

## The promise—and challenge—of 21st century skills

*How can urban schools, falling short with basics, add yet more to the curriculum?*

By Del Stover

A typical high school biology class seldom teaches students to use DNA sequencing techniques to identify dried meat and fur samples as part of a project on African bush meat conservation. But then, San Diego's High Tech High School is hardly typical.

It is, instead, a vivid example of how an urban school can provide students with the rigorous academic and real-world skills—what some call “21st century skills”—that they'll need to succeed in tomorrow's high-tech, global economy.

In the conservation forensics course taught by science teacher Jay Vavra, High Tech High students study the basic academic requirements to pass state standardized tests. But they also are exposed to concepts in bioinformatics, forensics, international conservation policy, and zoology, and they gain opportunities through project-based work to develop skills in communication, problem solving, and teamwork.

A lucky few also are headed to Tanzania this summer to study in person the illegal



Students in a conservation forensics course at San Diego High Tech High School learn basic biology—and also many of the 21st century skills that will prepare them for a high-tech, global economy.

bush meat trade.

The goal of this effort, Vavra says, is to mix a mastery of higher-end knowledge with higher-end skills. Students need to learn the fundamentals but also “realize they can find their own solutions. That's a huge change where students have more of

a role in their own learning.”

Great teachers have offered such powerful learning experiences before, of course, and there are a number of excellent schools in urban communities nationwide where

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## About CUBE

NSBA's Council of Urban Boards of Education (CUBE), the urban initiative of NSBA's National Affiliate program, addresses the programmatic, fiscal, and governance challenges of urban public education on behalf of its 116 member school boards and the more than 8 million students they serve. Through legislative advocacy, conferences, workshops, seminars, and publications, CUBE has been in the forefront of cultivating excellence in urban public schools for four decades.

## About NSBA

The National School Boards Association is the nationwide advocacy organization for public school governance. NSBA's mission is to foster excellence and equity in public elementary and secondary education in the United States through local school board leadership. Founded in 1940, NSBA is a not-for-profit federation of state associations of school boards across the United States and the school boards of Hawaii, and the U.S. Virgin Islands.

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# CUBE News

## Steering Committee seeks nominations for CUBE Lifetime Achievement Award

For the past two years, CUBE has recognized the distinguished service of an urban school board member, and this summer, an awards committee will consider nominees for 2008.

The CUBE Lifetime Achievement Award was launched in 2006 with the recognition of two urban leaders: Henry Spears of Alabama's Montgomery County School District, and Lawrence Marshall of the Houston Independent School District.

In 2007, the award was presented posthumously to Benjamin Mays, a civil

rights leader and president of the Atlanta school board from 1970-81.

Recipients are selected for demonstrating a longstanding commitment to representing the educational needs of urban schoolchildren through their service as local school board members.

Nominees must be a current or former school board member of a CUBE member district in good standing.

Nominations must be submitted by Aug. 15 to CUBE Director Katrina Kelley at [kkelley@nsba.org](mailto:kkelley@nsba.org).

## CUBE E-newsletter provides latest urban news

To provide urban school board members and administrators with the latest relevant news and resources on urban education, CUBE programming, and NSBA activities, CUBE launched this spring the *Urban Edge*, an electronic newsletter.

"The hope is to also share member district best practices, national research studies, and timely links to relevant urban education news reports," says CUBE Director Katrina Kelley. "The goal of this new serv-

ice is to provide the kind of information that helps urban school leaders make sound, informed governance decisions."

Since its launch in May, the *Urban Edge* has highlighted such topics as academic gains in Chicago, the benefits of bilingual education, high school changes in Baltimore, and 21st century skills.

School leaders who are not receiving the *Urban Edge* should contact Kevin Scott, CUBE's membership services manager, at [kscott@nsba.org](mailto:kscott@nsba.org).

## Survey reveals attitudes of school leaders

Does it surprise you to learn that the student achievement gap is the most important issue on the minds of urban school leaders? Probably not.

Still, such tidbits of information were useful for the leaders of CUBE, who are always searching for new ways to meet the needs of school board members and administrators. Which is why, not so long ago, CUBE conducted a survey of its membership to find out its interests and thoughts on the resources and services of greatest importance to them.

Much of the data—what job positions respondents hold, how old they are, and how much they know about *Policy Research Briefs*—might not be of interest to you. But we thought we'd share a few "factoids":

- Almost three-quarters of those who

responded (72.5 percent) rate the student achievement gap as "very important." Also weighing heavily on their minds are concerns over school safety (67.8 percent), communication and public perception issues (67.1 percent), and parental involvement issues (62.4 percent).

- Of all the resources made available to urban leaders, the highest rated were publications: *American School Board Journal*, *School Board News*, and *Urban Advocate*.

- Among services made available, however, respondents most valued CUBE's advocacy role and its sponsorship of conferences.

- Fifty-eight percent of those surveyed feel "extremely comfortable" online.

- A solid majority of you (61.1 percent) indicate that they are "very likely" to share information garnered from CUBE with others.

