

Chapter Five:

Can America Prosper in the Twenty-First Century Without Classroom Excellence?

Tom Davison is a math teacher in Scottsdale, Ariz. But he didn't begin his career at the head of a classroom--or develop his worldview through teaching. Davison earned his first degree from the University of Pennsylvania's Wharton School of Business, then took jobs on Wall Street with Smith Barney and other investment banking firms. You wouldn't expect it, but Davison's attitude about the job that must be done--his job, his students' job--are drawn more from his experience as a farmer working with his brother. "We work. We don't waste time," he told us. "The cow's got to be milked every day."

Davison is intense and determined, the kind of guy you're not surprised to discover was a high school football coach. Back in the '80s, when he decided that corporate finance was not for him and he wanted to teach math--"I always loved school and learning"--Davison got a second bachelor's degree in thirteen months from a teacher's college. He followed that with a master's degree in math from the University of New Hampshire, earned over three years while teaching in the public schools of Sayre, Pennsylvania. Just as he pushed himself, he pushed his students, serving out detentions when they didn't do their homework. He believed in their capacity for hard work, and was disappointed when a

complaining parent led to administrative pressure to drop the detentions and relax his standards. “I didn't go into education to be mediocre,” he says. “It's the old coaches' thing: You are either getting better or getting worse. There's no standing still.”

It wasn't until Davison was invited in 2003 to join the newly forming staff at Basis, a public charter school in Scottsdale, that he found his match. The school's accelerated curriculum, emphasizing advanced math and science at both the middle school and high school levels, is based on the belief that students can thrive when presented with rigorous demands. Geared toward college prep, the program begins teaching chemistry, physics, and biology as separate sciences in the sixth grade, Algebra 1 in the seventh grade, and college-level economics in the eighth grade. “They were the only ones I've ever heard who were willing to say they wanted to be the best,” Davison says. “[They said] ‘we want to be the best school in Arizona, then we want to be the best school in the country.’” In fact, several years after opening, Basis Scottsdale was named by *Businessweek* as the best overall school for academic performance in Arizona.¹ Its sister school, the equally rigorous Basis Tucson, was ranked by *Newsweek* in 2008 as the top public high school in the entire country for college readiness.²

The Basis schools--clearly not for everybody--are just a few dots in a sea of educational reform. Yet they are part of a growing movement throughout the nation of educational leaders and teachers searching for new ways to achieve excellence. The purposes are as broad as strengthening America's capacity to compete globally in an increasingly sophisticated twenty-first century--and as precise as enabling every student to achieve his or her academic potential. They have emerged at a time of pervasive doubt about our capacity to find solutions to what is a national crisis: declining test scores and standards, decreasing

interest in math and science, too many dropouts, a focus on rote-oriented standardized testing over imagination, innovation, and interpretation--and a teaching profession saddled with low pay and low prestige, inadequate support and limited autonomy, and high turnover rates. In fact, a group of military leaders told us that they consider the failings of the U.S. educational system to be a national security risk.

While there has been a long tradition of educational leaders seeking to achieve a combination of excellence and equity in public schooling, innovative activists at Teach for America, the KIPP Academy, and the Mac-Ro program are among those demonstrating that aptitude can be matched with achievement in any community when it's backed by fresh-minded and committed leadership. Their work is rooted in the simple notion that academic success begins with good teachers--that a good teacher can make a meaningful difference in a student's life, even in a bad school in a poor neighborhood. That's common sense. Every one of us who has been inspired by a teacher--that special person who recognized and responded to our individual strengths, who motivated us to do better and go further--knows this. Even those who've lacked that fundamental gift understand it intuitively. And the data backs this up: A good teacher is the single most important factor in spurring achievement, more than class size, dollars spent per student, or the quality of textbooks and materials.

So if we know how crucial teachers are to educational success--and that American students have fallen behind in math, science, and reading performance when compared with their peers around the world--why are so many public schools struggling to respond? Clearly, we need the best people we can to be running America's classrooms.

But that's easier said than done.

