do Something!” projects. I recall, for example, that when I wrote an essay for the school’s literary journal decrying how students were just slaves of the system, he published a thoughtful reply that considered productive ways the school could address the issue (not, admittedly, that the school administration took him up on any of his suggestions).

And when it came to all those questions he asked us, it turned out that many applied equally to his own thinking and point of view—because above all, Mr.
Is the biggest challenge facing schools today the need to provide students with an education based on rigorous core content in reading, writing, math, social studies, and science?

Or is the biggest challenge to find engaging ways to involve students to learn and then apply what they know?

The answer, as with so many either/or questions in education, is “Yes.”

How best to address both these challenges is the topic of this issue of the State Education Standard.

All students have the right to a motivating, challenging education that will prepare them to succeed in college, careers, and life and become engaged citizens. Now, more than ever, they are asked to learn more...to master new technology…and to apply what they have learned. A technology-driven global economy requires a skilled and deeply literate workforce.

And that means that education has to change. Helping students and teachers make those changes is the goal of what the William and Flora Hewlett Foundation calls “deeper learning.” With Hewlett’s help, NASBE and our state boards of education have focused on what policies can best help students master core academic content, like reading, writing, math, and science, while learning how to think critically, collaborate, communicate effectively, direct their own learning, and believe in themselves.

This issue opens with the findings of NASBE’s Study Group on Deeper Learning. It focuses on the three key recommendations: creating a foundation for learning, deeper learning experiences, and a system conducive to innovation. Other articles highlight different dimensions of deeper learning (assessments, social and emotional learning, and personalization).

As you read through the contents of this issue, you will recognize that the basic concepts of deeper learning are not new to education. Deeper learning practices are embedded in the educational practice of accomplished individual teachers…and in some high-performing schools. These successful practices are now being confirmed by increasing bodies of evidence underscoring the necessity for deeper learning as an integral part of the education process for all students.

What is changing is the focus on providing deeper learning experiences to all students, from all backgrounds. And what’s also changing is the way schools engage today’s technologically literate students. “The essence of deeper learning is changing the manner in which we work with young people,” says Superintendent James Merrill of the Virginia Beach Public Schools.

This concept of deeper learning is a natural partnership for state boards. Equity and excellence have been the hallmarks of state boards of education from their earliest days. But ensuring that all students have access to the most rigorous content, presented in the most engaging way, is the challenge of the 21st century.

State boards are stepping up to the challenge. They are working on ways to enable graduating high school students to be college and career ready and then make maximum use of their knowledge in life and work.

Students still need to master challenging content. Teachers still are critical to helping students engage with that material. Understanding and supporting deeper learning is one way state boards can ensure that all students graduate from high school ready for success in college, their career, and as a citizen.
This article summarizes the findings and recommendations of NASBE’s 2013 Study Group on Deeper Learning.
Prior to walking across the graduation stage, Tarshea Williams, a senior at Envision School in Hayward, California, stood before her teachers and gave a presentation on her senior capstone project, the culminating activity of a four-year effort that asks the essential questions of “Why is education important?” and “How does your work show you are an educated person?” (available at http://ow.ly/tBhYu). As her teachers peppered her with questions during her 90-minute project defense, Tarshea discussed a variety of her learning experiences, including her research on the learning needs of students with disabilities, her internship working at a school supporting students with speech therapy needs, and her application of Freud’s psychoanalytical lens to characters in Chinua Achebe’s *A Man of the People*, among other areas. What’s more, Tarshea didn’t just describe what she did over four years—she synthesized research, communicated her understanding, and evaluated her learning needs and goals on her path to becoming one of the first students in her family to enter and, hopefully, complete post-secondary education. In short, she engaged in a process of deeper learning that demonstrated her readiness for college, career, and civic success.
Deeper learning represents an education that not only facilitates mastery of academic content, but other key competencies as well, including, but not limited to, critical thinking and problem solving, effective communication, collaboration, learning how to learn, self-regulation, and academic mindsets important for success in college, career, and civic life.
Policy-makers who want to support students like Tarshea at scale must grapple with a thorny question: “How do we create education policies to prepare youth for the world they’ll enter tomorrow when our imagination and thinking is often limited to the world we live in today?” Those who grapple with this essential question recognize a significant challenge: the world, its opportunities, and its complexities—including speed of communication, development and use of technology, global connectedness, and other trends—have altered what it is that students are expected to know and be able to do. It has been said many times, but it bears repeating: In a global economy and an evolving society, failure to prepare all students to meet these new demands represents a significant barrier to success for students, their communities, states, and the nation.

The challenge for state policymakers in this era is, then, to design an education system concrete enough to meet the real and imminent needs in their states today, while being nimble enough to rapidly adapt to changes in the future.

To help policymakers meet this challenge, NASBE convened a study group on “The Learner and Learning: 2013 and Beyond,” composed of members from 13 state boards of education. Members of the group heard from experts, engaged in deeper learning exercises, and discussed a wide range of related issues in order to determine:

- what is meant by deeper learning, the skills that are the basis of this concept (see the “Defining Deeper Learning” textbox), and the need for deeper learning now and in the future;
- the relationship of related abilities such as creativity and innovative thinking to deeper learning;
- the types of learning environments that help facilitate deeper learning competencies; and
- a policy framework through which state boards of education can address deeper learning.

This report summarizes some of the challenges and opportunities facing the 21st century learner and the study group’s recommendations on what states can do to help promote learning environments that prepare students for college, career, and civic success.

Looking to the past, evolving into the future: trends that define the educational landscape

Preparing students for the challenges and opportunities of the future does not mean we throw away everything we have already learned about a quality education. For example, providing opportunities to scaffold knowledge based on existing experience, using that knowledge to solve new problems, and practicing self-regulation and reflection have been written about extensively in literature building upon Bloom’s Taxonomy and other frameworks for quality teaching and learning (see graphic).1 This being the case, the two key questions state policymakers must answer are 1) “how do we adapt what is known about high-quality learning environments to address important trends facing education and the broader society?” and 2) “how do we provide equitable access to these learning environments to all students?”

To answer the first question, we will look at three trends that highlight policy challenges states must address.

1 A globally connected world ushers in a new imperative of high standards for all.

As global economic changes move inexorably forward, the need to educate all students to high standards has become impossible to ignore. In a 24-7 connected world, it is increasingly difficult to separate individuals by zip codes, not to mention borders—and international outcomes on education measures such as PISA show that U.S. students remain in the middle of the pack at best when compared with their international peers.2 Because Detroit is no longer competing only with Cleveland for jobs, but also Seoul and New Delhi, a new national equity imperative has
emerged: “all hands on deck.” In a global, all-hands-on-deck economy where no individual’s talent can afford to be wasted, states must think through ways to address barriers to learning for their most disadvantaged students—including low-income, special needs, and English language learner students—so as to harness the full individual, intellectual, and creative capacities of their citizens in the future. In this way, failure to effectively educate all students not only fails the potential of the individual student, it also creates significant economic difficulties for local communities, states, and the nation.

The nature of the job market and what students must know and be able to do have changed, demanding cross-disciplinary application of knowledge.

The education students receive must prepare them for the job market of tomorrow, not the job market of yesterday. Several characteristics of this new economy will undoubtedly affect how students are educated for the future, including:

- **Reduced demand for memorization for recall.** There is less and less demand for memorizing isolated facts for recall when these facts can be drawn within seconds from a smartphone; instead, there is a greater demand for individuals to memorize, synthesize and then utilize knowledge to solve new and complex problems. Note that this does not mean knowledge of content in many areas is no longer necessary—just that memorizing some specific bits of information may not be as important as it was in the past. For example, in American history, it is still important to know that the Great Depression of the 1930s followed the Roaring Twenties, and even that the Depression was precipitated by a stock market crash. It is not so important to know that Black Tuesday of the Wall Street Crash occurred on October 29, 1929.

- **Technological advancement.** Technology has not only flattened the world—as Thomas Friedman and others have written extensively—but it also continues to alter how work gets done. Activities ranging from manufacturing to accounting are now becoming increasingly automated and individuals in these and other fields have been forced to apply new skills in new contexts;

- **High rate of career changers.** Individual job tenures are becoming shorter. The Bureau of Labor Statistics has found that individuals between the ages of
25 and 34 stay at jobs one-fourth as long as people between the ages of 55 and 64.

These and other factors highlight the new reality that students enter an economy where they will be expected to think critically and creatively, apply knowledge to new complex problems, collaborate and communicate with individuals across different disciplines and cultures, remain adaptable to changes in technology and the economy, and engage in a continuous process of life-long learning. Consequently, state policymakers and educators must reflect on how current and future educational experiences facilitate these and other key 21st century competencies.

**trend 3 A faster, ever-changing world demands nimble schools.**

The 21st century is defined by practically instantaneous communication. The annual report by a leading cloud platform provider, Akamai, stated that global Internet and connectivity speeds increased again in the last year by 17 percent, highlighting the continued emergence of a faster, more interconnected world. This trend demands that students not only become more adept in this faster world, but that the school systems that educate them also become more responsive to new changes and opportunities. Just as businesses must continually innovate to stay ahead of the curve, education systems must continue to become more adept at facilitating innovation (and must do so while keeping in mind that some educators, in the pursuit of cutting-edge learning environments, can be lured into mistaking educational fads for meaningful innovation). To stave off the resulting innovation fatigue, it is important that even as states remain committed to innovating, the innovation pursued must be clearly defined and in line with the comprehensive learning vision of education that each state and state board decides on.

Given these trends, developing an education system that meets the challenge set out in this report—to create a system that is concrete enough to meet the real and imminent needs in states and nimble enough to adapt to changes in the future—is no easy task. To address the trends highlighted above, a system must accomplish at least three broad and difficult goals. It should be:

1. Built on a foundation that can address both academic and non-academic barriers to learning in a holistic way, comprehensively accounting for the nature of learners and their needs and the nature of a 21st century global and technological society;
2. Designed to prepare all students for both the knowledge and skills they need to succeed in college, career, and civic life; and
3. Dynamic enough to continuously innovate and adjust to future changes and opportunities.

The next section highlights some actions states can take to address these goals. These action steps form the core recommendations on deeper learning from the NASBE study group.

**study group recommendations**

1. Support a system that comprehensively addresses the nature of learners and the unique needs of individual students.

As highlighted earlier, in a global economy it is essential that all, not simply some, students are prepared with the skills and competencies important for college, career, and civic success in the 21st century. This is obviously much easier said than done; after all, as most educators will attest, effective education depends on far more than lessons and classrooms—learning takes place within a broader educational, social, and emotional context. Indeed, the best prepared lesson in the world can fall on deaf ears if a student feels hungry, hopeless, or unsafe. It is equally well known that student academic outcomes are affected by a multitude of factors, many—such as student health, the overall school climate, and social and community capital—that fall largely outside the control of the classroom teacher. Therefore, failure to address the broad range of students’ needs risks the success of subsequent investments.

While challenging, meeting students’ needs in a comprehensive manner is by no means an unattainable goal. To help address to learning, educators and other school staff must be empowered to identify student challenges in a proactive, preventive manner, be trained in addressing the needs of students holistically, and be sufficiently knowledgeable and supported in referring students to other resources when challenges exceed their capacity and expertise. While it is true that schools cannot do everything, many states are taking steps to help schools create a stronger foundation for deeper learning by ad-
Changing from Old to New Education Systems

Through most of the 20th century, academic instruction in schools went on in much the same way: students completed individual work that largely included studying books and completing worksheets, memorized facts, took tests, and received individual grades, often based largely on their ability to recall information. In some cases students deemed academically capable were placed on a college track, while their less academically successful peers were placed on a vocational track. Learning was isolated to disciplines, confined to a classroom, within school hours—along with some homework on the side—and all students in a class received largely the same type of instruction. Technology lay at the periphery of instruction and opportunities to apply learning to real life situations were rare.

For many reading this article, this represents our own education, and for many years it served students and the country fairly well. Nevertheless, continuing this education model is likely to be costly to both individuals and the nation for two reasons: first, too many students in this environment become disengaged, slip through the cracks, and drop out of the system; and second, the world has evolved with new demands and opportunities and continuing this mode of learning will short change even those who would likely succeed in the traditional system.
To better meet the needs of all students, educational practices and the policies behind them must continue to evolve. For example:

- Because success in college, career, and civic life demands that students be able to think beyond individual disciplines, work collaboratively in diverse settings, synthesize knowledge, use technology in appropriate ways, and solve complex problems, students’ learning tasks must reflect these and other deeper learning competencies.

- Because students’ needs and learning styles are diverse, educators must be empowered to expand who delivers learning as well as where, when, and how learning takes place, seizing opportunities to personalize student learning opportunities whenever possible in order to prepare all students for both postsecondary education and multiple careers.

- Last, but not least, because of continuing changes in technology, in the world economy, and in the education knowledge base, and because making significant changes in policy and practice will inherently involve some mistakes, creating this system will be an iterative process—meaning policy governing schools must be dynamic and open to changes when necessary.

