

New Standards in Education: Meeting America's Human Capital Development Challenge

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Introduction: Economic Growth and Unprecedented Income Inequality

The floor on which Americans have been standing for the last few decades has been tilting, and people without real skills have been sliding to reduced wages levels. The angle of tilt in this floor will grow sharper with each passing year as global trade and technology advance. If we want to anchor our children and grandchildren to firm economic ground, we'll have to provide them with life-lines fashioned of genuine skill and high quality education.

The overall American economy is in good shape. It has grown roughly a point a year in inflation-adjusted terms since 1970, and somewhat better most recently. But not all Americans have shared equally in this growth. In a departure from the historic pattern, we are witnessing a sharp increase in income inequality. Looking at family income between 1979 and 1994 – which combines the wages of men and women, multiple jobs and longer hours – the bottom three-fifths of American families lost ground. The second fifth gained six points. The top fifth gained 25 points; and the top five percent gained 44 points.

Why the growing income inequality? The Federal Reserve Bank of New York posed this question in December 1994, to a panel of eighteen prominent economists. Their consensus response was that about 9 percent resulted from the erosion of the minimum wage. They attributed 10 percent to the declining ability of labor unions (which organize only 15 percent of the workforce), to win large wage settlements at the bargaining table. About 10 to 20 percent they saw as a function of global trade – essentially foreign goods and services entering our markets at lower prices (largely the result of lower labor costs), which has the effect of holding down American wages to remain competitive.

The Education Haves and Have-Nots

But fully half of the explanation for the growing income equality, they concluded, was due to one general variable: new technologies that favor the better educated. Indeed, when we look at nation after nation across the developed world, we see the line between the haves and the have-nots emerging along the dimension of skilled human capital.

With only the top fifth of American families doing well, consider the long-term implications of a 20/80 have- have-not divide. It will not sustain the economy because the American economy is driven two-thirds by consumption. This is why mainstream publications such as Business Week and U.S. News and World Report have been editorializing for several years about the need to put more income into the hands of the

middle class, not through redistribution, but by increasing their skills so that they earn adequate wages to buy the goods and services that keep our economy moving forward.

Nor will a 20/80 split sustain the democracy. Our democracy rests on a large and stable middle class and on an ideology that says we all get a piece of the expanding pie. Yet both are being undermined by a growing income inequality that results in very large measure from an inadequately educated labor force. These concerns make clear that President Clinton is correct in referring to education in terms of “national security.”

Our schools always did one thing well: they educated the top fifth of their students. The poor academic performance of the remaining 80 percent did not matter much in the past because when they left school they entered a robust manufacturing economy characterized by abundant, unskilled jobs that paid decent wages. Although the work was hard, the pay was good – good enough after World War II for mom to stay at home and raise the kids and still have enough left over for a boat or a recreational vehicle.

America’s Choice: High Skill or Low Wage

But those days are gone, and they are not coming back. That few will ever again receive high wages for limited skills is made clear by America’s Choice: High Skills or Low Wages (1990), the Report of the Commission on the Skills of the American Workforce. William Brock, a Commission co-chair and a former U.S. Labor Secretary, summarized the argument this way: If companies around the globe can now buy fool-proof machinery to compensate for deficient worker skills, and if people in other countries using this machinery will work for \$5 a day, let alone the \$10 or \$15 an hour that American workers want, we cannot compete on the basis of wage – we can only compete on the basis of skill.

When historians render their judgements on the last third of the twentieth century, their consensus will be that its defining characteristic was the emergence of global economy. Driven by free trade, global capital markets, and an extraordinary revolution in information and communications technology, the global economy is growing rapidly. Imports and exports equaled only 11 percent of the nation’s economy in 1960; but they accounted for 25 percent in 1990 and approach 30 percent today. Already 40 percent of corporate profits of the Fortune 500 companies and 20 percent of corporate profits overall are import-export based. One quarter of our agricultural crops are exported; 40 percent of commercial loans are made by foreign lenders; 30 percent of autos are made by foreign manufacturers; and one third of all new jobs since 1992 have emerged from the export sector.

A Rapidly Changing Global Economy

Future battlegrounds will be economic, not military. Nations are fighting for domination of the high value-added industries – computers and software, robotics, civilian aviation, synthetic materials, microelectronics, biotechnology, and telecommunications – that pay high wages and offer their employees living standards American workers have grown to expect.

The end of the manufacturing era – with its well-paying jobs for people with limited skills – means that our schools must now educate all our children to a level never required before. For over a century, our schools took in millions of immigrants and their children from different countries, religions, and cultures and, as agriculture mechanized, even more millions of farmers who left the countryside to find work in the cities. Our schools taught them to respect authority, to show up on time, to work hard, and to repeat monotonous tasks. In short, our schools were the vehicle through which an entire labor force was socialized to accept the discipline of the industrial era.

