



THE SCHOOL THAT WILL GET YOU A JOB

A NEW KIND OF EDUCATION SHOWS WHY
FOUR YEARS OF HIGH SCHOOL ISN'T ENOUGH

BY RANA FOROOHAR/CHICAGO

LEARNING EXERCISE
Chicago's Sarah E. Goode STEM Academy,
which offers a six-year education

Photographs by Ryan Lowry for TIME

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SARAH E. GOODE IS THE NAME OF ONE OF the first African-American women ever to be granted a U.S. patent, in 1885, for a foldout bed that converted into a desk—a prescient object that would fit right into a modern-day Ikea catalog. It's also the name of a new high school on Chicago's South Side that is redefining what it means to be educated in the 21st century.

Kids at the school, which launched a year and a half ago, aren't called students but "innovators." They receive a hardcore focus on STEM skills (that's science, technology, engineering and math). And they take six years to graduate instead of the traditional four; the extra two years means they walk away with an associate's degree on top of their high school diploma.

There's one more thing they take with them: a job. Every student at Sarah E. Goode STEM Academy graduates with a promise of a \$40,000-plus opportunity at IBM, the school's corporate partner and a key developer of the curriculum. A place in this school, which rises gleaming and new in a neighborhood littered with dingy bail-bond shops, check-cashing places and fast-food joints, is very likely a ticket to the middle class.

Stanley Litow, IBM's vice president of corporate citizenship and corporate affairs, helped start this school and seven others like it in New York and Chicago. With 29 more such academies set to open in two states over the next two years, he's part of a mission to do nothing less than reinvent American secondary education. Litow launches into an orientation speech for ninth-grade students as if he were talking to a valued client, thanking the kids for choosing Sarah E. Goode. He tells them that IBM has a big stake in their success—as does President Obama, who for two years running has heralded such schools as a model for the nation in his State of the

Union speech. "We need people who look like you, sound like you, live like you and have your aspirations," says Litow, echoing the President's call for a new 21st century workforce, one that's not only better skilled but also more diverse and inclusive. The kids, African American except for a handful, burst into applause as he finishes. Then they file off quickly to class, past a WELCOME INNOVATORS sign, while a soundtrack of motivational rap and dance tunes (Public Enemy, TLC, Calvin Harris) plays in the background.

Despite Chuck D's musical entreaties to "fight the power," these kids don't seem like revolutionaries; they just seem grateful to be given a chance to excel in a school that has no test-in-exam or steep tuition and where educators seem genuinely happy to serve them. But like Litow, their teachers and everyone else at Sarah E. Goode, these teenagers are part of a major new experiment in American education. If successful, this kind of school could help power the sort of great national leap forward that hasn't happened since the post-World War II period, when state governments decided that high school, previously optional, should be mandatory, in order to ensure the kind of skilled workforce needed to compete in a new, higher-tech industrial era.

Many U.S. leaders—including Obama, Education Secretary Arne Duncan, scores of blue-chip CEOs and executives and a sizable number of top educators—believe we're once again at such a turning point. And many of these leaders are pushing the idea that when it comes to the length of secondary education, six should be the new four. In Tennessee, Republican governor Bill Haslam used his Feb. 3 State of the State address to unveil a proposal that would provide two free years of community college for any high school graduate. Oregon lawmakers are study-



NEW VIEW
Vilma Smith, a 10th-grader at Sarah E. Goode, dreams of studying screenwriting at UCLA

ing a similar proposal. The obstacles are considerable, starting with the most obvious: Who pays? Pilot programs are one thing, but taking the six-year high school mainstream will require a substantial commitment in funding—and faith that the economic benefits of a better-educated workforce will offset the costs.

Evidence suggests that expanding education beyond 12th grade can be powerful. A four-year high school degree these days guarantees only a \$15-an-hour future, if that. According to projections by the Center on Education and the Workforce at Georgetown University, the U.S. economy will have created some 47 million job openings in the decade ending 2018, and nearly two-thirds of them will require some postsecondary education. The Center projects that just 36% of American jobs will be filled by people with only a four-year high school degree—half of what that number was in the 1970s. On average, workers with an associate's degree will earn 73% more than those with only a high school diploma.