School Changes Required for Deeper Learning

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<tr>
<th><strong>Old School</strong></th>
<th><strong>New School</strong></th>
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<tr>
<td>More individual work</td>
<td>More collaborative work</td>
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<tr>
<td>College or career ready</td>
<td>College and career ready</td>
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<tr>
<td>Preparation for one career</td>
<td>Preparation for multiple career changes</td>
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<td>Learning takes place within disciplines</td>
<td>Learning takes place across disciplines</td>
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<tr>
<td>Technology is at the periphery</td>
<td>Technology is integrated into learning</td>
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<tr>
<td>Less memorization for recalling facts and content</td>
<td>More connecting prior knowledge with new content, and more synthesizing and hypothesizing to solve new and complex problems</td>
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<tr>
<td>One-size-fits-all instruction</td>
<td>Personalized learning environments</td>
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<tr>
<td>Learning confined to the classroom and school calendar</td>
<td>Any time, any place learning</td>
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<tr>
<td>Schools and policy governing schools prone to sluggish change</td>
<td>Schools and policy governing schools respond dynamically to changing needs and environments</td>
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addressing the nature of today’s learners, and their academic, personal, social, and emotional needs. The following recommendations represent examples of actions states can take to strengthen this foundation:

**Develop standards that meet the complete needs of the learner.** States and state boards are charged not only with approving core academic standards, but providing guidance and quality standards around a range of topics that contribute to a well-rounded education, including everything from physical education and nutrition to social—emotional learning and postsecondary counseling. The standards and supports states provide districts and schools can ensure that barriers to learning, including physical and mental health problems, are addressed preventively and that learning environments are conducive to deeper learning. Moreover, these standards do not have to be separated from a broader vision of ensuring students have the knowledge and skills to be college, career, and civic ready—they can be mutually reinforcing.

There are many examples of state standards addressing students’ comprehensive needs that also reinforce deeper learning and other competencies essential to student success. For example, the Illinois standards for social and emotional learning include three goals: 1) develop self-awareness and self-management skills to achieve school and life success; 2) use social-awareness and interpersonal skills to establish and maintain positive relationships; and 3) demonstrate decision-making skills and responsible behaviors in personal, school, and community contexts. Similarly, the National Health Education Standards adopted in some form by many states call for students to analyze health issues and demonstrate their knowledge through a variety of means. By adopting and implementing these and similar standards, states not only ensure that important barriers to student learning are addressed, they also foster in students the capacity to invest themselves in their work and become lifelong learners.

**Train educators to meet the needs of an increasingly diverse student body.** While clear standards are an important start to creating conditions for effective learning, they are simply words on a page until both new and experienced teachers and staff are adequately trained and prepared to bring them to life. Census estimates have projected that racial and ethnic minority groups combined will comprise more than half the U.S. population under 18 by 2018; other analyses show that low-income students already make up the majority of students in the southern and western regions of the United States. Further, nearly half of first births today are to unmarried women, most of them in their twenties. This is a concern for educators because “children born outside of marriage—including to cohabiting couples—are much more likely to experience family instability, school failure, and emotional problems.” If teachers are ill-prepared to meet the needs of this increasingly economically, culturally, and socially diverse student body, they and their students will be at a disadvantage. These demographic trends are behind the move in many states to incorporate competencies on teaching to a diverse population among their professional learning standards.

For example, the Massachusetts Professional Standards for Teachers and subsequent state evaluation and professional development systems include teachers having instructional planning and engagement approaches that support students from diverse backgrounds and the ability to assess and make instructional adjustments based on differences in student needs such as their background knowledge, learning skills, and proficiency in English. These standards, if applied and supported effectively, can help create more dynamic, engaging learning environments for all students in a preventive and proactive, rather than reactive, manner.

**Support a school climate conducive to deeper learning.** In addition to supporting stronger teacher-student relationships that develop a foundation for deeper learning, states and their schools are also focusing on school climate outcomes to help facilitate these learning environments. The quality of learning environments—and particularly school climate—can affect students’ comfort with taking learning risks and in collaborating and communicating with peers and adults in the school.

Ohio has been one of the state leaders in addressing this issue. Through a collaboration between the Ohio State Board and Department of Education, the state released school climate guidelines that provide districts clear benchmarks on removing barriers to learning, facilitating community engagement, and making
direct connections between school climate and student learning. By delineating more comprehensive visions of school climate, states like Ohio help create a foundation for more complex learning experiences that facilitate deeper learning.

Empower schools to leverage external partnerships to meet learners’ needs comprehensively. There will always be challenges some students face that will go beyond what school efforts to improve school climate and train teachers can do to help; teachers are not, after all, trained to be optometrists, dentists, psychologists, or social workers. Given the importance of student health and well-being in enabling students to focus on learning, it is as important for educators to be as aware of what they cannot do to improve conditions for learning as it is to know what they can do. With this understanding, schools can be ready to refer students to community partners while protecting student and family privacy and safety—and such partnerships can in turn yield great benefits for schools and their students.

Connecticut is one leading state in approaching education of youth in a more comprehensive manner, incorporating this more comprehensive strategy into the state’s “2012: The Year for Education Reform in Connecticut” plan. In addition to reforms around reducing red tape and supporting school innovation, the plan highlights key comprehensive supports that provide the foundation for student learning, including strengthening the state’s support for community schools, an approach designed to leverage services across sectors to meet a broad range of students’ needs and help engage students in deeper learning opportunities in their communities. Through the support of comprehensive education strategies such as community schools, policymakers can encourage a system that removes barriers to learning for significantly more students and makes deeper learning more attainable.

2. Align students’ educational experiences with 21st century college, career, and civic demands.

Beyond laying a basic foundation for deeper learning, states must also continue working to ensure students’ actual educational experiences reflect the goal of college, career, and civic life success. National surveys and research have found the need for more work in this arena. For example, in an extensive analysis of what research shows about student abilities to succeed in postsecondary education, researcher David Conley found that many college students lack key cognitive strategies such as critical thinking and problem solving, as well as academic behaviors such as perseverance and acceptance of critical feedback—competencies considered to be essential to student success in postsecondary education. Similarly, surveys of employers reveal that in addition to lacking basic academic knowledge, new employees are often hobbled by lack of foundational competencies such as areas as problem solving, written and oral communication, teamwork, and self-direction. Clearly, states with the goal of preparing their young people for success must cultivate these competencies in students.

This can be difficult for many reasons, not the least of which is the number of moving parts that must work together to build an education system that facilitates deeper learning, components that include standards, graduation requirements, teacher preparation, and assessment and accountability systems, among others. Rather than taking a piecemeal approach to this challenge, states across the country are approaching education more holistically to ensure students have experiences that lead to college, career, and civic success. The following recommendations represent examples of actions states can take to enable this level of learning:

Develop and communicate a comprehensive vision of college, career, and civic readiness. While policymakers cannot do the on-the-ground hard work of involving students in learning opportunities that foster engagement and deeper learning, they can create conditions where this type of learning is more common. States across the country are working to develop comprehensive visions of college, career, and civic success, including differentiated performance measures that are reinforced across state programs and initiatives.

One example of such an undertaking is the statewide effort in Kentucky to support college and career readiness. The state has not only clarified what it means by college and career readiness, it has established clearly defined benchmarks in pursuit of this goal and unified initiatives around accelerated learning opportunities, secondary school intervention programs, college and
career readiness advising initiatives, and bridge programs to support the goal. These initiatives should ensure that changes implemented are not piecemeal or confined to isolated silos, but comprehensively supported as part of a broader vision of student success.

Provide students with guided awareness opportunities, including incorporating projects as part of high school graduation requirements. Clearly, comprehensively facilitating deeper learning means these changes must go beyond standards and assessments and be focused on actual student experiences. Study group members referred to this as a process of developing “guided awareness.” This means providing students learning opportunities that extend their understanding of postsecondary education, career, and civic life beyond their high school experience, as well as giving them chances to develop deeper learning competencies. Guided awareness opportunities include activities such as postsecondary and career counseling that raise student awareness of future opportunities and applied learning opportunities such as service-learning and work-based learning that enable students to apply what they learn in their classrooms to real career and community issues.

One way states can promote these opportunities is through high school graduation requirements. Maryland’s service-learning requirement is an example of such a policy. In order to receive a diploma, each Maryland senior must complete a service-learning project that meets seven state-defined best practices, including connecting academics to an applied service activity, ensuring reflection throughout the activity, and developing student understanding of the complexities of the issue, project specific skills related to the issue, and the importance of civic responsibility. By helping students experience how their learning relates to issues outside of a textbook, states not only help their students develop skills they will use in the future, but also help answer the age-old question, “why am I learning this?”

Prepare educators to facilitate deeper learning experiences. As with the earlier recommendation of preparing educators to comprehensively address students’ needs, educators will also need support in implementing new teaching approaches that facilitate deeper learning. A variety of instructional approaches have been identified to help facilitate deeper learning, including team teaching; emphasizing broad applicability of concepts; encouraging elaboration, self-explanation, and metacognition; and better utilization of formative assessments. Similarly, research and evaluations have demonstrated that teacher training that encompasses more practice-based professional development, collaborative learning and reflection, and—much like student learning—approaches that facilitate metacognition, help support teachers’ capacities to foster deeper learning in their classrooms. With this understanding, some states, such as Delaware, have advanced teacher observation rubrics, professional development, and collaborative planning time specifically designed to improve teacher practice in these and other areas.

Create opportunities for educators to more easily access Open Education Resources that support deeper learning. In addition to being better trained, teachers need to be equipped with the materials that support their success. Knowing this, a strategy some states are paying greater attention to is making it easier for teachers and staff to access Open Education Resources. Open Education Resources include items such as course modules and materials, e-textbooks, rubrics, assessments and other tools and techniques used to convey knowledge that are available free to educators.

One state that has been a leader in this effort is Utah. In 2009, the state board of education approved an administrative rule that allows open licensing of materials created by state employees using public funds, including teachers. Rather than being limited to a handful of expensive providers for materials, the state board’s rule enables Utah’s educators to access curricula, assessments, and other materials created by their peers at little to no cost. This initiative and others like it across the country enable teachers, acting as a professional community, to more easily access and share resources that help provide high-quality learning experiences.

3. Enable a system driven by quality and open to innovation.

While the strategies highlighted above are important in removing barriers to and creating opportunities for deeper learning, they don’t represent the end of any state or district’s work. For example, in the early 1990s, as states, school districts, and
schools contemplated strategic plans to prepare their students for the future, words like “Internet” and “the web” were likely not incorporated into their documents; just more than 20 years later, few school districts, or companies for that matter, would create a long-term strategic plan without incorporating the use and adaptation of technology.

To fulfill the promise of preparing all students for college, career, and civic success, education systems must continue to respond to trends, opportunities, and challenges within our broader society—such a system must remain dynamic, able to learn from experiences of initiatives that have not worked and expand on lessons from those that have. In many cases, significant changes are needed in state education policy, and increasingly state policymakers are stepping up to make important and difficult decisions to transform the educational experiences of students in their states.

While states recognize the need for change, there are several factors that merit caution. First, children and schools are not simply experimental subjects; applying untested and ineffective strategies in the name of innovation could have serious ramifications—including depriving children of important educational opportunities—that affect their chances for future success. Moreover, districts and schools have to shift resources and efforts to initiate innovative strategies and often feel compelled to implement the next “great reform,” which could lead to innovation fatigue or even successive failures of once-promising initiatives.

States can take several steps to guard against these failures and still foster innovation. These include providing flexibility as opposed to mandates to those interested in implementing an innovative educational approach, ensuring innovations fall within the state’s comprehensive vision of education, providing local capacity-building assistance to support initiatives, and enabling data systems to provide real-time feedback on the successes and challenges of different efforts. With this in mind, following are some steps state boards can take to both enable innovation and ensure the success of the ensuing improvement efforts.

Engage in important discussions on new educational policies both within and across states. Through the implementation of the Common Core State Standards, accompanying 21st century assessments, and other policies, states, not the federal government, have stepped up to tackle some of the thorniest education challenges facing the country, often overcoming significant challenges with reduced funding and fewer staff. These efforts have been initiated by policymakers within states, as well as by several notable cross-state partnerships, both large and small. Such efforts range from the broad Common Core State Standards initiative and assessment consortia efforts to smaller examples of state collaboration, such as the Council of Chief State School Officers’ Innovation Lab Network initiative and NASBE’s Deeper Learning Study Group. Through these efforts, policymakers from across states have—and should continue to—come together to discuss issues as detailed as how to design technical assistance to implement new standards and as broad as how to re-design an education system to prepare significantly more students for college, career, and civic success.

Designate innovation zones and provide waivers; empower the willing. In light of these bold initiatives, allowing for experimentation of the willing rather than a mandate for all should not be mistaken for sheepishness; it is simply an acknowledgement that there are lessons to be learned from implementing any policy and that a bullish dive into a new policy could, in the long term, do more harm than good. New policies don’t happen in isolation: practitioners must shift resources, re-train staff, and find new ways to evaluate their success. At each of these steps, there are lessons to be learned, and it is better to have committed and willing participants test these waters than have practitioners try to check off a box or work against an initiative. Thus, innovation zones and waivers facilitated by policies in states, including West Virginia, Massachusetts, and others, on topics ranging from school improvement to competency-based education enable states to learn from implementation in a few areas and then, if successful, apply those lessons to schools across the state.

Ensure individual actions are part of a comprehensive strategy. Even as states allow for experimentation through waivers and innovation zones—and even more, when they implement a policy across a state—it is essential that community members
and district and school practitioners see the innovative approach as part of a broader, comprehensive strategy rather than as an isolated effort by a lone reformer. This is all the more important under the current economic situation facing states, districts, and schools across the country: with limited resources in hand, practitioners must know that the initiative they start today will not simply be changed the following year. They must be able to leverage a variety of resources in order to implement a new initiative, which becomes increasingly difficult when schools receive different signals from district or state leaders (for example, when the assessment measures they are held accountable to are misaligned with the programs and goals they are being asked to implement).

In implementing its new proficiency-based education system, Maine has been at the forefront of systemic thinking to prevent this sort of uncertainty, aligning its funding, graduation requirements, professional development, and other policies to support the success of this initiative. Similarly, as states continue to align individual initiatives within a comprehensive vision of college, career, and civic success, they communicate a clear message to stakeholders: an initiative being implemented is not simply a flavor of the month, but a concerted effort to prepare all students for a meaningful future.

