



# AMERICAN Educator

A QUARTERLY JOURNAL OF EDUCATIONAL RESEARCH AND IDEAS

A watercolor-style illustration of a large, leafy tree in a grassy field under a blue sky. Several small brown birds are perched on the branches, and one bright blue bird is flying in the sky to the right.

## The Most Daring Education Reform of All

*For over a century, educational fads have hindered efforts to deliver what our youth really need— an education filled with works of lasting beauty, knowledge of past and present, and skills of personal and professional significance.*

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**A Better Way to Teach Skills**

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## 4 The Most Daring Education Reform of All

BY DIANA SENECHAL

As long as there have been public schools, there have been reformers of public schools. All too often, they have insisted on sweeping changes; enamored of their bold, new idea, they haven't considered whether anything established ought to endure. The result? A century of faddish ideas, but little real progress. Among today's most vocal reformers are those calling for 21st-century skills throughout the K-12 curriculum. While a national discussion of how to increase students' skills is warranted, a rush to toss out traditional pedagogy and content is not. Senechal writes, "To make changes thoughtfully—to keep the layers of past and present in everything we do—may be the most daring education reform of all." If we so dared, we could commit to the civic, individual, and economic goals of education, embrace the benefits of traditional and innovative pedagogy, and pair enduring content with important skills.

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A Union of Professionals

**RANDI WEINGARTEN**  
President

**ANTONIA CORTESE**  
Secretary-Treasurer

**LORRETTA JOHNSON**  
Executive Vice President

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**LISA HANSEL**  
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**JENNIFER DUBIN**  
Assistant Editor

**JENNIFER BERNEY**  
Production/Editorial Assistant

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Editorial Assistant

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Graphic Designer

**JANE FELLER**  
Copyeditor

Cover Illustration by Enrique Moreiro

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# The Profession Responds

I read with real interest Secretary of Education Arne Duncan's article "Elevating the Teaching Profession," in the Winter 2009-2010 issue of *American Educator*, hoping to see support for teachers overwhelmed by today's politically driven testing mania, and by state and local administrative efforts to strip experienced teachers of their well-earned salaries and tenure, all in the name of test-determined "student progress." It came as no surprise to me that Secretary Duncan referred to his past position as "CEO of the Chicago Public Schools," since his views on teacher evaluation parallel what most administrators offer as the main solution to improving student progress: fix the teachers. And fix them by threatening their tenure, salaries, and even certification yearly, depending on how well they can impress state and local administrative evaluators and off-site testers. I wonder how long legislators would retain their jobs and salaries if they were evaluated yearly on how well people obeyed the laws they passed. This is how teachers feel about being held accountable for student performance on tests originated by people who are not in the classroom.

I work in the only middle school in a county with one of the highest unemployment rates in my state, Indiana. For 19 years, I have struggled to overcome barriers to learning like generational poverty, gang influence, drugs, and lack of parental interest or support. If the students in my eighth-grade English class learn to read more fluently, speak more effectively, and write more coherently, then I feel they have been successful and have shown "progress." This also, I feel, makes me an effective teacher. But the mania for "data-driven education" that afflicts the nation from Secretary Duncan down to local administrations has turned my classroom and my own instruction largely into mere test-prep and proctoring, with "remediation" on standards not yet "mastered" according to the tests.

I could use many different, more versatile assessments to determine student progress and adjust instruction individually

Secretary Duncan attempts to allay the fears of teachers about his proposed changes to evaluating them, even though he scoffs at the fact that "more than 95 percent of teachers are rated as good or superior, even in schools that are chronically underperforming."

Most teachers enter the classroom believing that they can improve the minds of their students, and many succeed. However, the Secretary states categorically "that the single biggest influence on student growth is the quality of the teacher," a position he supports with overstated anecdotes, like recalling the teacher who taught you to "write like a novelist." Though true at times, such outcomes are not representative. More importantly, such exaggeration is a denial of decades of educational research

that has documented that the socioeconomic and educational level of a student's parents has been the stronger force on and more reliable predictor of student achievement.

In a large and diverse country like ours, with innumerable institutional, cultural, and social variables, how can a fair evaluation be imposed from a federal office? Considering the farcical evaluation schemes and underfunding of the current federal school improvement plan, "No Child Left Behind," many teachers have serious reservations about trusting the Department of Education again.

**-JOE WOJTYS**  
Lowrey Middle School  
Dearborn, Mich.

I completely agree with Secretary Duncan that "it's time, once and for all,

and meaningfully, since I am the classroom teacher. But my students "progress" will not be measured by what I can determine, but by what the tests determine. The calls to tie test success to teacher evaluation are becoming more strident. As we see from Secretary Duncan's article, he favors linking salary, tenure, and even certification to administrative evaluation, including student "progress" as one of the principal benchmarks. Unless teachers are treated with respect and trusted to evaluate student progress, then I don't see our profession being "elevated" at all. I see us being reduced to drudges who answer only to the siren call of high test scores, not the needs of our students.

I approve of standards-based instruction because it gives teachers a clear focus for planning, teaching, assessments, and reteaching. But if politicians and administrators really want students to become prepared for tomorrow's workforce, which will require flexibility, innovation, creativity, and collaborative problem solving, then they need to trust the classroom teacher and give him or her support through professional development, adequate materials, and instructional freedom.

**-DAVID W. BURKS**  
Connersville Middle School  
Connersville, Ind.

to make teaching the revered profession it should be." However, I disagree with several of his premises.

For example, I have a problem with the general thinking that because teacher preparation is often "inadequate" and professional development is often "inadequate," teachers cannot adequately do their jobs. Most teachers put in huge amounts of time outside of school to prepare lessons, grade papers, and help their schools improve. We elevate *ourselves* through our sincerity and work ethic.

My teacher preparation and professional development experiences have been more than sufficient, and often outstanding. I get out of it what I put into it. I work long, hard hours every day to bring rich content and scaffolded skill



development to my students. I serve on the school improvement team and numerous other committees. And I continue to improve my craft from year to year while teaching and learning environments, and schools themselves, continue to decline.

So, what is the problem? In my 9th- through 12th-grade classes, I'm given students who are three to five years below grade level. They were promoted to high school based on their age, not their knowledge and skills.

I suggest we get back to basics: Let's follow a national core curriculum in science, arts, world languages/cultures, mathematics, reading, and writing, with rich content. Let's read the research on cognitive development. Let's eliminate the K-12 structure based on age, and create levels of mastery in which, to pass from one level to the next, a student must demonstrate proficiency (through a rigorous verbal and written examination by a panel of teachers and parents, including the child's own parent) with 90 percent of the knowledge and skills in his or her current level.

If you want to "revere" the teaching profession, listen to what I have to say about how I am teaching and reaching many of my students, and also what I have to say about the students I'm not reaching. You can elevate us by revering us for what we do in the classroom every day. If you want results, change the model. Teachers are not the problem. Teachers are dedicated to all students being successful. We are ready to meet the challenges we are faced with. Why don't we focus on building effective schools, creating a national core curriculum, and developing mastery-based criteria for grade-level promotion instead of trying to fix the teachers? We teachers will be able to do a much better job if we are provided with the tools and conditions to succeed.

—MICHAEL L. WERTH  
Textron/Chamber of Commerce Academy  
Providence, R.I.

Arne Duncan tells us that exemplary teachers, by his definition, "shell out of their own pocket to pay for supplies." This is not a revelation to anyone who knows a teacher. To say that it is part and parcel of being an exemplary teacher, without any critique that this happens in the richest

country in the world, is a travesty.

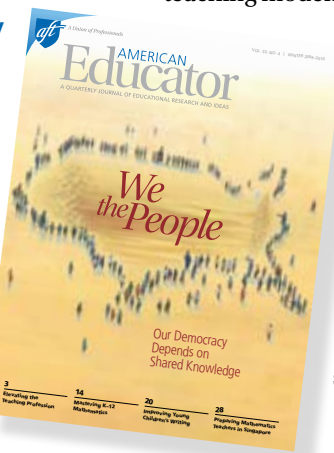
Duncan goes on to say that the way to uplift the profession is through changing compensation and basing it on merit. I suppose this is how the exemplary teachers who shell out their own money will finally be reimbursed. Duncan says that public education is stuck in a factory model. That may be true. But his remedy of corporate competition promises to set back the struggle for public education in this country. We in the American Federation of Teachers should not buy into it. This is not my idea of what it means to be a union teacher.

—GARRET VIRCHICK  
Coeditor of *Boston Union Teacher*

## Education for Democracy

Thank you for featuring E. D. Hirsch, Jr.'s views in "Creating a Curriculum for the American People," in the Winter 2009–2010 issue of *American Educator*.

Education today is so much on the side of the progressive anti-curriculum movement that I did not expect your journal to dare mention Hirsch's opinions. When Hirsch described how his course on cultural literacy was opposed in his own university, he got off easy. There are cases where people lost jobs or were forced to take sensitivity classes just because their views were deemed anti-progressive.



—LOI AN LE  
P.S. 179  
Brooklyn, N.Y.

Perhaps E. D. Hirsch, Jr.'s Core Knowledge curriculum project offers some hope that the singular focus on higher-order thinking over basic knowledge in elementary curricula has run its course—but I doubt it. There's too much momentum and too many educational policymakers behind the high-minded notion that we can teach kids to run before they can walk. The pie-in-the-sky emphasis on thinking skills rather than core knowledge does the most harm to our neediest kids whose future success lives or dies with what we give them in elementary school.

—MATTHEW FRISCH  
P.S. 163  
Queens, N.Y.

## More on Math?

I found Hung-Hsi Wu's article on teaching elementary mathematics fascinating ("What's Sophisticated about Elementary Mathematics?" in the Fall 2009 issue), and I agree with his proposal to bring specialized teachers to grammar school. I would appreciate a discussion of how this might be developed further. Perhaps it's time to consider a more sophisticated structure, where children have a "homeroom" teacher and peers, but specialized instruction throughout the day.

In the 1970s, I attended a grammar school that experimented with alternative teaching models. We had team teachers

for the lower grades, and flexible walls that allowed students to move from room to room, and to join with other classes. It was a wonderful educational experience, and I was sorry when I was moved to another district with a standard teaching structure.

—DINA CIRAULO  
City College of San Francisco

While I agree that our teachers need to become more skilled mathematicians themselves before they can do a proper job of educating young minds on the subject, I think you should address something a bit more pressing: we are teaching far too many topics each year. The notion of "coverage" ensures that understanding is compromised and real learning does not take place. We cover almost three times as many topics as schools in Japan.

—KRISTEN DiRE-DEHLER  
Washington Street School  
Franklin Square, N.Y.

## Editors' reply:

We agree and are pleased to direct you to two articles by William H. Schmidt that address this problem: "What's Missing from Math Standards? Focus, Rigor, and Coherence" in the Spring 2008 issue, and "A Coherent Curriculum: The Case of Mathematics" in the Summer 2002 issue. Both are available at [www.aft.org/newspubs/periodicals/ae/issues.cfm](http://www.aft.org/newspubs/periodicals/ae/issues.cfm).

# The Most Daring Education Reform of All



BY DIANA SENECHAL

**I**t is an old story, a worn deck of words: reformers insist that traditional schooling has failed and that only a new approach can save us. John Dewey wrote in 1899 that “it is radical conditions which have changed, and only an equally radical change in education suffices.” He characterized the traditional classroom as “rows of ugly desks placed in geometrical order,” all made for listening, which meant “the dependency of one mind upon another,” or “passivity, absorption.”<sup>1</sup> Over the past century, many reformers have disparaged whatever preceded their propos-

*Diana Senechal taught English and theater for four years in the New York City public schools and previously has worked in editing, computer programming, and counseling. Her translations of the Lithuanian poetry of Tomas Venclova have been published in two books, *Winter Dialogue and The Junction*, as well as numerous literary journals. In 2009, she served on the English Language Arts Work Team for the Common Core State Standards Initiative. Her education writing has appeared in *Education Week*, the *Core Knowledge Blog*, *Joanne Jacobs*, *GothamSchools*, and the *Washington Post’s Answer Sheet*. She is currently writing a book on the loss of solitude in schools and culture.*

als, be it the public school system as a whole, a literature curriculum, the teacher standing at the front of the room, or the use of the blackboard. The old ways have to go, they say; to keep them is to cling to failure. In demanding an overhaul, these reformers echo an old American theme: a longing for a new country, a new life, a new structure, a new faith, a new solution, a new invention, a new technology, a new self. They partake in an American tradition without heeding history or tradition; they glorify the new because it is new, while disparaging the old because it is old. Often their “new” reform is not new at all, nor are the “old” practices obsolete. Nonetheless, they brandish jargon, break apart schools, toss out curricula, and proclaim the superiority of their plans, chaining education to passing fashions without considering what should endure.

In recent years, some particularly vocal reformers have demanded that we infuse all learning with “21st-century” skills; like their predecessors, they clamor for newness. The 21st-century-skills movement consists of a loose association of educators, policymakers, government leaders, business and technology firms, and others. Citing changes in the global economy and national job market, they call for an emphasis on 21st-century

skills in all of education, from elementary school through college. These skills (all of which existed long before the 21st century) include broad concepts such as creativity, innovation, problem solving, communication, collaboration, teamwork, and critical thinking, as well as media and technology literacy, financial literacy, health literacy, and global literacy. Leading the charge has been a coalition called the Partnership for 21st Century Skills (P21), whose membership organizations include Adobe Systems, Apple, Dell, Hewlett-Packard, Microsoft, and Verizon. P21 argues that “every aspect of our education system ... must be aligned to prepare citizens with the 21st century skills they need to compete.” Accordingly, it offers schools, districts, and states “tools and resources to help facilitate and drive change.”<sup>2</sup>

Technology figures large in the 21st-century-skills movement, but technology itself is not the problem. It is a reality of life, and in one form or another it has always surrounded us. Having worked as a computer programmer and electronic publisher, having developed an interactive database for my former school, having recorded and mixed songs on my computer, having stayed up many a night to get a program right, I know how intriguing and promising technology can be. But having wasted many hours on the Internet, I also know how it can distract. Technology should be a tool at our disposal; it should serve rather than hinder us. When states and districts heed reformers’ calls for technology in all grades and subjects, this leads to situations where teachers must use technology in class, whether or not it serves the lesson well. The problem lies in the reformers’ haste and dogmatism.

Far too often, the 21st-century-skills argument carries a tone of urgency, even emergency: We no longer live in a world of books, paper, and pen. Children grow up surrounded by digital media. They can communicate with peers around the world; they can find obscure information in seconds. Yet they are unprepared for the jobs of today. We still treat them as passive recipients of knowledge; we still drill them on facts that they could just as easily Google. If we do not act now, we will lose our global competitiveness—so everyone who cares about our future should jump on board. Employers need people who can create, solve problems, work together, use technology, and think critically. We must make our students critics, innovators, and team players; we should teach them to communicate in the broad sense of the word by infusing their coursework with blogging, recording, filming, texting, collaborating, and tweeting.

Proponents of 21st-century skills often assume that the schools’ primary objective is to meet the demands of the day—including the demands of the workplace and transient fashions. Even the movement’s most reasonable and thoughtful proponents sometimes share this assumption. In his report *Defining a 21st Century Education*, Craig D. Jerald acknowledges the importance of a traditional core curriculum yet places overwhelming emphasis on employers’ demands. In *The Global Achievement Gap*, Tony Wagner seems at times oblivious to the deficiencies\* of the schools he praises (and their notable similarities at times to the very schools he chides).<sup>3</sup> Yet both authors deserve credit for steering clear of the movement’s excesses. Too often, the champions of the move-

ment laud the liberal arts in the abstract, but make practical suggestions that trivialize subject matter. P21 suggests that students engage in projects such as making an audio commercial for a favorite short story, devising a business plan for selling snacks, or creating an online game to expand younger students’ global awareness.<sup>4</sup> (For several more examples of teaching suggestions from P21, see page 6.) P21 claims to support “mastery of core academic subjects” but disregards the structured study, discipline, and concentration that such mastery entails.

As Diane Ravitch has shown (see page 12), there is nothing new about the proposals of the 21st-century-skills movement. They echo progressive ideas of the past 100 years. Since the late 19th century, progressives have demanded that education be more

**At its fullest and best, education prepares us to be with others and apart, to enjoy the life of the mind, to survive and prosper, to bring up new generations, to act with integrity and conscience, to pursue useful and interesting work, and to participate in civic and cultural action and thought.**

immediate, useful, and relevant, with more attention to hands-on activities and less emphasis on formal academic study and explicit instruction. While some of these ideas, taken in moderation, have the potential to enhance a curriculum, reformers have often carried them to extremes, forsaking intellectual study in the name of “real life.”<sup>5</sup> In 1898, Dewey wrote that systematic reading and writing instruction was rendered unnecessary by “the advent of quick and cheap mails, of easy and continuous travel and transportation, of the telegraph and telephone, the establishment of libraries,” and other changes. The schools’ “fetich” [*sic*] for reading and writing instruction was a hindrance, he said; “the claims of



\*Wagner describes a visit to an integrated math, science, and technology class, where ninth- and tenth-graders work in pairs at rectangular tables. They have “two worksheets that contain perhaps twenty examples of four different ways to represent a mathematical relationship: words, equations, table of values, and graphs. But the examples are all out of order. Their task is to match up the correct equation, table of values, word description, and graph that all represent the same numerical relationship” (page 246). Wagner praises what he sees here, but the activity involves matching up items on a worksheet, much like the activities he disparages (see pages 50–51 and elsewhere). One might argue that, in this case, the activity helps students see mathematical relationships in different ways—but it is not clear that they know how to work with these mathematical relationships or even that they spend much time on math.

the present should be controlling.”<sup>6</sup> The mantra of the “claims of the present” has been repeated so often that we must ask: Is it perhaps in the nature of a good education to be slightly out of step with the present? Could it be that in order to endure, an education must be unfettered by the times? Is it possible that the claims of the present—which we often cannot accurately identify—should *not* be controlling?

Perhaps so. Efforts over the decades to bring schools up to date have not worked as intended. They have met with resistance or obstacles; they have caused losses; they have missed the mark. Of course schools should teach critical thinking, problem solving, and other skills; they should help students master new technologies that can further their intellectual development. But they cannot do any of this without a foundation. When hyperbole goes unchecked, the reform loses sight of the complements it needs.

Reformers forget, for instance, that knowledge enhances the very learning process in a number of ways, as Daniel T. Willingham and other cognitive scientists have found.<sup>7</sup> They forget that fluency in the fundamentals allows students to engage in inquiry. They forget that content is not simply dry matter; it has shape and meaning; it is the result of centuries of critical thought and the basis for future critical thought. To neglect to teach our intellectual and cultural traditions is to limit the kind of thinking that students will be able to do throughout their lives.