## Single-gender schools: Smart instruction or legal pitfall?

Urban school boards that have launched single-gender classes or schools—or are considering such initiatives—should take heed of a lawsuit claiming that a Kentucky middle school's program is illegal and discriminatory.

In recent years, the American Civil Liberties Union (ACLU) has threatened legal action against a number of school systems that planned sex-segregated programs. Earlier this year, the organization carried through on its threat by charging that Breckinridge County Middle School's program violated the 14th Amendment's equal protection clause, Title IX of the Education Amendments of 1972, the Equal Educational Opportunities Act, and Kentucky's sex equity law.

"The Breckinridge County sex-segregated classrooms are not only unlawful because they deny boys and girls equal opportunities in education [but] these kinds of experimental programs are also misguided in that they distract from efforts that we know can improve all students' education, like improved funding, smaller classes, more parental involvement, and better trained teachers," Emily Martin, deputy director of the ACLU Women's Rights Project, said in announcing the lawsuit.

The court case adds to the already uncertain legal environment surrounding single-gender programs, says NSBA Senior Staff Attorney Tom Hutton. "It's pretty clear that the ACLU wants to go after these programs."

Approximately 400 public schools nationwide are experimenting with single-sex models, reports the National Association for Single Sex Public Education (NASSPE). The movement gained ground after 2006, when the U.S. Education Department issued regulations promising schools more flexibility under Title IX, which prohibits sex discrimination in education programs that receive federal funds.

But not everyone agrees that the regulations will pass court muster, Hutton says, and single-gender programs still are vulnerable to claims they violate the U.S. Constitution's equal protection clause.

That's not to recommend policymakers shy away from such programs, he adds. But school boards need to consult with their



Kindergarteners work on a math problem at Warner School in Cleveland. The all-girls school is one of several single-gender programs in the city designed to give families more educational options.

attorney and balance the risk of litigation against the promised educational benefits.

"Clearly there's no way of doing this that's risk-free, so the evaluation for the school board can't just be a legal one," Hutton says. "They need to ask: What are the benefits we can realize for our students? And they have to evaluate those gains against the legal risks if someone comes after them."

Those educational benefits are significant, suggest proponents of single-gender schools. They argue the model can produce real academic gains for students by minimizing gender stereotypes that discourage girls from excelling in math and science—and limit boys' interest in art, music, drama, and foreign languages.

At the same time, proponents say, some students benefit from instruction that takes into account gender differences in learning and the differing development rates of boys and girls.

Such programs aren't for every student, and some schools target specific populations. At the Bronx-based Eagle Academy for Young Men, educators focus their program on urban males, providing adult mentors for boys who grow up in households

without fathers, and scheduling extended-day and Saturday programs designed to keep students off the street.

Yet, not everyone is convinced single-gender programs are necessary. Some suggest segregating the sexes can actually strengthen gender stereotypes, and that segregation is inherently unequal. In the Breckinridge County case, the ACLU claimed boys' and girls' classes used different textbooks and pedagogical methods, and some classes presented more advanced lessons or moved at a faster pace.

Leonard Sax, executive director of the NASSPE, says school boards can make single-gender programs work, but much more is involved than simply separating boys and girls. Such initiatives need to be voluntary, designed to meet specific educational needs within the student population, and demand specific training for teachers.

If school boards don't insist on proper preparation, he adds, it would be better if they steered clear of the model. "It can be a unique choice, but school boards need to be knowledgeable. It's discouraging to see how many school districts have plugged into this without any preparation ... and suffered an educational shipwreck."

# AASA's Daniel Domenech: The state of the urban superintendency

Before taking the helm at the American Association of School Administrators (AASA), Daniel Domenech took a few minutes to share his thoughts with the *Urban Advocate* about the tough job that urban superintendents tackle every day.

Domenech, who earned national recognition as superintendent of the Fairfax County (Va.) Public Schools (enrollment 164,000), most recently served as senior vice president and head of the Urban Advisory Resource for McGraw-Hill Education. On July 1, he assumed the mantle as AASA's executive director, succeeding Paul Houston, who retired after leading the organization for 14 years.

## What are the big challenges facing superintendents today?

The job has become, if possible, even more complex and hard to do. A superintendent can't just be a great educational leader. You have to be a manager. You have to be a politician. You have to be a great communicator. You have to have all of those skills in order to succeed.

Thus we see the turnover rate, particularly in urban school systems. It's high. People like me, who came up the traditional way through the ranks as a classroom teacher and administrator, were never prepared for the kind of challenges a superintendent meets today. I wasn't trained to talk to the media and talk on television. Still today, the superintendents coming up from the ranks don't have those skills, and someone has to provide them. We [AASA] need to do it for our members."

**Over the years, a handful of administrators have dominated the high-profile urban superintendencies—creating a class of “super supes” that major school boards court time and time again when looking for a new chief school executive. What do you think of this phenomenon? And who are the up-and-comers—the next generation of big-city leaders?**

Running those giant districts requires a set of experiences and skills that are very different from average-sized districts. And when there's an opening, the search consultants go running for individuals who have name recognition ... everyone wants to draw from this limited pool.