We should expect that teachers' colleges provide the training ground to help us achieve that goal. Yet these schools typically offer programs with low admissions and graduation standards, inevitably discouraging many of the best and brightest students from signing up. The results of a 2006 report, "Educating School Teachers," are startling: Three-quarters of the country's 1,206 university-level schools of education do not have the capacity to produce excellent teachers; more than half of teachers are educated in programs with the lowest admission standards (often accepting 100% of applicants) and with "the least accomplished professors"; and only about 40 percent of school principals, when asked to rate the skills and preparedness of new teachers, thought the education schools were doing even a moderately good job. These controversial findings were not reached lightly or quickly. The report was based on four years of research, including surveys of school principals and deans, faculty members and graduates of education schools, as well as assessments of programs and practices at twenty-eight institutions.³

While public schools require teachers to go through a licensing process that emphasizes teaching methodologies, they are typically less stringent about content mastery. That means that a university professor with a PhD degree in chemistry like author Harris has--he has successfully taught introductory classes to incoming freshman, not to mention more advanced classes--would be ineligible to teach in a public high school. Here's why this is alarming: While researchers have found a direct correlation between teacher effectiveness and their level of subject-matter expertise, nearly a third of middle- and high-school math, English, science, and social studies classes are run by teachers lacking a major even "closely related to" the one they are teaching. The group who lack subject mastery climbs to two thirds in the physical sciences.⁴

Consider the case of Robert Lee, who teaches high school physics at Basis Tucson. Before joining the staff there, he taught physics part-time at the University of Arizona, where he earned his master's degree, and at an Arizona community college. He also worked in one of the university's optic labs, conducting research in solid state physics. While he is eligible to teach in a public charter school like Basis, which is not bound by Arizona accreditation requirements, he would be out of luck if he wanted to move to one of the state's public schools. It's a ruling that makes no sense to him. "Students are excited by content," he told us. "It's not that complex. If the teacher's excited about the material and knows the material, that's the formula for success."

The final report of "Educating School Teachers" was written by Arthur Levine, one of America's leading educational reformers who was president of Columbia University's Teacher's College for a decade and, since 2005, has served as president of Princeton University's Woodrow Wilson National Fellowship Foundation. Levine wrote that "to compete in a global marketplace and sustain a democratic society, the United States requires the most educated population in history." But he frets about achieving this; he notes that unlike other professional schools, such as law or medicine, there is no consensus in education about how long teachers should study or whether they should concentrate on learning theory and methods or emphasize subject knowledge. Put another way: There's no agreed-upon approach to training good teachers.⁵

This predicament is further complicated by the fact that school systems are stuck between worlds. As Levine explained to us, schools were originally developed to serve an industrial economy and now find themselves wrestling to meet the needs of our information age, "where the rules are still being written" and "we are trying to imagine the institutions."

Why, for example, do we assume that all students can learn in the same amount of time? With the advent of new technologies and software, why not rethink the teacher's role to facilitate new learning styles? Why not refigure schools based on learning rather than teaching? Levine believes that we are entering a period of experimentation, which will require bold new approaches to learning that move beyond a “nostalgic past” and “a path that is moribund.”

One dramatic example is Quest 2 Learn, a new public school in New York City that started with sixth grade in 2009 and draws on the design principles of games and other digital media. The goal is to create highly immersive, game-like learning experiences that can take advantage of the powerful media kids use outside the classroom inside the academic environment. This experimental approach is based on the recognition that literacy in the twenty-first century is changing, and so too must the tools for learning. In addition to the normal public school funding, Quest 2 Learn has attracted grants from the MacArthur Foundation and the Bill and Melinda Gates Foundation.⁶

But even as intriguing new learning styles are tested and the role of teachers gradually changes, alternate strategies are required to serve the needs of students now. Especially in more economically distressed urban and rural areas where teacher quality is often weak. So we are back to the central question: How do we get the best people we can to run our nations' classrooms?