**W**hat would our schools gain by embracing 21st-century skills, and what would they lose? It is the loss that deserves special attention, as the 21st-century reformers, in their euphoria, have seen only gain in their plans. The gain is possible, but only if we put the

## What Does—and What Should—P21 Advocate?

*As Diana Senechal explains (see page 4), the education field is replete with faddish reform ideas. Of course, change is essential. Without it, we can't make progress. But not all change is progress—and some changes hinder progress. This is the reality that the 21st-century-skills movement must face head-on. When we look back 5 or 10 years from now, will this movement be a faint memory, another fad that temporarily got in the way of serious educational improvement? Or will it be remembered as the catalyst for tackling tough issues like the achievement gap?*

*This movement does have the potential to spur real progress. Look at the initial success of the Partnership for 21st Century Skills (P21). It has the backing of several major corporations*

*as well as influential politicians and educators. But success with students is far from guaranteed. P21 has vocal critics concerned not with the organization's rhetoric, which includes plenty of calls for content plus skills, but with its actual lesson suggestions for teachers. By and large, the critics say, these lessons are much too light on academic content and much too heavy on skills of questionable value.*

*So the real debate seems to be not about skills versus content, but about the content itself. For example, everyone acknowledges that to develop critical thinking (which seems to be the most sought-after ability), students must have something to think about. What they don't agree on is this: should the content be traditional liberal arts content, or just anything that makes students think? Fortunately, over the past several decades, in hundreds of studies, cognitive scientists have answered this question. Simply put, unless one reaches true expertise (which comes after many years of intensive, post-graduate study and experience), skills do not transfer from one content area to the next. So, in order to think critically about a particular topic, students must study content directly related to that topic. (For more on this, see page 17.)*

*This doesn't resolve the debate, but it should shift our discussion. Clearly, just any content that makes students think will not do. If students can only think critically about topics they have actually studied, then selection of*

*content is of the utmost importance.*

*Here, Lynne Munson and Laura Bornfreund of Common Core initiate a discussion about content that they hope will play out in schoolhouses and statehouses across the country. Common Core, a nonprofit dedicated to the liberal arts, has been an outspoken critic of P21, which is reflected in the first part of the sidebar where Munson and Bornfreund compare some of the lesson suggestions from P21 that they find troubling with much more rigorous content taught in high-performing countries. In the second part of this sidebar, Munson and Bornfreund take on a different task: they present a handful of lesson ideas from P21 that could enhance studies of academic content. After all, everyone supports teaching content and skills—we just need to be determined and energetic enough to develop examples that we all agree are worthy of classroom time. That work will decide whether the 21st-century-skills movement becomes a driver of real improvement or just another fad.*

—EDITORS

**BY LYNNE MUNSON AND  
LAURA BORNFREUND**

**“While American students are spending endless hours preparing to take tests of their basic reading and math skills, their peers in high-performing nations are reading poetry and novels, conducting experiments in chemistry and physics,**

*Lynne Munson is the president and executive director of Common Core. She is an author and former deputy chairman of the National Endowment for the Humanities. Laura Bornfreund is an independent consultant to Common Core. Previously, she taught for four years in Orange County Public Schools in Florida.*





skills in proper perspective, recognizing their long legacy and their dependence on subject matter knowledge.

The classroom that 21st-century-skills proponents envision—a place where students are collaborating, creating, and critiquing—may not be as promising as it seems. A video by the George Lucas Educational Foundation shows middle school students comparing two magazine photos in light of gender roles; other students filming a poetry project; third-graders watching a nature film and learning how the film was made; fourth-graders making animated short videos; seventh-graders analyzing newspaper photos of the war in Iraq; and other lessons and activities. These examples are supposed to show what students *should* be doing in class: discussing important issues, analyzing the information around them, and creating things. Near the end of the video, the narrator comments: “As courses and projects featuring elements of media literacy find

their way into more and more classrooms, writing English might become just one of several forms of expression, along with graphics, cinema, and music, to be taught in a basic course called communication.”<sup>8</sup> This is where the losses begin.

First of all, with such a diffuse curriculum, students lose the opportunity to master the fundamentals of any subject. Students are supposed to jump into “big issues” (for which they may have no preparation) and to express themselves through numerous media before they are fluent in any. How can students learn the basics, not to mention the more complex ideas, when they are spread so thin? There have been similar efforts over the past century to generalize and expand subjects beyond their disciplinary base—for instance, by replacing history with social studies—and the drawbacks have been similar: students end up writing about their own communities, reading charts and graphs in a superficial

making music, and studying important historical issues. We are the only leading industrialized nation that considers the mastery of basic skills to be the goal of K–12 education.” That’s the conclusion drawn by education historian Diane Ravitch and AFT secretary-treasurer Antonia Cortese in *Why We’re Behind: What Top Nations Teach Their Students But We Don’t*, a recent report published by Common Core.

Mastery of basic skills is the beginning of an education, not its end. On that, at least, virtually all in the education field can agree. But what to do about it is a much more controversial topic. The big debate—in which Common Core is a vocal participant—is about the best means for students to acquire higher-order skills like creativity and critical thinking.

Cognitive scientists have already provided much of the answer: thinking, problem solving, and other higher-order skills are only possible when one has relevant knowledge. So we may talk about skills and content as if they were separate things, but in reality they are inextricably intertwined. Unfortunately, critical thinking can’t be strengthened by working on a math game and then used to analyze a historical document. To solve a thermodynamics problem, students must study thermodynamics. To analyze historical documents about the Civil War, students must study the Civil War. Even having analyzed documents about the Revolutionary War will only help a little bit: if students don’t know the people, places, events, and context of the Civil War, they won’t be able to analyze documents from that war.

So skills are important, but what skills our young people acquire depends on the content they have studied. This got us

wondering: what do students in high-performing countries study? *Why We’re Behind* attempts to answer that question by examining countries that outperform us on the international assessment PISA (Programme for International Student Assessment). Each of the nine countries we looked at (Australia, Canada, Finland, Hong Kong, Japan, Netherlands, New Zealand, South Korea, and Switzerland) provides its students with a content-driven, comprehensive education in all core subjects in which students develop higher-order skills as they complete sophisticated assignments.

To try to make the debate over 21st-century skills more concrete, we have selected several examples of content-rich education offered in these nations and contrasted them with lesson ideas from the “skills maps” on P21’s website. We think it is clear that these high-performing nations have found an effective approach for helping students become successful, well-educated citizens. But we didn’t stop there. Keeping the high-quality examples from around the world in mind, we pored over P21’s lesson ideas for suggestions of comparable quality. We found none we can enthusiastically endorse. But we did find a few that could provide “added value” to a student’s education if they were incorporated in a sequenced, content-rich curriculum. We hope P21 will use these examples as models to revise its current skills maps.

## I. High-Performing Countries Have High Expectations

### Science

#### New Zealand

In New Zealand, students in grades 7–8 learn to explain how the interaction between ecological factors and natural

selection leads to genetic changes within populations. They also investigate physical phenomena (in the areas of mechanics, electricity, electromagnetism, light and waves, and atomic and nuclear physics), and produce qualitative and quantitative explanations for a variety of complex situations.<sup>1</sup>

### Partnership for 21st Century Skills

P21 suggests that eighth-graders “view video samples from a variety of sources of people speaking about a science-related topic (e.g., news reporters, news interviews of science experts, video podcasts of college lectures, segments from public television documentaries, or student-made videos of parents and professionals in their community). Students rate the videos on the degree to which the person sounded scientific, then identify characteristics of speech pattern, word choice, level of detail, and other factors that influenced their perceptions. Students discuss ways that scientific communication differs from other forms of expression, and why those differences might be useful to scientists, then design a card game, board game, or video game that will help teach their peers some of the ‘rules’ of science communication that they’ve observed.”<sup>2</sup>

### Analysis

While students in New Zealand learn central concepts of genetics and the physical sciences, and must think critically about complex theories like natural selection, P21 wants American students merely to recognize when someone has “sounded scientific.” Based on what? Not scientific knowledge, but visual and audible cues. P21’s sample lesson is devoid of specific content or educational purpose.

way, learning disconnected tidbits about cultures around the world, and knowing little history. To learn something well, we need focused study and practice. Survey courses are essential, but their topics should not be as broad and vague as “communication.” Filming a poetry project and analyzing war photos may be fruitful activities, but a communications course consisting of disjointed projects is unlikely to teach students how to communicate well. Such a course may offer, in the words of Robert Frost, “A little bit of everything, / A great deal of none.”

Second, in their efforts to make schools current, reformers neglect to offer the very stability that students need in order to make sense of the choices, clamor, and confusion of the present—

that is, to exercise critical thinking. If teachers must ceaselessly change their curriculum to match what is happening in society (or, more narrowly, the workplace), neither they nor their students will have the opportunity to step back and reflect. It is difficult to think about the workings of a roller coaster while on a roller coaster ride; it is difficult to analyze weather patterns while driving through a blizzard. Critical thinking requires perspective and a certain distance from one’s personal experiences. Schools need to offer a degree of stability and quiet—precisely so that students may grapple with important questions and teachers may carry out their responsibilities with integrity.

If we always must be up to date, then we are continually dis-

Indeed, what it teaches wouldn’t make students knowledgeable citizens. It is more likely to make them gullible consumers who could easily be duped by infomercials with actors who sound scientific. Whether a person sounds scientific is not important. What is important is whether what the person is saying is scientifically sound. A student can only make that judgment if he or she possesses the relevant scientific content knowledge.

## Social Studies

### Finland

Finnish students in grades 5–6 study the dawn of the modern era, specifically the “changes in the European’s values and conception of the world at the end of the Middle Ages: the Renaissance in art, the Reformation in religion, and science’s expansion of the conception of the world.” These young students also learn to “recognize the continuity of phenomena from one era to another and understand that change is not the same as progress, and does not mean the same thing from the perspectives of different people and groups.”<sup>3</sup>

### Partnership for 21st Century Skills

One of P21’s proposed fourth-grade social studies lessons asks students to “work in small groups to discuss problems that they have observed or heard about in their school such as bullying or graffiti. Convening as a whole class, students should come to some common agreement about the problems that are most meaningful. After the problem has been selected by consensus, students take responsibility for specific elements of an inquiry into the causes of and possible solutions to the problem.”<sup>4</sup>

### Analysis

The Finnish example allows students to develop analytical skills as they study historical examples of creativity, problem

solving, and innovation that are important for understanding Western civilization. The other does not. The lesson plan suggested by P21 is supposed to build social and cross-cultural skills. This is a worthy goal, but keeping our limited class time in mind, it ought to be pursued along with other worthy goals, such as enriching students’ understanding of the world. There are plenty of examples from history that would engage students in developing social and cross-cultural skills—why not use them? For example, why not have students study the cross-cultural challenges and opportunities created by the Silk Road?

## Geography

### Switzerland

In 12th grade, students are expected to know core topics in geography like the earth’s structure, climates, habitats, populations, and energy sources. For example, an exam for students who want to go to college includes several items on earthquakes, including “define the notion of magnitude,” “define the notion of intensity,” and “list four elements that influence the intensity of an earthquake.”

Students also must learn how geography intersects with other disciplines by studying topics like the “interdependence of economic spaces,” “migrations on a global scale,” and the historical, political, and economic influences on the “slicing and re-slicing of regions.”<sup>5</sup>

### Partnership for 21st Century Skills

P21 recommends that 12th-graders “make an inventory of the way that geography content (landscapes, globes, maps, land uses, cultural depictions, etc.) are used as company logos, web sites, backdrops, screen savers, panoramas, etc. in the digital and print media and categorize them by media and content.” They are instructed to “assess the appropriateness of the geography content used as a backdrop relative to

the expectations (criteria) that people use for getting a person’s attention.”<sup>6</sup>

### Analysis

How does studying a company logo deepen a student’s knowledge of geographic features or population growth or cultures? It doesn’t. It fails to give students even a glimpse of what the discipline of geography is all about. Meanwhile, Swiss students are developing their knowledge of, and ability to think critically about, topics that are central to the discipline and how they intersect with history, economics, politics, globalization, and integration.

## English Language Arts

### Canada

In Canada, a high school graduation exam in British Columbia provides students with passages from *Hamlet*, *The Tempest*, and *King Lear*. Students select one of the following prompts and spend roughly 25 minutes writing their responses:<sup>7</sup>

“Show the significance of this exchange between Hamlet and Gertrude. Refer both to this passage and to elsewhere in the play.”

“With reference both to this passage [from *The Tempest*] and to elsewhere in the play, show that this passage contributes to theme.”

“Discuss the parallels between the father-child relationship found both in these passages [from *King Lear*] and elsewhere in the play.”

### Partnership for 21st Century Skills

Consider this example lesson for 12th-graders from P21’s website: “Students translate a piece of dialog from a Shakespearean play into a text message exchange and analyze the effect of the writing mode on the tone or meaning of the dialogue. Students then discuss audience and purpose in relation to communication media.”<sup>8</sup>

tracted and diverted. As soon as a school has caught up with the newest pedagogy and the technology that supports it, something newer comes along, making the newly acquired methods and machines seem dated once again. In the scramble to keep up, schools reflect the incoherence of the larger culture. They become susceptible to suggestions that what they are doing is not good enough, not current enough, not cutting-edge enough. Once, at a school where I taught, I heard a visiting administrator speak to science teachers about ways to boost student performance at the science fair. He told them never to have students use PowerPoint for the presentations. "PowerPoint sends up a

red flag," he said. "It's telling everyone that your school is still in the '90s." He recommended using Flash instead. He wasn't concerned with the deficiencies (or strengths) of PowerPoint per se, but rather with its appearance and connotations. It would be unthinkable, presumably, for a student to submit a brilliant science report on paper. Substance defers to fashion in such a world view.

If we keep on chasing the newest thing, we will not only distract ourselves but repeat old mistakes. Educator, historian, and philosopher Isaac Leon Kandel criticized this tendency in 1943, noting in *The Cult of Uncertainty* that too many educators and education

## Analysis

Canadian students could not successfully answer the exam questions posed if they had not read, analyzed, and discussed several of Shakespeare's plays well in advance of the test. While we are pleased that P21 does reference Shakespeare, the lesson it offers isn't actually focused on the works themselves. The lesson simply uses Shakespeare as a vehicle to teach something else—text messaging. Any written work could be used. Worse, most students are texting constantly; they do not need practice. And isn't it obvious that the effect on the tone will be to make it less formal and the effect on the meaning will be to make it less nuanced? Don't we want our students to study Shakespeare in a more rigorous way?

## II. P21 Can Do Better

The question of what content to teach is as old as the very idea of education. And it is indeed a question worth revisiting time and again, and worth putting hard thought into the best means by which to teach that content. With that in mind, here are three eighth-grade lesson suggestions from P21 that could in fact be worthy of classroom time (a much more precious resource than many reformers realize). What makes these examples stand out from the rest of P21's lesson ideas is that they suggest interesting ways to go deeper into core academic subjects. Appropriately embedded in a unit and in a larger, content-rich curriculum, they have the potential to extend students' content knowledge while also developing their higher-order skills.

### Science

"Students research how the physical and chemical properties of different natural and human-designed materials affect their decomposition under various conditions. They compare their findings to the



material evidence used by scientists to reconstruct the lives of past cultures, as well as create a map of their classroom as a future archeological site (including written descriptions of artifacts) discovered by scientists."<sup>9</sup>

### Social Studies

"Working in teams of two to four, students explore the impacts and effects of an invention or technological innovation of the 19th century and create a position paper that analyzes the pros and cons of the invention (e.g., impact of the cotton gin on Southern plantations and slavery)."<sup>10</sup>

### Geography

"Students use digital population data for the United States to analyze the population distribution of the country in 1860 and 1870, copy and paste the data and organize it using a spreadsheet, rank the states from highest to lowest in population, develop quartiles (group states on population size into quarters), color code the quartiles on maps for each year, and use the maps to write a narrative describ-

ing the changes in population distribution before and after the Civil War."<sup>11</sup>

We recognize that P21 (and its corporate backers) wants to improve students' skills. But P21's current approach will not work because students will not acquire skills if they are not also developing their base of knowledge. And almost nothing in P21's current program addresses that need. The potentially useful examples we found among P21's lesson suggestions were few and far between. Ultimately, the problem is that P21's program is not aligned to any worthwhile content. We hope that anyone interested in improving student learning will take a careful look at *Why We're Behind* and the sophisticated ways that the world's top-performing nations provide students with a comprehensive, content-rich education that enables them to build both knowledge and skills. □

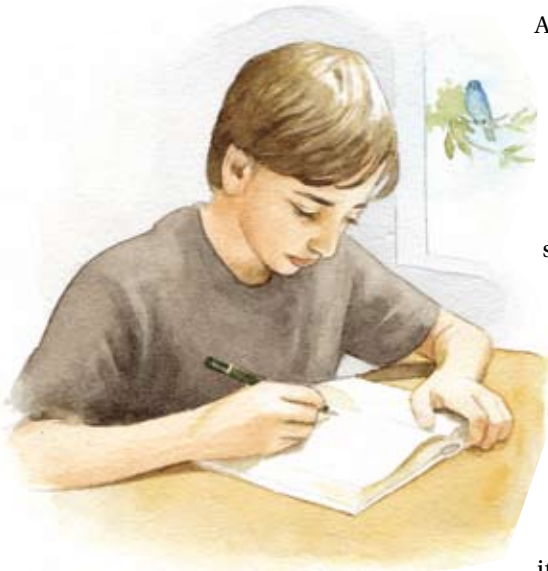
## Endnotes

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9. Partnership for 21st Century Skills, *21st Century Skills Map: Science*, 4.
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reformers “seek novelty rather than perfection and call this process ‘adapting education to changing needs.’”<sup>9</sup> Reformers often chastise those who resist change, as though change were always correct. Thus reformers have ignored a great resource; the resisters may have something important to say. By no means should we be complacent—we have a lot of work to do—but we should never sacrifice our best judgment. That would be the worst form of complacency and of change. If we jump on the 21st-century-skills bandwagon (or any bandwagon) just because others say we should, we give up critical thought.

The 21st-century-skills movement brings a third loss, greater than all the rest. When schools rush to adopt whatever is supposedly modern, they lose sight of the true purposes of education.

Once we have established our core—our understanding of education’s meaning, purpose, and content—and once we have a curriculum rich in literature, history, science, mathematics, and arts, we can consider how to make necessary changes to our schools without falling prey to fads, without losing our equilibrium, without letting anyone convince us that things of lasting beauty are *passé*.



According to E. D. Hirsch, Jr., the central purpose used to be to create virtuous citizens with enough shared knowledge for all to participate in the public sphere.<sup>10</sup> A complementary purpose of education is to prepare us for solitude, which is part of every life; if we know how to be alone, then we may be less prone to distraction, escapism, and boredom. Education also exists for its own sake: an endless adventure, a struggle, a

delight. At its fullest and best, education prepares us to be with others and apart, to enjoy the life of the mind, to survive and prosper, to bring up new generations, to act with integrity and conscience, to pursue useful and interesting work, and to participate in civic and cultural action and thought. If schools try to be up to date all the time, then they are reduced to chasing fads and obeying the whims of the market. Part of the schools’ work is to help prepare students for their future occupations, but they do not achieve this by scurrying to meet employers’ demands.

Employers may know what kinds of skills they need, but they do not necessarily know how this translates into instruction. Their perceptions are bound to the workplace and should not control

curricula. The Conference Board, an organization that disseminates business and economics information, prepared a survey in collaboration with three organizations: P21, Corporate Voices for Working Families, and the Society for Human Resource Management. They asked employers to rank various subjects and skills according to their importance. Only a small percentage of employers assigned a high rank to humanities, arts, history, and geography, while the vast majority assigned a high rank to teamwork, collaboration, professionalism, and work ethic.<sup>11</sup> But does this mean that students do not need humanities, arts, history, and geography? Certainly not—it is hard to imagine how one could be a good journalist or global business analyst without a background in history and geography, a good trade publisher or human rights

advocate without a background in humanities, or a good architect or graphic designer without a background in arts. As citizens, all employees need a strong foundation in the arts and sciences. Such education contributes to our quality of life in myriad ways—by enhancing our reasoning, vocabulary, and perspective, by creating common understandings, and by allowing for a varied life outside of work. If schools were to take employers’ priorities literally, they would emphasize group projects no matter what they contained. This would not be good academic or vocational education.