**Continue as an on-going partner after a new policy or program is approved.** Once new policies are on the books, it becomes even more important for state policymakers to stay engaged and support efforts throughout implementation. Standards and guidance around implementation efforts are essential for helping local practitioners successfully transition from the world as it is to the world as it should be. In implementing new policies, teachers and principals will have to be trained, standards will have to be developed, and technical assistance and capacity building support will have to be provided, to name just a few steps that distinguish a failed policy from a successful one.

One impressive area where this has been apparent is in states’ implementation of the Common Core State Standards. Most states implementing the standards have successfully (though admittedly to different levels of quality) designed a plan to prepare educators, align instructional materials, provide technical assistance, and provide other supports to assure their success. As states demonstrate that they are willing partners with their districts and schools in implementing an initiative, it not only benefits that initiative, but other initiatives as well, which are buoyed by the confidence engendered by past working relationships.

**Continue investments in data systems and their use to continuously evaluate the effectiveness of policies.** Once a policy is being implemented, it is important for states to gather both quantitative and qualitative data to evaluate the effectiveness of the policy and make adjustments where needed. Beyond using this data at the macro level, states should continue to encourage local decision-makers to use the data to adapt and improve their own practice. Through their investments in longitudinal data systems, more states today have the capacity to do this than ever before. For example, according to the Data Quality Campaign survey of states, by 2012 forty-five states had data storage facilities that could link detailed and reliable data from several areas and another forty-two states had the ability to create reports that include longitudinal statistics on school systems and groups of students.

Today the primary question is not necessarily the existence of data, but the capacity to use it. States are making substantial efforts to build this capacity. For example, Delaware has implemented a statewide “data coach” system that provides teachers a minimum of ninety minutes of common planning time to facilitate collaboration, data analysis, and strategizing on responding to concerns identified by the data. This type of collaborative analysis and use of data can, in turn, facilitate a conversation of not only how a school can improve the achievement of some students, but the depth of learning of all students.

**Conclusion**

In a global economy, it is becoming increasingly important for all students to not only be able to demonstrate mastery of academic content, but also critical thinking, problem solving, and other deeper learning competencies. Fortunately, states across the country are stepping up with the big ideas to do just that by facilitating conditions and learning environments conducive to deeper learning, aligning statewide policies to support the knowledge and
skills students will need to succeed, and creating conditions for their education systems to remain dynamic and responsive to broader social demands. Nevertheless, even states at the cutting edge of these efforts recognize there is still significantly more work to do before we achieve systems that prepare all students for college, career, and civic success and a meaningful future for themselves and our nation.

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3Carl E. Van Horn et al., Ready for Tomorrow: Demand-Side Emerging Skills for the 21st Century (New Brunswick, NJ: John J. Heldrich Center for Workforce Development at Rutgers University, 2007).


10Centers for Disease Control and Prevention, National Health Education Standards (Atlanta, GA: CDC, 2013).


12Southern Educational Foundation, A New Majority: Low Income Students in the South and Nation (Atlanta, GA: author, 2013).


15Massachusetts Regulations for Educator License and Preparation Program Approval (603 CMR 7.00). Available at: http://www.doe.mass.edu/lawsregs/603cmr7.html?section=08.


17Ohio State Board of Education and Ohio State Department of Education, Ohio School Climate Guidelines (Columbus, OH: Authors, 2013).


20David Conley, Understanding University Success (Eugene, OR: Center for Education Policy and Research, 2003).


22Kentucky Council on Postsecondary Education, (Frankfurt, KY: Author).

23Maryland Department of Education, Maryland’s 7 Best Practices for Service Learning Aligned! (Baltimore, MD: Author).


26Alliance for Excellent Education, Knowledge and Skills in the 21st Century: Are They Really Ready to Work? (Wash-


30Ibid., 24.
As a center for Catholic Charities Refugee placement, Portland, Maine, regularly receives a large influx of new immigrants, particularly from East Africa. Seventh grade English language learners from King Middle School decided to do something to help them.

Over an eight-week period in 2006, the students researched services available to immigrants, interviewed people who work with them, took digital photographs, and compiled a small book, entitled *Access Portland: A Resource Guide for New Immigrants and Refugees*. The guidebook was sent to the placement center and widely distributed to the arriving refugees.
In producing the guide, the King students demonstrated considerable mastery of English language arts knowledge and skills. They showed they could conduct research and write an informative document, as well as demonstrate their understanding of academic vocabulary and language conventions, and, as English language learners, they exhibited their proficiency in English as well.

But beyond these more obvious achievements, their work demonstrated even more about the students’ abilities. They showed they could use their knowledge to think critically about their research findings and solve problems in order to produce a document that would be useful to a real-world audience. They showed the ability to communicate, both verbally and in writing, and to collaborate with peers. And in revising the document to perfect it for publication, they demonstrated that they could reflect on their understanding.

These deeper learning abilities are increasingly important. College professors and employers say they are vital for students’ success after high school. But they also warn that too few students currently demonstrate those abilities, putting their future at risk in an increasingly complex world.

The good news is that there are a growing number of schools like King Middle School, which is part of the Expeditionary Learning school network, that are committed to developing students’ deeper learning competencies and have organized their school program to do so (see textbox on Expeditionary Learning Schools on page 20). But these schools remain exceptions. Enabling larger numbers of schools—and larger numbers of students—to focus on deeper learning will require policy changes at the state level.

Specifically, states need to revise or remove policies that currently inhibit the development of deeper learning—such as accountability policies that focus on a narrow range of knowledge and skills—and institute new policies to allow deeper learning approaches to flourish.

This article will describe some of the policy changes necessary for deeper learning. It will also provide some examples of states that are moving in this direction.

**THE NEED FOR DEEPER LEARNING**

Although they are sometimes called “21st century skills,” deeper learning competencies—the ability to use knowledge to think critically and solve problems, to communicate effectively, to collaborate, to reflect on learning, and to develop positive academic mindsets—are not new. Schools have taught them, and students have learned them, for centuries.

However, for most of that time, only an elite few had school experiences that enabled them to develop deeper learning competencies. Most students were taught basic skills only, and tests reinforced this emphasis by asking students simply to recall facts and apply simple procedures. And for much of that time, this two-tiered system worked effectively. Young people could get well-paying jobs with minimal skills.

That situation is changing. There is a growing body of evidence to suggest that deeper learning abilities are necessary for all students, not just the elite who developed them in the past.

For example, Richard Murnane and Frank Levy have found that technology has transformed the workplace by reducing the demand for routine manual tasks, such as filing expense reports and accepting bank deposits, while sharply increasing the demand for tasks that involve solving complex problems and working with new information, such as diagnosing illnesses and teaching biology. In order to provide students with opportunities to succeed in growing careers, then, all students need to develop deeper learning competencies.

A landmark 2012 study by the National Research Council provided further evidence of the importance of deeper learning. The study found that deeper learning competencies are critical to enable students to transfer what they learn to new situations, a key goal of learning, and that they are associated with positive outcomes in employment and health.1

What does it take to develop those abilities? Many schools have shown dramatic success in doing
King Middle School is one of nearly 200 schools that are part of the Expeditionary Learning national network, originally formed in 1992. Expeditionary Learning has received funding from the Bill and Melinda Gates Foundation and from the U.S. Department of Education through its Investing in Innovation (i3) awards program.

Most importantly for deeper learning, the schools offer a **compelling curriculum** through which “content and skills standards come alive for students by connecting learning to relevant issues, identified needs, and authentic audiences. Academic content is charged with rigor through the curricular structures of learning expeditions, case studies, projects, field work, consultation with community experts, service learning, and exhibitions of student work.”

*Other components of the Expeditionary Learning model are:*

- **Dynamic leadership** through elective, collaborative teams;
- **Engaging instruction** supported by on-site institutes and on-site professional development sessions, as well as one-on-one work with teachers;
- **Continuous assessment**, with teachers equipped to infuse ongoing formative assessment into their lessons and build elective summative assessments to track student learning;
- **Positive school cultures** built around respect, responsibility, courage, and kindness, where students and adults are committed to quality work and citizenship.

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Readiness for College and Careers, or PARCC, a partnership of 19 states, and the Smarter Balanced Assessment Consortium, a group of 24 states, are designing new assessments that are expected to be administered in the 2014-15 school year. These assessments are expected to be delivered on computer and to include performance tasks and other formats that enable students to use knowledge to solve problems and demonstrate critical thinking.

A study of the consortia’s designs by Joan Herman and Robert Linn of the National Center for Research on Evaluation, Standards, and Student Testing (CRESST) at the University of California, Los Angeles, found that the new assessments are likely to measure deeper learning competencies far more extensively than current tests do. The study examined the “depth of knowledge” called for in the consortia’s prototype items and found that they ask students to apply content knowledge to solve problems, demonstrate complex thinking, and communicate effectively. By contrast, only a handful of items on current state tests demand that students demonstrate such abilities. [Note: for more information, see Linda Darling-Hammond’s article on “Assessments for Deeper Learning” on page 32 of this issue.]

States are also supplementing state tests with assessments that measure additional deeper learning competencies. For example, New Hampshire is designing a performance assessment system as part of its competency-based system, under which students are expected to respond so, including schools that educate students who have traditionally been underserved in schools, such as low-income students and students of color. But to spread this kind of learning in large numbers of schools requires changes in state policy in the following areas: standards, assessments, accountability, teacher development, instructional support, time, and support for innovation. The following sections outline what those changes might look like.

**POLICY CHANGES TO SUPPORT DEEPER LEARNING**

**Standards**

For two decades, standards have been at the heart of state education policy. Standards define the expectations for student learning, and drive—or ought to drive—curriculum development, testing, and professional development. By signaling that all students are expected to develop deeper learning, standards can help spur changes in instruction and school organization that produce that result.

The good news is that standards in most states do in fact call for deeper learning. As the 2012 report from the National Research Council (referenced above) made clear, the Common Core State Standards overlap substantially with deeper learning competencies. For example, the English language arts standards place a strong emphasis on using evidence to justify conclusions in writing. That is a clear call for critical thinking. Likewise, the mathematics standards ask students to justify their responses and to communicate their understanding of mathematics.

Similarly, the Next Generation Science Standards, which have been adopted by eight states, also include numerous deeper learning expectations. The standards place a strong emphasis on constructing and evaluating evidence-based arguments, the ability to solve non-routine problems, and systems thinking, for example.

The challenge for states now is to ensure that these standards get implemented in classrooms. That means developing and adopting new instructional materials, ensuring that teachers are prepared to teach the standards, and providing support for students who may be struggling. States are moving in this direction, but their efforts have varied widely.

**Assessments**

Assessments are essential to ensure that the expectations embodied by the standards are realized in classrooms. Assessments make standards concrete by showing students and teachers the kinds of performances students need to demonstrate to show they have met the standards. And traditionally, assessments have exerted a strong influence on classroom practice; in some cases, teachers paid more attention to assessments—particularly assessments with high stakes attached to them—than to the standards.

Two consortia of states are currently developing assessments to measure student performance against the Common Core State Standards. The Partnership for Assessment of

www.nasbe.org
to demonstrate a set of prescribed competencies in order to graduate from high school. The assessments are aimed at promoting “deeper levels of understanding important academic content and skills,” according to state officials.

**Accountability**

Accountability systems are intended to create incentives for schools to improve performance for all students. Accountability systems that measure schools’ success in developing deeper learning competencies would encourage schools to strengthen their efforts to address those competencies.

The systems states have put into place under waivers from the No Child Left Behind Act suggest some ways that states can redesign accountability to focus on deeper learning. For example, Florida’s system measures schools’ progress in improving students’ college readiness as well as accelerated curricula. While these factors are not direct measures of deeper learning, they do provide some indication of the extent to which students are developing the knowledge and skills they will need in post-secondary education.

**Teacher Development and Support**

Deeper learning requires skillful teachers who can guide students through engaging projects that enable them to demonstrate their competencies and support them through deeper and deeper levels of learning. While some teachers have shown great success in developing deeper learning among their students, most teachers were prepared for a different era, when deeper learning was not expected for most students.

State policies can help ensure that all teachers are capable of eliciting deeper learning and help provide them with continual support so they can improve their effectiveness throughout their careers. The process begins with teacher preparation. State boards play a critical role in approving the requirements for teacher licensure and the content of preparation programs. One promising step toward ensuring that new teachers are capable of teaching deeper learning outcomes is the Teacher Performance Assessment (edTPA), which about half the states are piloting. This assessment measures teacher-candidates’ effectiveness in the classroom using evidence that includes student work and teacher reflections. [Note: more information about edTPA can be found in “Collaborating in Teacher Preparation to Improve Outcomes for Students with Disabilities,” by Sharon Robinson, in NASBE’s August 2013 issue of the State Education Standard, available at http://www.nasbe.org/wp-content/uploads/Collaborating-in-Teacher-Preparation.pdf.]

States are also implementing new systems to evaluate practicing teachers. To date, few of these systems measure the extent to which teachers are able to teach to deeper learning competencies. But a few states, New York, for example, explicitly cite the deeper learning competencies as indicators they expect to examine in observations of teacher performance. New York’s teaching standards, on which evaluations are based, expect teachers to:

- Have required content knowledge;
- Use instructional techniques that encourage higher-order thinking in students;
- Incorporate a variety of formal and informal assessment techniques into their planning and instructional delivery to ensure that all students are grasping the content;
- Address common student misconceptions about the subject area; and
- Design learning experiences that foster student understanding of key disciplinary themes.

**Instructional Support**

In addition to adequate preparation and professional development, teachers also need tools to help guide and support their ongoing instruction in the classroom. For deeper learning, these tools are particularly important, because teachers who teach for deeper learning seldom rely exclusively on textbooks. Rather, they create engaging projects (often using original-source documents) that ask students to use knowledge to solve real-world problems, like the guide for newcomers produced by students at King Middle School in Maine.