But realigning American education for the jobs of the future isn't just about the

duration of school. It's a question of what to study and how to encourage kids to see their education through. And that's why programs like Sarah E. Goode—an approach known as Pathways in Technology Early College High School, or P-Tech for short—are attracting so much attention. The P-Tech model was originally developed by IBM, the New York City department of education and the City University of New York. Two and a half years in, the Brooklyn school that pioneered the approach has been visited by everyone from the President and Harvard academics to Chinese officials. Its first class will graduate in 2018, though many will complete all the requirements before then. Right now about half of the juniors—none of whom were screened for ability and many of whom will be the first in their family to graduate from high school—are already taking college-level math. It's an impressive achievement in a city where only 64.7% of kids graduate from high school. Rashid Davis, the principal there, says the public-private partnership is invaluable: "It's incredible how much further children can reach when industry is closer to them to help set the context for learning."

LEARNING TO EARN

DAVIS' COMMENT IS STRIKING BECAUSE historically in the U.S., an education tied to industry has been considered second-rate. Back in 1917, under the Smith-Hughes Act, Congress set up a pool of funds for vocational education (mainly for farm kids) that was separate from that of high schools. The idea was to avoid raiding high school funds at a time when graduation rates, only 6% in 1900, were beginning to increase. But the unintended

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SCHOOLS FOLLOW THE P-TECH MODEL; 29 MORE WILL OPEN IN TWO STATES OVER THE NEXT TWO YEARS

consequence was to separate career-based education from the rest of high school, effectively downgrading it. Even when the two tracks were reintegrated in the 1960s, vocational education was still seen as a dumping ground for less fortunate students. Meanwhile, even traditional high school hasn't necessarily led to a better path: while 70% of high school graduates today go on to higher education, only 30% of young Americans make it through a four-year college, and only 10% graduate from a two-year institution, despite 20 years of educational reform.

Those reforms have included things like the push for Common Core standards, charter schools and in some cases closer ties between schools and business. Twenty years ago, Oregon, faced with students graduating with no marketable skills, tried to make all high schools focus on career majors—but then ran into pushback from families who didn't want their kids off the "academic" track. Other attempts in different parts of the country to connect educators and job creators failed because employers who were approached about offering internships or helping schools create better curriculums couldn't see what use 16-to-19-year-olds could possibly be to them.

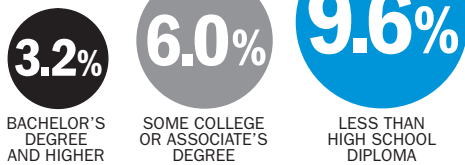
Today, no one can ignore the disconnect between how the U.S. educates its kids and the needs of the U.S. economy. There is a youth unemployment crisis, one that continues to have profound effects particularly on young people of color with limited education. (In October, only 5% of black male high school graduates looking for work found a job.) There are large and growing asymmetries in the labor market: Harvard Business School professor Rosabeth Moss Kanter calculates that a third

SCHOOL SOLUTION

TO MEET THE DEMANDS OF AN ECONOMY THAT PRIZES COMPUTER AND TECHNICAL SKILLS, THE U.S. NEEDS MORE WORKERS WITH A POSTSECONDARY EDUCATION

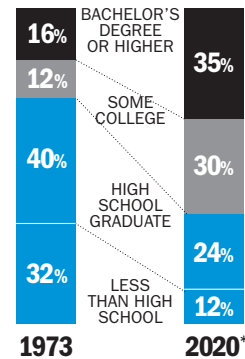
WHO'S JOBLESS

The unemployment rate is highest for the least educated



WORK OF THE FUTURE

Two-thirds of all jobs will require postsecondary education by 2020



GLOBAL COMPETITION

The U.S. ranks 12th of 35 countries in high school graduation rates among 25-to-34-year-olds