It is time to stop the waste. Instead of rushing to incorporate 21st-century skills in all aspects of school, instead of embracing any change for its own sake, we should pursue perfection in curriculum and pedagogy. Pursuing perfection is not the same as attaining it; it is unlikely that we will ever have anything close to perfect schools or a perfect society. Yet that is the generosity of perfection. It is unattainable, yet to strive for it is within our reach, and it always gives us more to strive for. It is striving that has led to great accomplishments in letters, sciences, arts, athletics, and manual trades; it is striving that has enabled humans to live and treat each other with dignity; it is striving that has sharpened our senses and our wits. It involves soul searching, as we must examine our performance daily, not in relation to test scores alone, but in relation to our ideals. Today the word “idealist” seems to connote fanciful or wishful thinking, but idealism need not be naive or flimsy. Musicians must be able to imagine how a piece should sound, and they must know how to come closer to that imagined version. The discrepancy does not break them, nor does it break a school. Perhaps that is a form of happiness: having something worth laboring for and having an inkling of how to go about it.

To pursue perfection, we must first establish the meaning and purposes of education, then refine the methods for fulfilling those purposes. We should dare to specify what we will teach: the disciplines, works, ideas, and historical periods; the things to be mastered, grasped, and pondered. Once we have established our core—our understanding of education’s meaning, purpose, and content—and once we have a curriculum rich in literature, history, science, mathematics, and arts, we can consider how to make necessary changes to our schools without falling prey to fads, without losing our equilibrium, without letting anyone convince

us that things of lasting beauty are passé. In an interview with John Merrow of Learning Matters, Diane Ravitch summed up the problem: “American education doesn’t need innovation. American education needs purpose; it needs definition; it needs a vision of what good education is; and it needs to focus on what’s important, which is good teachers, involved parents, willing students, adequate community resources, community support for education, and a solid, rigorous, coherent curriculum. Lacking all of those things, ... innovation is just another distraction, and it has been for many years.”<sup>12</sup>

In seeking perfection, we must cherish and strengthen what has worked. Forms of instruction deemed “traditional” have much to offer us still. Moreover, most practices require a union of opposing principles. For students to engage in inquiry, they must have a strong foundation of knowledge. To participate well in class or group discussions, students need to learn to listen. Student collaboration is important, but it requires that students also work alone, so that they may bring something to each other. And students become active learners not only by talking and doing, but by sitting still with their thoughts. Conversely, the student who cannot listen to others is trapped in his or her own limited perspective.

Reformers of different stripes often malign the “traditional” style of teaching, claiming that it has failed our children. Perhaps it worked in the past, they say, but it no longer works; perhaps it worked for an elite but not for the poor; perhaps it never worked to begin with. But what is this traditional teaching? Critics often say that in the old days, the teacher stood at the front of the room and lectured, and students took notes silently. Children, they say, were treated as “empty vessels” to be filled, not as thinking human beings. But this description fails to account for the variety in our tradition, which has included discussions, debates, projects, participatory lectures, seminars, laboratories, tutorials, and different ways of handling all of these. Moreover, it is not true that students who listen to the teacher are empty vessels. To the contrary, listening requires the exercise of knowledge and reasoning. William Torrey Harris wrote in 1897 that the recitation was an excellent way for students to learn from each other: “The pupil can, through the properly conducted recitation, seize the subject of his lesson through many minds. He learns to add to his power of insight the various insights of his fellow pupils.”<sup>13</sup> Listening is by no means passive: a student who can silently ponder another person’s words will be able to enjoy lectures, plays, speeches, readings, and thoughtful conversations.

Those calling for 21st-century skills often point to the need for greater student engagement. But true engagement is not entertainment; it is involvement, which may be invisible at times. The traditional classroom encourages such involvement when the teachers teach subjects they know and love, the school has a true curriculum,\* and the students live up to the demands of the course. In these cases, the teachers give stimulating and substantial lessons; students absorb the material, think about it on their

own, bring their questions and observations to class discussion, and strive for precision and thoughtfulness in their work. In contrast, when teacher preparation programs emphasize process over subject matter, when schools have weak curricula, and when many students fail to do homework, or are distracted and disruptive during class, the best aspects of this kind of classroom fall apart. The teacher’s effort goes into maintaining discipline, and students learn little.

Far too many reformers perceive a lack of student “engagement” but misdiagnose it. They assume that if only the students were more visibly active, the learning would flow from there. Everything, then, is directed toward keeping students busy and stimulated: visuals, group work, individualized instruction, use of social networking tools such as Facebook, the building of self-esteem, and so forth. But this emphasis on activity and good feeling comes at a great cost and leads to complications. Students do not develop the ability to listen, to absorb material, or to think on their own. They become accustomed to rapid chatter, constant visual displays, and frequent celebrations of their accomplishments, which may not be substantial. Students reach the point where they cannot tolerate stillness, where they need to be facing their peers, doing something with their hands, and talking. Or they reach a point where they cannot take their peers any more and break into fights. For teachers, the main challenge in these settings is to make everyone “accountable”—that is, responsible for a concrete task that they must do to complete the group activity. Deeper engagement is sacrificed for a more trivial kind, and quiet, independent thought has little place.

At my former school, I led lunchtime literature clubs for fourth- and fifth-graders. The fifth-grade group read *The Adventures of Huckleberry Finn*. One day, close to the end of the school year, we read the passage where Huck decides not to betray Jim. We discussed Huck’s confusion, which was still present even as he made the decision he knew was right. The discussion was slow, with pauses. At one point, the room fell into a long silence. One student said, “Ms. Senechal, you’re quiet today!” Another student



\*By true curriculum, I mean a document, available to educators, students, and the broader community, that specifies the knowledge and skills that students must master, the subjects and topics they will study, and certain works (literary, historical, scientific, and other) that they will read closely. A curriculum can be specific to this degree and still leave much to the discretion of the school and the individual teachers. A curriculum is not a script; it specifies what will be taught, but not how it will be taught.

responded, “She’s thinking. There’s a lot to think about here.” I see her comment as a tribute to the book, not to my teaching, but I am proud that the students were able to appreciate the quiet in the room.

Teachers should not have to give up intellectual authority in the classroom; they should bring their knowledge, insight, and expertise to students. Socrates, lauded by 21st-century-skills proponents for teaching through inquiry, led such inquiry every step of the way. Peter W. Cookson, Jr., speculates that were Socrates alive today, he “would embrace the new learning era

with all the energy he had”;<sup>14</sup> yet it seems more likely that he would regard it with deep skepticism. In Plato’s *Crito*, Socrates asks, “Should a man professionally engaged in physical training pay attention to the praise and blame and opinion of any man, or to those of one man only, namely a doctor or trainer?”<sup>15</sup> To Socrates, not all opinions were equal, and they should not all be equal in the classroom today. The teacher should encourage students to think for themselves but should also prepare them to do so—through instruction, challenge, and correction. Students should have opportunities to discuss and test their ideas,

## A Century of Skills Movements

BY DIANE RAVITCH

I am a historian of education and have written often about the educational enthusiasms and fads of the past century. One of my books, titled *Left Back*, tells the story of the rise and fall of one fad after another across the 20th century. In brief, what I’ve found is that in the land of American pedagogy, innovation is frequently confused with progress, and whatever is thought to be new is always embraced more readily than what is known to be true. Thus, pedagogues, policymakers, thought leaders, facilitators, and elected officials are rushing to get aboard the 21st-century-skills express train, lest they appear to be old-fashioned or traditional, these terms being the worst sort of opprobrium that can be hurled at any educator.

What these train riders don’t seem to realize is that there is nothing new in the proposals of the 21st-century-skills movement. The same ideas were iterated and reiterated by pedagogues throughout the 20th century. Their call for 20th-century skills sounds identical to the current effort to promote 21st-century skills. If there was one cause that animated the schools of education in the 20th century, it was the search for the ultimate breakthrough that would finally loosen the shackles of subject matter and content.

For decade after decade, pedagogical leaders called upon the schools to free themselves from tradition and subject

matter. Ellwood P. Cubberley, while dean of the education school at Stanford, warned that it was dangerous for society to educate boys—and even girls—without reference to vocational ends. Whatever they learned, he insisted, should be relevant to their future lives and work. He thought it foolish to saturate them with “a mass of knowledge that can have little application for the lives which most of them must inevitably lead.” They were sure to become disappointed and discontented, and who knew where all this discontent might lead?

Cubberley called on his fellow educators to abandon their antiquated academic ideals and instead to adapt education to the real life and real needs of their students. This was in 1911.

The federal government issued a major report on the education of black students in 1916. Its author, Thomas Jesse Jones, scoffed at academic education, which lacked relevance to the lives of these students and was certainly not adapted to their needs. Jones wanted black children to “learn to do by doing,” which was considered to be the modern, scientific approach to education. It was not knowledge of the printed page that black students needed, wrote Jones, but “knowledge of gardening, small farming, and the simple industries required in farming communities.” Jones admired schools that were teaching black students how to sew, cook, garden, milk cows, lay



bricks, harvest crops, and raise poultry. This was a prescription for locking the South’s African American population into menial roles for the foreseeable future. As Jones acknowledged in his report, the parents of black children wanted them to have an academic education, but he thought he knew better. His clarion call was sounded with extremely poor timing—just as America was changing from a rural to an urban nation.

Although there were many similar efforts to eliminate the academic curriculum and replace it with real-world interactions, none came as close to the ideals of 21st-century learning skills as William Heard Kilpatrick’s celebrated Project Method. Kilpatrick, a fabled Teachers College professor, took the education world by storm in 1918 with his proposal for the Project Method. Instead of a sequential curriculum laid out in advance,

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*Diane Ravitch is a research professor of education at New York University and a senior fellow at the Brookings Institution. She was the assistant secretary of education under President George H. W. Bush. Her latest book is The Death and Life of the Great American School System: How Testing and Choice Are Undermining Education.*

but they should not be called experts before they actually are. They should be regarded as apprentices. One of the benefits of apprenticeship is that it allows for a long period of learning.

As an undergraduate at Yale, I had the good fortune of taking John Hollander's advanced poetry writing seminar. On the first day of the seminar, he established the guidelines for the course: First, this was not a free-for-all workshop where we would be commenting on each other's work. Second, he was not going to tell any of us whether we had the makings of a poet; it was far too soon to know. Third, class would revolve around the discussion

of specific problems, dilemmas, or principles in poetry. I remember how happy I was to hear all of this, to know that I was there to learn from him, not to impress. His lectures were great intellectual romps; I wish I could be in that classroom again. When asked to describe a favorite teacher, I often describe Hollander. He had a gift for going on seeming tangents, then bringing them back to his original point by surprise. As a student listening to him lecture, I was anything but passive. I was enthralled, full of thoughts and questions, and I would stay that way for days as I turned his words over in my mind.

Kilpatrick urged that boys and girls engage in hands-on projects of their own choosing. As Kilpatrick envisioned it, the project was "whole-hearted purposeful activity proceeding in a social environment." Kilpatrick said that the project shaped character and personality. It required activity, not docility. It awakened student motivation. Ideally, the project would be done collaboratively by a group.

Another forerunner to the 21st-century-skills movement was the activity movement of the 1920s and 1930s. As in the Project Method, students were encouraged to engage in activities and projects built on their interests. Studies were interdisciplinary, and academic subjects were called upon only when needed to solve a problem. Students built, measured, and figured things out, while solving real-life problems like how to build a playhouse or a pet park or a puppet theater. Decision making, critical thinking, cooperative group learning: all were integral parts of the activity movement.

Something similar happened in many high schools in the 1930s, where many avant-garde school districts replaced courses like science and history with interdisciplinary courses, which they called the "core curriculum" or "social living." Some districts merged several disciplines—such as English, social studies, and science—into a single course, which was focused not on subject matter but on students' life experiences. In a typical class, students studied their own homes, made maps and scale drawings, and analyzed such questions as the cost of maintaining the home; the cost of fuel, light, and power; and how to prepare nutritious meals.

But there were occasional parent protests. In Roslyn, New York, parents were incensed because their children couldn't read but spent an entire day baking nut bread. The Roslyn superintendent assured them that baking nut bread was an excellent way to learn mathematics.

In the 1950s came the Life Adjustment Movement, yet another stab at getting rid of subject matter and teaching students to prepare for real life. And in the 1980s, there was Outcome-Based Education, which sought to make schooling relevant, hands-on, and attuned to the alleged real interests and needs of young people.

The early 1990s brought SCANS—the Secretary's Commission on Achieving Necessary Skills—which recommended exactly the kinds of functional skills that are now called 21st-century skills. These documents were produced by a commission for the U.S. Secretary of Labor. I recall hearing the director of SCANS say that students didn't need to know anything about the Civil War or how to write a book report; these were obsolete kinds of knowledge and skills.

When the SCANS recommendations appeared in 1991, I was an assistant secretary at the U.S. Department of Education and I discussed them with David Kearns, the deputy secretary who had been CEO of Xerox. I said, "David, the SCANS report says that young people don't need to know how to write a book report, they need to know how to write advertising jingles." He replied, "That's ridiculous. You can't write advertising jingles if you don't know how to write a book report."

Each of these initiatives had an impact. They left American education with a deeply ingrained suspicion of academic studies and subject matter. "It's academic" came to mean "it's purely theoretical and unreal." For the past century, our schools of education have obsessed over critical-thinking skills, projects, cooperative learning, experiential learning, and so on. But they have paid precious little attention to the disciplinary knowledge that young people need to make sense of the world.

One of the problems with skills-driven approaches to learning is that

there are so many things we need to know that cannot be learned through hands-on experiences. The educated person learns not only from his or her own experience, but from the hard-earned experience of others. We do not restart the world anew in each generation. We stand on the shoulders of those who have gone before us. What matters most in the use of our brains is our capacity to make generalizations, to see beyond our own immediate experience. The intelligent person, the one who truly is a practitioner of critical thinking, has the learned capacity to understand the lessons of history, to engage in the adventures of literature, to grasp the inner logic of science and mathematics, and to realize the meaning of philosophical debates by studying them. Through literature, for example, we have the opportunity to see the world through the eyes of other people, to walk in their shoes, to experience life as it was lived in another century and another culture, to live vicariously beyond the bounds of our own time and family and place. What a gift! How sad to refuse it. □



Just as we should preserve the best of traditional teaching, we should preserve the best of traditional content. We may argue about what should be included in a curriculum, but we should not avoid curriculum. We should make sure that young people leave school informed of the past so that they do not get swept up in the rages of the present. We should keep our lives and culture resonant by studying excellent literature, philosophy, historical thought, science, mathematics, and art—by reading poetry aloud, singing, and returning to books we read long ago. We should expect students to memorize poems, monologues, and parts of speeches; to read classic novels and essays; to discuss and analyze what they have read; and to write with clarity and verve. Much of this activity is solitary and requires quiet. In mathematics, they should learn to calculate nimbly so that the more advanced topics do not daunt them, and each topic should be taught in as much depth and with as much precision as possible. Students should read primary and secondary texts in history; they should learn enough facts to describe and explain historical events, discuss historical questions, and conduct research fruitfully. And there should be electives, including rigorous vocational training, in addition to the core studies.

But how are we to accomplish this? The first step is to combat the excessive careerism and pragmatism in educational discussion—to remind ourselves and each other that schools are here not only to serve immediate practical purposes, but to teach things that last a lifetime and merit passing on to future generations. The second is to insist on a superb curriculum, with the best of the old and the best of the new, from the earliest grades on up. The curriculum should be the soul of a school; it should abound with works and topics that fill the mind and deepen one's outlook on life. It should be both fixed and changing: stable enough that teachers need not rewrite it from scratch every year, yet flexible enough that they may supplement it daily, revise it over time, and

teach it in the way that they judge best. We must also call for greater emphasis on liberal arts in teacher preparation, so that teachers entering the classroom are fully prepared to teach their subject, and so that the field of education may be enriched by intellectual knowledge and traditions. Many questions remain unresolved, and new ones will arise, but this is a strong beginning.

Certainly, schools should use some projects (as most already do) and some technology (as most already do). When they do, it should suit the situation, and teachers should use their discretion. A Shakespeare course, for instance, need not be infused with 21st-century anything whatsoever. Some teachers teach mesmerizing Shakespeare courses with nothing but the book. Others might supplement readings and discussions with pic-

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tures and recordings; circumstances permitting, they might take students to see a Shakespeare play or have them act out selected scenes in the classroom. But whatever they decide to add, it must further students' understanding of Shakespeare. Twitter, Facebook, and texting add nothing to Shakespeare; they are only distractions. On the other hand, technology as a subject is not a distraction; some high schools have developed terrific computer programming, robotics, and sound engineering courses and afterschool clubs. In such cases, students learn how to make technology do what they want, and they learn the science and logic behind it. They learn much more about technology this way than they would by blogging and texting—activities they likely pursue on their own.

If teachers can focus on teaching their subjects, then they can go deeper. Creativity, problem solving, communication, and critical thinking make sense only in the context of specific studies.

Creativity and innovation, for example, require much knowledge and practice. When we take them too lightly, we encourage and even celebrate shoddiness. Mediocre creation abounds, as does false innovation, and it is not clear that this helps either the creator or the audience. Once, I attended a professional development session where we were told about the power of the Internet as a motivator for students. The speaker cited the example of a student who, as a result of a blogging project, had become excited about poetry and started posting her own poems on the school blog. I took a look at the poems that evening, Googled a few lines, and saw that all but one were plagiarized—not from first-rate poets, but from websites that featured sentimental and inspirational verse. Why was this not caught earlier? Anyone paying close attention to the poems themselves would likely have suspected that they weren't hers (the language was an adult's, and hack-





neyed at that). The presenters were genuinely excited that the Internet had motivated a student to write; perhaps they chose not to judge the poems lest they interfere with her creative process. This is the danger: when we value creativity (and technology) above the actual quality of the things created, we lose sight of what we are doing and why.

Proponents of 21st-century skills often treat innovation as though it can be taught on its own—yet our most celebrated innovators did not make discoveries in a void. Benjamin Franklin studied the writing of Joseph Addison in order to arrive at his own style. Albert Einstein read Euclid's *Elements* at age 12 and called it the "holy little geometry book." Aaron Copland praised his composition teacher, Rubin Goldmark, for bringing forth a generation of composers through rigorous traditional instruction.<sup>16</sup> Even our democratic system of government was influenced by ancient democracies and by the British parliamentary system; its founders were well versed in history and philosophy. This is not to say that the study of the past guarantees innovation, only that innovation cannot do without it. To say we should teach innovation is really to say we need a strong liberal arts curriculum, which will supply the foundation for innovation.

Problem solving, when taken out of context, means just as little as creativity or innovation. To solve problems well, students must understand the problem to be solved, have the necessary information for solving it, and know solutions to similar problems. To translate a literary work, one needs not only knowledge of the source and target languages, but a keen sense of the nuances of words, the rhythms of phrases, the author's tone, and much more. In mathematics, one problem leads to the next; someone familiar with the Pythagorean theorem will grasp its corollaries with much more ease than one who has never seen it. Even listening to music is a kind of problem solving; we need musical knowledge in order to find our way through the sounds, to recognize allusions, and to grasp how the composer plays with forms.