Thanks to technology, instructional support tools are increasingly available and thanks to the Common Core State Standards, which apply to teachers in most states, these tools are useful for large numbers of teachers. The American Federation of Teachers, for example, has created a website called “Share My Lesson” that enables teachers to post lessons for other teachers to use that indicate their alignment with the Common Core. In addition, individual state departments of education have created similar web
Support for Innovation

Many of the schools that are committed to developing deeper learning competencies among their students have implemented their programs in the conventional system. However, there are many ways to approach education to develop deeper learning. In order to provide students with opportunities to learn in new ways, states need to provide some flexibility to allow educators to develop and implement innovative approaches.

To this end, Kentucky has created “districts of innovation,” which are exempt from many state regulations and local board policies, in order to test new models of schooling. Districts must apply to the state for this status and, if granted, it can be renewed after five years. Schools in participating districts must agree to take part in the innovation district.

PUTTING IT TOGETHER

All of these policies—standards, assessments, accountability, teacher development, the use of time, and support for innovation—are essential for deeper learning to take root and for states to ensure that all students have access to the kind of learning they need to succeed. But the challenge for states is to adopt all of these policies. A piecemeal approach will not work.

For example, if states adopt new assessments without providing support for developing teachers, they will find that students fare poorly on the new tests because they have not had the opportunities to learn what they needed to learn. Likewise, failing to expand the use of time or create opportunities for innovation will hamstring schools in their efforts to provide additional support to students and teachers.

One group of nine states, known as the Innovation Lab Network, is trying to create the conditions for state policy to support deeper learning. These states, operating under the auspices of the Council of Chief State School Officers, are working to adopt new state policies that support and encourage innovations at the school and district levels. They are also working collaboratively to share ideas and develop new approaches—in assessments, for example—that can be implemented across states. [Note: for more information, see NASBE’s May 2013 edition of State Innovations, “The Innovation Lab Network: Bold State Approaches for a New Era of Education.”]

The experiences of the Innovation Lab Network can provide a great deal of information for states as they move to support deeper learning for students. But states need not wait for these states to demonstrate what they are learning. States can move ahead right away to transform policies to ensure that all students have opportunities for deeper learning. The world has changed, and students cannot wait.

Robert Rothman is a senior fellow at the Alliance for Excellent Education.


Here is a story about a student that illuminates several important points about learners and learning. In *Leaving to Learn: How Out-of-School Learning Increases Student Engagement and Reduces Dropout Rates*, we used the story to show the power of out-of-school learning and demonstrate the variety of ways students who are engaged through their interests can develop highly valued real-world competencies.

*From the time he was a young boy, Huber was interested in maps, places, and his community. While at the Big Picture Learning School in Oakland, he travelled to Chile and Thailand and observed the changes taking place in those countries. On his return, Huber decided that he wanted to bring about some changes in his community. Through his internship in a mayoral election campaign, he noticed a relationship between voting*
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While we applaud this renewed focus on engagement—it has been at the core of our Big Picture Learning design for the last twenty years—we see the challenge as being both broader and deeper and, therefore, propose programs and strategies that build on and enhance current strategies to better achieve our common goal.

**HOW WE SEE THE CHALLENGE DIFFERENTLY**

Recognizing the past and current contributions of theory and research to our understanding of engagement, we wish to highlight a few dimensions of the concept that appear to be missing from policy and practice.

First, we need to be clear about the goal, which we see as creating lifelong learners who are eager to learn and strive beyond the minimums required. They are self-starters. They engage in learning even when their teachers “aren’t looking.”

Second, we need to be clear on what we mean by engagement. We know that students are engaged when they want to learn something. Seymour Sarason, a longtime professor of psychology at Yale University who deeply influenced our work, called this “productive learning,” by which he meant a “learning process…that engenders and reinforces wanting to learn more.”

Here we use Huber’s story—not at all unique in describing how students learn in our Big Picture Learning schools—to make a few points about student engagement (this year’s déjà vu in the education community), particularly authentic and sustained student engagement in deep and productive learning. Numerous research studies have documented the high levels of student disengagement from what the schools offer students—disengagement that is at high levels even among high-performing students. And let’s not even talk about the chronically high dropout rate.

Proving perhaps that knowledge in education is more cyclical than cumulative, researchers, policymakers, and educators are discovering yet again previous research and literature on student engagement, blending in a bit of new research and, somewhat narrowly in our judgment, crafting strategies for increasing student motivation to engage more deeply in the course of study they have designed to address the Common Core State Standards and related learning standards.

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Third, we believe it is important to see the challenges more systemically. Disengagement results not only from a chasm between learners and the content of the curriculum, but from the total student experience, including both emotional and cognitive engagement. Our own
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experience is that schools are actually designed for disengagement, with, for example, their impersonal organization, rigid curriculums, and inflexible schedules. Adding a few strategies to that disengaging structure and culture is not likely to give us the results we want. Strategies for increasing engagement must be consistent with the ecology—the entire system. This is not, therefore, about uncaring or incompetent teachers. It’s about a system that produces boredom and disengagement from productive learning.

Fourth, we believe it is essential to see the problem from the students’ point of view. How do they experience school? Why are they not paying attention to what their schools have to offer? What is the learning experience they expect their schools to provide?

We view recent research conducted by Duckworth, Dweck, and others on student motivation and engagement as insightful and illuminating, but view most school reformers’ proposed interventions around this research as overly narrow in that they deal with symptoms and not with the underlying features and components of schools—those cultural and organizational features and components actually baked into the design of schools. What many reformers miss is that the structures of schools and schooling actually produce disengagement and mitigate the effectiveness of their proposed strategies.

Lacking this system perspective and unwilling to address structural and cultural inadequacies, many experts and practitioners propose strategies that constitute little more than trying to convince learners that what the school has to offer is good for them, both presently and in the future. This cajoling produces, at best, a superficial and temporary commitment to engage. These strategies focus on convincing students to pay attention to the school’s agenda rather than the students’ interests. Research and experience indicate that extrinsic motivations are unlikely to produce deep and sustained engagement.

In short, we believe that the way most schools go about increasing engagement is actually counterproductive, as these strategies teach students the wrong things about learning. Schools are addicted to the kinds of extrinsic rewards and threats that research and practice have consistently discredited. Teachers engaging students around course content and students getting more persistent to strive through those courses only look at the problem from the perspective of the school and not the student. Pursuing this “external motivations” strategy for engagement is not likely to succeed. The harder schools push, the harder students will push back or move away.

Notice in Huber’s story that his learning did not begin with his academics, but rather with his own interests. This simple difference changes the nature of the engagement goal from one of trying to convince Huber that he should engage in what school has to offer to one in which the school shows him how the academics can contribute to his pursuit of his own personal and career interests. In such a high-engagement context, the teacher can push and support Huber to go deep in his learning.

Our experience in our Big Picture Learning schools has taught us that starting with a student’s interest was important—yet this obvious truth is often overlooked in the research and in practice. The key question is: How do we design the student learning experience so that it leads to sustained engagement in deep and productive learning? What strategies and tactics will we use to motivate/predispose students to own and go deep in their learning?
DESIGNING STRATEGIES FOR ENGAGEMENT DIFFERENTLY

For nearly 20 years, Big Picture Learning schools have been using strategies and developing programs to engage students in deep and productive learning. We call these features and components the “Expectations” because they define the student experience that students expect of their schools. Our view is that efforts to improve, reform, or redesign schools will fail without attention to these questions regarding their Expectations:

## RELATIONSHIPS
Do my teachers and others who might serve as my teachers know about me and my interests and talents?
Do my teachers help me form relationships with adults and peers who might serve as models, mentors, and coaches concerning my career interests?
Do my teachers help me build relationships in the school community and in out-of-school communities?

## RELEVANCE
Do I find what the school is teaching relevant to my interests, including my career interests?
Do my teachers help me understand how my learning and work contribute to my community and to the world?

## CHOICE
Do I have real choices about what, when, and how I will learn and demonstrate my competence?
Do my teachers help me make good choices about my learning and work?

## CHALLENGE
Do I feel appropriately challenged in my learning and work?
Am I addressing real-world, high, and meaningful standards of excellence?

## AUTHENTICITY
Is the learning and work I do regarded as significant outside school by my communities of practice and by experts, family members, and employers?
Does the community recognize the value of my work?

## APPLICATION
Do I have opportunities to apply what I am learning in real-world settings and contexts?
Do I have opportunities to contribute to solving the problems my community and the world are facing?

## PLAY
Do I have opportunities to explore—and to make mistakes and learn from them—without being branded as a failure?
Do my teachers coach me in tinkering, experimenting, and speculating?

## PRACTICE
Do I have opportunities to engage in deep and sustained practice of the skills I need to learn?
Do my teachers guide me in practicing correctly?

## TIME
Do I have sufficient time to learn at my own pace?
Am I allocating sufficient time for my learning—to go deep as well as broad?

## TIMING
Can I pursue my learning out of the standard sequence?
Do my teachers help me determine what is the right time for pursuing a project or taking a course?
Big Picture Learning schools start with a truly personalized learning experience for each student that addresses the student’s interests, including career interests, which may be just emerging or in some cases are firmly established. We help students identify their interests, and then wrap what is in essence a career academy around each and every student. We allow our students real choices that draw them into the school environment and engage them in deeper learning. We have developed a way to do school that successfully and deeply engages many more students by increasing their agency (i.e., ability to act for him or herself) in working with their teachers and community-based adult mentors, who serve as their fiduciaries (doing what is best for each student). Our attendance, graduation, and college acceptance data attest to the success of our approach. President Obama has praised our schools, which allow students to learn outside of school and earn academic and graduation credits for their work.

We see authentic and sustained engagement as emanating from a highly personalized program of studies built around each student’s interests that many times lead and connect to careers. We have been doing that for 18 years and are heartened when research like Bloom’s and Sosniak’s supports our practice. Both researchers examined how children develop their talents and concluded that it takes a deep and sustained interest on the part of the child, long-term successful development of those interests, and many committed adults working for the achievement of just one child.
Their conclusions are at the core of the Big Picture Learning design.

When it comes to deep engagement, it is assumed that students need to be cajoled by teachers into having an internal conversation to try harder or be grittier in order to succeed in school. Or, that it is up to the teacher to make the course material more interesting. We have no quarrels with student grit or persistence in their courses or for teachers making material more relevant. What we see in the system, however, is a lack of trust in every student’s agency.

We understand from our practice that once student engagement is in play, grit increases and is sustained. Then, persistence and deep and productive learning follow. We understand that students in the right environment and with the right teacher support will be articulate about their interests, identify what they need to learn, and figure out how to get it. They will be quite open to bringing the academics to their learning and work.

We see the lack of student agency in schools as a school culture and school program issue. Courses are assigned and, if in a college track (isn’t that all students?), there is little choice in what students take and how they learn it. Nor is there much choice in the way some students are prepared for a technical college. Competency-based systems, as promising as they are, will do little to change the nature of the learning experience. The same can be said for promising project-based learning approaches that follow a scope and sequence laid out as a mandated course structure and are built solely at the level of a group of students.

Through our work with the network of Big Picture Learning schools and with other schools in the United States and abroad, we have developed a wealth of instructional strategies and materials for deliberately paying attention to each student’s interests. For example, all 9th grade students complete a “Who am I?” module that jump starts the careful attention to what really turns them on—what they are interested in learning about and how they would like to learn it. This and related modules build student agency and responsibility, while informing teachers of possible ways to capitalize on these sources of intrinsic motivation and bring academics to those interests to broaden and deepen learning. The result is that students genuinely own their learning. They embrace important standards, such as the Common Core, that contribute to advancing their career development and interests.

Our strategy for achieving authentic and sustained student engagement in deep learning is guided by paying serious attention to our students’ needs—indeed, to the needs that are part of being human. One way of thinking about this is to recall the old telephone dial-up systems and protocols for getting online. Recall the three-step process of dialing, authenticating, and connecting (DAC) that we endured as we waited to get online. After dialing in, you listened for the high-static buzz that signaled the host site was authenticating your computer. Then you waited to receive a message that you were connected.

This brief sequence of dialing, authenticating, and connecting also describes a way to look at what happens when students go through a process of engaging the world in deep learning and connecting back to school. We see dialing as an apt metaphor for students’ reaching out to others and identifying what they are and what they know and can do, and connecting as establishing two-way communication, much like what E. M. Forster was thinking when he wrote in his novel, *Howards End*, “Only connect!” This is the human quest—reaching out with who you are, obtaining validation, and connecting at all levels.

Big Picture Learning schools help all students successfully navigate the dialing-authenticating-connecting continuum over and over in all aspects of their learning program first inside the school with their advisers and ultimately with lots of adults who serve as mentors, coaches, and teachers out in the community who are doing the work the students would like to do. In this scenario, the student is building the social capital between the school and the community in the present and into the future. It is the student who is in control and is in the center of their learning. For us, this is social networking at its finest. It is social networking that builds social capital.

The Big Picture strategy works with every student, because that is where we start—with each student. We see learners not as objects of policy, but as individuals with interests and aspirations that must be
attended to if they are to regard us as their teachers.

Our Big Picture Learning schools have developed a system that deeply engages students by having them dial in through their interests to adults who share similar interests, using projects of real consequence that are authenticated by the school as academically rigorous, and finally deeply connecting them to what they love to do in communities that share a similar affinity for the work. This handspring has students go broad academically and meta-cognitively as they go deep into academic content. We have thousands of examples where this protocol works. You can view a sampling of some of these as videos on the Teaching Channel, Edutopia, Big Picture Learning, and Leaving To Learn websites.

Given that DAC is a digital protocol, you may ask what role technology plays? We are not concerned here about online learning systems for skills development, although our schools strive to use these systems appropriately. Instead, our focus is on how students learn to use technology tools as expert practitioners in their areas of interest as they are used in the real world. How, for example, do chefs, architects, farmers, and expert practitioners in every profession use technology to be more effective and efficient and to achieve craftmanship, mastery, and artistry in their performance? Big Picture Learning schools require students to seek out answers to these questions and to use those answers to guide their own applications of technology. Hence, students dial into appropriate technologies, authenticated by their teachers and mentors in a community that uses these tools in meaningful ways.