But these are not the skills needed in a post-industrial, global economy. While we still desire a strong work ethic, we must appreciate the implications for education of an economy that changes with striking and unprecedented rapidity. Product cycles – not how long you can use your widget, but how long before the assembly line that makes it must change – have been shrinking with remarkable speed. Between 1982 and 1992, the product cycle in the automobile industry fell from seven and a half years to six and in several model lines to five and four years. The average for all manufactured products fell from four years to two, and in the computer industry, it shrank to roughly six months.

This rapidly changing economy requires workers who are flexible, adaptable, quick learners, critical thinkers, and above all else, problem solvers. And these are precisely the skills our schools are not teaching.

Suburban-Urban School Comparisons Send the Wrong Message

Polls about the state of education indicate that Americans know that something is seriously wrong, but they also consistently reveal contradictory opinions. Upwards of 80 percent of us agree there is an educational crisis in the nation, but less than 25 percent believe it affects our children or our school. Put somewhat differently, American parents grade 80 percent of the nation's schools “C” or below; yet 72 percent grade their own children’s school “A” or “B.”

The contradiction can be explained by where Americans live and how media markets operate. Only one-quarter of us live in large central cities with more than 300,000 people; slightly more than half of us live in suburbs; and the balance lives in exurbs and rural areas. Since journalists are just as lazy as the rest of us, they find it easier to cover the news of the one big city school district than to cover the news of literally scores of school districts in the adjacent suburbs.

The central city’s education news is then beamed outward by the media. And since this news is catastrophic (for widely understood socioeconomic and demographic reasons), suburban residents, for the most part unaware they are the majority, confuse the education news of the city for that of the nation. You can almost hear the sigh of relief when they compare their schools to those of the big cities they surround: far lower drop-out rates; much better academic achievement scores, and far higher college enrollment.

Unfortunately, there is no comfort in this suburban-to-urban school comparison. Worse, this comparison functions as a sedative, a soporific that has put Americans to sleep. It has left us complacent, thinking that the education problem lies elsewhere, in our cities with their large, poor, disproportionately nonwhite populations.

International Comparisons

The correct comparisons are two-fold: how do our children – even those in our suburban schools – compare with their counterparts in Pacific Rim and Western European nations? And how does the human capital of workers entering the labor force match up with the skill requirements of the new 21st century economy?

The Third International Math and Science Study (TIMSS), undertaken by the National Academy of Science, documents that America students are starkly underrepresented at the top and found largely in the middle of the international comparisons. But average scores in math and science will not suffice if Americans want to earn the high wages paid to skilled workers in high value-added industries.

Why the mediocre performance? TIMSS attributed the results to a curriculum they described as “incoherent” and “a mile wide and inch deep.” The only thing America’s schools led the world in, they reported, was “the number of pages in our text books.” Off the record, researchers associated with the TIMSS report acknowledge that we have far too many people in our classrooms teaching math and science who do not know math and science.

In the 1995-96 school year, internationally-benchmarked reference exams in math and English language arts created by the New Standards Project – largely open-ended rather than multiple-choice exams – were given close to 40,000 times. The results were sobering: nowhere in America – not even in our elite suburban public schools – were the majority of students performing above or at internationally-benchmarked standards.

A Mismatch of Worker Skills and New Job Requirements

Comparisons of the functional abilities of new labor force entrants with the job skills of the new economy are equally troubling. Many estimates, such as those reported in Workforce 2000 (1987) and corroborated in many studies since from the U.S. Department of Labor, find twice as many new workers with skills suited only for low-end jobs (a ratio of roughly 80 percent to 40 percent), which has the effect of driving low wages even lower, and a fraction of new workers with the skills for top-paying jobs (a ratio of roughly 12.5 percent to 40 percent), which has the effect of driving high wages higher.

Perhaps most troubling of all are the results published in the National Adult Literacy Survey (1993), the most comprehensive survey ever taken of adult literacy. Under contract from the federal Department of Education, the Educational Testing Service conducted hour-long personal interviews with a national sample of 13,500 individuals above the age of 16. They asked not about old notions of literacy, such as the ability to sign one's name, completion of five years of schooling, and the scores achieved

in school-based measures of reading achievements. Instead, their definition of literacy focused on the ability to use printed and written information to function in society, to achieve goals, and to develop personal knowledge and potential.

The tasks that interviewees were asked to perform in three areas of competency were not difficult even at the highest level, as the following examples illustrate. Prose questions tested their understanding of information (e.g., summarize the meaning of key paragraphs in a newspaper column). Document questions probed their ability to comprehend information (e.g., interpret a simple chart containing varied percentages of “yes” and “no” responses to different statements). Quantitative questions consisted of multiple-step arithmetic operations (e.g., calculate the cost of carpeting a room given the dimensions in linear feet and the cost per square yard of carpet). Scores were divided into five levels of functional ability.