Percentage who graduated, 2011



MAP OF CHANGE

Where U.S. high schools are adopting some key approaches to career and technical education

NATIONAL ACADEMY FOUNDATION (NAF) SCHOOLS

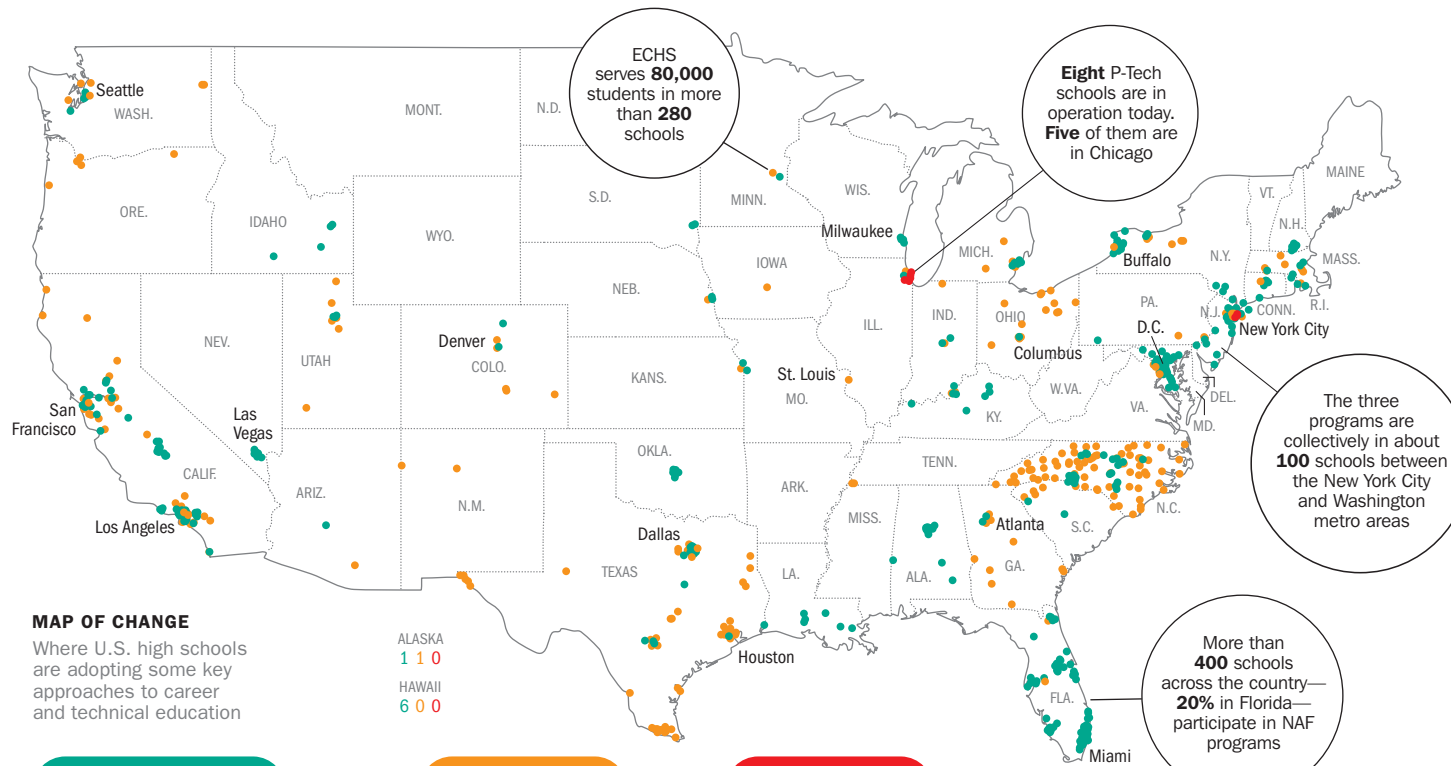
Students can opt for a specialized learning track focused on hospitality, engineering, health or other sectors. They connect with employers through internships.

EARLY-COLLEGE HIGH SCHOOL (ECHS)

Students simultaneously earn a high school degree and college credit, which not only reduces college costs but also ups graduation rates.