Dialing, authenticating, and connecting allows for all types of measures and assessments to be used. DAC is not driven by the accumulation of points or credits without meaning. We all know when we have done something well or not and whether we understand something. When the time is right, we also seek out people and places we connect to who can authenticate our understandings and let us know how to get better. It is in these ways that students have the academic mindsets where they collaborate, communicate, think critically, and create going deeper and broader with the acquisition of academic skills and information.

We are heartened at the renewed interest in motivation and engagement. We see such movement as an endorsement of our work over the past 20 years. We are incorporating the insights from the most recent research into our practice, and we continue to share that practice with districts and schools with which we work throughout the country and around the world. Schools need to develop and support systems where schools follow and trust young people in a system that knows what they are doing, why they are doing it, and how well they are doing it so they can become productive learners and citizens.

Our work has influenced the development of supportive policies such as requiring personalized learning plans for each student and requiring multiple forms of assessment. Such policies have in turn made our work easier in schools. Other policies, much less common, would also advance our practice. These include broadening the definition of what constitutes success, supporting alternative learning pathways open to all students, recognizing the value and validity of assessments that are non-verbal and non-written, and providing credit for learning accomplished outside of school, particularly learning accomplished through non-traditional means. Such policies would contribute significantly to engaging all students in deep and productive learning.

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2For more on Angela Lee Duckworth and her definition of “grit” as a learning trait, see http://www.ted.com/talks/angela_lee_duckworth_the_key_to_success_grit.html.
3See Professor Carol Dweck, “Teaching a Growth Mindset” at http://www.youtube.com/watch?v=kXhbtCmnyQ.
4Recall Csikszentmihalyi and Schneider’s research showing that even students in AP courses typically did not exhibit high levels of deep engagement in what the teacher was addressing: M. Csikszentmihalyi and B. Schneider, Becoming Adult: How Teenagers Prepare for the World of Work (New York: Basic Books, 2000).
8See Angela Lee Duckworth.
States Are Creating High-Quality and Affordable Assessment Systems

Few factors are more powerful at influencing what is taught in our nation's classrooms than the effective pairing of learning standards with the curriculum and assessments that enact them. The United States is poised to begin a new era on both fronts as states phase in the Common Core State Standards (CCSS) and new assessments aligned to the standards.

Together, the CCSS and new assessments are intended to promote the instruction and learning our students need to succeed in a global economy. Studies show that employers’ demands for workers with routine, repetitive skills—whether manual or cognitive—have dropped. Meanwhile, demand for employees with complex thinking and interactive skills has soared. Between 1970 and 2000, for example, the top skills demanded by Fortune 500 companies shifted from the 3 Rs—reading, writing, and arithmetic—to teamwork, problem solving, and interpersonal skills.

During this time, the United States has trailed other nations that are investing in assessments that measure deeper learning—including students’ ability to analyze, synthesize, compare, connect, critique, hypothesize, prove, and explain their ideas. Along with reforms involving curriculum, instruction, and teacher quality, Singapore, New Zealand, Hong Kong, Australia, and other high-achieving jurisdictions have introduced ambitious assessments that call on students to demonstrate what they know using sophisticated written, oral, mathematical, physical, and multimedia products.
Meanwhile, U.S. students have been bubbling in answers on multiple-choice tests that measure lower level skills. As federal requirements under the No Child Left Behind Act (NCLB) led to extensive annual testing, states sought to control costs by using less expensive, machine-scored tests. Most dropped human-scored assessments requiring writing, research, and extended-problem solving. As a result, a recent RAND Corporation study found that on 17 states’ tests, fewer than 2 percent of mathematics items and only 21 percent of English language arts items measured higher order thinking skills. The vast majority of items called for memorization, recognition of information, and use of routine procedures.

Today, the CCSS are shifting the focus from rote learning and memorization to critical thinking skills and application. These standards are intended to be “fewer, higher, and deeper” than previous standards, setting the stage for a new focus on assessments of deeper learning. Two state consortia—the Partnership for Assessment of Readiness for College and Careers (PARCC) and the Smarter Balanced Assessment Consortium—were formed to develop next-generation assessments of these standards, which will be launched in 2014-15.
Use high-fidelity assessment of skills as used in the real world, such that students are asked to show they can communicate, use technologies, and conduct research;

- Are internationally benchmarked to align assessment content and measurement practices with those used in leading nations;

- Use items that are instructionally sensitive and educationally valuable—that is, are able to reflect how well teachers are teaching and give them guidance on how to improve; and

- Are proven to be valid, reliable, and fair, as well as accessible to all learners.2

The consortia-developed assessments are being designed to meet each of these criteria to a much greater degree than the previous generation of tests. In areas that the consortia tests will not reach—such as long-term research and investigation tasks or the ability to communicate orally, visually, and with technology tools—some states are developing their own performance tasks. Others, through the Council for Chief State School Officers’ Innovation Lab Network, are developing an assessment bank of such tasks that can be incorporated into proficiency-based assessments, graduation portfolios, and formative classroom activities.

Despite considerable interest among educators and policymakers for upgrading the quality of assessments to leverage instruction geared toward deeper learning, a number of challenges remain. Perhaps the biggest challenge facing state leaders as they move toward high-quality assessments of deeper learning is the perception that such assessments are not affordable.

While state-by-state comparisons are not always easy make (both in terms of reliability of the data and because state assessment systems vary in their components), two recent studies have found similar cost estimates. One, a survey across grades in 37 states, found an average cost of $24.52 per pupil for annual summa-
tive reading and math assessments required under NCLB. Another survey of 45 states found an average of $27 per pupil for testing in grades 3-9. This latter study also found a very wide range in spending, from $13 per pupil in Oregon to $105 per pupil in Hawaii.

The costs of state end-of-year math and reading tests are not the whole picture, however. The true cost of assessment for many states is much higher. A recent Stanford University study found that when the costs for interim testing practices, test preparation materials, staff time for development and administration of tests, and professional development related to tests are included, states and localities together are on average spending more than $50 per pupil on reading and math testing alone. Unfortunately, in most cases these expenditures do not improve the overall quality of assessment, teaching, or learning because they mostly focus on items measuring low-level skills that now dominate the testing landscape.

These overall costs are considerably higher than the projected costs of the tests being developed by the new assessment consortia. For example, the Smarter Balanced summative assessments in English language arts and math are, together, estimated to cost $22.50 per student. The suite of summative, interim, and formative assessments; time for teacher scoring; and supportive instructional materials is estimated to cost $27.30 per student. The PARCC system, which uses computer-based administration, is estimated to cost $29.50 per student for midyear performance-based assessment and an end-of-year summative assessment. This is less than one-half of one percent of average per pupil expenditures on education and benefits from economies of scale to keep costs down.

The Stanford study argued that states could get higher quality assessments—and spend less overall—if they combine state and local funds and focus these resources on a system of assessments that:

- Offers economies of scale through multi-state consortia, using online delivery and technology productively;
- Strategically aligns resources currently used for redundant, fragmented state and local testing; and
- Involves teachers more directly in developing and scoring open-ended assessments, using professional development time that can support the dual benefit of improved instruction and efficient use of resources.

**Issues to Consider**

Whether a state is part of one of the assessment consortia or not, there are several things state board members can do to address both the cost and quality of new assessments:

- Evaluate proposed assessments in light of the five criteria for high-quality assessment described earlier;
- Understand the gap between what planned assessments will measure and what needs to be measured to promote deeper learning and prepare a 21st century workforce;
- Consider how a system of state and local assessments can support these deeper learning goals;
Before making decisions about how to allocate new resources, evaluate comprehensive data on current test expenditures at the state and local levels, taking into account all current assessment-related practices, and consider how to make coherent, high-leverage investments in new systems;

Explain the benefits of more advanced assessments to parents and community members. Most parents, along with their children, are weary of multiple-choice tests and will be pleased to learn that their child’s teacher will have better information to help customize instruction. But state boards, along with their state agency and school districts, should consider leading a communications plan to ensure all stakeholders understand the advantages of the new tests—and prepare them for the likelihood of initially lower scores; and

Put in place a professional development plan to support teachers as they transition to assessments of deeper learning; this should include using teachers in scoring of the new assessments, which will help them understand and teach the standards.

If schools are to foster the transferable learning that is described in the Common Core State Standards and required of young people in contemporary society, assessments will need to support curriculum and teaching focused on deeper learning, along with traditional basic skills. New assessments under development are a step in the right direction, but states will need to take leadership in figuring out how to design systems that will use them well.

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1K. Yuan and V. Le, Estimating the Percentage of Students Who Were Tested on Cognitively Demanding Items through the State Achievement Tests (Santa Monica, CA: RAND Corporation, 2012), www.rand.org/pubs/working_papers/WR967.html.


Resources

The Gordon Commission on the Future of Assessment in Education www.gordoncommission.org


Partnership for Assessment of Readiness for College and Careers (PARCC) www.parcconline.org

Stanford Center for Opportunity Policy in Education (Scope): edpolicy.stanford.edu

Smarter Balanced Assessment Consortium www.smarterbalanced.org

Innovation Lab Network www.ccsso.org/resources/programs/innovation_lab_network.html
The Foundations of an Excellent Civic Education

What is the purpose of civic education? The most common answer is probably understanding the principles of our republic. I would agree that students should study the founding documents of the American republic, their origins, and the great principles found in them. Citizens will not protect these ideas unless they understand them, and, like other classic texts, the founding documents are worthy of understanding and exploration.

But understanding perennial principles is not enough. Students must also deliberate with fellow citizens about current controversies. That is a skill human beings have to learn; our media and national politicians certainly do not model it. And ordinary adults do not have everyday opportunities to practice deliberation. Membership on juries, school boards, and other deliberative bodies plummeted during the last fifty years. Thus, schools must help students learn how to talk with others who disagree with them about controversial issues.

And deliberation is not sufficient. After all, one can say most anything without learning from the results or affecting the world. Students should at least be a part of groups that talk about what they should do, then actually do what they have talked about doing, and then reflect on the experience, holding themselves accountable for the results.

Like deliberation, collaboration is something we must learn from experience, with guidance from teachers and other adults—it does not come naturally.

Students will need those skills for public life—for service on juries and participation in communities. They will also need them to succeed in the 21st century workplace, which often requires employees to define and address problems in teams.

I am not necessarily talking about service-learning projects as the opportunities for students to plan projects and then act as citizens. Students can act in many other ways, as well: for example, when they manage school clubs and groups, produce collaborative reports and presentations, or even play roles in fictional simulations.

These three concepts—the fundamental principles and structure of the republic, actual deliberation, and collaboration—can go together beautifully because the constitutional principles underlie the deliberation and work. The work informs the discussion and the discussion guides the work.
Excellence in Civics Education: Making It Happen in the Classroom

Many social studies teachers know how to bring the three foundational concepts together—certainly not every day, but over the course of a semester or a school year. But a lot of things stand in the way. In October 2013, CIRCLE released the report of the Commission on Youth Voting and Civic Knowledge, entitled All Together Now: Innovation and Collaboration for Youth Engagement. It is based on exhaustive research, including surveys or interviews with more than 6,000 youths, students, and stakeholders.1

We found that most civics and government teachers are committed to educating students to be competent and responsible citizens. One teacher said, “It’s why I get up at 5:30 a.m. every morning. …My passion for voting and engagement make every class seem vital.” But teachers face state standards that are just long lists of facts to cover. Whenever political leaders or interest groups consider a topic important, they demand that it be included in social studies standards, leading to massive and incoherent documents. Another teacher told us, “Students do not ‘debate’—they argue and have no support for their opinions. Should [fixing] that be a priority? Well, of course, but I don’t have time to teach it. I am bound by a set of state guidelines as to what I am to teach even though there is no high-stakes testing for government classes.”

Also, most states don’t test in civics, and those that do ask exclusively multiple-choice questions that have nothing to do with deliberation or collaboration. Our research finds that whether a state has a test makes no difference to what students know, perhaps because the existing tests are not much good.

Opportunities for civic learning are deeply unequal and are most widely available to students in wealthy communities who are on course to attend college. White, wealthy students are four to six times as likely as Hispanic or black students who come from low-income households to exceed the “proficient” cut-off on the National Assessment of Education Progress in civics—and a major reason for this is that the advantaged students are more likely to experience discussion, debate, and role-playing simulations in their schools.

Teachers get very little education or support for interactive civic education. Facilitating discussions and supporting action are challenging roles for teachers, who face subtle questions about political neutrality, civility, evidence, and other norms. But most civics teachers recall never having received relevant professional development once they are in the classroom. Only 10 states require instructors who teach civics or government classes to have certification in civics or government.

Finally, teachers can get in hot water for even trying to encourage deliberation. A quarter of the teachers we surveyed thought that

Selected Forms of Civic Engagement, 1975–2005

[Graph showing selected forms of civic engagement from 1975 to 2005]

Source: General Social Survey (GSS) and DDB Needham Life Style Survey (DDB). Age range of survey population is 18 years and older. Analysis by the author. Data from DDB 1975–98 by DDB Worldwide.
parents would object if political issues came into their classrooms. Remember that these were teachers of civics or American government. One civics teacher said:

My personal feelings are that students should be informed about what is going on with politics in this country. However, after the election in 2008, I had many parents upset with me for discussing and showing the election results and the inauguration in class. So, since then I have not talked about most issues and especially the differences between the Democrats and Republicans.

In September, the National Council for the Social Studies released a new outline for state social studies standards called the C3 Framework: College, Career, and Citizenship. Connecticut and Kentucky are already using it to revise their state standards. All the themes mentioned earlier are included: foundational principles and texts, deliberation, and action.