Communication is likewise dependent on knowledge and practice. To communicate well, students must have something to say and models for saying it well. We do nothing to elevate the level of communication by having them read and write blogs, watch and make videos, and send text messages and tweets during English and history classes. Students know how to use the equipment, but their writing ability remains deplorably weak, forcing colleges to offer remedial writing courses and to assist students with basic writing throughout their undergraduate years. To write well, students must read excellent writing, and they must study subjects in depth and detail. Students learn much more about communication through the study of logic, philosophy, history, and literature than through immersion in social networks, online chatter, and other media already familiar to them. To learn the basics of argument and fallacy, students might read Corbett and Connors' *Classical Rhetoric for the Modern Student*, Strunk and White's *Elements of Style*, and George Orwell's "Politics and the English Language." As they read Shakespeare, they might consider how words can be twisted by listener and speaker alike—by Macbeth and the witches, by Lear and the Fool. In works with a political allegory, such as Orwell's *Animal Farm* and *1984*, they might look at how language is used to control people and distort the truth. They may also observe the nobler uses of language—for instance, to bring about good, preserve cultural memory, and



promote understanding—as well as the playful, fantastical, and musical aspects of language. Any history or literature course should involve close study of the meanings, origins, pitfalls, power, and delight of words.

Through such study, students not only come to a deeper understanding of language, but begin to see their problems and needs in perspective. They learn that humans can communicate not only in "real time" but across cultures and centuries. If they read the *Iliad*, they will see Hector's tenderness toward his wife and son when he explains why he must go to war; they will see Achilles' ambivalence about entering battle, his knowledge of his "two fates"; they will see complex humans in a strange and brutal war. Students learn to appreciate both the familiar and unfamiliar; literature does much more than illuminate their lives, though it does this amply. Students learn that people throughout the ages have experienced joys, losses, jealousies, and triumphs. Young teens flummoxed by fleeting attractions may enjoy the vicissitudes of *A Midsummer Night's Dream* or Gogol's short stories. Those feeling sadness may find company in a Tennyson poem; those experiencing tumult may revel in Baudelaire; those critical of social trends may delight in the essays of Chesterton; those thirsting for justice may be inspired by the writings of Martin Luther King, Jr. But such literature does not stop at meeting our needs; it takes us beyond what we have felt and known. Education philosopher Michael John Demiashkevich wrote, "Now, would it not be good if instead of a whirl to the next town which may leave one as empty if not more so than he was before taking it, people developed liking for recreational excursion into literature which, in the words of Sir Walter Raleigh, 'is the record of man's adventures on the edge of things.'"<sup>17</sup>

Perhaps critical thinking—thinking on the edge of things—is the trickiest of all the 21st-century skills. If we want to encourage and teach critical thinking, we should practice it ourselves. This means that we should beware of comprehensive solutions, sweeping reforms, catch phrases, and fads. Instead, we should closely study curricula and instructional approaches of the past, to find

the best in them, learn from them, and build on them where possible. We could look at 19th-century textbooks (such as John S. Hart's grammar books or the McGuffey Readers) to see what insights they hold. We could seek ways to combine disciplined practice with inspiring lessons, projects, and discussions. We could seek out the best textbooks—not necessarily those that dominate the market—and supplement them with an array of primary and secondary sources, especially since so many important primary sources—many dating back centuries—are now online. We could hold professional development sessions on academic topics themselves. We could look at inspiring examples of other teachers and schools; we could take our own education to new levels, whether through formal coursework or independent study. The point is to act with full mind and conscience, to make the learning rich and thorough, and to keep an eye out for substance, beauty, and meaning.

**We will never reach perfection, but the more we strive for it, learning from history as well as experience, the closer we will come. To make changes thoughtfully—to keep the layers of past and present in everything we do—may be the most daring education reform of all.**

**W**hen the frenzy over 21st-century skills passes—and it will—students will see that their opportunities depend largely on their knowledge. Many will graduate with blogging experience, but those who can write a strong essay on a Supreme Court case will be better prepared to enter the fields of history, law, or journalism. Many will have online science portfolios, but those who have studied calculus, have read parts of Newton's *Principia*, and can prove Kepler's second law (for example) will be much better prepared to study physics at an advanced level. Many will have written acrostic poems, but those who have studied sonnets closely will be familiar with a kind of poetic logic that they can carry into their life, work, and writing. Many will have communicated with peers around the world in English, but those who study a modern or ancient language will gain deeper insight into other cultures as well as their own. The ability to make a YouTube video or podcast will mean little in the long run if the other things are absent. Moreover, those technologies may be obsolete in another few years, but literature, science, languages, mathematics, history, music, art, and drama will stay.

Our schools are in need of repair—but we will not improve them by scorning tradition or succumbing to the “claims of the present.” We will never reach perfection, but the more we strive for it, learning from history as well as experience, the closer we

will come. We must be willing to seek out excellence, nurture it, defend it, and live up to it. We must be willing to lift the levels of the subjects we teach, the books we include, the assignments and corrections we give, and the way we conduct ourselves daily. Lifting the levels does not mean racing to catch up with a movement's demands; it means standing back from the race, focusing on what it means to educate in the full sense, and honoring this understanding in all of our work. To make changes thoughtfully—to keep the layers of past and present in everything we do—may be the most daring education reform of all. □

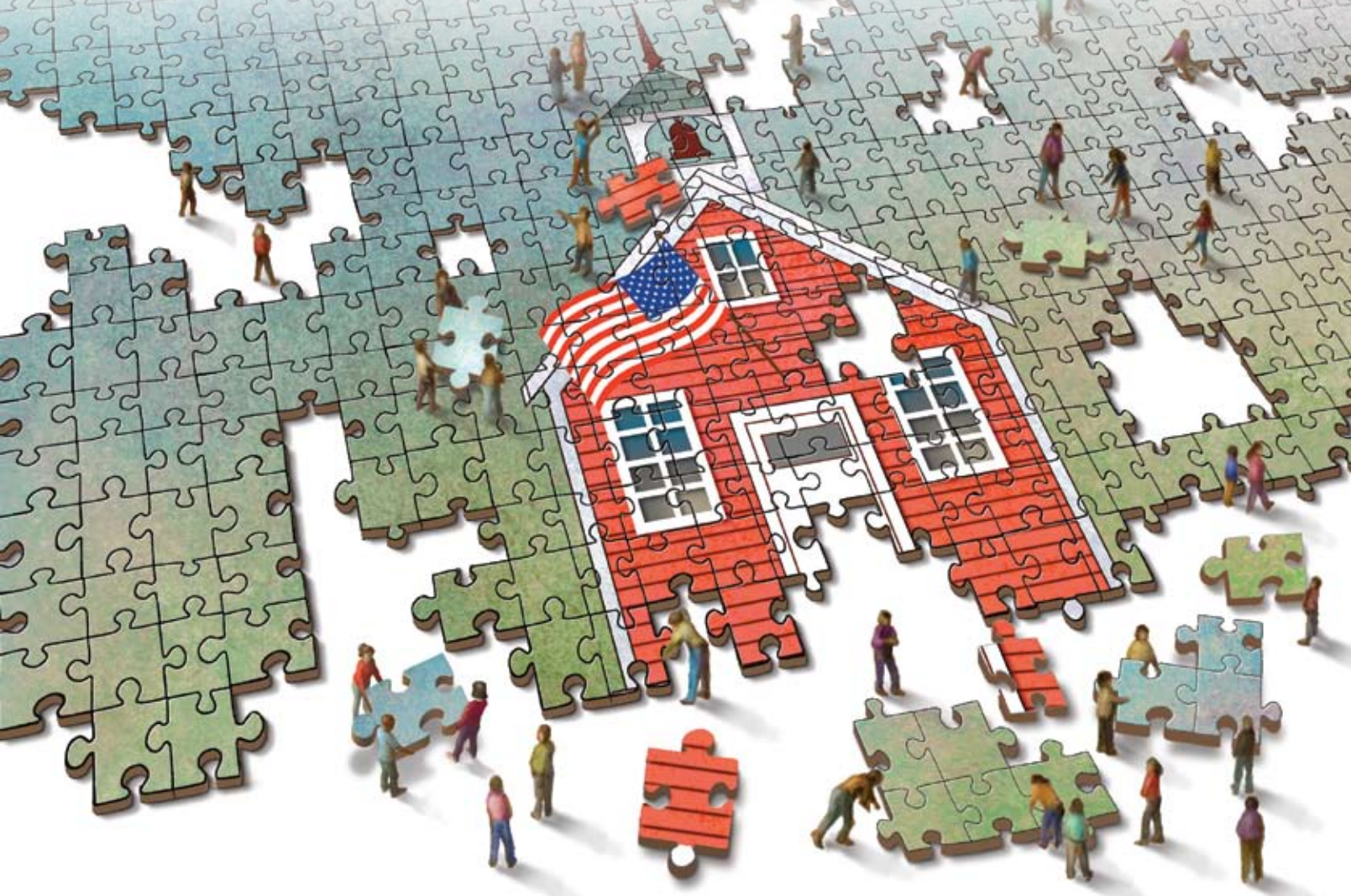
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# “21st-Century” Skills

## Not New, but a Worthy Challenge



BY ANDREW J. ROTHERHAM AND DANIEL T. WILLINGHAM

**A**growing number of business leaders, politicians, and educators are united around the idea that students need “21st-century skills” to be successful today. It’s exciting to believe that we live in times

*Andrew J. Rotherham, cofounder of and partner with Bellwether Education Partners, writes the blog [Eduwonk.com](http://Eduwonk.com). Daniel T. Willingham, professor of cognitive psychology at the University of Virginia, is the author of *Why Don’t Students Like School?* and *American Educator’s “Ask the Cognitive Scientist”* column. Source: “21st Century Skills The Challenges Ahead,” by Andrew J. Rotherham and Daniel Willingham, 2009, *Educational Leadership* 67(1), pp. 16–21. © 2009 by ASCD. Reprinted with permission. Learn more about ASCD at [www.ascd.org](http://www.ascd.org).*

that are so revolutionary that they demand new and different abilities. But in fact, the skills students need in the 21st century are not new.

Critical thinking and problem solving, for example, have been components of human progress throughout history, from the development of early tools, to agricultural advancements, to the invention of vaccines, to land and sea exploration. Such skills as information literacy and global awareness are not new, at least not among the elites in different societies. The need for mastery of different kinds of knowledge, ranging from facts to complex analysis? Not new either. In *The Republic*, Plato wrote about four distinct levels of intellect. Perhaps at the time, these were considered “3rd-century BCE skills”?

What’s actually new is the extent to

which changes in our economy and the world mean that collective and individual success depends on having such skills. Many U.S. students are taught these skills—those who are fortunate enough to attend highly effective schools or at least encounter great teachers—but it’s a matter of chance rather than the deliberate design of our school system. Today, we cannot afford a system in which receiving a high-quality education is akin to a game of bingo. If we are to have a more equitable and effective public education system, skills that have been the province of the few must become universal.

This distinction between “skills that are novel” and “skills that must be taught more intentionally and effectively” ought to lead policymakers to different education reforms than those they are now consider-

ILLUSTRATIONS BY NENAD JAKESEVIC

ing. If these skills were indeed new, then perhaps we would need a radical overhaul of how we think about content and curriculum. But if the issue is, instead, that schools must be more deliberate about teaching critical thinking, collaboration, and problem solving to all students, then the remedies are more obvious, although still intensely challenging.

### What Will It Take?

The history of U.S. education reform should greatly concern everyone who

three primary components. First, educators and policymakers must ensure that the instructional program is complete and that content is not shortchanged for an ephemeral pursuit of skills. Second, states, school districts, and schools need to revamp how they think about human capital in education—in particular, how teachers are trained. Finally, we need new assessments that can accurately measure richer learning and more complex tasks.

For the 21st-century-skills effort to be effective, these three elements must be

that we have a particular thinking skill (such as applying *modus tollens*) unless it comes in the form of known content.

At other times, we know that we have a particular thinking skill, but domain knowledge is necessary if we are to use it. For example, a student might have learned that “thinking scientifically” requires understanding the importance of anomalous results in an experiment. If you’re surprised by the results of an experiment, that suggests that your hypothesis was wrong and the data are telling you something interesting. But to be surprised, you must make a prediction in the first place—and you can only generate a prediction if you understand the domain in which you are working. Thus, without content knowledge, we often cannot use thinking skills properly and effectively.

Why would misunderstanding the relationship of skills and knowledge lead to trouble? If you believe that skills and knowledge are separate, you are likely to draw two incorrect conclusions. First, because content is readily available in many locations but thinking skills reside in the learner’s brain, it would seem clear that—if we must choose between them—skills are essential, whereas content is merely desirable. Second, if skills are independent of content, we could reasonably conclude that we can develop these skills through the use of *any* content. For example, if students can learn how to think critically about science in the context of any scientific material, a teacher should select content that will engage students (for instance, the chemistry of candy), even if that content is not central to the field. But all content is not equally important to mathematics, or to science, or to literature. To think critically, students need the knowledge that is central to the domain.

The importance of content in the development of thinking creates several challenges for the 21st-century-skills movement. The first is the temptation to emphasize advanced, conceptual thinking too early in training—an approach that has proven ineffective in numerous past reforms, such as the “New Math” of the 1960s.<sup>1</sup> Learning tends to follow a predictable path. When students first encounter new ideas, their knowledge is shallow and their understanding is bound to specific examples. They need exposure to varied examples before their understanding of a

## Educators and policymakers must ensure that content is not shortchanged for an ephemeral pursuit of skills. Skills and knowledge are intertwined.

wants schools to do a better job of teaching students to think. Many reform efforts, from reducing class size to improving reading instruction, have devolved into fads or been implemented with weak fidelity to their core intent. The 21st-century-skills movement faces the same risk.

To complicate the challenge, some of the rhetoric we have heard surrounding this movement suggests that with so much new knowledge being created, content no longer matters; that ways of knowing information are now much more important than information itself. Such notions contradict what we know about teaching and learning, and raise concerns that the 21st-century-skills movement will end up being a weak intervention for the very students—low-income students and students of color—who most need powerful schools as a matter of social equity.

The debate is not about content versus skills. There is no responsible constituency arguing against ensuring that students learn how to think in school. Rather, the issue is how to meet the challenges of delivering content and skills in a rich way that genuinely improves outcomes for students.

What will it take to ensure that the idea of “21st-century skills”—or more precisely, the effort to ensure that all students, rather than just a privileged few, have access to a rich education that intentionally helps them learn these skills—is successful in improving schools? That effort requires

implemented in concert. Otherwise, the reform will be superficial and counterproductive.

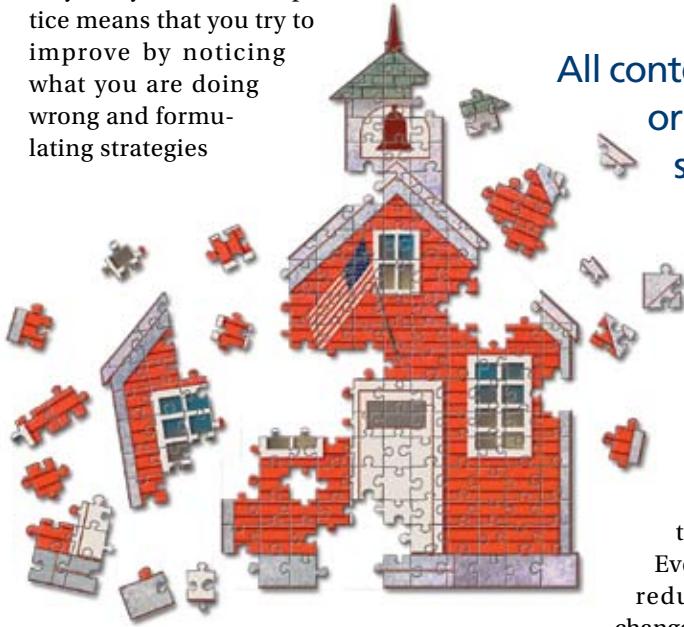
### Better Curriculum

People on all sides of this debate often speak of skills and knowledge as separate. They describe skills as akin to a function on a calculator: if your calculator can compute square roots, it can do so for any number; similarly, if a student has developed the ability to “think scientifically,” he or she can do so with any content. In this formulation, domain knowledge is mainly important as grist for the mill—you need something to think *about*.

Skills and knowledge are not separate, however, but intertwined. In some cases, knowledge helps us recognize the underlying structure of a problem. For example, even young children understand the logical implications of a rule like “If you finish your vegetables, you will get a cookie after dinner.” They can draw the logical conclusion that a child who is denied a cookie after dinner must not have finished her vegetables. Without this familiar context, however, the same child will probably find it difficult to understand the logical form *modus tollens*, of which the cookie rule is an example (i.e., *If P, then Q. Q is false. Therefore, P is false*). Thus, it’s inaccurate to conceive of logical thinking as a separate skill that can be applied across a variety of situations. Sometimes we fail to recognize

concept becomes more abstract and they can successfully apply that understanding to novel situations.

Another curricular challenge is that we don't yet know how to teach self-direction, collaboration, creativity, and innovation the way we know how to teach long division. The plan of 21st-century-skills proponents seems to be to give students more experiences that will presumably develop these skills—for example, having them work in groups. But experience is not the same thing as practice. Experience means only that you use a skill; practice means that you try to improve by noticing what you are doing wrong and formulating strategies



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to do better. Practice also requires feedback, usually from someone more skilled than you are.

Because of these challenges, devising a 21st-century-skills curriculum requires more than paying lip service to content knowledge. Outlining the skills in detail and merely urging that content be taught, too, is a recipe for failure. We must plan to teach skills in the context of particular content knowledge and to treat both as equally important.

In addition, education leaders must be realistic about which skills are teachable. If we deem that such skills as collaboration and self-direction are essential, we should launch a concerted effort to study how they can be taught effectively rather than blithely assume that mandating their teaching will result in students learning them.

### Better Teaching

Greater emphasis on skills also has important implications for teacher training. Our

resolve to teach these skills to all students will not be enough. We must have a plan by which teachers can succeed where previous generations have not.

Advocates of 21st-century skills favor student-centered methods—for example, problem-based learning and project-based learning—that allow students to collaborate, work on authentic problems, and engage with the community. These approaches are widely acclaimed and can be found in any pedagogical methods textbook; teachers know about them and

believe they're effective. And yet, teachers rarely use them. Recent data show that most instructional time is composed of seatwork and whole-class instruction led by the teacher.<sup>2</sup>

Even when class sizes are reduced, teachers do not change their teaching strategies or use these student-centered methods.<sup>3</sup> Again, these are not new issues. John Goodlad reported the same finding in his landmark study published more than 20 years ago.<sup>4</sup>

Why don't teachers use the methods that they believe are most effective? Even advocates of student-centered methods acknowledge that these methods pose classroom management problems for teachers. When students collaborate, one expects a certain amount of hubbub in the room, which could devolve into chaos in less-than-expert hands. These methods also demand that teachers be knowledgeable about a broad range of topics and are prepared to make in-the-moment decisions as the lesson plan progresses. Anyone who has watched a highly effective teacher lead a class by simultaneously engaging with content, classroom management, and the ongoing monitoring of student progress knows how intense and demanding this work is. It's a constant juggling act that involves keeping many balls in the air.

Part of the 21st-century-skills movement's plan is the call for greater collaboration among teachers. Indeed, this is one of the plan's greatest strengths; we waste a valuable resource when we don't give teachers time to share their expertise. But where will schools find the release time for such collaboration? Will they hire more teachers or increase class size? How will they provide the technology infrastructure that will enable teachers to collaborate

with more than just the teacher down the hall? Who will build and maintain and edit the websites, wikis, and so forth? These challenges raise thorny questions about whether the design of today's schools is compatible with the goals of the 21st-century-skills movement.