P-TECH SCHOOLS

Students attend high school for six years, earning an associate's degree and focusing on science, math and technology. Mentors from large employers help guide students.



*Does not add to 100% due to rounding
 †Such as M.D. and J.D.
 Sources: Bureau of Labor Statistics; Georgetown University; U.S. Census; OECD; Jobs for the Future; IBM; National Academy Foundation

of the jobs lost during the Great Recession reflect a mismatch between the skills employers need and those that workers have. There's a \$1 trillion student-debt bubble being faced by kids entering what's still the toughest labor market in a generation. There's a structural change in the economy to favor technology-based skills, a shift that actually makes a career-oriented STEM education more and more attractive and makes tech-savvy 16-to-19-year-olds more interesting to firms. And there are a growing number of blue chips, like IBM, that believe getting involved in education is good for both their long- and short-term business models: it simultaneously addresses their skilled-labor shortage and helps build a stronger middle class that will spend on their products in the future.

EDUCATION THAT WORKS

THAT'S THE NEW LANDSCAPE IN WHICH students, educators, businesses and governments are operating. And it's why the urgency over connecting all the public and private dots is growing.

Some of these efforts have been coming from enlightened blue chips like GE, Procter & Gamble and Microsoft. Back in 2007, ExxonMobil, for example, helped take two Texas programs that had proven results bolstering math and science education in high schools—UTeach and the Advanced Placement Training and Incentive Programs—and make them national.

Other programs aim to help high school kids earn college credits in order to offset costs and improve their chances of graduation and progression on to college. The Gates Foundation-funded Jobs for the Future program has redesigned 280 schools serving 80,000 students to offer such courses, with great success—90% of their kids graduate from high school, 12 points higher than the national average. Another

effort, the National Academy Foundation, launched by former Citigroup chairman Sanford Weill, exposes high schoolers to the world of work through career-oriented courses in high-growth fields and through internships. Their academies—located in more than 400 U.S. schools—have a 96% graduation rate.

Still, connections between public schools and the private sector remain scattered, limited and haphazard, as illustrated by a new study from the Gates Foundation, BCG and the Harvard Business School. The study interviewed superintendents of the 10,000 largest U.S. school districts about business involvement in their areas. While 95% said business was in some way involved, in most cases the involvement was limited to writing checks. Only 12% of superintendents saw business as deeply involved. Which is a shame, since this survey (as well as many others) found hugely improved student outcomes in areas with that deep business participation.

The P-Tech model seeks a deeper and more permanent connection. "In order to

make sure the best businesses locate here, I need to give employers certainty about the skill set of our people," says Chicago Mayor Rahm Emanuel. Chicago is connecting Sarah E. Goode and the other four P-Tech schools that it launched in September 2012 with community colleges that focus on the city's top growth areas—including logistics and transport, health care, IT and manufacturing—and locating the schools in neighborhoods that are a short commute away from jobs in those fields. As in New York, the curriculum of these schools is developed in conjunction with the public school system, the City Colleges of Chicago (which, like CUNY, handles the college courses) and the companies—including not just IBM but also Cisco, Microsoft, Verizon Wireless and Motorola Solutions—that agree to sponsor them.

That doesn't mean pouring in corporate money—Chicago's programs are paid for entirely with existing public funds—so much as knowledge. When IBM and the other private-sector sponsors sign on, they

are essentially promising to help mentor kids and develop a curriculum that will churn out the kind of workers to whom they can guarantee decently paid jobs. Currently, "almost 1,800 jobs at IBM alone are going unfilled" due to a lack of appropriate candidates, says Litow, a former New York City schools deputy chancellor hired in 1993 by then IBM CEO Louis V. Gerstner Jr. to develop a new model for education to address IBM's skills gap.