But that's more an issue of the market than the size of the talent pool. There's a significant talent pool out there, and there



Dan Domenech

will be for some time. One up-and-coming superintendent is a former colleague of mine at McGraw-Hill, Carlos Garcia of San Francisco. There are others, as well, coming up through the ranks.

But the urban superintendency is a difficult position. The politics surrounding these jobs are intense. And I'm not just talking about working with the school board, but also in terms of the governance structure at the city and state level, and within the community. Negotiating and navigating through that, as well as the lack of resources that these districts have to deal with ... you can find yourself in a position where, unless you have the support of the board to ride out the storm, you will find yourself easily toppled and removed from office, because of circumstances that you have little control over.

**What is the state of the urban superintendency? Are the professionals in these high-stress, high-profile positions up to the challenge they face? Or is the challenge so immense that superintendents are being swamped?**

The challenge is manageable. Urban superintendents can succeed, but again it comes back to the kind of training and preparation they've had to deal with it.

In the top-level jobs, we're seeing attempts to bring in the non-traditional superintendent ... individuals from the military or private sector who are not tra-

ditional educators but who may be seen as having the managerial and leadership skills to do the job.

In some cases, they're very successful. But, in other cases, the longevity of these superintendents isn't necessarily any longer than that of the traditional superintendent. What that tells us is that what's needed for this job is a very unique combination of skills and experiences.

## How can urban school boards make their superintendents more successful?

I always felt that, in order to succeed, the school board and I had to be a team. We had to work as a team.

Together, the superintendent and school board have to agree on a direction to take. If one group or the other decides it's going to be the deciding factor in what direction the school district is going to take, then you have trouble. There must be a consensus on what you're going to do.

That also means support of the board for what the superintendent does, because if the board agrees that the superintendent is doing is what it asked the superintendent to do, when things are done in the community—such as budget cuts or reductions made in order to comply with the budget—the board has to stand behind the superintendent.

Conversely, the superintendent must support the board in the same vein. It's a team effort.

## SUPE SHORTAGE LOOMING?

A new survey by the American Association of School Administrators (AASA) suggests that potential candidates for future superintendent openings will be in short supply.

In its 2007 *State of the Superintendency Survey: Aspiring to the Superintendency*, AASA reports that 85 percent of superintendents believe “an inadequate supply of educational leaders exists” to fill future needs. The study also found that 39 percent of respondents plan to retire in the next five years.

Those surveyed suggest the pipeline of new school leaders can be expanded by identifying and encouraging potential candidates and by creating mentoring programs.

The survey is available at [www.aasa.org](http://www.aasa.org).

## Urban districts cope with troubled budgets

As the 2007-08 school year came to a close, many urban school boards found themselves confronted with the need for major budget cut-backs and sizable teacher layoffs.

As *Urban Advocate* went to press, thousands of teachers in Los Angeles—and across the state—had staged a walkout to protest a proposed California education budget that upped funding by \$193 million but did not include cost-of-living increases or full funding for all school programs.

One consequence of the state's severe economic woes was that the Los Angeles Unified School District announced it faced a \$370 million budget shortfall—and would need to cut more than 600 administrative and clerical jobs and require employees to take several days of unpaid leave.

Meanwhile, the Miami-Dade County (Fla.) school board was looking to cut \$284 million from next year's budget. As of early July, school officials had cut approximately 2,000 jobs from the payroll and raised the possibility of postponing

promised teacher raises.

The economy and lower state revenues played a major role in the budgetary problems reported by most school systems. In Detroit, a projected \$297 million shortfall next year has its roots in the district's ongoing decline in enrollment. This past school year, the city lost nearly 12,000 students, which could cost it \$90 million in state aid and prompted proposals to cut nearly 800 teaching positions.

Another unusual factor was at work in Memphis, where the municipal government wants to end a decades-long practice of providing supplemental funds to the school system. This year, the city council voted to lower property taxes by cutting its support from \$93.5 million to \$20.2 million, but state education officials are objecting.

Under a "maintenance of effort" law, state officials told the *Memphis Commercial Appeal*, the city must continue its funding of the city schools—or risk losing \$423 million in state aid. Negotiations—as well as a lawsuit—to resolve the issue were ongoing.



Thousands of Los Angeles teachers took time out of school in June to protest the proposed state education budget, which does not fully fund certain programs.

### SCHOOL AT SHOPPING MALL AIMED AT DROPOUTS

Putting a school in a shopping center or mall has been done before—but who cares about originality if a school gives students a second chance to earn a high school diploma?

The Tulsa Learning Academy, which opened last year in the Tulsa Promenade Mall, is designed as an alternative option for dropouts or students needing fewer than 12 credit hours to graduate.

The academy, which operates four-hour morning and afternoon sessions, accepts only a few dozen students at a time.

In interviewing students, the *Tulsa World* discovered that many were close to graduation but never quite completed their coursework. Some students dropped out because they disliked their school; others cited medical or family issues that made school attendance difficult.