Implementing the C3 Framework would be one good step. But civic education completely depends on quality. Our analysis for the Commission on Youth Voting and Civic Knowledge found that the existing state standards, tests, course requirements, and teacher certification mandates bear no relation to students’ knowledge or civic engagement. Standards mean little without supportive materials, teacher education, and assessments. A test for students or a teacher certification requirement can be valuable if it is well designed, aligned with the curriculum, and if the people who face the assessment have opportunities to learn what they need to know. If not, the assessment can hurt. The same is true for school or teacher assessments.

There are no simple solutions. A test, a mandatory course, an easier voting system—none of those reforms will make much difference just by itself. Engaging our young people will require the dedicated efforts of many people, in many contexts, over time.

None of that should surprise us. These are the same truths we teach—or ought to teach—our young people about politics in general. They will face serious public problems all their lives: the problems that we inherited or created and are leaving to them. No serious problem will yield unless people work together to define and address it—each contributing his or her own assets and ideas. Working together on public causes is not just a chore or burden: it is also a satisfying aspect of the good life.

These are the lessons we should be sharing with our young people, and they apply to us, as well, if we are serious about improving civic education.

Peter Levine is the director of the Center for Information and Research on Civic Learning and Engagement at Tufts University.


The State Education Standard | March 2014

by Robert Pondiscio

New York City’s public school students had the day off this past Election Day, but the students of Democracy Prep were in school. To be more precise, they were in attendance, but they were not always in class. They were taking part in the Harlem charter school network’s annual get-out-the-vote effort: “I Can’t Vote, But You Can!”

Elementary school students, led by their teachers, were out on the streets handing out laminated cards encouraging citizens to “voice your choice this Election Day.” Middle school students canvassed their neighbors, talking about the mayoral election, pointing them to polling places, and registering them to vote. High school students fanned out to volunteer work assignments all over Manhattan: some manned phone banks at Republican mayoral candidate Joe Lhota’s headquarters; another group went to Bill de Blasio’s campaign office in Central Harlem to canvass and encourage registered Democrats to vote. Other groups of upperclassmen worked in conjunction with the National Association of Latino Elected and Appointed Officials to act as poll monitors in Washington Heights. Still others spent Election Day volunteering with the New York City Campaign Finance Board’s “NYC Votes” effort, encouraging voter participation and handing out “I Voted” stickers and voter guides.

At Democracy Prep, civics is not merely studied, it’s unapologetically preached, practiced, and mastered. As the charter school network has grown from a single middle school in August 2006 to nine schools at present, its students have become a familiar Election Day sight on the streets of Harlem, registering thousands of voters in that time. In their ubiquitous school-bus yellow hats and t-shirts reading, “I Can’t Vote, But You Can!” groups of students turn classroom civics lessons into authentic civic engagement. Can civic engagement in schools create civic engagement in a community? In 2006, 9 percent of Democracy Prep parents were registered to vote. After numerous voter registration drives, today 78 percent are registered.

At first glance, Democracy Prep looks like yet another of the high-expectations, college prep charter schools,

*Today, civic learning is generally defined as both having a knowledge of the ideas of democracy and the workings of federal, state, and local governments, and having the motivation and skills to participate in our democratic society.
along with KIPP, Achievement First, Yes Prep, Uncommon Schools, and others sometimes known as “No Excuses” schools. Over the past decade, these charter school networks have become the face of urban education reform with their rigorous curricula, longer school days, young and hard-charging teachers, and often obsessive attention to student work habits, school tone, and discipline. Expectations and aspirations run high. Classrooms are not numbered; they bear the names of major colleges and universities, Brown, SUNY, and Howard. Students scheduled to graduate this June are not the class of 2014; they are members of the class of 2018, the year they will graduate from college.

Democracy Prep has differentiated itself from the other “No Excuses” schools, however, by elevating preparation for citizenship to a co-equal goal with college readiness. Hence, the greatest aspiration of all: there are no “students” at Democracy Prep. If you attend, you are a “citizen-scholar.” The school’s motto, “Work Hard. Go to College. Change the World,” focuses students’ attention on civic duty. The mission statement, which every staff member must commit to memory, insists that Democracy Prep “educates responsible citizen-scholars for success in the college of their choice and a life of active citizenship.”

This is no mere inspirational homily. While children born into low-income, black, and Hispanic families have a less than 10 percent chance to become college graduates, the odds they will grow up to lead lives of active citizenship as enshrined in Democracy Prep’s mission statement are not much better. “Low-income adults tend to participate in politics at much lower rates than more affluent citizens, trust government less, and have a weaker sense of political efficacy,” noted a recent American Enterprise Institute report on Democracy Prep. The report goes on to state that:

because low-income parents often lack these prerequisites for engaged civic life, they are less likely to pass on expectations for active citizenship and political participation to their children. What is more, less active parents may even pass on a real mistrust of government and sense of powerlessness, both of which can depress any attachment to civic life in their children.\(^1\)

Among the strongest correlations in educational research is that between educational attainment and civic engagement. The voting rate nationally for high school dropouts (39 percent) is less than half the rate of those with advanced degrees, according to a recent report from the Educational Testing Service.\(^2\) The same report concluded that the likelihood of a young, native-born Hispanic male voting falls nearly to zero if he is a high school dropout with bottom quintile academic skills who does not pay close attention to public affairs. In short, it is not an overstatement to suggest that disenfranchisement starts in our schools.

“Interactive, engaging civic education has been found to boost young people’s interest in news and politics for years after graduation,” notes Peter Levine of Tufts University (see Mr. Levine’s article, “Teaching the Deeper Aspects of Civic Education” on page 37 of this issue). “It can also be good for them as individuals, enhancing their motivations to succeed in school.”

Democracy Prep makes civics not just interactive but authentic, engaging students directly in government at the local, state, and national levels. In addition to the annual get-out-the-vote effort, students travel to Albany and Washington, DC to lobby elected officials and they rally and speak at public hearings in New York City. A student cannot graduate from Democracy Prep without demonstrating a series of “applied civic skills” including volunteering, publishing a written opinion, engaging in advocacy or campaign work, and raising money for a cause the student believes in. “I don’t believe that civic education can only come from a book: it has to be authentic,” says Democracy Prep founder Seth Andrew, who has insisted that citizen-scholars leave school knowing how to pull the levers of power—and being inspired to pull them. In the process, students at Democracy Prep attain the same types of deeper learning competencies highlighted throughout the rest of the articles in this publication: they leave school with a mastery of content, can think critically and solve complex problems in their communities, will collaborate around and communicate their beliefs, and develop other skills and competencies essential to their success.

“Successful science courses need labs,” Andrew says. “Language courses need speaking practice and study abroad. A civic disposition comes from knowledge, skills, and expe-
riencing how power and influence are wielded.”

College-bound 12th graders take the “Advanced Civics Senior Seminar,” which is designed to be a final assessment of each 12th grade scholar’s readiness to fulfill the school’s mission once he or she has progressed beyond Democracy Prep’s walls. The format, structure, and expectations of the Senior Seminar “simulate those of the discussion-based humanities courses seniors should expect to encounter during their freshman year of college,” notes Benjamin Feit, a Duke University law graduate and deputy chief of staff at Democracy Prep, who designed and teaches the course. Scholars are assigned challenging weekly readings that explore core civic concepts and are expected to drive thoughtful classroom conversations based on their critical analysis of the texts.

Seniors must also complete a yearlong “Change the World” civics project. Among last year’s inaugural graduating class, one scholar created “Path to Citizenship” resources for non-native young people in the foster care system, like the scholar herself, whose journey brought her from Mexico to New York City. Another student focused on strategies to bridge the sometimes tense relationship between police and the community members in Harlem. Still another scholar, who lost her mother, focused on how to help young people come to terms with the trauma and grief of losing a loved one.

Democracy Prep has neither adopted nor created an explicit character education program. Efforts to create effective habits of mind and cultivate a civic disposition are “baked in” to classroom culture and school tone. In every classroom there are brightly colored banners touting the school’s “DREAM values” of discipline, respect, enthusiasm, accountability, and maturity. The importance of demonstrating these values is reinforced with even the youngest citizen-scholars, beginning in kindergarten.

The day before Election Day, Democracy Prep middle school scholars were poring over the positions of mayoral candidates on education, policing, and other issues. In a 7th grade social studies class, a teacher asked students to “turn and talk” to each other about which candidates’ views most closely mirrored their own, and to show evidence to support their views. “I support Bill de Blasio because he will end stop-and-frisk,” said one citizen-scholar to her seatmate, alluding to the controversial New York City police practice that proponents credit for reducing crime, but which opponents criticize as racial profiling and a privacy violation. “But he’s against charter schools and you go to a charter school!” her partner interjected. Students debated, offered evidence to support their views, and understood how the decisions voters must make seldom have easy or obvious answers.

Democracy is complicated.

For a reminder of what’s at stake at Democracy Prep—and for America—consider the kindergarten class at Democracy Prep Harlem Elementary School, which opened in September 2013 at the corner of Madison Avenue and 127th Street. Shortly after noon on Election Day, dozens of cheerful, giggly boys and girls, flanked by their teachers, marched out of their school in single file and lined up on the sidewalk, taking up nearly an entire city block. They shouted election-themed chants reminding passersby of their civic duty. They handed get-out-the-vote fliers to adults, who were clearly charmed by the infectious youngsters. Civic engagement starts early at Democracy Prep.

Now consider that these 40 children are among four million kindergarteners who arrived in the nation’s schools this September. Together they comprise the Class of 2026. If all goes well, they will finish their senior year of high school and graduate days before our nation’s 250th birthday, on July 4, 2026. A recent study showed nearly half of U.S. public school students are classified as low-income. Thus, our schools face the challenge of closing not only the black-white achievement gap, but an income-driven civic engagement gap. Schools serving low-income children of color, like Democracy Prep, are fighting a two-front battle.

“When we say our motto is ‘Work hard, go to college, change the world!’ we’re serious,” says Andrew. “It’s our scholars who will change our world. It’s our responsibility to give them all the tools they need to do so.”


In May 2012, the Legislature of the State of Maine passed LD1422 (Proficiency-Based Diploma), a law requiring that in Maine as of 2018 “graduation from a secondary school must be based on student demonstration of proficiency” in all state standards and in Maine’s Guiding Principals—which cover cross-curricular, “21st century” skills such as critical thinking, perseverance, collaboration, etc. Students—and school districts—would be held accountable for their learning, and not just their seat time. This was a big deal: a very focused piece of statute enacted on a very specific point of leverage in a state with a fierce tradition of local control!

In one sense, it was the end of a lengthy process that began in 1994 when the Maine legislature passed a law that made the State Board of Education responsible for setting goals for education in Maine. The State Board established a committee to develop learning goals for Maine students, and Maine’s Learning Results: Parameters for Essential Instruction were enacted into law in 1997. These Parameters constituted Maine’s first set of comprehensive, K-12 standards and performance indicators.

In another sense, it was also only the beginning.

When you are devising a policy and taking it on the long march through the policymaking process, the policy can come to feel like the end in itself. “If we can just get this passed, then everything will be okay.” This is a delusion. Possibly a necessary one, but a delusion nonetheless. Policy is important, even necessary, but it is woefully and profoundly insufficient. Without a comprehensive, agile, responsive, organic and adaptive approach to implementation, then the policy itself might as well not exist.

That’s the challenge we’re facing, and here are some ways we’ve addressed it.
In Maine it is axiomatic that a more proficiency-based/learner-centered system of education will lead to higher levels of learning for all students, and deeper levels of learning for all students. The challenge we’re facing is in helping our districts enact such a change in a way that is not only transformative, but also sustainable.”
—Nancy Perkins
Chair, Maine State Board of Education

Listening Tours

Shortly after his appointment in 2011, then-Commissioner Bowen began a well-documented listening tour of the state’s school districts. One purpose of the tour was to highlight excellent work being done in the field. Another was to gather district concerns. Themes that emerged were concerns about standardized testing requirements, enthusiasm about the Common Core State Standards, a desire for the state to have a “singular guiding vision for education in Maine,” and, of course, shrinking school budgets. Though any of these could have been predicted as probable concerns for the districts of Maine, the listening tour was symbolically and politically very important for forwarding the state’s goal of improving student achievement by moving toward a proficiency-based/learner-centered system. The districts had to be heard.

At the same time, the State Board was collaborating with many education and other groups to carry the conversation forward. These dialogues among the key stakeholders helped maintain the momentum for educational transformation.

Education Evolving

Upon completion of the listening tour, work began on a strategic plan for education in Maine. Consistently, in both the tours and in conversations with legislators and the State Board of Education, the Maine DOE was asked to stop moving from initiative to initiative, to decide on a set of priorities and to stick with them. In February of 2012, Maine DOE announced the release of Education Evolving: Maine’s Plan for Putting Learner’s First. The plan argues that five core priority areas should and would be the focus of the state’s education work in the years following. These five areas, and twenty indicators, are reflected in the graphic on page 45.

The importance of the plan was not just that it clearly stated what the Maine DOE would be focusing on in the coming years, but it also explained why. The plan laid out the case—pedagogical, economic, and moral—for its proposed system of school transformation.

Proficiency-based/learner-centered education is central to the plan. Of the twenty indicators in the graphic, 10 relate directly to proficiency-based/learner-centered education. These include the obvious: rigorous standards and aligned curricula and learner-centered instructional practices. But also others, such as communities of practice designed to foster improvement (absolutely necessary for any systems change), student voice and choice in demonstration of learning (the definition of “learner-centered”), and “anytime, anywhere” learning. All of these are systemic supports or pre-requisites to a genuine proficiency-based/learner-centered system. By promoting these—by advocating for them, and making the case for them—the Maine DOE is promoting higher achievement and deeper learning in Maine’s students.

