Dramatic
Until Thomas Friedman recently discovered otherwise, we believed the world was round. We also thought that phone calls had to travel through Ma Bell wires, and that your operator would be in Des Moines, not in New Delhi. Remember when we had just three daily television news programs, one with father Walter, and all at precisely the time when only our grandmothers could watch? And are you bothered preserved to a degree that would make King Tut beam brighter than the gold in his tomb. And not only can you return to your school-day experience just by visiting your children’s schools; at the rate change is occurring in education, your great-grandchildren will attend the same ones!

The point is simple: how we educate our children today is remarkably similar to how we educated them decades ago.

that now anyone can see what’s on your rooftop or in your driveway, anytime, via Google Earth? Does all this change, turmoil, even progress, concern you? Is your world being rocked?

Don’t worry; if you need a fetal-like retreat to times gone by, there is a place you can find respite: your childhood school is still here. Even if the old buildings are gone, your old daily routine within them has been superbly, if unconsciously, perhaps more than any other modern-day institution, schooling is nearly impervious to change. If our “old school design” was working with a high degree of consistency and reliability, such inflexibility might be fine. But decades of facts say that it isn’t fine. Results from the most recent National Assessment of Educational Progress (NAEP) show that roughly 15 million American children—more children than reside in all

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of England—are achieving below basic levels of literacy and numeracy. If the scale of this number concerns you, you should find it even more troubling that it has been that way for decades. And our problems don’t stop with the children most in need. Even our best students are falling behind, in international comparisons and at home. Among the “talented tenth,” those in the top 10 percent of NAEP test-takers, reading scores have dropped four points since 1971, and math scores have not budged since they were first measured in 1978 (see Figure 1).

Simply put, we are not making the grade at the bottom or the top.

Why Things Stay the Same
Why does America seem so unresponsive? Let me suggest three reasons.

First, because “numb” is the root word of numbers. We have lost our outrage (if indeed we ever had it) about the deplorable statistics noted above. Education inadequacy is not sexy. Illiteracy is not sudden in its cause nor quick with its solution and thus lacks the “production values” highly desired by our ratings-craved media. Illiteracy can’t compete with Katrina, 9/11, Iraq, or even a good Supreme Court nomination fight. Sure, there’s the obligatory annual story in most news vehicles about “our education crisis,” but contrast that to, say, round-the-clock, multiple-week coverage of a devastating hurricane. Our sound bite-oriented media find it far too complex to connect what is going on in our schools with the possibility of a 21st-century, full-eclipse of the American economy, imported from the Pacific Rim. Let C-SPAN or PBS do that kind of dull coverage.

A second reason is the colossal, $400 billion per year status quo that makes the military-industrial complex look nimble by comparison.

The third reason for our inaction is even more important: America does not believe there is a “next” generation of schools. What, we think, could be that different in schools of the future? We might change the calendar around, pay teachers a little more, update the curriculum, but none of those things is that big a deal. After all, schools are schools are schools.

A Failure of Imagination
I’ve now been involved in the world of public education for 15 years, as the founder and CEO of Edison Schools, one of the country’s first private companies to take on the challenge of improving public schools. If Edison, which now works in various ways in nearly 1,000 schools and serves more than 300,000 students, were a public school district, I would be one of the longest-serving heads of a major school system in the United States (average tenure for the superintendent of a major system is less than four years). I’ve seen and heard a lot. And one of the things I’ve seen is stunningly uncharacteristic of America, earth’s creative capital. We’ve had a national failure of imagination when it comes to what our schools can and should be. We don’t believe there is anything particularly new to discover in schooling, so, as a society, we don’t set out to find it. Columbus believed. NASA believed. When it comes to schools, we don’t. For sure, there are pioneers here and there, but our national mindset does not embrace the possibility that our schools could be and should be radically different.

Instead, because “the way school is” was imprinted on all of us with Intel-like precision by our own 12 years of schooling, America believes that schools are governed by a set of immutable, almost physical, laws, which include:

1. In schools, adults must supervise children virtually all of the time (Dickens would feel right at home).
2. The school day must be rigidly organized, generally chopped up into 45-minute or one-hour blocks (changing this to longer periods of time was, some years back, viewed as a grand breakthrough).
3. The smaller the number of children in a class, the better the education results (never mind if a smaller class might mean a teacher who is paid less and is less prepared).
4. Adults must run all aspects of the school—and do all the work within it (that many teenagers now work after school and on weekends is a fact to ignore).
5. There are no efficiencies, economies, or new qualities to be found in “design breakthroughs”; greater spending is the only way to improve education (disregard more or less flat education results after two decades of real-dollar annual spending increases).