One young woman, for example, dropped out to care for her younger siblings after her mother was diagnosed with cancer. Yet, despite her family's needs, she told the *World*, "dropping out wasn't the smartest decision I ever made."

## Atlanta schools show academic gains for eighth straight year

Urban schools in America have made great strides in recent years, but the Atlanta Public Schools deserve recognition this month for posting its eighth consecutive year of improvement in its elementary grades.

Based on preliminary results of the Georgia Criterion Referenced Competency Tests (CRCTs), released in June, the number of elementary school students in the city who met or exceeded state standards jumped by 5 percentile points over a year ago. On reading tests, students in grades two through eight showed some improvement.

The best scores were in second-grade reading, where 90 percent of students met or exceeded standards.

Improving the city's elementary grades has been a priority for Superintendent Barbara Hall, and her reform efforts clearly are paying off: All 62 elementary schools met adequate yearly progress (AYP) goals last year.

More recently, Hall has given more attention to high school reform, imple-



One reason why the Atlanta Public Schools are seeing such academic gains: Zawadaski Robinson, the city's Teacher of the Year.

menting a five-year strategic plan that officials hope eventually will lead to 90 percent of students graduating in four years.

For now, though, more progress is needed in the later grades. Last year, 68 percent of middle schools met AYP goals—but only 35 percent of the city's high schools met federally mandated standards.

"Atlanta Public Schools continues to show consistent, and meaningful progress," said Hall in a prepared statement. "We have come a long way, but we also know that we have more to do until every student is learning at a high level."



**A CHICAGO BOARDING SCHOOL?** Students at North Lawndale College Preparatory High School in Chicago walk through the school's hallways—hallways that might one day lead to housing for some students. The school serves neighborhoods with an unemployment rate that's almost triple the city average, and school officials estimate that 5 percent to 8 percent of the school's 525 students are homeless at some point during the school year. That's prompted proposals to open a residential shelter for up to 20 students, an unorthodox strategy for school officials who have long complained that an unstable home life is a major factor in keeping academic performance from improving among some urban students. With as many as 10,000 Chicago students homeless each year, district officials have talked of adding more residential programs, with the first opening as early as 2009.

## D.C. Catholic schools to switch to charters

As Catholic schools nationwide struggle with a decade-old decline in enrollment, seven schools in the District of Columbia have embraced an innovative solution to their financial problems: accept a secular curriculum and reopen as charter schools.

That move is expected to follow a controversial decision by the D.C. Public Charter School Board in June to allow the Catholic schools—with a total of 600 to 1,000 students—to accept public funding.

The schools, which will have to change their religious-oriented names and give up any religious instruction, will be managed by consortium tapped by the Archdiocese of Washington.

The charter school board's unanimous decision is the latest expansion of the city's charter school system, which serve approximately 20,000 students—nearly one in three city students.

Such growth hasn't gone unchallenged. As *Urban Advocate* went to press, a bill before the D.C. City Council proposed to tighten rules on the establishment and regulation of future charter schools.

But the move by seven D.C. Catholic

schools—out of 12 in the city—to abandon their religious heritage was a clear sign that demographic trends, most notable the move of traditional Catholic populations to the suburbs, was putting a severe financial strain on their continued operation.

According to the Archdiocese, the cost of subsidizing all 12 schools was projected to be \$7 million to \$8 million, a level of support that church officials decided would be better spent in other pursuits.

The switch could prove a harbinger of the future. A report by the Thomas B. Fordham Institute, *Who Will Save America's Urban Catholic Schools*, found that 1,300 Catholic schools, serving 300,000 students, have closed since 1990. And, while many schools are doing well, the report found, the D.C. schools are not alone in seeing significant changes in the inner-city neighborhoods traditionally served by Catholic schools—with a subsequent decline in enrollment. The result are schools that, the report suggests, might well need to be turned over to charter school networks if they hope to survive.

## HILLSBOROUGH CITED FOR TOP HIGH SCHOOLS

Lots of urban schools are recognized in *Newsweek's* annual list of America's Best High Schools. But not many districts see half their high schools cited at one time.

Yet that's the honor bestowed on Hillsborough County, Fla., where 14 of the district's 25 high schools made the news magazine's list. Two—Hillsborough Hill and Planet High—made the Top 100.

One reason cited for the county's high rankings was its expansion of Advanced Placement and International Baccalaureate classes and the encouragement given to previously underrepresented students to enroll in rigorous courses.

## PATERSON, N.J., TRAINS NEW POOL OF LEADERS

If a school district wants good leadership, there's no better strategy than to "grow your own." And that's exactly what the Paterson, N.J., school system is doing.

Nearly 100 district staff members have participated in a leadership training program created by Mid-continent Research for Education and Learning, a nonprofit education research organization in Colorado.

According to the *Herald News*, which recently highlighted the two-year-old program called Balanced Leadership, eight training sessions are offered annually, and several participants already have been promoted.

## BALTIMORE LAUNCHES NEW TYPE OF SCHOOLS

They call them Transformation Schools—a new school model Baltimore is offering options for families. It features high-quality programs and a single college or career focus.