“Center for Best Practice” and “Getting to Proficiency”

Education Evolving called for the creation of a DOE resource, the Center for Best Practice, “with a focus on learner-centered instruction, to serve as a clearinghouse of materials, support and case studies related to learner-centered instructional practices.” The site features five case studies of school districts that have made the shift to proficiency-based/learner-centered practices. The districts have a range of experiences, face a range of challenges, and have been at the journey for a range of times. Poland Regional High School (RSU 16), for example, was the first standards-based high school in Maine, opening its doors in 1999. RSU 20 (Belfast and Searsport) is only adopting proficiency-based policy this year, though Searsport District High School and Troy Howard Middle School, two schools in the district, adopted pro-
ficiency-based and learner-centered systems on their own years ago.

A sixth case study focuses on the Western Maine Education Collaborative, a group of eleven school districts that have joined together to collaborate and share resources (and professional development costs) in shifting to proficiency-based/learner-centered models. This case study is illustrative of the true goal of the Center for Best Practice, which is not to be a facile catalogue of one best practice or another. Rather, the Center for Best Practice strives to guide districts in achieving substantive systems change.

Conversations

On the Center for Best Practice is a set of short videos—around two minutes each—created by the Maine DOE to help illustrate and advocate for the shift to proficiency-based/learner-centered practice. The most effective videos involve the voices of students and teachers, but one is aimed at leadership and what is essential for success in this endeavor. The title of that video has become a mantra for our work: “One Conversation at a Time.” It has been our experience, as consultant Judy Enright points out in the video, that the mechanism for the change towards learner-centered work is conversation. How do you change?

One conversation at a time.
We’ve promoted these conversations in a number of ways. The Commissioner’s tours are an example of this. Also, Don Siviski, consultant on proficiency-based practice, has gone on the road to talk with groups of educators all over the state, a sort of proficiency-based/learner-centered circuit rider. At every event, after the presentation, there are educators who need further conversation in order to construct meaning around this profound change. More conversation.

Often, the conversation is already happening, and we’re just eager to participate in it. The Maine Cohort for Customized Learning is a collective of over 25 school districts, enthusiastically pursuing a learner-centered vision. We’re pleased to have a seat at their table to learn from them and to collaborate in their learning.

Occasionally, there’s a conversation that has to happen that we don’t see happening, and so we’ll bring it up. For example, the Proficiency-based Diploma law requires that students graduate when they have demonstrated proficiency in all content areas and in the Guiding Principles. The Guiding Principles are Maine’s expression of what some call “cross-curricular” skills or “21st century” skills. The Principles were an important part of the original work done by the State Board of Education and, recognizing the significance of these skills, the board has continuously supported them since their inception. While the Guiding Principles were first adopted in 1997, however, they’ve never been an explicit, assessed requirement for graduation. The Proficiency-based Diploma law required that the Maine DOE gather a group of practitioners together to develop assessments and assessment criteria around the Guiding Principles in a proficiency-based/learner-centered environment.

Getting to Proficiency

In addition to the Center for Best Practice, the Maine DOE has created a web site, Getting to Proficiency: Helping Maine Graduate Every Student Prepared, which focuses more specifically on helping districts prepare to meet the requirements of the Proficiency-based Diploma law. On this site is an array of resources helping a district to face challenges related to policy, practice, and community engagement. Most importantly, the site links to a self-assessment that districts can take. By answering 98 questions, districts can determine where their energies would be best spent in moving towards a proficiency-based diploma. Just as a proficiency-based/learner-centered system customizes the learning experience for students, the district self-assessment allows districts to customize their own transformation.

To use the language of Ronald Heifetz (Leadership Without Easy Answers, 1997), the shift to genuine learner-centered practice is an adaptive challenge rather than a technical challenge. We aren’t simply adopting a new, more efficient technique to do the same thing we’ve always done; we’re changing what the definition of school is. For many reasons (see Wagner’s The Global Achievement Gap, 2008), the industrial age structure of schools is no longer serving the needs of our society or our kids. It isn’t that our schools are broken. It’s that we need them to do something different than they’ve ever done before: promote high achievement and deeper learning for every student. The challenge facing Maine schools is not in simply figuring out what we ought to do, but how can we do it.

Don Siviski, formerly superintendent of Maine’s Regional School Unit 2, is a consultant for the Maine DOE on standards-based education. Gary Chapin is a Quality Performance Assessment senior associate at the Center for Collaborative Education in Boston.

This article had its origins in Mr. Siviski’s presentation on competency-based education at NASBE’s 2013 Annual Conference. Mr. Siviski, in consultation with the Maine State Board of Education, was then asked to contribute this article to the Standard.

The State Board of Education in Maine applauds the ideas expressed in this article about the need for a transformation in how we educate our students. The State Board in its legislated role has played an active, supportive role in the efforts to improve the opportunities for all students to achieve.

Siviski and Chapin rightly conclude that “the challenge facing Maine schools is not in simply figuring out what we ought to do, but how can we do it.” From the State Board’s perspective, the word “we” is very central to the Board’s belief that it will be through the collaboration of all our key stakeholders that “we” will provide for the success of the great work now being undertaken.

—Nancy Perkins, Chair, Maine State Board of Education Deeper Learning Study Group Member
deeper learning leads to deeper pockets

by David Rattray and Chris Mead

In the pursuit of prosperity for all, post-secondary education attainment means more than just better-paying jobs. In today’s economy, it could determine whether you even have a job. With so much at stake, the business community must partner with other key stakeholders to play a critical role in advocating for changes that actually prepare high school graduates for college and career.

America’s education system is our country’s operating system, and it needs to be constantly upgraded to meet the demands of our rapidly evolving world. Such a platform is critical to ensure economic growth, broadly shared prosperity, and innovation for the future.

Currently, however, there is an incredible mismatch—and a growing gap—between what students are learning in school and what they will need on the job.
Even now, in the midst of historic unemployment levels, 3.9 million jobs remain unfilled due to a lack of qualified applicants.

In today’s economy, being prepared for a career means having at least some post-high school education. It is reported that by 2020, 65 percent of U.S. jobs—almost two-thirds—will require some form of postsecondary education. Study after study shows other nations making necessary changes in their education systems to ensure that they capture their share of future opportunities. Acknowledging some regional exceptions, the United States is not.

The business community has long recognized the importance of preparing students for the demands of the job market, but the seismic shifts technology has brought to every industry requires different qualities, knowledge, and competences to be prepared for the 21st century workforce. Business leaders need employees who are innovative, analytical, and emotionally intelligent while also demonstrating the ability to apply skills and knowledge to solve complex problems.

The measurement of deeper learning through the implementation of the Common Core State Standards and next generation assessments will help prepare a globally competitive future workforce and economic prosperity for all. With a concerted effort, employers can support institutions and students as they transition to these new standards and assessments.

In the states where they are implemented with care and support, the Common Core State Standards will help many more students solve problems, think critically, collaborate, communicate and, above all, master core academic content. Cultivating these aspects of an “academic mindset” creates benefits beyond the classroom by helping ensure that we strengthen the preparation pipeline prospects for both workforce and college.

Research has shown that when students are required to apply knowledge, their understanding and retention are dramatically deeper. Upgrading our education system to develop and test for deeper learning skills will develop a strong workforce critical to our economic competitiveness.

In some areas of the country, there is hesitancy to uncover weakness in the education system and/or poor student performance. The next generation of assessments built around the new standards will provide more accurate information to teachers and parents about where students are excelling and where they need more development. The evaluation process built into the new standards will allow schools to face and deal with academic shortfalls by identifying where they exist. That comparative data may seem threatening to some, but it is also necessary because the Common Core State Standards are tied to real world requirements of the workplace and higher education institutions. Without having the requisite knowledge and skills, the chance for either college or workplace success is reduced.

The sad reality is that the United States has failed to provide high-quality educational opportunities to many students, particularly minorities and underserved populations. Given the reality of demographic trends, we won’t be able to meet workforce and community needs without improving equitable access to education attainment. The Common Core State Standards can make it more likely that these large segments of the population will have the deeper learning skills they need to succeed in both college and in the workforce.

In addition to securing employment, education has a very significant impact on income and career stability: the latest data from the U.S. Census Bureau shows that the average American with a college degree earns nearly three times more than a high school dropout. With nearly two-thirds of our economy driven by consumer spending, a rise in education attainment levels will boost purchasing power to the benefit of the entire economy.

A regional or state economy with proven, independent verification of future employee skill levels will be more appealing to employers looking for places to invest. And, specific industries are inevitably drawn to communities with specialized expertise—the kinds of applicable knowledge recommended under the Common Core State Standards.

Some opposition groups insist that the new standards constitute an over-reach by federal policymakers intent on establishing control over state education policy. However, the Common Core are standards, not a curriculum. They provide a common way for states to evaluate success
The National Research Council (NRC) of the National Academy of Sciences recently concluded that social and emotional learning (SEL) is an integral part of deeper learning that supports development of 21st century skills and knowledge and enhances the academic achievements that are so clearly linked with adult success. This article, based on the NRC’s *Education for Life and Work: Developing Transferable Knowledge and Skills in the 21st Century*, defines these terms in a way that clarifies the role of what is traditionally called social-emotional learning in developing these competencies.
- Examines the research on the relationship of deeper learning and 21st century competencies to later adult success,
- Discusses how deeper learning and the development of 21st century competencies have become integral goals of key subject areas (e.g., through the Common Core standards), and
- Looks at the instructional design principles, as defined by research, for teaching 21st century competencies within today’s curriculum.

**Clarifying Terms**

As a first step toward clarifying the meaning of the various terms used for “21st century skills,” the NRC committee identified three broad domains of competence—the cognitive domain, the intrapersonal domain, and the interpersonal domain—that are closely related in child and adolescent development. Based on its analysis of research-based classifications of human skills and abilities, the committee assigned clusters of more specific skills to each domain, as shown below:

- **The cognitive domain**, which includes thinking, reasoning, and related skills (cognitive processes and strategies, knowledge, creativity);
- **The intrapersonal domain**, which involves self-management, including the ability to regulate one’s behavior and emotions to reach one’s goals (intellectual openness, work ethic/conscientiousness, positive core self-evaluation); and
- **The interpersonal domain**, which involves both expressing ideas to others and interpreting others’ messages and responding appropriately (communication, teamwork and collaboration, leadership).

The committee defined “deeper learning” as a process that allows an individual to take what was learned in one situation and apply it to a new situation, referred to in cognitive science as “transfer” of learning. Through deeper learning, students
develop both content knowledge and skills in a subject area, including knowing how, when, and where to apply their content knowledge to a new problem or challenge. The committee referred to the blend of transferable knowledge and skills developed through deeper learning as 21st century competencies.

The Importance of 21st Century Competencies

To date there has been only limited research on the importance of students’ 21st century competencies in terms of adult success. Most of the research has established simple correlations between later success and one or more 21st century competencies, and only a few studies have established a causal relationship. Cognitive competencies have been more extensively studied than those in the other domains, showing consistent, positive correlations of modest size with positive adult outcomes. Among intrapersonal and interpersonal competencies, conscientiousness—being organized, responsible, and hardworking—shows the largest (but still modest) correlation with increased educational attainment and higher adult earnings. Anti-social behavior, which has both intrapersonal and interpersonal aspects, is negatively correlated with these outcomes.

The committee noted that in contrast to the limited research on the importance of particular 21st century competencies, a larger and stronger body of research shows that years of educational attainment are positively related to higher adult earnings, good health, and civic engagement.

It is clear that employers highly value individuals with more years of education, but it is unclear what blend of cognitive, interpersonal, and intrapersonal competencies individuals develop over the successive years that make them more productive and valuable—further research is needed to examine this question. More generally, the committee recommended further research to increase our understanding of the relationships between 21st century competencies and positive adult outcomes.

The Social & Emotional Dimensions of Deeper Learning

Deeper learning of concepts and procedures in the cognitive domain is closely intertwined with the development of competencies in the interpersonal and intrapersonal domains—a process often referred to as social and emotional learning. As defined by the committee, deeper learning reflects both the cognitive and socio-cultural perspectives on how people learn. From the cognitive perspective, deeper learning produces a network of concepts, facts, procedures, and strategies, including productive beliefs about one’s own learning—an intrapersonal competency. From the socio-cultural perspective, learning takes place as individuals participate in the practices of a community, using the tools, language, and other cultural artifacts of the community. As discussed below, empirical research supports the committee’s view of deeper learning as an integrated process of cognitive, social, and emotional learning.

Deeper Learning of School Subjects

The committee reviewed the Common Core State Standards in mathematics and English language arts (ELA) and the NRC Framework for K–12 Science Education (the Next Generation Science Standards had not been completed at the time of the study), and found that they all call for deeper learning and the development of 21st century competencies. Both the Common Core math standards and the NRC science framework include a “practices” dimension that calls for students to actively use and apply (i.e., to transfer) disciplinary knowledge, and the Common Core ELA standards call on students to synthesize and apply evidence to create and effectively communicate an argument.

The committee concluded that a cluster of cognitive competencies—including critical thinking, non-routine problem solving, and constructing and evaluating evidence-based arguments—was strongly supported in standards documents across all three disciplines. Coverage of social-emotional learning to develop intrapersonal and interpersonal competencies was uneven, but the standards documents for all three disciplines include discourse and argumentation, which involve both cognitive and interpersonal competencies.

The inclusion of cognitive, interpersonal, and intrapersonal 21st century competencies in these education standards documents reflects research demonstrating the importance of all three domains.
for mastery of school subjects. For example, feelings of self-efficacy about one’s own learning—an intrapersonal competency—have been shown to support learning of subtraction among elementary school students and learning of mathematics among low-income minority middle school students. In another example, researchers have found that instruction which focuses on content but also embeds development of self-regulated learning (another intrapersonal competency) has increased academic achievement in writing, reading, mathematics, and science among diverse groups of students from early elementary school through college. In the interpersonal domain, the development of interpersonal competencies improves learning by helping students forge positive relationships with teachers, peers, and parents. On the other hand, as noted above, persistent anti-social behavior over the elementary school years predicts a lower likelihood of completing high school and attending college and also predicts lower earnings in adulthood.