Teach for America, proposed in 1990 by Princeton University senior Wendy Kopp who then raised \$2.5 million to launch it, has implemented an answer. This success story has recruited and placed more than 20,000 high-achieving college graduates into classrooms in poor communities--and opened the doors for hundreds of thousands of students to discover

good teachers, improve their school performance, and head to college. With about six thousand teachers in twenty-nine urban and rural areas, the program is proving that teaching is a route that many idealistic young college graduates from top colleges and universities will gladly pursue when there's prestige and support--and a fierce competition to be among a respected corps. In 2008, nearly 25,000 students with an average GPA of 3.6 applied for 3,700 teaching slots. Even more impressive, at a time when the percentage of students interested in teaching in a public school has continued to decline (down to 31 percent in 2008 from 45 percent just two years earlier), Teach for America attracted applications in 2008 from 11 percent of the senior class from Yale University, 10 percent from Georgetown, 9 percent from Harvard, and 7 percent from the University of Michigan.⁷

And what about the students taught by TFA teachers? A study by the Urban Institute found that high school students in North Carolina performed significantly better on state-required end-of-course exams, especially in math and science, than their peers taught by far more experienced instructors. The TFA teachers' effect on student achievement in core classroom subjects was nearly three times the effect of teachers with three or more years of experience. Jane Hannaway, director of the Urban Institute's Education Policy Center, acknowledged that “we don't know whether it was the strong academic credentials of TFA corps members or some kind of special motivation that came with being a TFA teacher that made the difference, but the results were clear: Students performed better when they had an inexperienced TFA teacher than when they had a veteran educator at the blackboard.”⁸

Teach for America has been criticized for placing neophytes in schools, elite graduates who only sign up for two-year stints and are more unlikely to stick to teaching for the long haul. Yet the program has inspired a new generation of education advocates, many

of whom take what they learn and continue their careers in education as administrators and leaders, even founders of new schools. Among them is Michelle Rhee, a Teach for America alum who became the reform-minded chancellor of the Washington, D.C., school district. When she taught through TFA, her students in Baltimore went from the 13th percentile on standardized national tests to the 90th percentile within two years' time. "People say that kids are disadvantaged because they come from poor homes or whatever," Rhee told *U.S. News* reporter Lucia Graves. "But the bottom line is that, if kids have teachers with extraordinarily high expectations of them, if they work hard and do the right things, they can absolutely achieve at the highest levels."⁹

Carol Peck, former National Superintendent of the Year and a superintendent for sixteen years in one of the most impoverished school districts in Phoenix, Ariz., shares Rhee's view. "I believe most every student can achieve what we used to think only the top 10 percent could achieve," says Peck, now the CEO of the Rodel Foundation in Arizona and chief advocate for the MAC-Ro math initiative. Putting her ideas into practice, she launched a Math Achievement Club (MAC) in ten elementary schools in 2002 that focused on teaching up to the state standards, which sadly was not happening in many of the high-poverty schools. The program--above and beyond the regular classroom instruction--required the active involvement and additional training of classroom teachers and principals. Most important, teachers had to sign agreements that they would teach all the skills in each monthly booklet that was sent home to parents. The parents, in turn, had to sign every page of the booklet and help their children as needed.

The program worked, producing significant gains among students, most of whom came from high-poverty families where English is not the first language. By 2010, the MAC-

Ro program had expanded to 168 schools and was serving more than 39,000 students. “At first we had to twist arms to get schools into the program,” Peck told us. “Now we have as big a waiting list as those who are already in.” Next up? A plan to take the Arizona program national.

KIPP (Knowledge is Power Program) has also proved how the connection between hard work and high expectations can make the unlikely, downright probable. With a focus on college for every child, KIPP (founded by two TFA alums) has evolved since 1994 from two schools into a charter school network of sixty-six schools serving 17,000 children in nineteen states and Washington, D.C. More than 90 percent of KIPP students are children of color, 81 percent are low income, yet an extraordinary 84 percent of the first students to graduate eighth grade in a KIPP school have gone on to college.¹⁰

It may seem strange for a program that is primarily fifth- through eighth-grade to talk so much about college, but it backs up these high-achieving expectations with nine-hour school days, required summer and Saturday sessions, enthusiastic teaching and discipline, music and sports, and a minimum of rules (two of them: Work hard. Be Nice.) One KIPP school launched in 2001 in an impoverished neighborhood of Washington, D.C. , referred to its fifth graders as the class of 2009, the year they could be going to college. Talk about proof in the pudding: The students there earned the highest test scores in the city--and in 2009, fifty-eight of the first sixty-two students who finished KIPP are now going to college.¹¹

That's impressive, truly impressive.