Six will open this fall, operated by outside organizations and with \$3.3 million in financial support from Baltimore area foundations. The schools will serve grades six through 12.

"Transformation Schools will be one avenue for ensuring that our students get the great schools they deserve," said Baltimore Schools CEO Andres Alonso.

## 21ST CENTURY

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graduation rates are high and most students go on to four-year colleges and universities. And dozens of high schools are noted specifically for their conscious efforts to infuse 21st century skills into the curriculum.

Today's challenge, however, is to replicate such high-quality programs throughout an urban school system. Some districts report dropout rates of nearly 50 percent, with average test scores trailing significantly behind that of nearby suburban schools. Is this an environment where the majority of schools—with high levels of poverty and sizable populations—are ready to add lessons in global literacy or make time to teach problem-solving skills at the expense of rote drill in the basics?

### A different model

That question should haunt urban policymakers everywhere, for the first-graders who show up for school this fall will become the class of 2020. These students will grow up in a world where China and India will be challenging the economic dominance of the U.S.—and where highly skilled workers will be needed to keep high-paying, technology-based jobs from moving overseas.

“Economic success is largely driven by a country's ability to innovate—the new currency in this 21st century economy—and [to] educate its citizens to fill the jobs that these new ideas generate,” states a 2005 New American Foundation policy paper. This paper goes on to cite Kent Hughes, former president of the Council on Competitiveness, who noted that “in no small measure, education is the future of the American Dream and America itself.”

That reality is recognized by state and federal policymakers who have put money into various initiatives to promote science, technology, and 21st century skills. Yet, some critics note, the No Child Left Behind (NCLB) Act has had an unintended negative impact on this effort. Federal sanctions have made meeting adequate yearly progress (AYP) a necessary priority, and schools with high numbers of academically struggling students—most notably urban schools—feel pressured to teach the most basic skills at the expense of lessons that promote higher-level thinking.

The result is that local educators “do rote learning, break [the curriculum] into isolated academic areas, and if there's a specific indicator or objective or academic area that students are failing ... our teachers hammer it into them,” says Don Knezek,

CEO of the International Society for Technology in Education (ISTE). In some instances, that's a necessary step, he says, but “that's not the kind of education that stimulates and engages urban students.”

Assuming that school policymakers must choose between teaching basic and 21st century skills, however, is a mistake, says Ken Kay, president of the Partnership for 21st Century Skills, a Washington, D.C.-based advocacy group. It also is a mistake, he suggests, to assume 21st century skills are yet another mandate or add-on program to squeeze into the school day.

If anything, proponents of 21st century skills say, the proper teaching of such skills involves a different model of teaching—one that will improve student learning in basic skills yet add increased rigor and depth to classroom lessons.

This model downplays the teacher's role

as the impartor of information, lecturing in front of the classroom, and instead demands students accept more responsibility for their learning. The focus is on more real-life experiences, the use of technology, and accomplishing a project rather than simply doing a worksheet. A chemistry class, for example, studies the textbook fundamentals but goes on to analyze pollution in nearby streams, collects national data online, and creates a multimedia presentation for the city council.

At Sacramento (Calif.) New Technology High School, one project immersed students in the study of novelist George Orwell's *1984*. Students studied the federal Patriot Act and other reactions to the terrorist attacks of 9/11, but also put up Orwellian posters about Big Brother, organized Thought Police to bring students on trial, and even created an underground

## WHAT'S SO DIFFERENT FROM 20TH CENTURY SKILLS?

**What exactly are these 21st century skills that your schools are supposed to be teaching?**

One could argue that many of these skills are nothing more than a repackaged version of the liberal arts curriculum of the 19th century. In other words, students need basic academic knowledge in math, literature, and science—and an ability to solve problems, work well with others, and understand and analyze the political, economic, and cultural world around them.

Yet, it's not quite so simple to label this model of learning. Today, an understanding of the rising economic power of China and India—and the implication to America's nation economy, future scientific research, pollution, and international affairs—is arguably more pressing than the study of the Socratic method.

A greater understanding of entrepreneurship and international economics is needed, rather than just lessons in the basics of supply and demand or economies of scale, some educators say. Lessons need to incorporate more on the challenges to democracy, world health, global warming, and other major issues of the decades ahead, so students are prepared to understand the issues and participate in their solution.

But a major element of 21st century skills has nothing to do with facts and information. In a global economy,

future workers need to know how to be more innovative, solve problems, work collaboratively, and be able to communicate effectively with co-workers.

And, with the astonishing rate at which new human knowledge is created, tomorrow's workers need some skills that are decidedly modern and high-tech. For example, an engineer will need to find and collect information on the Internet and from organizations around the world, then analyze that data, and organize it into a format that can be shared with (and understood by) colleagues halfway around the world.

Flexibility and the ability to be a lifelong learner also are skills that will be in demand as the 21st century advances. Today's students will change jobs—and careers—several times during their lives, and they'll need to be ready for that reality.