What if all of the above “truths” are incorrect—truths that we will some day regard as myths, artifacts of a forgotten era? What if we approached the organization of a school without any of these “truths” as cornerstones? Where might simple logic and our own real-life experiences take us?

Let me suggest what some of the new truths of school design might be:

1. Learning accomplished through individual effort, or through working in small teams, is as “sticky” (well retained) as that served up in a classroom group, no matter what its size.
2. Learning can come in many forms, and the size of the learning group can vary greatly without any penalization of effect.
3. Children are capable of tremendous focus and responsibility, and they can be taught these traits at a much younger age than many people might think.
4. Variety matters in learning; too much of any one thing, like sitting passively in a classroom for 12 years, has rapidly diminishing returns; and lack of variety negatively affects teachers as much as children.
5. Students can teach as well as learn. Has your child ever taught you anything? Has one of your older children ever taught something to one of your younger ones?

The Future
Working from these potential new “truths,” let's imagine what a school of the future might look like. In fact, in key respects, the best school of the future might share some aspects of the school of the past, the 19th-century past that existed in many places of America up to the 1920s: the schoolhouse where older students were instructors, teaching under the guidance of a highly qualified adult. Indeed, we can reconstruct a school of the past that is appropriate to the modern era, where teachers' salaries are competitive with other professions, where students are taught by older peers under the supervision of master teachers who can use technology for pedagogical purposes.

Suppose, for example, that beginning in the 1st grade children spent an hour a day learning on their own, not under the direct supervision of a teacher (although perhaps watched over by an older peer). Let's presume that by the 3rd grade, the amount of time students were “on their own” increased to two hours per day. By the 6th grade and throughout middle school, let's assume that only half of a student's time was spent in what we now think of as a classroom. Finally, imagine that by high school only one-third of a student's time was in a traditional classroom setting. If this sounds overly radical, consider that many college students are in class fewer than 15 hours a week, half the time of a high-school senior. College freshmen are only 90 days older than high-school seniors. Did something magical occur in that short period to make them more capable of independent learning? Remember that fully half of all high-school seniors enter college.

If students are not in a classroom, where are they? Sleeping at their desks? Playing video games on school computers? Well, the answer is that they are learning—just not at that very moment with a teacher, just not in a class, but still “in school.” More often than not, they will be reading! Educators believe deeply that students should read, but there is very little time in the school day for that to happen. And after a long day at school and with other homework and important activities, how much time is realistically available in the evening? They also will be working with a small group of other students. And they might be on their computers, writing, researching, exploring, mining that almost endless, great new ethereal library—the Internet. All the while, they will be monitored by their somewhat older peers, just as
On the Henry Levin Commentary

Editors’ note: Since Henry Levin considered, in some detail, the record of Edison Schools in his essay on the future, Chris Whittle responds here to Levin’s essay.

Henry Levin’s essay criticizes the involvement of the private sector in public education, Edison Schools, and my vision of public education’s future. These responses to selected points are intended to provoke thought on the overall thrust of his argument.

Economies of Scale. Superintendents struggling with the loss of scale resulting from enrollment declines would strongly disagree with Levin’s contention that there are few economies of scale in education. Economies of scale occur at the system level—not the school level. As in well-run, large, public-school systems, Edison’s central costs have improved significantly, in percentages, over time, which is a key reason Edison is now profitable.

Academic Results. Levin calls Edison’s academic results “mediocre” and cites a recent RAND report and his view of results in Baltimore and Philadelphia. Readers can draw their own conclusions with data in hand, but this much we know: In the fall of 2002, Edison was assigned to manage 20 schools in Philadelphia with an average proficiency of only 6 percent. Proficiency has nearly quadrupled in 36 months. These schools—among the district’s most challenging—have kept pace with a district achieving the highest gains among America’s major urban systems. Edison was recently asked to manage two additional schools in Philadelphia.