For change to penetrate classrooms, we must understand that professional development is a massive undertaking. Most teachers don't need to be persuaded that project-based learning is a good idea—they already believe that. What teachers need is much more robust training and support than they receive today, including specific lesson plans that deal with the high cognitive demands and potential classroom management problems of using student-centered methods.

Unfortunately, there is a widespread belief that teachers already know how to do this, if only we could unleash them from today's stifling standards and accountability metrics. This notion romanticizes student-centered methods, underestimates the challenge of implementing such methods, ignores the lack of capacity in the field today, and disregards the lack of support in today's schools.

Instead, staff development planners would do well to engage the best teachers available in an iterative process of planning, execution, feedback, and continued planning. This process, along with additional teacher training, will require signifi-

cant time. And, of course, none of this will be successful without broader reforms in how teachers are recruited, selected, supported, and deselected in an effort to address the whole picture of education's human capital challenge.

### Better Tests

There is little point in investing heavily in curriculum and human capital without also investing in assessments to evaluate what is or is not being accomplished in the class-

room. Fortunately, as Elena Silva noted in a recent report for Education Sector,<sup>5</sup> the potential exists today to produce assessments that measure thinking skills and are also reliable and comparable between students and schools—elements integral to efforts to ensure accountability and equity. But efforts to assess these skills are still in their infancy; education faces enormous challenges in developing the ability to deliver these assessments at scale.

Producing enough high-quality assessments to meet the needs of a system as large and diverse as U.S. public schools would stretch the capacity of the assessment industry, and incentives do not exist today for many new entrants to become major players in that field. We would need a coordinated public, private, and philanthropic strategy—including an intensive

research and development effort—to foster genuine change.

Substantial delivery challenges also remain. Delivering these assessments in a few settings, as is the case today, is hardly the same as delivering them at scale across a state—especially the larger states. Because most of these assessments will be technology-based, most schools' information technology systems will require a substantial upgrade.

Without better curriculum, better teaching, and better tests, the emphasis on “21st-century skills” will be a superficial one that will sacrifice long-term gains for the appearance of short-term progress.

Curriculum, assessment, and teacher expertise, training, and support have all been weak links in past education reform efforts—a fact that should sober today's skills proponents as they survey the task of dramatically improving all three. Efforts to create more formalized common standards would help address some of the

challenges by focusing efforts in a common direction. But common standards will not, by themselves, be enough.

The past few decades have seen great progress in education reform in the United States—progress that has especially benefited less-advantaged students. Today's reformers can build on that progress only if they pay keen attention to the challenges associated with genuinely improving teaching and learning. If we ignore these challenges, the 21st-century-skills movement risks becoming another fad that ultimately changes little—or even worse, sets back the cause of creating dramatically more powerful schools for U.S. students, especially those who are underserved today. □

### Endnotes

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3. Stan M. Shapson et al., “An Experimental Study of the Effects of Class Size,” *American Educational Research Journal* 17, no. 2 (1980): 141–152.
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### A Better, but Harder, Way

The point of our argument is not to say that teaching students how to think, work together better, or use new information more rigorously is not a worthy and attainable goal. Rather, we seek to call attention to the magnitude of the challenge and to sound a note of caution amidst the sirens calling our political leaders once again to



room. Fortunately, as Elena Silva noted in a recent report for Education Sector,<sup>5</sup> the potential exists today to produce assessments that measure thinking skills and are also reliable and comparable between students and schools—elements integral to efforts to ensure accountability and equity. But efforts to assess these skills are still in their infancy; education faces enormous challenges in developing the ability to deliver these assessments at scale.

The first challenge is the cost. Although higher-level skills like critical thinking and analysis can be assessed with well-designed multiple-choice tests, a truly rich assessment system would go beyond multiple-choice testing and include measures that encourage greater creativity, show how students arrived at answers, and even allow for collaboration. Such measures, however, cost more money than policymakers have traditionally been willing to commit to assessment. And, at a time when complaining about testing is a

# The Promise of Preschool

## Why We Need Early Education for All



The smiles on their faces say it all: preschoolers in Perth Amboy, New Jersey, enjoy learning in school. As the pictures here and on the following pages show, 4-year-olds in Carol Graff's class at the Ignacio Cruz Early Childhood Center benefit from a content-rich curriculum. Students learn letters and numbers, shapes and colors—and have plenty of time to play, too. Kendal, left, munches an apple slice during snack time. Below, in the library center in a corner of the room, Steve writes while Laura reads.

For details on Perth Amboy's preschool program, see the article on page 30.



BY W. STEVEN BARNETT AND ELLEN FREDE

**T**he worst economic downturn since the Great Depression may not seem the best time to propose a significant expansion of preschool. State and local budget cuts have affected all levels of education, including early childhood, an area that we have studied for more than 25 years. As codirectors of the National Institute for Early Education Research (NIEER), we conduct research and engage in other activities that involve visiting schools, meeting with teachers, observing students, and writing reports on effective preschool practices and how to implement them. Our research is also aimed at informing federal and state policy decisions about providing preschool. To help in this, we track state and federal legislation on early childhood education. Based on our research, and our review of others' research, we have consistently advocated for universal access to high-quality preschool.

By “high-quality,” we mean a program for 3- and 4-year-olds that develops their knowledge and skills across the content areas:

*W. Steven Barnett, a Board of Governors professor, and Ellen Frede, a research professor, are codirectors of the National Institute for Early Education Research at Rutgers University. An economist, Barnett is a researcher and an expert in cost-benefit analysis. A former teacher, Frede is a developmental psychologist and researcher who previously served as assistant to the commissioner for early childhood education at the New Jersey Department of Education.*

language and literacy, math, science, social studies, and the arts. A high-quality program also helps facilitate children's social, emotional, moral, and physical development, as well as helps shape their attitudes, beliefs, dispositions, and habits. In rigorous studies, preschools that have demonstrated the largest social and academic gains for children employ well-paid teachers who hold at least a bachelor's degree, and offer relatively small class sizes. They support teachers through expert supervision and professional development focused on their classroom performance.

PHOTOGRAPHS BY BRUCE GILBERT

And they are part of a larger system that provides additional resources for children who present special challenges (such as children with disabilities or English language learners).

High-quality programs can be found in public schools, in private child care, and in Head Start, but they are few and far between. Research on the educational quality and effectiveness of preschool programs indicates that few of the preschool programs children attend are of high quality.<sup>1</sup> Most might be rated as mediocre. A significant percentage provides little support for learning and development.<sup>2</sup> Private programs typically have the lowest quality, but many public programs are little better. Alarming, public policies that combine low reimbursement rates and low standards for child care with increased pressure on parents to work may actually harm children's development.<sup>3</sup> What is particularly sad about this state of affairs is that preschool education has the potential to produce exactly the opposite result.

The United States faces serious problems that effective early education can help alleviate, most notably high rates of school failure, dropout, crime, and delinquency, as well as far too many youth who are not well prepared for the workforce. From 35 to 45 percent of American children are poorly prepared to succeed in school at kindergarten entry.<sup>4</sup> Of course, it would be unrealistic to expect preschool education to solve the school-readiness problem, much less the bigger long-term problems, all by itself. At best, preschool education is one part of a larger, multifaceted set of public investments in human development. Nevertheless, even modest improvements may bring large benefits, as we explain in this article.

The annual Current Population Survey of school enrollment finds that about two-thirds of all 4-year-olds and about 40 percent of 3-year-olds attend a classroom-based program in child care, Head Start, or preschool. Of course, children not in classrooms are not necessarily at home with their parents: 21 percent of 4-year-olds are in home-based care with either nonrelatives (8 percent) or relatives (13 percent), as are nearly 40 percent of 3-year-olds.

We call for replacing our nation's patchwork of predominately poor and mediocre programs with preschool education that is part of every state's system of public education. Public education provides democratic governance and a much-needed infrastructure. Just as important, it connects prekindergarten with K-12 education, allowing preschool and kindergarten teachers to work together to ensure that children enter school prepared.

The education of young children continues to engender heated debates over costs and benefits, teacher qualifications, curricula, class size, and at what age children are ready for school. We cannot address all these points in a single article. But we can answer key questions that highlight the urgent need to offer high-quality preschool education to all children.

### What are the key characteristics of high-quality preschool?

The quality of a preschool program determines how effective it is in helping children learn and develop—and whether it's a worth-



Another school day begins at the Ignacio Cruz Early Childhood Center, one of seven sites to enroll Perth Amboy's 3- and 4-year-olds. As a result of a 1998 court order and subsequent state regulations, Perth Amboy and 30 other high-poverty districts began offering universal preschool. Today, more than 1,300 young children in the district attend preschool.

while investment. To assist educators, community members, and policymakers in assessing the quality of their preschools, we worked with our colleagues at NIEER to compile 10 research-based benchmarks, which we briefly describe here.\*

The first four benchmarks specify the minimum teacher qualifications. Research shows teachers are crucial. Better education and training for teachers can improve the interaction between children and teachers, which in turn affects children's learning. Thus, we recommend the following: teachers should have a bachelor's degree and specialized training in preschool education<sup>5</sup> and should complete at least 15 hours of in-service training annually,<sup>6</sup> while assistant teachers should have at least a Child Development Associate (CDA) or equivalent credential.<sup>7</sup>

Benchmarks five and six focus on class size and staff-child ratios. Classes should be limited to 20 children *at the most*<sup>8</sup> and have no more than 10 children per teacher.<sup>9</sup> With smaller classes and fewer children per teacher, children have greater opportunities for interaction with adults and can receive more individualized attention, both of which are essential to their academic and social development.

Early learning standards are also critical to quality because preschool programs too frequently underestimate children's capability to learn. Clear and appropriate expectations for learning and development across all domains are essential.<sup>10</sup> Thus, benchmark seven calls for programs to address children's physical well-being and motor development, social/emotional development, approaches toward learning, language development, and cognition and general knowledge.<sup>11</sup>

\*The limitations of research are such that judgment inevitably plays a role in setting specific benchmarks. When the evidence was not as solid as we'd like, we relied on the characteristics of programs that produced reasonably large educational benefits in studies with strong methodologies (e.g., High/Scope Perry Preschool and Chicago Child-Parent Centers, which we will discuss later).



At right, Carol Graff reads a book to students. Though they sit and listen during story time, the children are active much of the day. Below, Nalani shows off her dancing while all the children enjoy music playing on the classroom computer.



The eighth and ninth benchmarks relate to children's overall well-being; their success in school involves not only their cognitive development but also their physical and social/emotional health. So, preschool programs should provide at least one nutritious meal per day;<sup>12</sup> vision, hearing, and health screenings and referrals;<sup>13</sup> and frequent parent-involvement opportunities, such as parent conferences, and parent-support services, such as parent education.<sup>14</sup>

The final benchmark calls for implementing systematic methods for evaluating, monitoring, and improving program quality by conducting regular site visits that inform technical assistance and professional development.

Together, these 10 benchmarks represent the minimum criteria needed to ensure preschool programs have the resources they need to be effective, especially when serving children at risk of school failure. Meeting all 10 standards will not guarantee high quality. On the other hand, each of these standards is important, and it is unlikely a preschool can be fully effective unless all 10 benchmarks are met.<sup>†</sup>

Beyond these 10 benchmarks, we've found there's a certain buzz of purposeful, fun activities that characterize high-quality preschool classrooms. Children should be busy with conversations, projects, experiments, reading, and building activities; have opportunities to choose from a variety of short and long, indoor and outdoor activities; and have close, warm relationships with the adults as well as other children. Teachers should assess children's social and academic progress regularly and adjust their instruction and activities as needed; while important for all children, this is especially critical when working with English language learners and children with disabilities. Teachers should also prepare children for school by teaching expanded vocabulary,

alphabetic principles, and phonological awareness; concepts of numbers, shapes, measurement, and spatial relations; task persistence; early scientific thinking; and information about the world and how it works.

### Do the benefits of preschool outweigh the costs?

Over the past 50 years, researchers have accumulated a large body of evidence regarding the effects of preschool education on children's learning and development. The large number of studies allows researchers to use statistical methods to summarize their findings—a process called meta-analysis. We can estimate average effects across studies and, with enough studies, investigate how effects vary with preschool program characteristics, the populations served, and even the designs of the studies. Researchers associated with our institute conducted a comprehensive meta-analysis of findings from 123 studies conducted since 1960.<sup>15</sup> Most often, studies investigated the effects of preschool education on cognitive development. Studies also looked at how preschool affects socioemotional development and school success (as indicated by grade repetition or special education placement).

The findings of the meta-analysis are quite clear: preschool education positively affects learning and development. The average effect of the programs studied on cognitive development is substantial, large enough to move a child from the 30th to the 50th percentile on standardized tests (of IQ, reading, mathematics, etc.) at kindergarten entry. The more rigorous studies are more likely to find larger effects; when we adjust for study quality, the average effect is large enough to move a child from the 24th percentile to the 50th percentile. As children move through school, this initial effect declines by half, so the long-term impact on cognitive ability is about half as large as the immediate effect. Specific program features matter for program effectiveness, and long-term learning gains of close to 20 percentile points are obtained when programs are more optimally designed.

<sup>†</sup>Some have challenged this approach to quality, citing studies that fail to find any associations linking teacher education, class size, ratio, and other program features to either teachers' practices or children's learning. In our view, the nonexperimental methods of these studies are so prone to problems that they should carry little weight, especially since their findings are contradicted by the findings of experimental studies and defy common sense. For example, they find no added value from any education for teachers beyond a high school diploma. Yet, we find no examples of highly effective preschool when teachers are poorly educated and poorly paid.

Fewer studies looked at socioemotional development and school success, so we can't do the same kinds of fine-grained adjustments for study rigor and program features. Average effects across all studies reveal improvements of about 5 to 7 percentile points, but they do not decline over time. Long-term effects on outcomes such as social skills, problem behavior in school, repeating grades, and the need for special education are about half as large as those for cognition. Possibly, this is because the preschool programs studied focused less on these domains. We can't really tell from the meta-analysis, but recent studies specifically focused on social development suggest that better program design could lead to larger gains here, as well.<sup>16</sup>

A look at long-term findings reveals that gains in achievement and decreases in behavior problems, grade repetition, and special education are followed by other important outcomes throughout adulthood, such as increased high school graduation rates, increased earnings, decreased crime and delinquency, and better

mental health.<sup>17</sup> These long-term effects have considerable value despite their modest size.

While these findings are supported by an array of studies of varying quality, three studies have become quite well known, largely because they have provided a basis for cost-benefit analyses: the High/Scope Perry Preschool study, the Abecedarian study, and the Chicago Child-Parent Centers study.<sup>18</sup>

These three studies are methodologically rigorous, provide results into adulthood, and provide the only three comprehensive cost-benefit analyses of preschool education to date. Comparing the results of these three studies with those of the meta-analysis, we see that the initial cognitive effects of these programs are somewhat larger than the average across all studies, and even larger than those using more rigorous methods, but the magnitudes of their medium- to long-term effects are not exceptional. They clearly fit well with the rest of the literature.

All three programs served economically disadvantaged and

## New Jersey Finally Gets It Right

In 1998, as part of *Abbott v. Burke*, a school funding equity case, the New Jersey Supreme Court ordered the provision of high-quality preschool education for all 3- and 4-year-olds in school districts with large disadvantaged populations. Subsequent rulings clarified that all teachers should have early childhood certification and a four-year college degree, and that each teacher and assistant should serve no more than 15 children. The court also authorized the state to allow districts to contract with private providers such as Head Start and child care agencies to offer the program at the state's high standards. For several years, the state delayed full compliance, but in 2002, the state began to implement this ruling in earnest.

In 1999–2000, preschool programs in these districts were poor to mediocre, and children's learning gains were modest. Based on the widely used 7-point Early Childhood Environment Rating Scale–Revised (ECERS-R), in which programs are considered good if they score 5 or higher and poor if they score below 3, ratings of classroom quality were just above minimal (3.5) for the private programs most children attended and mediocre (4.4) for public school programs. Fewer than 10 percent of private programs reached a 5; worse, one-third fell below a 3, meaning they might actually impede children's development.

Full implementation of the court's order took time. The state had to develop preschool program standards, early learning outcome standards, and a new early childhood teacher certification. A

scholarship program was created to help teachers in contracted private-provider programs pay for college degrees and certification courses. Preschool teacher pay was raised in private settings to the same level as in the public schools. In addition, a continuous improvement process was created to measure progress toward the standards and to inform decision making at each level (child, classroom, district, and state). The continuous improvement cycle involves an iterative process of establishing standards or objectives, measuring progress toward them, analyzing results, and implementing improvements. It was applied at each of the following levels of the program:

- The child level, to document and analyze children's progress, and plan individual and classroom teaching strategies;
- The classroom level, to provide information for individual teacher self-assessment and related coaching, and when aggregated across classrooms for districtwide professional development practice;
- The district or program level, to provide districts and their private-provider partners a protocol for assessing their progress toward meeting program standards; and
- The state level, to inform statewide policy and professional development as well as to report to the legislature and the public on the preschool program's progress and impacts.

By 2007–08, the results were clear. Private programs served two-thirds of the children, but now did so under contract to local boards of education, and average scores on the ECERS-R had risen to 5.2 for both public school and private programs. There was now no difference in observed quality between public school and private programs. Most programs scored better than good, regardless of auspice, and fewer than 1 percent scored below a 3. Substantial gains in learning have been documented as a result. Grade repetition by the end of first grade has been cut in half for children who attended two years of preschool (from 10 percent to 5 percent). Test score gains are considerably larger than for Head Start and private child care centers that are not part of the court-ordered program. One of the most interesting aspects of this natural experiment is that most of the classrooms are in Head Start and private child care centers. With the features we cited above, and with infrastructure support from the public school system, they are producing larger learning gains.

To learn more about preschool in New Jersey, see *Partnering for Preschool: A Study of Center Directors in New Jersey's Mixed-Delivery Abbott Program* ([nieer.org/resources/research/partnering\\_preschool\\_highlights.pdf](http://nieer.org/resources/research/partnering_preschool_highlights.pdf)), *Assessment in a Continuous Improvement Cycle: New Jersey's Abbott Preschool Program* ([nieer.org/resources/research/NJAccountability.pdf](http://nieer.org/resources/research/NJAccountability.pdf)), and *Public Preschool in New Jersey Is One Roadmap to Quality* ([nieer.org/docs/index.php?DocID=102](http://nieer.org/docs/index.php?DocID=102)).

—W.S.B. and E.F.



primarily African American populations. However, the degree of disadvantage among the families varied from study to study, as did the extent of poverty and other social problems in the communities where the programs took place. All three programs had higher standards for teacher qualifications and pay than most preschool programs, including typical child care and Head Start centers, and many state-funded pre-K programs. Staffing ranged from the Perry Preschool's one teacher for every six children, to Chicago's one teacher and one aide for every 16 children. Two of the programs offered half-days during the school year for two years, but some children attended for only one year. The Abecedarian program provided full-day, year-round child care from the first year of life to age 5. These program features obviously affected the costs. Perry and Abecedarian cost more than the vast majority of public programs (in 2008 dollars, they were roughly \$10,000 and \$15,000, respectively, per child per year). However, the part-day Chicago program was a large-scale public school program that cost less, on an annual basis, than Head Start and many state pre-K programs

(in 2008 dollars, it was roughly \$5,700 per child per year).