**An Example of Social-Emotional and Deeper Learning in Science**

The role of social and emotional learning in deeper learning of science is illustrated in a study by Herrenkohl et al. of a unit of science instruction where 3rd through 5th graders were investigating sinking and floating. Over a ten–week period, students worked in small groups to carry out a series of investigations to help them understand when and why various objects float or sink. Students’ investigations were carefully supported to promote reasoning practices in science and were also interspersed with teacher-guided whole-class discussions in which students gained experience communicating, monitoring, and critiquing their own thinking and the thinking of their peers as they developed, tested, and evaluated theoretical explanations for the phenomena they were observing.

The teaching and learning activities required students to develop and apply competencies in all three domains. In the cognitive domain, they learned to apply explicit reasoning and planning strategies for designing, conducting, and interpreting their investigations. Their notions of scientific theorizing and their ability to engage in it evolved significantly, as did their conceptual understanding of the phenomena of floating and sinking. In the interpersonal domain, the students became better able to monitor their thinking and recognize when their ideas were or were not well developed or justified. In the interpersonal domain, they became more comfortable with scientific discourse, learning not to become defensive when questioned by peers, and learning the norms and expectations for scientific reasoning and discussion.

**Teaching Cognitive, Interpersonal, and Intrapersonal Competencies**

Cognitive research over the last several decades has identified instructional design principles for developing transferable competencies, and the committee recommended that instruction aligned with these principles should begin with the earliest grades and be sustained throughout students’ K–16 careers. Designers and developers of instruction should begin with clearly delineated learning goals and a model of how learning is expected to develop, along with assessments to measure student progress toward—and attainment of—the goals. Instruction should help learners understand the general principles underlying specific examples and emphasize not only content knowledge, but also how, when, and why to apply this knowledge. In addition, the committee recommended that instructional designers incorporate these research-based teaching methods:

- Use multiple and varied representations of concepts, such as diagrams, numerical and mathematical representations, and simulations, along with support to help students interpret them.
- Encourage elaboration, questioning, and explanation—for example, prompting students who are reading a history text to explain the material aloud to themselves or others as they read.
- Engage learners in challenging tasks, while also supporting them with guidance, feedback, and encouragement to reflect on their own learning processes.
- Teach with examples and cases, such as modeling step-by-step how students can carry out a procedure to solve a problem while explaining the reason for each step.
- Prime student motivation by
connecting topics to students' personal lives and interests, engaging students in problem solving, and drawing attention to the knowledge and skills students are developing and their relevance rather than focusing on grades or scores.

- Use formative assessments, which continuously monitor students’ progress and provide feedback to teachers and students for use in adjusting their teaching and learning strategies.

More recently, research has focused on social and emotional learning programs that primarily target development of interpersonal and intrapersonal competencies (these programs often include some academic content). Meta-analyses of many studies of in-school and after-school social and emotional learning programs have found that these programs positively affect both interpersonal and intrapersonal competencies as well as academic achievement. Researchers have identified four practices thought to work together to enhance the effectiveness of such programs: a) using a sequenced, step-by-step training approach; b) emphasizing active forms of learning, so students can practice new skills; c) focusing specific time and attention on skills training; and d) clearly defining goals, so students know what they are expected to learn.

The committee compared these practices with the instructional design principles discussed above and identified some similarities and areas of overlap. They concluded that the principles shown to support the acquisition of transferable cognitive competencies might also be applied to instruction supporting the attainment of intrapersonal and interpersonal competencies. However, further research is needed to test this hypothesis.

**Next Steps for Research and Policy**

Because 21st century competencies support academic achievement, their widespread acquisition could potentially reduce disparities in education attainment, preparing a broader swathe of young people for success in work and other areas of life.

However, important challenges remain in two major areas. First, research and development is needed to a) create and evaluate new curricula based on the research-based instructional methods described above, and b) find valid ways to assess cognitive, intrapersonal, and interpersonal skills so improvements can be accurately measured. Second, at the level of education systems and policies, new approaches to teacher preparation and professional development will be needed to help instructors acquire a deep understanding of the role of 21st century competencies in learning core academic content and create environments that support students’ learning of these competencies.

To help address these systemic issues, the committee recommended that states and the federal government focus policy attention on the following areas:

**Curriculum:** Funding agencies should support the development of curricula and instructional programs that follow the instructional design principles and research-based teaching methods outlined above.

**Assessment:** The extent to which teachers focus on helping students develop 21st century competencies will be strongly influenced by the degree to which these competencies are included in district, state, and national assessments. States should work through the two Common Core assessment consortia funded by the U.S. Department of Education to ensure that the resulting assessments—as well as those that are developed based on the new science standards—include tasks that call upon 21st century competencies as applied in English language arts, mathematics, and science.

**Accountability:** When reauthorizing the Elementary and Secondary Education Act, Congress should support the systematic development, implementation, and evaluation of educational interventions to facilitate deeper learning and the development of 21st century competencies.

**Teacher Education:** The states should lead development and implementation of new approaches to teacher preparation and professional development to help current and prospective teachers understand how to develop students’ 21st century competencies in the context of mastering core academic content.

Margaret Hilton is senior program officer at the National Research Council.


Kenneth Mason is a member of the Georgia State Board of Education. He is director of Urban Initiatives for the Southern Regional Education Board as well as a founding board member and advisory council chair for KIPP Strive Academy. Here, Mason discusses the implications of deeper learning for the work of his state board.

Have you seen a rise in demand for deeper learning competencies in Georgia? How are business and higher education talking about this?

Definitely. The state has been progressing toward more focused and performance standards and has been moving in that direction for the last 10 years. The transition from our previous Quality Core Curriculum Materials to Georgia Performance standards marks a change in our educational philosophy and a change in the state’s approach to the modern world. Through the adoption and implementation of the Common Core State Standards and performance standards, Georgia has really been emphasizing what students can do with knowledge. At the classroom level, this shift to performance implies differentiation and personalization.

As far as business and higher education are concerned, we’ve worked with our university system to think about what college and career means, along with thinking through the careers students need to be ready for. Georgia’s College and Career Readiness Performance Index includes a lot more than academic standards. For example, I advocated for the inclusion of pathways and earning a national certified industry credential as part of the accountability system.

How has this reached the state board, and how has the board responded?

There’s been lots of attention given to this issue by the board. It includes the Performance Index accountability system and the standards I mentioned above. What I especially like here is that with the index you get bonus points for exceeding the minimum bar. Additionally, we’ve been working on a lot of things, including technology and access to technology, that promote deeper learning, integrated math instruction, and competency-based education. And what I’m most excited about is our initiatives around STEM. If you do STEM right, you can’t help but create a process that reinforces critical thinking and problem solving.

I’ll bring some of the content back to my board, like what I learned about competency-based education and personalized learning. More importantly, I’m going to take the experience of the study group itself back. The presentations themselves were really helpful. For example, during the sessions, the presenters used sentence stems rather than lecture, and I think it created a high-quality learning experience. I got to experience what high-quality practice looks like, which isn’t always the case in professional learning opportunities. And the sessions allowed disagreement and creative thought.

Another great presentation that struck me was one by Ivory Tolston, who talked about dispelling the myths in terms of equity, saying all children can learn and meaning it when we say deeper learning.

Lastly, I heard how policies and implementation were progressing in different states. I’m more humble when I get back to Georgia because some people are doing more with less. At the same time, I can feel proud that we’ve had some of the difficult conversations in the state. My participation in the study group has been a good barometer for what is possible in Georgia, and I know our actions are fitting the recommendations of the group.
Georgia has an appetite for types of schools that promote this learning, looking at the ways students live, and who they are. Through the study group, I’m able to pool research and examples from other board members and know how to apply it in Georgia. Sometimes things get lost in policy and politics. This helps focus me.

Are there some “low-hanging fruit” actions boards can consider with regards to promoting deeper learning?

Yes. Share resources and innovative practices, share the research and practice. Georgia can be doing a much better in this area. Some of our schools are doing a good job sharing information on really important things on social and emotional learning and student engagement. The state could do a much better job helping to facilitate that. The Department could do a better job communicating how to use some of the things we have in place. We have an instructional technology advisory committee that has a model classroom at the Department of Education that helps model different ways of learning. The state can keep building on this infrastructure to share information.

What is the barrier that concerns you most in meeting the goal of significantly more students engaging in deeper learning?

Buy-in and ownership. We need to include more people in the conversation. Beyond that, you can’t close your eyes to poverty. That’s the biggest obstacle I’m seeing out there to deeper learning: there is a large group of students and families who are going to be left behind. How do we give them high level remediation so they cannot only catch up, but thrive? How do we make sure the techniques of 21st century teaching are used with those students as well? Georgia had a huge success in dropping low-level courses. We saw those courses weren’t affecting achievement at all. Some remedial strategies don’t excite students and don’t meet them in terms of their interests. The types of strategies that promote deeper learning have to be applied in your neediest schools.

Beyond that, the conversations on deeper learning need to take place in a real way during the transitions, when students transition from elementary to middle and middle to high school. We need to have more collaborative conversations on what we teach and how we teach at these transitions. We need to be promoting healthy transitions and move away from structural, political, and territorial boundaries that hold students back.

What do you see as the greatest points of leverage for deeper learning that boards can utilize?

Boards can do much more in terms of advocacy and promotion of deeper learning practice. We need to have discussions among ourselves as a board, but also discuss it with the governor’s office, legislature, and others. We need to have these conversations. It’s a great leverage point.

Beyond that we need to gather more evidence through data, both practice and anecdotal. Every state agency has some great thinkers. Board members can have the chain of command in mind, but also interact with them.

One of the issues the study group discussed was the need to keep policies and education systems nimble to be able to more quickly respond to changes in technology, demographics, the economy and work place, and the amount of knowledge we are gaining about the learning process. Given that in a democracy the work of boards and legislative bodies is usually deliberative (not to say “slow”) and that education systems are very complex, what do you see this “nimbleness” looking like?

Being courageous to affect the necessary changes to benefit those a policy affects most. Boards must be okay with changing course, because around every corner there may be a new challenge that students have or new needs at the national picture. We need to be mindful of policies and practices outside of our own neighborhood. Think beyond the borders of Georgia. Learn from different communities and then apply it. We have access to best practices from all over. At the same time, because boards change, we need to have a voice for those groups that are affected most by policies, such as new families and new parents. As board members, we have to be open to the beliefs of those who disagree with us. Every board meeting is open to the public, and we want to encourage them to come in. People can be part of the process.

Any parting thoughts?

I think we need to be more aware of the mental health concerns of young people. And we should invest more in thinking about how deeper learning affects students with special needs, which is something that often gets left behind.
Bane was a seeker of deeper knowledge. Often, when he probed the class on an issue, he didn't have the answer himself; he was still looking. And though he didn't admit that openly, I think we students implicitly understood—and respected—that we were all on this journey together. And as an aspiring teacher I was particularly in awe because as we probed and searched and actually had many of the students sitting up and engaged, Mr. Bane could usually connect the discussions back to the themes in the books and stories we were reading. Then a little gleam would appear in his eyes that I imagined was saying, “Got you! Yes, we are still in an American lit class and you were actually enjoying it.”

Sadly for the Minneapolis school system, Mr. Bane only lasted five or six more years in the classroom. Was it teacher burnout? I don't know. In his search for deeper meaning, he journeyed to the Southwest where he immersed himself in the culture of one of the Native American tribes living in the area. But on the way he had enriched the lives of thousands of students. There wasn't yet a name like deeper learning for what he was doing. It was just great teaching. And now that we do have a name (and even expanded the definition to reflect the 21st century skills that were just emerging back in my high school days), it’s perhaps become something that's easier for us to aspire to as we take our students—and ourselves—on the learning journey. —DK

and identify areas that require attention, not prescriptive rules about how to fund or teach. And, they offer the operational upgrade of applied knowledge, which has been notably absent from K-12 education in America.

Businesses are more than simply demanding customers of an education system. Employers recognize that their community and business success will rest, in large part, on the capacity of the next generation to compete in a global economy. Seeking and nurturing meaningful partnerships between the business community and education stakeholders just makes sense.

If employers come together as they’ve done recently in Dayton, Ohio, where they are working with school officials to create a STEM high school, the importance of applied learning can be demonstrated and the community can position itself for new business investment.

When the drive for education quality arises simultaneously from chambers of commerce and educators, as it has in Knoxville, Nashville, and other Tennessee cities, creative solutions to long-standing challenges are identified and tackled. Mentoring programs, new progress evaluation tools, and other approaches are yielding results in relatively short timespans.

Philanthropic, business, and educator interests have come together in Omaha, Kalamazoo and other communities, resulting in reduced drop-out rates and increased college ambitions for high school students.

Nationally unique approaches to troubled urban schools in Milwaukee, an increased focus on potential Hispanic applicants to college in Los Angeles, and many other case studies around the country prove that employer and educator goals are not in conflict.

To education policymakers, we ask that you make sure the business community is at the table as you develop college- and career-ready standards or devise new ways students can demonstrate they are ready for the next phase of their education and the workplace.

To the business community, we urge that you get involved in education in meaningful ways—at the local level, for example, by creating internships, work-study opportunities, or other ways that give students real-world educational experiences; and at the state level, make sure policymakers and the public know that the business community supports efforts to bring deeper learning standards and instruction to all students.

Together, we can help ensure students have the deeper learning skills they need to succeed in their careers and enhance our country’s economic competitiveness and future prosperity.

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