“Are kids ready for the new economy?” asks Ken Kay, president of the Partnership for 21st Century Skills. “The basics, by themselves, aren't good enough. To have mastered reading, writing, and arithmetic 50 years ago was the ticket up the economic ladder. But the Three R's won't get you up the ladder in the 21st century.”

To learn more about how educators define 21st century skills—as well as resources for more information—visit the Partnership's website: [www.21stcenturyskills.org](http://www.21stcenturyskills.org).

resistance movement.

The teaching of 21st century skills is partly about bringing context to learning, Kay says. “The issue is not whether you’re going to take math or not take math, it’s how much math could you teach in the context of financial or business literacy? How much can you make math relevant to young people, and make it clear the need to understand financial and economic issues?”

This approach, for all its apparent high expectations of students, is actually an advantage for urban schools, where one factor in high dropout rates is the lack of interest and engagement by students, Kay says. Incorporating the 21st century model into lessons “sets up an environment with a more relevant context that allows young people to do their work in a more challenging, engaging environment. I think 21st century skills put schoolwork in a more exciting context. It’s a good antidote for the high rates of dropouts.”

### Obstacles and solutions

Nothing is ever as easy as it sounds, and implementing an instructional model that includes 21st century skills demands commitment from urban school leaders. That is particularly true in schools with limited resources and high numbers of students needing remedial or English language instruction.

One of the biggest obstacles in an urban setting is high teacher and administrator turnover, Knezek says. To emphasize proj-



If any classroom can convey the rigor and real-life focus of a 21st century classroom, it would be this lab exercise in this classroom at San Diego High Tech High School.

ect-based instruction and weave 21st century skills into a teacher’s repertoire requires significant training, and if schools are going to lose those educators—and find it difficult to train their replacements—the prospect of future stability and improving the urban school isn’t very good,” he says.

The challenge would be lessened if new teachers coming into the profession were

getting some training in university, but that’s not happening, says Bob Pearlman, a longtime educator and consultant who is helping districts redesign high schools, strengthen school technology use, and support the introduction of 21st century skills.

“It’s going to take considerable professional development and coaching to help [schools] to make the move into 21st cen-

### SACRAMENTO NEW TECHNOLOGY HIGH: ‘TEACHERS AREN’T SAGES ON A STAGE’

You won’t find educators making a big deal of teaching 21st century skills at Sacramento New Technology High School. Yet they still do a great job of injecting those skills into everyday instruction.

This California charter school, located in the state’s capital, downplays the role of teacher as lecturer—and encourages students to learn by working in teams on collaborative projects, says Principal Paula Hanzel.

“Teachers aren’t sages on a stage,” she says. “They are coaches on the side. They are facilitators. They get out of the way. We hold the kids accountable. We do direct instruction through small-group instruction ... when kids need or ask for it. Then they go back to their chemistry project.”

A focus on real-world issues—and the skills to deal with them—also are part of classroom projects, Hanzel says. One recent project for students involved a hypothetical future involving global warming and the need to emigrate to the



A student works in a biology class at Sacramento New Tech High.

moon, and students had to learn the science to build containers that could survive space travel and help terraform the moon.

Then students had to make an oral presentation on their work. “Each project has to be orally presented,” she says. “Students will present 50 or 60 times minimally while in high school ... they’re not afraid in front of a bunch of people.”

One challenge to replicating such efforts is that New Tech only enrolls students who apply to the school—in other words, those who want the challenge of a demanding academic program. Even then, “I’m asking for continuous and constant engagement, which is both taxing and tiring, and I get some pushback from the kids.”

Students came up with a slogan, The class of 2008: Doing too much since 2003, “which tickled my soul,” Hanzel says. “But it does describe the degree to which they felt we were pushing them.”

ture learning,” he says. “This means a tremendous repurposing of money, and a tremendous change in the role people have. It takes a lot of leadership and understanding for people.”

That’s not to say it can’t be done. At Sacramento’s New Tech High, school administrators arrange for teachers to attend a week-long seminar each summer, as well as schedule time for teachers to meet for 50 minutes a week to review classroom instruction as a team, says Principal Paula Hanzel. The school also has two teacher coaches on campus to help the faculty develop its skills and introduce key teaching concepts—such as project-based learning—into the classroom.

In Connecticut, a state-funded educational service agency is working with a number of schools and demands a similar commitment: Teachers attend a 40-hour, five-day summer program, are mentored by instructional coaches, and have access to online courses designed to provide training and resources for the teaching of 21st century skills.

“It is about reconceptualizing the school institution for the 21st century,” says Michael Mino, director of the Center for 21st Century Skills, a state initiative working with Connecticut schools. “It’s a pretty significant [commitment].”

For some schools, rethinking the school curriculum and everyday instruction is proving helpful in slowing teacher turnover—and thus helping solve one of the main obstacles for urban schools seeking to embrace 21st century learning. At San Diego High Tech High, Vavra says, teachers enjoy extraordinary freedom in designing school courses, and the opportunity for creativity and control over instruction has helped the school retain good teachers.