The most accurate summary of the economic findings from these three studies is that the returns of public investments in high-quality preschool for disadvantaged children are greater than the costs. There is a tendency in the policy world to focus on the specific ratio of benefits to costs in each study—16 to 1 for Perry, 10 to 1 for Chicago, and 2.5 to 1 for Abecedarian. However, each of these ratios is subject to uncertainty, and we cannot simply project the economic returns of these three programs onto preschool education generally. When any program modeled after these examples is implemented today, variations in the population served, location, and program design and implementation have such large impacts on the benefits that these specific cost-benefit ratios are not particularly informative. Fortunately, we do not need highly precise estimates to guide public policy. Knowing that the benefits of high-quality programs are large relative to costs is good enough (and far better than the guidance we have for most public policies).



Students learn through a variety of activities. Above, Evan and Kendal play a math game on the computer. Right, Nalani focuses her attention in the dramatic play center. Below, Jalen and Gianna experiment with water.



When thinking about potential economic returns, there are a couple additional points to keep in mind. If a substantial increase in parental earnings is one of the desired outcomes, preschool education programs will have to be delivered in conjunction with full-day child care. Otherwise, they do not offer enough support for working parents. Similarly, if programs are to substantially reduce crime, they will need to serve children in neighborhoods where crime is a serious problem (you can't prevent a problem where there isn't one), and they will need a curriculum that addresses social and emotional development and behavior rather than just academic achievement. This last lesson comes from the larger research literature. Generally, we should expect that variations in program design, population served, and social context will affect the returns to public investments in early education.

### What have we learned from Head Start?

Head Start, the nation's oldest and largest publicly funded child development program, is higher in quality than most private programs, but it could be improved greatly. Currently, our best evidence of Head Start's impacts comes from the congressionally mandated National Impact Study. The study found

modest positive effects on some, but not all, outcome measures after nine months of Head Start. Effects were smallest for broad cognitive measures (such as tests of prewriting and vocabulary) and larger for narrow literacy skills easily taught and mastered in a brief time (such as naming letters). By kindergarten and first grade, there were virtually no persistent positive effects on children.<sup>19</sup> However, we believe the results underestimate Head

Start's impacts because many of the children in the control group (i.e., who were not in Head Start) received other preschool services. Nevertheless, even the most favorable statistical adjustments would not fundamentally alter the conclusion that Head Start is much less effective than had been hoped.

One key to dramatically improving Head Start is suggested by research findings from Tulsa, Oklahoma.<sup>20</sup> Oklahoma is the state closest to offering pre-K to all 4-year-olds. This state-wide effort has included a variety of strategies, including partnering with existing Head Start centers. In Tulsa, the public school district supports and oversees pre-K in public school classrooms and partners with Head Start. The school district pays for fully certified teachers to teach in Head Start, and they receive the same salaries and benefits as other public school teachers. The result is that children's learning gains in Tulsa Head Start are much more similar to those in the Tulsa public schools, and considerably larger than learning gains in Head Start nationally. This finding is particularly notable since Head Start's major shortfall with respect to the features of high quality is the low level of teacher qualifications and pay. Although almost half of all Head Start teachers nationally have bachelor's degrees, their earnings are about half of public school teachers'. Even in Tulsa, however, Head Start still appears to underperform the public schools on some key measures, a topic to which we will return later.

### What have we learned from other preschool programs?

State and local pre-K policies vary greatly, making it difficult to generalize about programs nationally. For example, the High/Scope Perry Preschool was a public school program, but was far from typical. The Chicago Child-Parent Centers are closer to today's public school programs in funding level and in features such as class size, teacher qualifications, and pay. Chicago's centers demonstrate what a carefully crafted, reasonably funded public school program can accomplish. A similar public school program for 4-year-olds was found effective in a rigorous study back in the 1960s.<sup>21</sup> This study involved about 500 children, and the program features were more similar to those of today's public school programs. A teacher and an aide staffed each preschool classroom of 17 children. Effects on cognitive abilities at kindergarten entry and at third-grade follow-up were impressive; they were comparable to the average effects in the meta-analysis for rigorous studies.

Looking across these three well-researched and effective public programs, we see that all three employed public school teach-



Perth Amboy preschoolers learn to work independently and develop social skills. Above, Jenifer concentrates on painting. Left, Rahim and Steve compare cookies during snack time.

ers who received intensive coaching and supervision, with regular in-depth discussion and feedback regarding teaching practices. That support for teachers likely contributed to the strong results and dif-

ferentiates these programs from many others today.

More recent studies, though not as rigorous, have estimated the initial effects of one year of state pre-K on children's cognitive abilities in eight statewide samples from Arkansas, California, Michigan, New Jersey, New Mexico, Oklahoma, South Carolina, and West Virginia.<sup>22</sup> The average effect is about half of that found in the meta-analysis for more rigorous studies, though the top-performing states have effects similar to each other and to results from the Chicago Child-Parent Centers. In all three domains tested—language, literacy, and mathematics—estimated average effects are several times larger than the most generous estimates of Head Start's effects. While these eight state programs are not representative of all state pre-K programs, they are a broad sample and demonstrate that large-scale public pre-K programs can meaningfully affect children's learning.

Recent studies of the long-term effects of state-funded pre-K programs are weaker methodologically.<sup>23</sup> Nevertheless, they have yielded evidence of long-term gains in test scores, decreases in grade repetition, and decreases in behavior problems. Long-term test score gains in some state pre-K studies have been comparable to averages from the meta-analysis. These effects are much, much larger than those found for child care programs or Head Start.

### Should government-sponsored preschool be targeted to children in need or open to all?

In recent years, a number of states—Florida, Georgia, Illinois, Iowa, Maryland, New York, Oklahoma, and West Virginia—have

moved toward providing free public pre-K for all children.<sup>24</sup> These states vary considerably in their actual coverage and program quality: only Oklahoma can be considered to have succeeded in providing high-quality preschool education to almost all 4-year-olds. Florida and Georgia serve most of their 4-year-olds, however, the quality of their programs is suspect, particularly in Florida. Florida requires lead teachers to have only a paraprofessional credential and funds the program at about \$2,500 per child for a school year (about one-third of the amount per child for Head Start).

By and large, early childhood policy in the United States remains firmly focused on serving only the economically disadvantaged. This targeted approach is fundamentally unsound and should be changed in favor of public preschool for all. Our reasons, which we expand on below, are as follows:

- Targeting does not serve disadvantaged children well in practice.
- Targeting is based on a misconception that low academic performance in America is primarily a problem of the poor.
- Most children from middle-income families lack access to high-quality preschool.
- Effective preschool programs produce strong academic and social gains for all children, even though gains for disadvantaged children are somewhat larger.
- The added benefits of universal programs outweigh the added costs.

The United States first committed to providing children in poverty with preschool programs in 1965, when the federal Head Start program was launched. States have added to this commitment by funding their own pre-K programs; the vast majority target children from low-income families. Yet, today, less than half the children in poverty attend a public preschool program at age 4 and an even smaller percentage attends at age 3. Many of those who are enrolled attend programs that are less than highly effective. Subsidized child care brings the percentage of 4-year-olds enrolled in a center-based program to more than 50 percent, but effectiveness and quality are even lower in child care. After nearly a half-century of failure to achieve the nation's goals with targeted preschool, it is time to consider another approach.

Our inability to serve most children in poverty often goes unnoticed because it is naively assumed that all children in Head Start and other targeted programs are poor. In fact, about half the children enrolled in Head Start are not poor, and state pre-K programs are even less tightly targeted. This is not just because the eligibility rules are loose or poorly enforced. Family income fluctuates over time, and few families are poor two years in a row. Some states redetermine eligibility for child care subsidies frequently to tighten targeting, but bouncing children in and out during the year is no way to run an educational program. In addition, neither Head Start nor other targeted programs are entitlements, and they have never been funded at levels adequate to fully enroll the eligible populations. Finally, some families shy away from programs limited to poor families, either to avoid stigma or because they worry about negative consequences for their children if the only peers they associate with are also poor.

Pre-K for all would greatly increase the number of children from poor and near-poor families who receive a free public preschool education. It also would at least double the enrollment in public preschool programs of children from families in the bottom 40 percent of income. Just how close to 100 percent participation we get would depend on program quality and how well it accommodates parental needs for child care (for example, by offering wraparound care outside school hours). Some of New Jersey's



Classroom teacher Carol Graff and paraprofessional Emily Colon act out a story (that includes music and dance) with the students. Movement is an important part of the preschool day.





Above, Carol Graff reads a story to a small group of students seated in the science center. Working with small groups allows Graff and Colon to see which students understand the material covered in class and which ones need more help. Right, Perth Amboy students enjoy outdoor play.



pre-K programs have reached that 100 percent mark (to learn more, see page 24).

Whether quality would improve with pre-K for all depends on how the policy is enacted. There is some temptation for politicians to offer universal pre-K on the cheap, so that they basically subsidize existing child care arrangements without raising quality. Florida's universal program seems to be following this pattern. On the other hand, Oklahoma offers preschool education to all 4-year-olds at a high level of quality.

Incorporating pre-K into public education is the best way to prevent this bait and switch. Currently, most state-funded programs are administered through state departments of education (sometimes jointly with other agencies). We believe that state and local boards of education should be responsible for providing high-quality preschool. However, they should partner with private organizations, including those that contract to deliver Head Start, to supply those services. Such partnerships can provide highly effective early education while meeting child-care needs and giving families more choices.

Under this system, all preschool programs are subject to public standards, accountability, and local democracy. Centers—that fail to meet standards for classroom practice and student learning despite support for improvement would lose their contracts. Our experience in New Jersey shows that few centers actually need to be eliminated when there is real accountability and support.

With this structure, pre-K for all stands to benefit economically disadvantaged children in another important way. Children learn from each other, not just from teachers. Research indicates that

disadvantaged children may learn significantly more if they attend classes with children from a broader socioeconomic spectrum. As we discussed earlier, pre-K teachers in Tulsa have the same credentials and compensation in the public schools and Head Start. Children's gains in mathematics are nearly identical in the two settings. However, children's gains in literacy and social skills are considerably larger in the public school pre-K classrooms than in Head Start.<sup>25</sup> Although differences in curricula and teaching practices cannot be ruled out as a cause, we suggest that children's interactions may contribute to the differences. Head Start serves a poorer and more limited socioeconomic range than the Tulsa public schools.<sup>26</sup>

One of the main reasons why most public preschool programs have been limited to children from low-income families is that much of education policy in the United States focuses on closing the achievement gap between disadvantaged students and their higher-income peers. The achievement gap is a serious problem, more serious than most people realize. The fact is, the achievement gap between children from middle- and high-income families is as great as the gap between children from low- and middle-income families. To close the achievement gap, our preschool and other remediation programs need to serve children from both low- and middle-income families, as they all need assistance in catching up to their peers from high-income families.

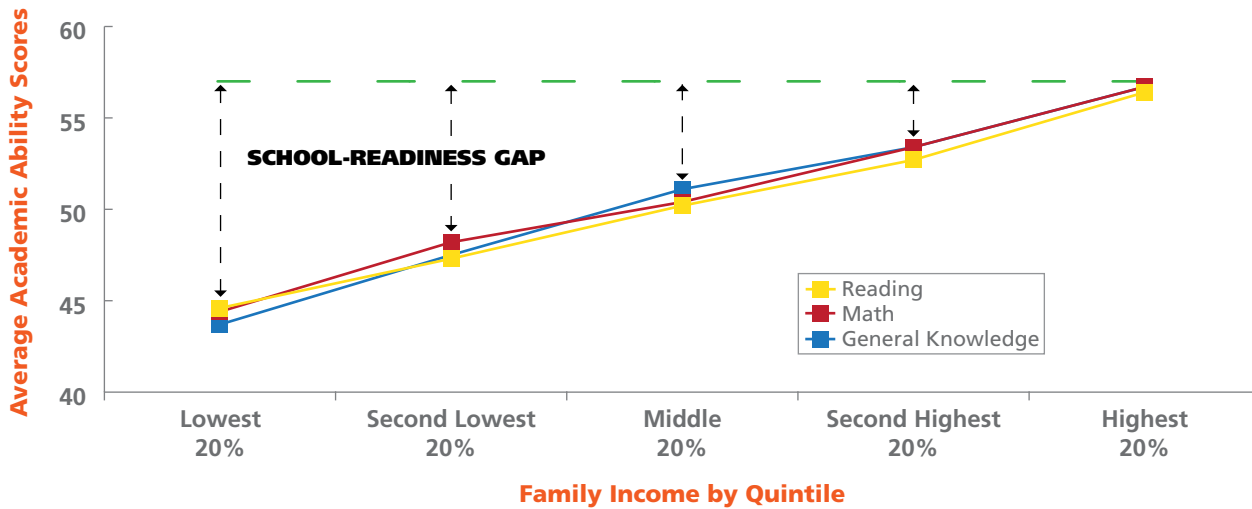
On average, children from low-income families are the furthest behind. But when we look at individual scores

instead of group averages, we see that very low achievement is not limited to children from very low-income homes. In fact, simply because there are many more children who are not poor than children who are, most very low-scoring children are not poor. Likewise, most children who repeat a grade or drop out of school are not poor. These middle-income children need the jump-start that a high-quality preschool program could offer—but without a universal program, most won't get it. If we as a nation focus on children in poverty alone, then we fail to address most of the achievement gap, school failure, and dropout problems.<sup>27</sup>

A surprising number of studies indicate that all children from middle- and higher-income families (not just those who are behind) would benefit from universal pre-K. The Tulsa study, for example, found positive effects for all income groups. Effects for the highest income group were, on average, 87 percent as large as those for the lowest income group. A similar statewide study of universal pre-K in Oklahoma found test score gains for children who did not qualify for free or reduced-price lunch were 74 percent as large as the gains for children who did qualify. (To qualify,

# Closing the School-Readiness Gap

When they enter kindergarten, children from lower- and middle-income families are, on average, far behind their wealthier peers in reading, mathematics, and general knowledge. High-quality preschool could help close this gap in school readiness.



SOURCE: ANALYSIS OF DATA FROM THE EARLY CHILDHOOD LONGITUDINAL STUDY, KINDERGARTEN CLASS OF 1998–99 (SEE [NCES.ED.GOV/ECLS/KINDERGARTEN.ASP](http://NCES.ED.GOV/ECLS/KINDERGARTEN.ASP)) BY W. STEVEN BARNETT AND MILAGROS NORES FOR THE NATIONAL INSTITUTE FOR EARLY EDUCATION RESEARCH.

a family's income must be under 185 percent of the poverty level, which is just over \$40,000 for a family of four.) Our study of New Jersey's Abbott pre-K program, available to all children in 31 cities with large low-income populations, found that effects averaged 81 percent as large for those who did not qualify for a school lunch subsidy.

Finally, we also find that targeted policies are bad economics; the added benefits of a high-quality universal program will exceed its added cost.<sup>28</sup> Partly, this is because a universal program will reach far more disadvantaged populations; as a result, it will produce larger academic and social gains for all disadvantaged children served. In addition, even if benefits for each middle-income child are only half as large as those for a disadvantaged child, the benefit per child will still far exceed the cost of serving a middle-income child. Perhaps, for high-income families, the benefits per child might not quite justify the cost. However, these children contribute to others' gains through their classroom interactions and, possibly, through their parents lobbying for high quality. High-income families also bear a disproportionate share of the costs through the tax system.

**W**e have calculated costs and benefits under a wide range of assumptions, and have found that the universal approach is a much better public investment. Pre-K for all children is a pro-growth policy that can reduce the future costs of educational failure—expensive remediation, crime, and unemployment. A deep recession is exactly the time to move forward with such a policy. In closing, it's important to note that the United States is not the only source of evidence that high-quality public pre-K helps children from all backgrounds.<sup>29</sup> Studies in the United Kingdom find modest positive effects on cognitive and social development that persist at least through the primary grades for children from all socioeco-



**Adam talks to Emily Colon during small-group instruction. With Colon's help, the children are using blocks to take measurements.**

omic backgrounds. International comparisons find that more preschool education is associated with higher test scores, and high participation rates are associated with less within-country inequality in test scores. These international results reinforce the findings from the United States that high-quality preschool education is valuable for all children. They also confirm a pattern evident in the American research: all children benefit substantially, but disadvantaged children gain more, making preschool an excellent means of increasing overall achievement while narrowing our troubling gaps. □

*(Endnotes on page 40)*

# A Preschool with Promise

## How One District Provides Early Education for All

BY JENNIFER DUBIN

As soon as Adam Morales's parents pick him up from the Ignacio Cruz Early Childhood Center, the 4-year-old often starts talking about the story they read in class that day, the songs they sang, the musical instruments they played, the animals they counted, the letters of the alphabet they wrote, the picture he drew, the tricycle he pedaled on the playground, the blocks he piled high, and the toy truck he pushed around the floor. In short, he tells them how much fun he had and what he learned at school.

For students ages 3 and 4 in Perth Amboy, New Jersey, the two ideas—learning and fun—are one and the same. The school district has created a full-day preschool program in which teachers carefully plan fun, engaging, and educational lessons. They also carefully plan the day so children enjoy a mix of teacher-directed time, self-directed time, and play time. Many Perth Amboy children benefit from a curriculum that introduces letters and numbers, builds their vocabularies, hones their listening and social skills, and gives them the background knowledge they need to be prepared for school. Adam's teacher, for instance, engages with her pupils in their make-believe games of being a doctor or playing house to stretch their imaginations and expand on what they know about the world.

Outside of school, that world is a blue-collar town on the banks of the Raritan River in central New Jersey. Many parents work in factories in neighboring areas, or have clerical or custodial jobs with the board of education or the sprawling hospital complex in the center of town. In all, 74 percent of the district's students receive



At the Ignacio Cruz Early Childhood Center, Carol Graff immerses students in a variety of content throughout the school year. Every four to six weeks, she introduces a topic for her class to study in depth. Throughout the fall, the children learned about apples, pumpkins, and spiders. Later, they will study clothing, pets, the ocean, and ice cream.

In January and February, when these photos were taken, Graff's students were studying hair. They studied the different styles, textures, and colors of hair, and learned vocabulary words such as scalp, hair follicle, and hair shaft. As part of the unit, Graff's students grew grass—in paper cups decorated with faces—to simulate hair growing. Right, Steve displays his plant's "hair."



free or reduced-price meals, and 68 percent speak a language other than English at home. Perth Amboy has long been a city of immigrants. Italians, Poles, Hungarians, and Ukrainians settled here in the early to mid-1900s, followed by Puerto Ricans in the 1970s. Today, the city is largely Latino, with many recent arrivals coming from South America, Mexico, and the Dominican Republic.

Although it's one of the wealthiest states in terms of median household income, New Jersey has its share of impoverished school districts. In 1998, the New Jersey Supreme Court, as a result of a school funding lawsuit known as *Abbott*

*Jennifer Dubin is the assistant editor of American Educator. Previously, she was a journalist with the Chronicle of Higher Education.*



*v. Burke* (see “New Jersey Finally Gets It Right” on page 24), sought to address such disparities. Through court orders and subsequent state regulations, 31 high-poverty school districts, including Perth Amboy, were required to provide full-day preschool for 3- and 4-year-olds. Each preschool class could be no more than 15 students and had to have a teacher with a bachelor’s degree and certification, as well as a trained paraprofessional. The districts had to choose a state-approved preschool curriculum, and master teachers had to provide professional development throughout the school year.