“Sending your kid to college is the nation's great unifying aspiration,” reminds Jay Mathews, an educational columnist for *The Washington Post* who authored a book about KIPP founders David Levin and Mike Feinberg. “It increases life's choices and doubles

average incomes. But for every 100 black and Hispanic ninth graders, fewer than 20 earn a college degree--a problem that is only going to loom larger as their share of the population grows.”¹²

KIPP's founders, like so many education reformers, focus their attention on the importance of quality teaching as the key to success. In an op-ed in *The Washington Post* several weeks before Barack Obama's presidential inauguration, they suggested “a paradigm-shifting goal--ensuring that within 10 years every child in America will be on track to earning a college degree or completing a meaningful career-training program.” They followed that with a call for increasing the respect for teachers, attracting top graduates to the teaching profession, and assessing teachers on their “demonstrated impact on student learning, not whether they hold traditional teacher certifications.”¹³ These are sensible goals. So is the “Educating School Teachers” recommendation of establishing a norm of five-year teacher education programs “to ensure that future teachers graduate with an enriched major in an academic subject and the ability to communicate that subject matter to young people.”¹⁴ Yes, such moves have a high price tag, but not making reforms will be even more costly for America's long-term well-being.

Leonard Fine, a long-time professor of chemistry at Columbia University and Bill's colleague at Science Foundation Arizona, tells a story about the day after Albert Einstein died. It was April 19, 1955, and Fine was an undergrad and a fledgling chemist. His philosophy teacher, Paul Schrecker, devoted his class that morning to talking about Einstein, who was his friend. In great scientific detail, Schrecker focused on Einstein's profound work in 1905 and how the originality of his thinking spawned a revolution in physics. The moment was an epiphany for Fine, not only because Schrecker knew the legendary scientist, but

because he was able to connect him to that extraordinary current of ideas that changed the world. “A great teacher is inspirational and steeped in content,” Fine told us.

And a great teacher can change a student's life.

¹ “America’s Best High Schools: Arizona,” *BusinessWeek*,
http://images.businessweek.com/ss/09/01/0115_best_schools/4.htm (accessed October 18, 2010).

² “America’s Best High Schools: The List,” *Newsweek*,
<http://www.newsweek.com/feature/2010/americas-best-high-schools/list.html> (accessed October 18, 2010).

³ Arthur Levine, “Educating School Teachers,” The Education Schools Project, September 2006,
http://www.edschools.org/pdf/Educating_Teachers_Report.pdf (accessed October 18, 2010).

⁴ Detailed by Claudia Wallis, “How to Make Great Teachers,” *Time*, February 13, 2008,
<http://www.time.com/time/nation/article/0,8599,1713174,00.html> (accessed October 16, 2010).

⁵ Levine, “Educating School Teachers,” p. 11.

⁶ Sara Corbett, “Games Theory,” *New York Times Magazine*, September 19, 2010, p. 56-57.

⁷ Sam Dillon, “Teach for America Sees Surge in Popularity,” *New York Times*, May 14, 2008,
<http://www.nytimes.com/2008/05/14/education/14teach.html> (accessed October 15, 2010).

⁸ Zeyu Xu, Jane Hannaway, and Colin Taylor, “Making a Difference? The Effect of Teach for America on Student Performance in High School,” Urban Institute,
<http://www.urban.org/publications/901157.html> (accessed October 15, 2010).

⁹ Lucia Graves, “The Evolution of Teach for America,” *U.S. News and World Report*, October, 17, 2008,
<http://www.usnews.com/articles/education/k-12/2008/10/17/the-evolution-of-teach-for-america.html?PageNr=2> (accessed October 16, 2010).

¹⁰ Jay Mathews, “Ivy League Aspirations,” *Newsweek*, January 17, 2009,
<http://www.newsweek.com/2009/01/16/ivy-league-aspirations.html> (accessed October 16, 2010).

¹¹ *Ibid.*

¹² *Ibid.*

¹³ Mike Feinberg and David Levin, “What ‘Yes, We Can’ Should Mean for Our Schools,” *Washington Post*, January 9, 2009, p. A17.

¹⁴ Levine, “Educating School Teachers,” p. 107.