Many of IBM's unfilled positions are in the middle-skilled area—jobs that require less than a four-year degree but more than a high school diploma. This underscores an interesting truth about the American economy: despite all the press about the middle class shrinking, middle-income jobs are actually forecast to grow. According to Bureau of Labor Statistics figures, middle-skilled jobs with a technology bent—which include positions like entry-level software engineers, medical technicians and high-tech-manufacturing workers—will increase by 17.5% from 2010 to 2020, just as fast as high-skilled jobs

and far faster than lower-end ones. But while we have plenty of Ph.D.s and burger flippers, we don't have enough people with skills in between. Too many four-year graduates are overeducated in the wrong areas: liberal-arts students graduating today are at a major salary disadvantage compared with peers in the sciences, and a full 27% of people with postsecondary certificates make more than the average bachelor's-degree recipient.

The trick is boosting those credentials—and the two-year-college graduation rate of 10%. In seeking to narrow the divide between high school and community college, the P-Tech blueprint represents the culmination of 30 years of secondary and postsecondary school reform in America. It has a strong academic core. It picks up certain elements of the "career academy" model, which creates high schools with links to particular industries, like finance or telecommunications, and adds a dash of the "early college high school" model, where small, specialized schools in deprived socioeconomic areas allow kids to complete some

college credits in high school, reducing the cost of a degree later and improving their chances of graduating. It throws in corporate help in curriculum development and mentoring to ensure employable workers.

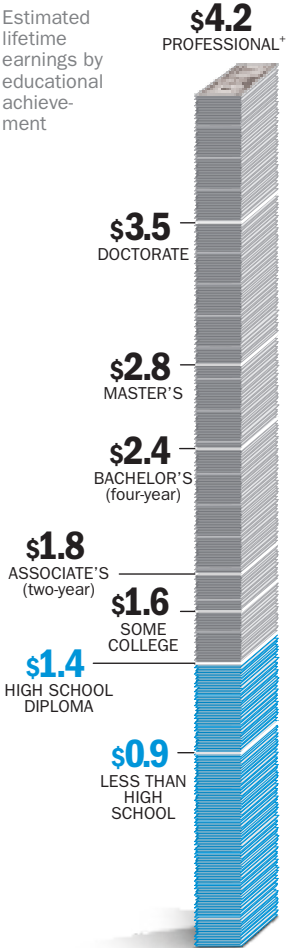
But P-Tech adds a final, crucial twist, that job guarantee for graduates. "The P-Tech model takes the best of these other ideas and then goes a step further by bridging the jobs divide," says Harvard education professor Robert Schwartz, author of the seminal 2011 *Pathways to Prosperity* report on career training and school reform, who lauds the model. "I give IBM a lot of credit for that."

In many ways, P-Tech is a white collar, modernized version of the successful Germanic model in which students are taught curriculums geared toward specific, career-oriented skill sets. (Countries that follow this model, including Germany, Austria, Switzerland and the Scandinavian nations, have lower-than-average rates of youth unemployment.) In other ways, it's more creative and focused on basic intellect building, which is important

THE PAYOFF

Estimated lifetime earnings by educational achievement

IN MILLIONS





STUDY PARTNERS: Chicago 10th-grader Gia Hamp, 15, with her mentor Charlotte Johnson, the IBM program manager at Sarah E. Goode



JOB CREATOR: Matsuo Marti, principal at Sarah E. Goode, supervises an education that promises its graduates a paying job

since it's impossible to fully predict what the jobs of the future will require.

Vilma Smith, a 10th-grade math star at Sarah E. Goode, who claims she started off at the school as a shy and quiet outsider, wants to go on not to IBM but to UCLA to be a screenwriter, inspired by both software-design classes and literature courses. "I want to learn how to tell stories to other people, but I also want to understand how to tell my own story better," she says. Those are dream words for educators who want kids to have multiple pathways and a multidisciplinary approach to learning and to life. They also reflect the sort of person that your typical American blue-chip company would be dying to hire. "After one year, Vilma has become a leader, someone who can reflect, articulate and self-assess," says Charlotte Johnson, a former teacher and now the IBM program manager at Sarah E. Goode. "Believe me, not everyone in a company can do that."