To determine the needs of Perth Amboy’s youngsters, right before implementing universal preschool 10 years ago, the district joined a collaborative of *Abbott* districts to fund a study of households. The analysis found that “children had no exposure to books before they came to us,” says Superintendent John Rodecker. As a result, the district has worked to develop a preschool program that prepares children for school both socially and academically—and that gets them excited about learning.

Today, more than 1,300 3- and 4-year-olds attend preschool in the district. At Ignacio Cruz, Adam is quickly learning his letters and numbers. His mother, Paulina Morales, is quite pleased with her son’s progress. When “he picks up a book, he doesn’t put it upside down,” she says. “He might not know what it says right now, but he’s learning.”

### A Content-Rich Curriculum

Prior to *Abbott*, Perth Amboy Public Schools limited preschool to children who were most educationally in need. If 3- and 4-year-olds did poorly on a school-readiness test, they were admitted to the program. The district funded two half-day preschool classes in each of its five elementary schools. Across the whole district, roughly 250 children were served each year.

As a result of *Abbott*, Perth Amboy hired teachers and paraprofessionals for 10 full-day preschool classes in 1999. Today, there are 90 preschool classes. After offering preschool within elementary schools and running out of room, the district built two new buildings just for preschool—the Igna-

cio Cruz Early Childhood Center and the Edmund Hmieleski Jr. Early Childhood Center—and took over School Number 7, a former elementary school now also home to the district’s early childhood department. Struggling to keep up with parents’ interest in the program, Perth Amboy also pays four private child care centers to enroll roughly 200 children. The private centers work with the district’s early childhood supervisor, use

The hair study culminated with the students opening their barber-shop, which they named “Little People Haircut.” Right, paraprofessional Emily Colon helps Rahim paint the shop’s sign. Below, teacher Carol Graff checks on Steve and Laura’s progress.



the district’s curriculum, employ licensed teachers paid at public school salaries, and meet the district’s administrative and operational standards.

Although the program is “universal” in that any Perth Amboy child can attend, as of January the waiting list had more than 100 names. “The goal is to serve every eligible student, and we thought we were close to that,” says Superintendent Rodecker.

“The numbers seem to keep growing.”

Children spend most of their time in the classroom; they eat, learn, and nap there. But they still enjoy plenty of active play. Each day, they spend 60 minutes developing their gross motor skills: if the weather is nice, they play outside; indoors, they have room for hopscotch and basketball, among other games. At 8:30 a.m., the school provides free breakfast for all chil-

dren. At 9 a.m., the day officially begins. While classes for 3- and 4-year-olds follow slightly different schedules (3-year-olds eat lunch and nap earlier), school ends for all children at 3:30 p.m. and extended child care runs until 6:30 p.m.

Both the 3- and 4-year-olds' programs focus on preparing for school academically and socially, but teachers devote more time to helping 3-year-olds get acclimated to the school day. They introduce 3-year-olds to the concept of the daily schedule, and encourage self-help skills such as feeding themselves and cleaning up after themselves. Teachers also focus on developing 3-year-olds' oral language skills by helping them learn vocabulary that will allow them to follow directions, take turns, and express their needs to adults.

For both 3- and 4-year-olds, the classroom is organized into interest areas known as centers. Three-foot-high bookcases separate each area and hold supplies. In the library, writing, and media centers, children "read" books, practice writing, and play literacy games on the computer. In the art center, they draw and paint, and do projects. In the blocks center, they push trucks and build with blocks. In the toys and games center, they sort objects and solve puzzles. In the dramatic play center, they act out career aspirations and family situations. In the music and movement center, they play instruments, sing, and

dance. In the sand and water centers, they play, experiment, and learn about concepts such as balance, flotation, and measurement. In the science center, they expand their knowledge of the natural world and hone their powers of observation.

In morning and afternoon sessions that add up to roughly two hours per day, students engage in meaningful play in the centers of their choice. Within this time, the classroom teacher and the paraprofessional work with students in small groups for about 15 minutes in each of the centers. For example, in the science center, children will be guided in comparing and contrasting objects and discussing what they observe. In all of the centers, the teacher and paraprofessional engage students in their play and ask them questions to stimulate their thinking. The idea for the centers, and how they should be organized, comes from the Creative Curriculum for Preschool. Creative Curriculum calls for the same classroom centers for both 3- and 4-year-olds. However, for 3-year-olds, the curriculum focuses more heavily on social skills and language development, while for 4-year-olds, reading, writing, math, social studies, and science concepts and skills are integrated into the activities more systematically.

A couple of years into the district's use of this curriculum, kindergarten teachers raised concerns that students were not as well prepared as they should be because they didn't know enough letters and numbers when they arrived in kindergarten. At their urging, preschool teachers began

infusing more literacy and math content into Creative Curriculum's "shared reading" and "morning meeting" activities. Now, during shared reading, the teacher reads a book to students, asks questions, and has the children engage in choral reading (in which they repeat sentences from the book out loud). During morning meeting, a variety of activities enhance children's language and math knowledge. For example, the teacher has them count the students to take attendance, and sing songs.

In addition, Perth Amboy's kindergarten and preschool teachers began meeting together regularly to review state standards that outline what students should learn in each grade. Through these meetings, teachers align the knowledge and skills that children should acquire in preschool to the expectations for their transition to kindergarten. Academically, the goals for students entering kindergarten include knowing basic colors and shapes and several letters of the alphabet, identifying their written name and writing it with some legibility, and counting to 20. Socially, children should learn to resolve conflicts, work and play together, be honest and respectful, and follow classroom rules. Such meetings, which continue to take place, help ensure that students enter kindergarten prepared and that their teachers are sharing ideas for helping them grow.

Preschool teachers closely monitor student learning. As part of Creative Curriculum, teachers assess 3- and 4-year-olds in math and language. To assess listening skills, for example, teachers ask students to follow directions. To assess their progress in math, teachers ask students to count from 0 to 5 or 1 to 10. In February and June, students receive a progress report created by the district detailing their language, social/emotional, and physical development (gross and fine motor skills), and their progress in mathematics. The district has also developed its own math and language assessment for 4-year-olds to take at the end of the school year. The assessments help the district pinpoint where students excel and where they need to improve. Mary Jo Sperlazza, the district's supervisor for early childhood education, says the assessments given in June test

**Rahim enjoys being creative and practices his fine motor skills by painting the barbershop sign.**



students' knowledge of beginning sounds in words, uppercase letters, rhyming words, colors, shapes, and numbers—everything that “we’re teaching them all year” in preschool.

### Apples to Apples

At the Ignacio Cruz Early Childhood Center one morning in October, students in Carol Graff’s 4-year-old class sit on a green carpet in the library center in a corner of the room. They have assembled there for the 9 a.m. morning meeting. “1, 2, 3, eyes on me,” Graff says to get their attention. She takes attendance and then tells Jalen it’s his turn. Graff asks everyone to count the number of boys and girls with him. When Jalen says there are five boys and seven girls, Graff turns to a laminated paper with the equation “\_\_ boys + \_\_ girls = \_\_ Total Children” taped to the wall. Graff writes 5 in front of boys and 7 in front of girls. “Now we’re going to add,” she says as she writes 12 in front of Total Children. “Let’s count everyone all together so we can make sure the total we have here is the same as you’ve counted.” The children count to 12. To reinforce what they just did, Graff points to the equation, and asks, “What number is up here?” The children say the same number: 12. Rounding out the morning meeting, students, with Graff’s help, read aloud a poem about apples and perform some of their weekly classroom chores. Students’ assignments for the week are listed on a poster: line leader (Adam), line ender (Steve), and attendance counter (Jalen), to name a few.

Standing near Graff is Emily Colon, a paraprofessional, who works with Graff to implement lesson plans and provide individual and small-group instruction. Besides helping to teach, Colon gives students their breakfast and lunch, and supervises them during nap time. She also looks after the class pet, Nena, a parrot she brought from home.

After the morning meeting, students engage in various activities, including working in small groups with Graff and Colon. At Graff’s science center table, they will conduct an apple taste test, while at Colon’s table in the middle of the room, they will count apples. Both activities are part of the class’s month-long study of apples. A couple of days ago, Graff read books to the students about how apples grow and introduced them to words such as

blossom and seed pocket.

Five students walk to the science center: a table and chairs next to a countertop and a low sink. Graff, who has written Red Delicious, Golden Delicious, and Granny Smith on a poster, explains that everyone will say which kind they like best after tasting. Then she’ll put that information on a graph. The children take their seats and look at three apples on the table. “What’s that thing sticking out?” Graff asks. “The stem,” they say. Graff asks Nalani if the apples are the same or different. “That one’s yellow, that one’s green, that’s red,” Nalani says, pointing to each. Graff asks if the stem makes an apple bigger or taller. Rahim says taller.

Graff washes the apples and uses a corer to cut them. “This is so awesome like that!” Rahim says, as the apple slices fan out. Graff asks the children to wash their hands. When they return to their seats and start eating, Graff continues the discussion. “What’s the inside of the apple that we eat called?” “Flesh,” Rahim says. Graff breaks an apple core and shows the children the seeds. They eagerly lean forward to look. After they taste each apple, Graff asks them their favorite and records their answers on a graph. In future lessons, Graff will teach the students how to read the graph and then will use it to introduce concepts such as more than and less than, and most and least.

After 15 minutes, the students at Graff’s table move to Colon’s, where they continue the apple theme. Colon lays three pictures of red, green, and yellow baskets on the table. Next, she hands out pictures of apples the same colors as the baskets. Adam looks at his pile and decides he wants more yellow apples. “Can I have Golden Delicious?” he asks. Colon looks at him and smiles. “I like the way you say the name instead of just saying apples,” she says. “They have a name just like you.” When Colon tells them to, the students rush to place their “apples” in the basket



Inside their barbershop, students took turns playing the roles of barber and customer. Barber Adam attends to his customer, Steve, whose smile shows he’s satisfied with his imaginary haircut.

with the same color. After a few seconds, Rahim finishes first. “I win!” he says, throwing up his hands. Colon praises Kendal for sorting her apples by color first before placing them in the correct basket.

Colon then shows the students a basket of artificial apples. “We’re going to do an estimation,” she says. “I’m going to ask you how many apples you think are in this basket.” Rahim and Adam guess six and Kendal, who seems more interested in playing with the apples, says “a lot.”

“Yes, I know there are a lot,” Colon says, and encourages her to make a concrete guess. Kendal looks at the basket and says four. After everyone has given their estimates, Colon lines the apples up on the table. She tells the students to look quickly at the apples without counting them, and then to close their eyes. If they want, she says, they can change their numbers. All the students increase their estimates. Then, with Colon’s help, they count the 12 apples. Colon asks whose estimate was the closest. “I picked eight!” Adam says. When Colon



points out that Nalani also picked eight, the two children cheer.

After all the students have worked with Graff and Colon, they choose other center activities. Adam and Rahim play with cars in the blocks center. Kendal, Nalani, and Shawna play house in the dramatic play area. Damaris sits on a tiny couch by the window listening to *Goodnight Moon* on tape. While Colon builds and counts blocks with Francisco, Graff helps Laura and Jenifer paint pictures. When Jenifer asks Graff for help, Graff encourages her to paint a self-portrait. After she paints her eyes and nose, she pauses and looks up at Graff. "What else do you have on your head?" Graff asks. Jenifer says hair and goes back to painting. Suddenly Adam and Rahim rush over to tell Graff that a couple of girls are hogging the play phone. Without directly intervening, Graff helps them solve their problem. A few seconds later, she turns and notices Laura opening the door to the bathroom (conveniently located inside the classroom) and tells her to wipe the paint off her face.

Graff calmly walks through the room. She seems to be everywhere the kids are, but in a way that makes them feel like she's giving them her undivided attention. "You try to not make it like you're the whirlwind, but focus on what each child is doing," she says later. When Graff sees Nalani playing with the stethoscope, she asks if she knows how to use "a stethoscope." Graff makes a point of identifying the instrument to familiarize Nalani with

its proper name. The little girl puts the plastic toy in her ears. "Then what do you do?" Graff asks. Nalani takes a deep breath and exhales, pushing out her tummy. To Graff's delight, Nalani clearly remembers what happens during a visit to the doctor. She then presses the stethoscope to her chest and pretends to listen to her heart.

At noon, Graff tells the children to finish their activities and sit on the carpet for shared reading. Graff has chosen a nonfiction book *How Many?* by Judy Nayer. The book contains pictures of animals and people, flowers and the four seasons, and asks the children to count the number of items shown. The numbers 1 through 10 run along the bottom of each page to help the children count. To review what they've already learned, Graff asks the students to name the parts of the book—front cover, back cover, and spine—and then begins to read the first line of the book, "Can you count the things you see?" She asks the children to give examples of what they count every day. They say the days on the calendar and each other while taking attendance.

Graff turns to a picture of apples. "What kind of apples do you think they are?" she asks, linking a term learned earlier to the current lesson. "Red Delicious," Laura says. When Graff asks Gianna how many apples are in the tree, she helps Gianna count: 1, 2, 3. "How many apples did we taste today?"



Above left, Laura pretends to give Jenifer a shave, while Shawna adjusts her smock. Above, Laura answers the barbershop phone.

Graff asks. The students say three.

A few pages later, Graff reads, "How many seasons are there in all?" She holds up a picture of penguins in snow, flowers in a field, a beach scene, and colorful leaves. When she asks how many penguins there are, the children call out six. Another voice adds that penguins live in Antarctica. That Laura knows such a big word—one the class hasn't covered yet—impresses Graff and Colon, who exchange surprised smiles. They tell Laura she could go to elementary school right now, and the little girl giggles.

### Skilled, Knowledgeable, Supported Educators

Graff and Colon regularly discuss which children understand the material covered in class and which ones need more help, and they tailor their instruction accordingly. For those students who speak Spanish at home and have trouble comprehending certain sentences in English, Colon

translates for them and then repeats the phrase in English.

To help the teachers meet their students' needs, Lynda Alfano, a master teacher who works full time in the building, partners with experienced teachers like Graff—who has taught for eight years—and those new to the profession. Teachers attend professional development sessions run by Alfano and meet with her individually to improve their instruction. Last year, for instance, Alfano and Graff built on the math concepts Graff and Colon presented during their small-group work by creating a Venn diagram to use in the classroom. Upon arrival each day, students wrote their names in a certain part of the diagram to show if they planned to eat the school snack, the snack they brought from home, or a little of both. At snack time, the child assigned to helping with snacks for the week consulted the diagram, with the teacher's help, to see how many children wanted which snack. Introducing the diagram was "a purposeful way to incorporate a math skill for children to practice," Alfano says.

Alfano regularly visits classrooms to model a lesson or coteach, and to observe and make suggestions. In addition to those visits, the principal and vice principal observe classrooms regularly to see how "children are interacting with each other" and "what their accomplishments are as far as their learning," says Principal Susan Roque. She and her staff also welcome parents to the school and encourage them to engage in their children's education. Every other month, parents and children are invited to a family literacy night in which



Students, wearing ponytails made out of yarn, listen to Graff read *Stephanie's Ponytail* by Robert Munsch.

teachers and paraprofessionals model how to read books to children. Families also participate in a craft activity related to one of the featured books. At the end of the night, each family receives a free book. On average, 100 families attend.

Classroom teachers also engage parents. Graff and Colon send home newsletters in English and Spanish twice a month telling them the activities and skills children have been working on in class, what books they're reading, and content and skills to reinforce at home. For example, in the newsletter dated October 29, Graff wrote that students were learning how to write their names and count forward and backward between 0 and 10. If Graff has a particular concern or if a student has done something great, Graff usually calls or writes a note home. Paulina and Adalberto Morales appreciate the constant feedback. When Graff sent home a picture of Adam building a tower, "it meant a lot to me," Paulina says. She saw that he had assembled the tower "correctly and neatly" and was reassured of his progress.

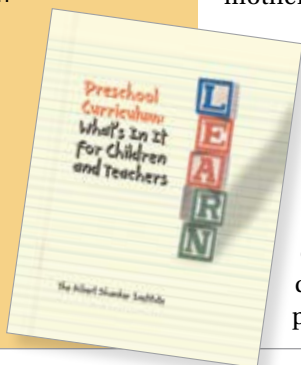
Adam often builds towers and pushes trucks in class with his friend Rahim, whose mother is pleased that her son's favorite activity is listening to a story. "He loves to come home and tell me what book they read," Iram Shah says, "and he wants to buy exactly the same book. So we have a little library in our house, too."

Perth Amboy's preschool teachers take pride in the district's students entering kindergarten prepared. "Their language skills are

exceptional when they come out of our preschools," says Donna Chiera, president of the Perth Amboy Federation/AFT. "They can count to 20. They know their colors." Chiera notes that the preschool program is especially crucial for children whose first language is Spanish. In addition, over the years, says Chiera, kindergarten teachers have attributed their students' improved social skills to the district's preschool; children have learned to take turns, listen to the teacher, and wait patiently. As a result, kindergarten teachers say they can spend more time teaching content instead of emphasizing appropriate classroom behavior.

While district officials try to accommodate more preschool students, Adam and his classmates will continue to enjoy learning. At the end of that October day in Graff's class, the students, wearing coats and book bags, stand near their cubbies as Graff asks them to review all that they did during the day. Rahim says they ate apples. Laura says they counted. Other voices say they read a story. Although it's 3:30 p.m., the students are chatty and energetic. They have just come inside from playing outdoors, and as they socialize with each other and move around, their little bodies seem to say they would like to stay and do more. Not looking the least bit tired, Shawna can't believe how quickly the day has passed. She looks up at Graff and asks, "It's time to go home?" □

For top researchers' recommendations on making the most of young children's natural proclivity to develop knowledge and skills in language, literacy, mathematics, and science, see *Preschool Curriculum: What's In It for Children and Teachers*, published by the Albert Shanker Institute (available at [www.ashankerinst.org](http://www.ashankerinst.org)).