### Imagination and leadership

All of this is assuming the district bureaucracy can get out of the way. The teaching of 21st century skills isn’t always a good fit with those strict, rote-learning instructional models that dictate what is taught every day—or with district rules that restrict the options of teachers.

In one Connecticut high school, for example, a class was studying Facebook, the popular Internet social network, as part of a lesson on commerce, Mino says. But the district had blocked access to Facebook on school computers—and thus creating an untoward obstacle to instruction. In another instance, an urban school



district took four weeks to okay a teacher’s field trip request, whereas neighboring suburban districts responded to such requests within two or three days.

“Whether more decentralized—or just have less layers of bureaucracy—[suburban districts] were more responsive,” Mino says. “There are structural impediments put in the way of students and teachers who are trying to do innovative things.”

To tackle such obstacles, school boards need to start by visiting a school that’s incorporated a good model of teaching 21st century skills, Pearlman says. School leaders need to spend at least a day “to have a conceptual understanding for what it looks like.”

Any school that decides to embrace this approach will need a good leadership team and a faculty ready to take on the challenge, he adds. That way, if there is staff turnover, there will be foundation to keep the program going while new leaders get their feet on the ground. School boards also must build relationships with organizations or state initiatives that can provide the necessary training and resources to get any initiative off the ground.

Until recently, most school boards were content to launch one or two schools that emphasized 21st century learning—and the motive often was to expand choices for families, Pearlman says. But now he sees some movement to expand the concept to more schools.

But those first schools are key, providing the experience and trained staff needed to expand such efforts. “Those first schools,” he says, “are the building blocks for future development.”

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**NOT ALWAYS HIGH-TECH**—Learning 21st century skills will be just as important for blue-collar workers, as it is for the scientists, economists, and other professionals who will work in tomorrow’s global economy. Working in the shop last year at Cleveland’s Max S. Hayes High School, this 17-year-old (left) told a reporter he hoped the high school’s innovative program would give him the skills needed to become successful in a trade. Above, students at Sacramento New Technology High School learn about good nutrition with a real-life lesson in a kitchen.

### VOTERS WANT 21ST MODEL

Any effort to introduce 21st century skills into classroom instruction is likely to meet with the approval of parents and the community, says a nationwide poll released last year by the Partnership for 21st Century Skills.

Among the poll’s findings:

- Among voters, 88 percent say they believe schools should introduce 21st century skills into the curriculum.
- Sixty-six percent of voters say students need more than just the basics of reading, writing, and math.
- Fifty-three percent believe schools should give 21st century skills an equal emphasis with basic skills.
- Eighty percent say the educational needs of students are different than from 20 years ago.

## City-school partnerships make all the difference

*Partnerships, not takeovers, leverage maximum resources on behalf of schoolchildren*

By Naomi Dillon

In a 2001 survey by the National League of Cities, four out of five city officials polled considered the quality of education a “major” or “moderate” problem in their community, citing student achievement and school reform as one of the most critical issues they faced.

Clearly, municipal leaders consider education a top priority in building a strong, prosperous, and livable city. But while most school district officials would agree and welcome the political clout, public stature, and vital resources that come with having a city leader take an interest in local education, too often that interest extends into a usurpation of district control, as seen in Chicago, New York City, and Cleveland.

Certainly, positive outcomes can and have resulted in mayoral takeovers, especially of failing or dysfunctional school systems. But such strong-arm tactics, say many observers, are rarely necessary and almost always invoke resistance, mistrust, and ill will.

The better approach, they argue, is the formation of a true partnership between city and school leadership, with an eye and a vision toward the same goals. While efforts by city mayors to take control of education may grab the most headlines, there are plenty of examples of city and schools working together, in harmony.

Take Lansing, Mich., where a solid bond between the school district and the city has lasted more than a decade through several administrations and continues under the current Mayor Virg Bernero.

Lansing officials have been able to mobilize an entire community toward improving academic achievement. Projects include a community-wide literacy campaign—including the joint purchase of books by the city and district, library forums and reading groups, and classroom themes and concepts on the selected books. Another program aimed at improv-



Students study at Lansing’s Eastern High School. The partnership between the city’s mayor and school board has made a significant difference in the range of programs available to schoolchildren.

ing middle school student outcomes by focusing on school attendance, student behavior, and parental involvement.

In San Francisco, the school board and Mayor Gavin Newsom announced a Partnership for Achievement last year that promised a joint effort to serve the city’s schoolchildren.

The partnership involves a marketing campaign to showcase school programs, targeted resources for teacher recruitment, municipal leaders lobbying for state education funding, and the investment of city and community money into early education and after-school programs. The mayor also has worked with the district and state university system to create SF Promise, a program guaranteeing college for last year’s sixth-graders.

The Denver Public Schools found a similar ally in Mayor John Hickenlooper, who has for the most part kept to the campaign promise he made in 2003 to visit a public school every week. Early on, Hickenlooper made education a centerpiece of his administration and has followed through on that focus.

For example, Hickenlooper lobbied tire-

lessly for a district-proposed tax referendum (that ultimately passed) that provided the revenue stream for a new teacher compensation model. He also coordinated with area cultural institutions and launched the 5 By 5 Program, an initiative that aimed to put at least five cultural experiences under the belt of young children by the time they’re 5 years old.