The curriculum also emphasizes the soft skills of presentation, self-marketing and communication that better-off kids—raised in homes with college graduates whose behavior they can model—

take for granted. On a recent winter's day at Sarah E. Goode, a group of students participated in a virtual-enterprise class, in which they devised mock companies that manufacture and sell imaginary products within a network of other high schools around the world.

Gabriel Rosa, the 16-year-old CEO of Titan Enterprises, an enterprise-software-design firm, is getting the latest beta-test results from his nervous CTO ("When do you expect that new app to be ready?" "Umm ... is Thursday O.K.?"), and trying to get a rather bored-looking marketing staff motivated about a rebranding exercise. "We need to excite our customers," he says, tentatively. The teacher urges him on, telling him to think about what Titan is really designing and who it's for. He course-corrects, making better eye contact, leaning in and asking more-specific questions: What types of retailers should the firm focus on? Which new apps are most promising? The team perks up. Rosa's confidence noticeably increases.

"I definitely want to start my own company someday. That's why I chose this school," says Rosa.

NEXT STEPS

IT'S EARLY DAYS FOR THE SIX-YEAR HIGH school model, both in Chicago and in other places it is rolling out, like upstate New York (where Democratic governor Andrew Cuomo has committed to building 10 P-Tech schools) and Connecticut (where Governor Daniel Malloy wants to launch P-Tech).

So far, the P-Tech model has received surprisingly little pushback from unions, even the aggressive Chicago teachers' union, because it operates within the traditional public school system rather than outside it, like charter schools. "It's captured the imagination of people who want to walk away from the whole debate over charters and testing and vouchers and data and just focus on where children need to be and how we can give them the steps on the ladder to get there," says Randi Weingarten, president of the American Federation of Teachers and a former president of the United Federation of Teachers.

But there are other big questions to resolve before the six-year high school can scale up well beyond its successful pilots. Funding is one, although a number of

solutions are being proposed. Tennessee Governor Haslam says surplus funds from the lottery could cover his state's estimated \$34 million annual cost of providing free community college. Litow and others want funds from the Perkins Act, which is up for congressional reauthorization this year, to be extended and redirected more productively to models like P-Tech.

National rollout will require enlightened local leaders. In both Brooklyn and Chicago, P-Tech has enjoyed the support of education-reform mayors with an aggressive style able to ram through new programs. Those schools are also located in major population centers with FORTUNE 500 employers handy. Harvard's Schwartz says that industry-wide cooperation will be necessary to move P-Tech forward in places where there is no single blue chip capable of doing that on its own.

Resolving these questions is imperative, because the evidence shows the future for employable students must include at least two years of postsecondary education, whether it's done in high school or beyond. "Some kids will graduate in six years and some in four, but what we're

finding is that when we ask more of kids in terms of curriculum, they always hit the bar—always," says Anthony Salcito, VP of worldwide public-sector education at Microsoft, which has supported P-Tech and other STEM secondary schools around the country.

The P-Tech model has raised not only student and educator aspirations but also the bar for private-sector involve-

ment in education at a time when the corporate share of the economic pie has never been larger or the workplace and economy at large more bifurcated. Litow says he's fielding daily calls from corporations interested in becoming P-Tech sponsors—not just in the tech sector but in manufacturing, health care and other industries with labor shortages. Eighteen new schools modeled on the IBM playbook will be coming online this year, and another 11 are likely by 2015.

In November, President Obama earmarked \$100 million in new grant funds for schools like P-Tech to carry on their experiments in education, something he lauded in his past two State of the Union speeches. "We're shaking up our system of higher education," says the President. Of course, the final step in shaking things up has yet to be taken. The last time we had a reset of secondary education, leaders and voters made sure it was free to everyone. Now, with so much agreement that young people need more than four years of high school to succeed, the challenge once again is guaranteeing the right education for all. ■

WHY IT WORKS

- 1 **The program:** Students remain in high school an extra two years to earn an associate's degree
- 2 **The skills:** Employers help craft the curriculum so graduates are ready for good jobs
- 3 **The payoff:** A promise of a job at graduation