Since the fall of 2000, Edison has managed three schools in Baltimore. The average ranking of those schools in 2000 was 101 out of 117 district schools. Today, their average ranking is 57 out of 115 schools, with one school going from 107th to 24th. Our contract there was recently extended.

The RAND report says, “From 2002 to 2004, average proficiency rates in currently operating Edison schools increased by 11 percentage points in reading and 17 percentage points in math. Meanwhile, average proficiency rates in a matched set of comparison schools increased by lesser amounts, 9 percentage points in reading and 13 percentage points in math (although the Edison advantage is statistically significant only in math).”

Greater Funding. Levin incorrectly says that Edison receives more funding than typical public schools. Edison on average receives resources below those of public schools in the cities where it works. Exceptions are rare. An excellent report from the Thomas B. Fordham Foundation Institute shows charter-school funding well below comparable public school funding.

The Model. Levin uses a 40-year-old study to support his view that our current education model cannot be changed. However, a miraculous technological leap occurred on the way to the 21st century: the invention of the Internet and the PC. Levin correctly states that early uses of such technologies in classrooms have not worked well, but Wright’s first flight did not go very far either.

Hope vs. Pessimism. Mr. Levin foresees the “struggle of incremental reforms in a system designed to conserve rather than transform society.” While America’s public educators want to conserve democracy and freedom, they do not want an education design that dooms 15 million children to near illiteracy. We can change this outcome by transforming a model that may have once served us well but is now out of date.

— Chris Whittle

graduate students supervise and aid undergraduates in college environments. Though they will not be in class half of their day, they will be in a school building all of it.

Many educators reading this are probably saying, perhaps in less kindly terms, “This idea is hopelessly naive. Students cannot be entrusted with their own education; they cannot be expected to manage their own time. Students don’t understand the importance of education and, therefore, can’t be expected to manage it.”

My response: schools have failed to make students the masters of their own learning, and we have the results to show for it. We are still operating in an 18th-century mindset, believing that these young, half-civilized things called children must be literally whipped into shape, if not with a stick then with a never-ending schedule. If students don’t understand the importance of education enough to take charge of their own, it is because the schools we have designed don’t spend any real time helping them understand this.

A huge side benefit of this “independent learning” model—and I am talking here mainly about middle- and high-school programs—is that it would double teachers’ compensation in the United States. If students spent half as much time in class, then half as many teachers would be needed. And we could pay those remaining twice as much—without increasing taxes by one cent.

I introduce the concept of large-scale, independent learning in America’s middle- and high-school communities and the corresponding increase in teachers’ pay to suggest that there may be a more powerful school design “out there” that is radically different from what we now know. My example is only
one idea of what education might be like. There are many more concepts worthy of serious consideration and development. However, most of these will never achieve meaningful scale unless America takes a fundamentally different approach to how it brings about change in its schools.

Focus on Education
This year, the federal government will spend $27 billion on healthcare research and development (R&D) through the National Institutes of Health. The Department of Defense recently invested $9 billion just on the prototype of the next generation of fighter planes. These investments are precisely why we have one of the finest health-care systems on the globe (providing our citizens one of the longest life spans of any country) and an unparalleled military. We have exceptional health care and national security because we constantly invest in change—above and beyond what we spend to merely operate our military and health-care systems. Our health care and national security may not be perfect, but there is little question about our international placement in these fields.

By contrast, we invest virtually nothing in changing our schools. Education research-and-development spending at the federal government level is 1/100th of what we spend in health care. Why, then, are we surprised when our K–12 schools are far from the envy of the world? We spend a staggering sum, $400 billion a year, to run the schools we inherited from one hundred years ago. At the same time, we are investing, by modern R&D standards, only a pittance ($260 million) to design and test the next generation of schools. As a result, we get exactly what we pay for—out-of-date school designs.

Our local school districts don’t have the scale to take on these R&D initiatives. The private sector of K–12 education, which is still in a fledgling stage, does not have the resources, either. And if you expect philanthropy to come to the rescue, think again. The endowment of just one Ivy League college is more than ten times all the annual giving to our public schools. Only one institution in America has the scale required to fund the invention of our next generation of public schools: our federal government. If 15,000,000 less-than-literate students are not enough to move it to action, let’s hope, for the sake of our children, that the looming threat of second-class economic citizenry in the 21st century does the trick.

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