Hickenlooper’s eagerness to get involved in improving local education was viewed warily by some, but he has been clear from the start that he has no designs upon taking over the reins of the school system.

“What I should be doing is working as hard as I can with the system,” he said in the 2006 Annenberg Institute for School Reform report, *Engaging Cities*. “I’m conscious there are other systems out there. But there are historical reasons why the system is the way it is. Things that look like mistakes to us have sound reasons behind them.”

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# Research and Reality

## Incentive programs boost student reading scores

Purists would say that education is its own reward. But offering cash, iPods, concert tickets, and other goodies to students who work hard does appear to give a slight boost to reading scores, according to a new report by the Center for Research on Education Outcomes (CREDO) at Stanford University.

Some schools reported academic gains of five to six percentile points.

As is always the case, there are caveats in the findings that school board members shouldn't overlook. For one, the impact of any incentive plan appears to vary with the support of school personnel and a "consistent and frequent reinforcement of student behavior."

The study looked only at charter schools, and the number of schools studied was too few to ensure the validity of the conclusions. Also, as the researchers admit, there is a question whether "schools that adopt reward programs may be systematically different in some unmeasured way from those that do not use them."

Still, said CREDO Director Margaret Raymond in announcing the findings, "the results ... provide reasons for optimism about the potential for reward systems."

The report is available at <http://credo.stanford.edu>.

## Ninth-graders often taught by least-qualified teachers

It's widely recognized that the most likely candidate for dropping out of high school is the student who struggles academically in ninth grade. Yet whom do you think is most likely to be assigned an uncertified or novice teacher?

That's right. A study of Philadelphia high schools by researchers at Johns Hopkins University and the University of Pennsylvania found that ninth-graders were more likely to be assigned to the least experienced and least trained teachers.

The difference was not huge—29 percent of all ninth-grade courses were taught by new or uncredentialed teachers, compared to 28 percent of 10th-grader classes and 21 percent in 12th grade.

The significance of the findings isn't so

much in the percentages but in the vulnerability of ninth-graders, the study suggested. Students who spend more than one class with an inexperienced or uncertified teacher report an average of two additional absences a year than those taught by more-qualified teachers.

The study was published in the May issue of *American Journal of Education*, [www.journals.uchicago.edu/loi/aje](http://www.journals.uchicago.edu/loi/aje).

## Nationally certified teachers appear to be more effective

A new report by the National Research Council concludes that teachers with advanced certification from the National Board for Professional Teaching Standards (NBPTS) are, indeed, more effective in the classroom than their peers across the hall.

Several studies have examined the role of nationally certified teachers, but the council report says research cannot yet measure whether the program has met its promise of raising the quality of teaching nationwide.

"Our review of the research, however, suggests that there is not yet compelling evidence that the existence of the certification program has had a significant impact on the field, teachers, students, or the education system," the report states.

The report found that students taught by NBPTS-certified teachers made greater gains on achievement tests. But it wasn't clear whether the process of achieving certification improved the teacher's effectiveness—or if more qualified teachers were attracted to seek certification.

One finding of more practical use to school policymakers: The report cited a study that showed administrators failed to make use of nationally certified teachers as mentors or team leaders, didn't offer them new opportunities, or recognize their achievements. Also, teachers were more likely to seek certification if there were financial incentives attached to the attempt.

Since 2003, more than 63,000 teachers have earned NBPTS certificate, representing less than 3 percent of the nation's 3.7 million teachers.

The report, *Assessing Accomplished Teaching: Advanced-Level Certification Programs*, is available from the National Academies Press, [www.nap.edu](http://www.nap.edu).



The XO laptop distributed to schoolchildren in Birmingham, Ala.

## TINY LAPTOPS FOR BIRMINGHAM STUDENTS

This spring, students at Glen Iris Elementary School in Birmingham, Ala., were the first in the city to receive laptops under a high-tech initiative by Mayor Larry Langford.

In March, the city council agreed to spend \$3.5 million to buy as many as 15,000 XO laptop computers and other technology for all elementary school students in the city. The small, low-cost computers were developed by One Laptop Per Child, a nonprofit group that sought to manufacture \$100 laptops to students in developing nations.

According to the *Birmingham News*, the initiative—the brainchild of Langford—was approved with little or no consultation with the school board. That led to an agreement to pilot the laptop project at Glen Iris with approximately 1,000 laptops as debate continues about the program's feasibility.

## SEATTLE SETS VISION FOR EXCELLENCE

The Seattle school board has adopted a new strategic plan, Excellence for All, that focuses attention and resources on the "foundational areas" of the school system's instruction program.

Those areas include strengthening math and science instruction, improving assessment tools to track student progress, improving retention and recruitment of teachers, and focusing on more efficient student assignment, budget protocols, and staff performance valuations.

The plan also sets goals for a significant boost in student achievement on the Washington Assessment of Student Learning, the state's standardized tests.

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