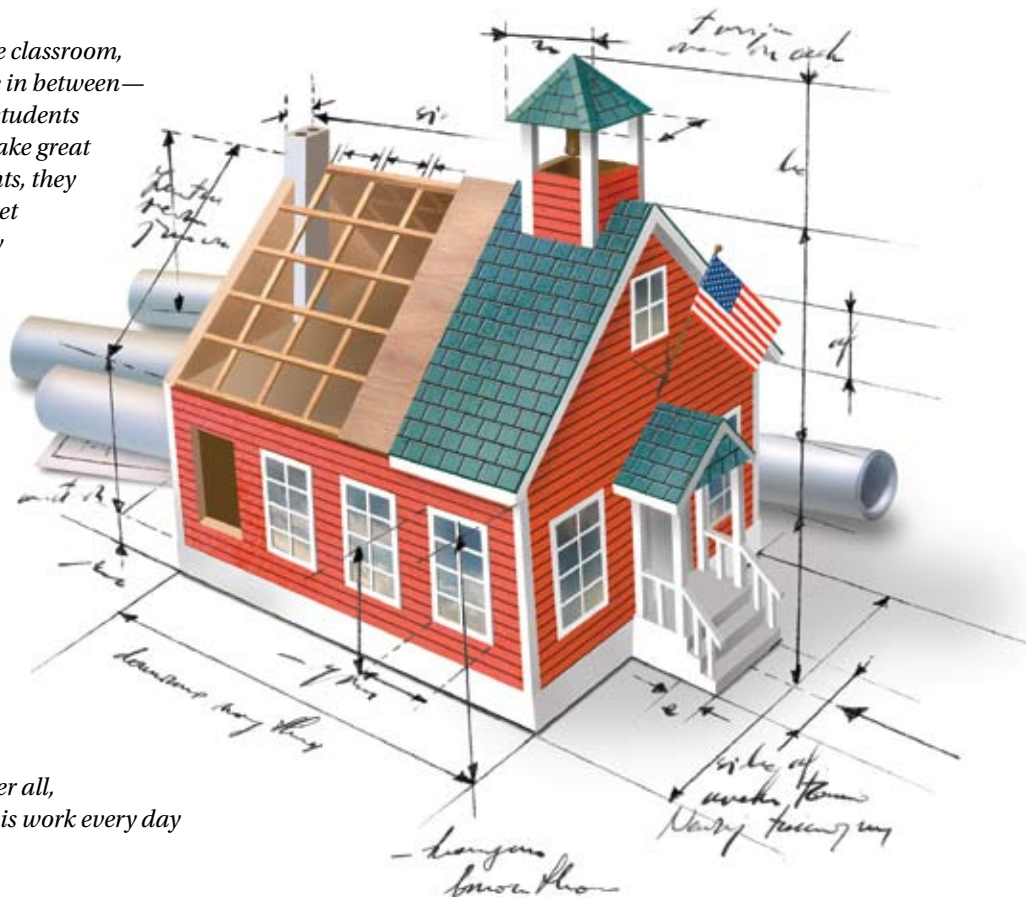
# THE PROFESSIONAL EDUCATOR

## A New Path Forward

### Four Approaches to Quality Teaching and Better Schools

Professional educators—whether in the classroom, library, counseling center, or anywhere in between—share one overarching goal: seeing all students succeed in school and life. While they take great pride in their students' accomplishments, they also lose sleep over their students' unmet needs. Professional educators routinely go above and beyond the call of duty: they meet with students before and after school, reach out to students' families in the evenings and on the weekends, and strive to increase their knowledge and skills. And yet, their efforts are rarely recognized by the society they serve.

The AFT is committed to supporting these unsung heroes. In this new column, we explore the work of professional educators—not just their accomplishments, but also their challenges—so that the lessons they have learned can benefit students across the country. After all, listening to the professionals who do this work every day is a blueprint for success.



BY RANDI WEINGARTEN

On the West side of Philadelphia, in a plain building surrounded by graffiti-covered walls and boarded-up houses, a team of inner-city kids is hard at work building the ultimate car of the future. Among them are kids who might have fallen through the cracks someplace else. But at the auto academy at West Philadelphia High School, they're

Randi Weingarten is the president of the American Federation of Teachers. Highlights from her career include serving as president of the United Federation of Teachers, as an AFT vice president, and as a history teacher at Clara Barton High School in Brooklyn's Crown Heights. This article is adapted from her January 12, 2010, speech at the National Press Club. To learn more, visit [www.futurestogether.org](http://www.futurestogether.org).

building hybrid cars that—according to *Popular Mechanics*—are among the top 10 entries in a \$10 million contest to design the next generation of green cars. They're the only high school team in a competition that includes the likes of Tesla Motors, Cornell University, and even MIT—until West Philadelphia beat out MIT to move to the next round.

These students are developing vehicles powered by biodiesel and electric motors, and the cars go from 0 to 60 in less than four seconds. Thanks to great teachers, the West Philly kids are learning about engineering, design, and business fundamentals—concrete knowledge and skills for today's economic realities. They're developing habits of mind and learning to apply academic content to solve real-life problems and develop important skills. They're gaining confidence that will help them reach their full potential in life; they're learning values that will inspire them to make

meaningful contributions to their communities. This is the kind of education that all our public school students deserve.

But in too many places, our public education system—which educates over 90 percent of our children—still operates on an Industrial Age model. And in too many schools, the federal education law No Child Left Behind has made it worse, creating the pedagogical equivalent of a factory by reducing the learning experience to a conveyor belt of rote prep sessions and multiple-choice tests.

In a global knowledge economy, filling in the bubbles on a standardized test isn't going to prepare our children to succeed in life. This is the time to shed the old conflicts and come together. I am suggesting a new path forward—toward a 21st-century education system, a serious and comprehensive reform plan to transform our schools, ensure great teaching, and prepare our children for productive, successful, and meaningful lives.

First, I am calling for a new template for teacher development and evaluation—a constructive, meaningful, and ongoing system that incorporates standards and best practices for the teaching profession, and yes, student outcomes. Second, I'm proposing we develop a new approach to due process. Third, I'm insisting that we finally give teachers what they need to help students succeed—the tools, time, and trust to do their jobs well. Fourth, I'm asking that we change the labor-management relationship, because collaboration is the foundation we need to make each of these other ideas work.

## Constructive Evaluation

As president of a labor union, it is my job to represent my members. They make it easy because of their extraordinary commitment to providing their students with the best education possible. Last summer, the AFT polled its teacher members and asked the following question: “When your union deals with issues affecting both teaching quality and teachers' rights, which of these should be the higher priority—working for professional teaching standards and good teaching, or defending the job rights of teachers who face disciplinary action?” By a ratio of 4 to 1 (69 percent to 16 percent), AFT members chose working for professional standards and good teaching as the higher priority.

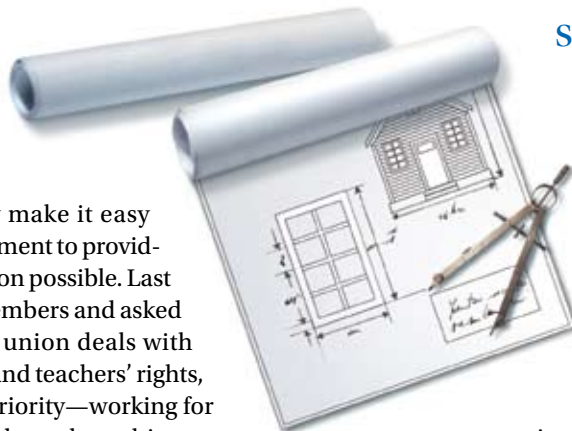
No teacher—myself included—wants ineffective teachers in the classroom. Schools are communities where we build on each other's work. When a teacher is floundering, there are not only repercussions for the students, but also for the teachers down the hall. When it comes to those teachers who shouldn't be in the classroom, it is other teachers who are the first to speak up. They want a fair, transparent, and expedient process to identify and deal with ineffective teachers. But they know we won't have that if we don't have an evaluation system that is comprehensive and robust, that really tells us who is or is not an effective teacher.

Neither an evaluation system nor a due process system works in isolation. That's why I'm proposing an evaluation system that would inform tenure, employment, and promotion decisions, and due process proceedings. America's haphazard approach to evaluating teachers has never been adequate. For too long and too often, teacher evaluation—in both design and imple-

mentation—has failed to achieve what must be our goal: continuously improving and informing teaching so as to better educate all students.

Right now, this is how teachers are commonly evaluated: An administrator sits in the back of the classroom for a few minutes, a few times in the first few years of teaching. The teacher then receives a “rating” at the end of the school year. That's like a football team watching game tape once the season is over. Let's think about that game tape for a minute. Coaches and players view it throughout the season to deconstruct and understand what's working and what isn't so that necessary changes can be made. The goal is constant improvement and, of course, winning. We need to put the same time and effort into developing and evaluating teachers. And we need to ensure that teachers are participants in every stage of the process.

## A constructive, robust teacher evaluation system would include rigorous reviews by trained expert and peer evaluators and principals, based on professional teaching standards, best practices, and student achievement.



Some have suggested we simply evaluate teachers based on their students' test scores. But if that is all we do, how does that improve student learning? The real value of student achievement and growth data is to show us what is working and should be replicated, as well as what isn't working and needs to be revised or abandoned.

A constructive and robust teacher evaluation system would include rigorous reviews by trained expert and peer evaluators and principals, based on professional teaching standards, best practices, and student achievement. The goal is to lift whole schools and systems: to help promising teachers improve, to enable good teachers to become great, and to identify those teachers who shouldn't be in the classroom at all.

This new evaluation framework has been developed by union leaders from around the country, with input from some of America's top teacher evaluation experts—researchers like Charlotte Danielson, Susan Moore Johnson, and Thomas Kane. Our evaluation proposal includes the following four key components:

- Professional standards: Every state should adopt basic professional teaching standards that districts can augment to meet specific community needs. Standards should spell out what teachers should know and be able to do. How else can we determine whether a teacher is performing as he or she should?
- Standards for assessing teacher practice: Because teaching requires multiple skills and involves several kinds of work,

multiple means of evaluation should be used to assess how well teachers meet the professional standards. Classroom observations, self-evaluations, portfolio reviews, appraisal of lesson plans, and all the other tools we use to measure student learning—written work, performances, classroom tests, presentations, and projects—should also be considered in these evaluations. Students' scores on valid and reliable state and national assessments should also be considered—not by comparing the scores of last year's students with the scores of this year's students, but by assessing whether a teacher's students show real growth while in his or her classroom.

## If our goal is to truly transform our public education system, we must make sure that teachers have what they need to do a good job: tools, time, and trust.

- **Implementation benchmarks:** Implementation benchmarks must be established because even the best ideas do little more than gather dust if we don't put them into action. Take California. It has long-standing but little-used professional standards. Principals and superintendents, along with their union colleagues, need to take responsibility—and be held responsible—for making this new evaluation system work.
- **Systems of support:** Because evaluation should help teachers improve throughout their careers, not just at the beginning, every district should have ways to support and nurture teacher growth. This includes solid induction, mentoring, ongoing professional development, and career opportunities that keep great teachers in the classroom.

### A Fresh Approach to Due Process

An evaluation system built on the components I've just laid out will help improve teaching and learning. It will also lay the groundwork for a new approach to due process. Teachers have zero tolerance for people who, through their conduct, demonstrate they are unfit for our profession. And in those rare cases of serious misconduct, we agree that the teacher should be removed from the classroom immediately. But just as there is a need for due process when dealing with ineffective teaching, there is a need for due process in cases of alleged teacher misconduct. False allegations do happen, and they destroy much more than a teacher's livelihood. A false allegation can destroy a teacher's life.

We recognize, however, that too often due process can become a glacial process. We intend to change that. Kenneth R. Feinberg is spearheading the AFT's effort to develop a fair, efficient protocol for adjudicating questions of teacher discipline and, when called for, teacher removal. Mr. Feinberg is trusted as a voice of fairness and reason on some of the most consequential issues in our

national life. He served as special master of the September 11th Victim Compensation Fund, and currently serves as the special master for TARP Executive Compensation.

As we flesh out our evaluation and due process systems, we are prepared to work with any district willing to work with us to take both steps: to design and implement a real teacher development and evaluation system, and to create a due process system that's aligned to it. But only if they're prepared to do both.

### Tools, Time, and Trust

Creating a fair and constructive evaluation system and designing a fresh approach to due process have the potential to initiate

important improvements in public education. However, if our goal is to truly transform our public education system, we can't stop there. At the very least, we must make sure that teachers have what they need to do a good job: tools, time, and trust.

Let's begin with tools: what teachers need to do their jobs. Every day, teachers do what they can with what they have to make a difference in their students' lives. But neither they nor their students will thrive in an environment that is not

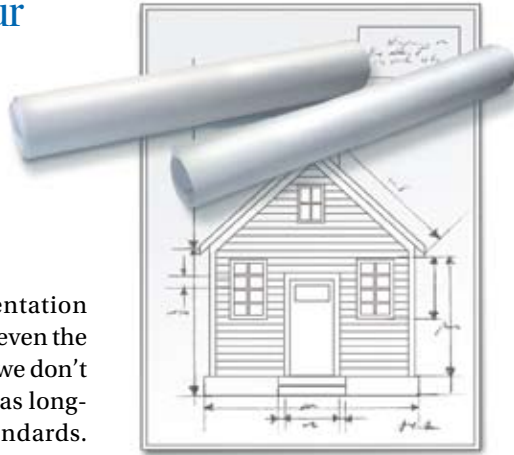
conducive to teaching and learning. So let's offer teachers and students an environment that sets everyone up for success: small classes, safe schools, solid curriculum, healthy and adequate facilities (including the most current technology), and opportunities for parental involvement. And let's hold schools and school systems accountable for providing our teachers and students the conditions they need to succeed.

Tools also mean getting standards right, once and for all. That's why we support common standards that are deeper, clearer, and fewer, and are geared toward preparing our students for college, work, and life.

Another crucial factor in fostering student growth and teacher success is time. Let's face it: Teachers have plenty on their plates just trying to get through the day. They spend hours outside of the school day grading papers, creating lesson plans, communicating with parents, and participating in school activities. Increasingly, more and more is piled onto teachers, so they often feel like they're running faster and faster just to hold their ground.

For teachers, who already work before and after school, time to share and grow and work together is as critical as any other education ingredient. Imagine a system in which teachers have time to come together to resolve student issues, share lesson plans, analyze student work, discuss successes and failures, and learn through high-quality professional development. Imagine a system in which students can't fall through the cracks because they're backed by a team of teachers, not just the one at the front of the room.

In addition to tools and time, we must also foster a climate of





trust. Teachers must be treated as partners in reform, with a real voice. Trust isn't something that you can write into a contract or lobby into law. Trust is the natural outgrowth of collaboration and communication, and it's the common denominator among schools, districts, and cities that have achieved success. A teacher in West Virginia, Melissa Armann, said it well: "I have put my heart and soul into the education of these children daily for over 20 years. I know what works. Just respect me enough to ask."

### The Labor-Management Relationship

Finally, let's rethink labor and management. We have a mutual responsibility to ensure student and school success. What we need is a mutual commitment. Our relationship should be a con-

## Collective bargaining isn't only a vehicle to protect employee rights and ensure workplace fairness. It's a vehicle for both sides to improve teacher quality, ensure school improvement, and establish rigorous academic standards.

stant conversation that begins before and continues long after we meet at the bargaining table.

So much of what is bargained is an attempt to codify behavior that, in a trusting relationship, would never need to be codified. If we adhere to this vestige of the factory model, there will be no sustainable, positive change in public education. Collective bargaining should be a tool to implement this relationship, rather than what defines the relationship. Labor and management must understand our shared responsibility to our communities. Great schools, skilled teachers, and well-prepared students can only be achieved in partnership.

Collective bargaining isn't only a vehicle to protect employee rights and ensure workplace fairness. It's a vehicle for both sides to improve teacher quality, ensure school improvement, and establish rigorous academic standards. All over the country, I've seen teachers and administrators who share the same goals for kids agree to modify, waive, or create new contract provisions and district regulations that enable them to work more effectively. We've seen it in New Haven, Connecticut. It wasn't easy, at first, to establish trust. Even Mayor John DeStefano admitted that he was ready for conflict at the beginning. But as the process went on, he engaged with the union in a collaborative way. The result is a contract that achieves real reform—and makes teachers real partners in that effort. The agreement includes reforms like rigorous evaluations, more flexible hiring authority, and performance pay on a school-by-school basis, with a cost-of-living raise.

And in Detroit, where the school system faced serious budget challenges, they could have declared bankruptcy and declared war. Instead, the union and the district worked together to establish a covenant that outlined the goals for their new contract—a contract that now includes comprehensive evaluation systems and school-based performance bonuses, a contract that recognizes that the school system, the city, and its children either sink or swim together.

These successes would not have happened without fundamental changes in the relationship between labor and management. These relationships need to be nurtured and expanded—and new relationships need to be built—if we want to see more successes.

If we can work together on these four proposals, we can create a path to a stronger public education system that is defined by excellence, fairness, shared responsibility, and mutual trust; a system rooted in the realities of the 21st century, focused squarely on serving the needs of our children, and preparing them to reach their full potential as workers, citizens, and individuals.

True progress takes place in those important hours when students and teachers come together and the spark of learning can catch fire.

More than 3 million public school teachers work every day in classrooms around the country, helping young minds embrace new facts, new skills, new ways of thinking. They get up early, go to bed late, and bring patience, dedication, and energy to one of the most important jobs in the world.

Helping those kids at West Philadelphia High School build not just vehicles, but minds that will change their lives and the world; ensuring that students in Detroit can rise and bring their city with them—that's who teachers are. We need to listen to them. □



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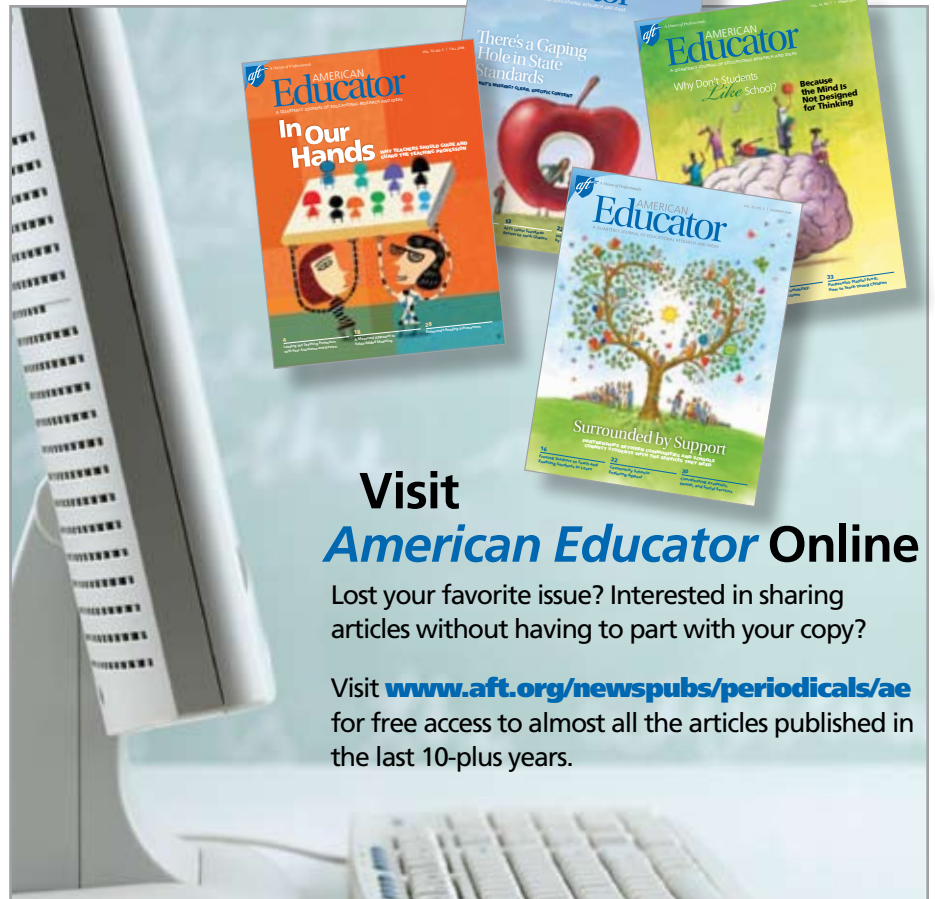
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# The Promise of Preschool

(Continued from page 29)

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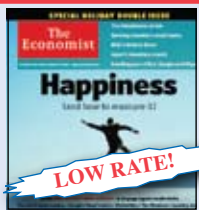
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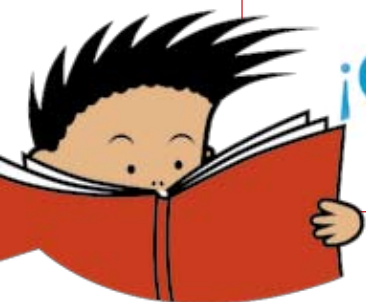
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