The vast majority of high school graduates should be able to perform in the top two levels. Yet fully half of the American workforce – some 90 million adults – fell into the bottom two levels, meaning they are hopelessly ill-equipped for the jobs of the 21st century economy. Only 15 percent tested at the fourth level, and only 3 to 4 percent, some 6 to 8 million adults, tested at the highest level. Taken together, all these studies help explain the trend toward growing income inequality noted earlier.

Post-Secondary Technical Training

It is not just our K-12 system that needs to prepare its students and workers for the 21st century economy. Similar problems abound elsewhere in the nation’s human capital development system. Consider post-secondary training: students graduating from high school who don’t go on to college. A little-known fact about the future, according the Federal Bureau of Labor Statistics, is that of the new jobs created in the year 2000, only 15 percent will require high school diplomas and 30 percent will need college degrees, leaving 55 percent requiring some sort of post-secondary vocational training. Yet for every \$1 of taxpayer money we spend on post-secondary training where most new jobs will be, we spend \$55 subsidizing college students.

The United States is unique in the world in not having an organized post-secondary training system for the non-college bound. A German executive quoted in *America's Choice* put it this way: “America has too many people in college and not enough qualified workers. The U.S. has outstanding universities, but it is missing its middle.”

Whatever the problems of K-12 and post-secondary training, many people believe our vaunted system of higher education must surely pull our chestnuts from the fire. “Okay,” the argument goes, “we’re inefficient in primary and secondary education, but we make up for it in college.”

To be sure, our universities are the best in the world, a point proven by the fact that students flock here from around the globe. Unfortunately, what is true about our elite universities is hardly true about all of higher education. America has 3,600 colleges and

universities: 2,200 four-year and the balance in two-year schools. By some estimates, however, fewer than 600 of these schools reject applicants based on their level of academic achievement – which is to say, if you can pay tuition you can attend and graduate from college.

So why work in high school? Small wonder that the average high school senior does less than one hour of homework per night. “Adolescents are like adults. They do as much as they have to in order to get what they want,” observed Albert Shanker, the recently deceased President of the American Federation of Teachers. “The young people who want to go to elite schools must meet high standards, and they work hard. But the rest of high school students know they can get into some college no matter how poorly they do.”

Another shocking statistic is that one in four students currently enrolled in the nation’s community colleges already have a baccalaureate degree. But when they sought work after graduation employers refused to hire them because they had no marketable skills. So they entered community colleges to acquire technical training that would help them find gainful employment.

Research suggests that our colleges and universities add some value. But the results of the National Adult Literacy Survey summarized earlier for all adults reveal alarming statistics about the functional abilities of our college graduates. Only 2 to 5 percent of graduates from two-year colleges and 8 to 13 percent of graduates from four-year colleges performed at the highest level on this undemanding test. Even when we look only at those who earned a postgraduate degree or took some postgraduate courses, fewer than one in five scored at the highest level described above.

On-the-Job

Consider finally what happens on-the-job. In 1992, according to the American Society for Training and Development, American companies spent about \$30 billion on formal training. Yet, of this figure, \$27 billion was accounted for by 15,000 large corporations – approximately 0.5 percent of all U.S. employers – and two-thirds of it was spent not on the shop floor where it might productively be directed, particularly after down-sizing middle-managers, but to senior people being tracked for positions at the very top of these organizations.

For years, researchers were puzzled by a consistent difference between studies documenting serious skill shortages and employer surveys about their new workers. The data pointed to a human capital mismatch while the surveys reported complaints not about skills, but about poor attitudes: new workers don’t show up on time, they don’t care about service, and they have a lousy work ethic. However, according to a new Fantus survey, inadequate worker skills have jumped to the top of employer concerns, especially among companies considering relocation or establishing new plants.

At a recent meeting of the Eastern Technology Council, most employers complained about shortages of qualified labor. Michael Emmi, CEO of Systems and

Computer Technology, a large and growing software firm in suburban Philadelphia, shared a typical complaint. He told the group that his company had 250 positions it could not fill. Worse, after recruiting the ablest workers they could find and putting them through a six-month training course that cost his company two million dollars, he still could not put them in touch with his client base because the knowledge gap was still too large. Today, most jobs in high-tech industries are difficult to fill, and although “high tech” is not the entire economy, it already accounts for one-third of the economy, broadly defined.

Most Americans use the terms growth and development interchangeably as synonyms. Yet, as Russ Ackoff, professor emeritus at the University of Pennsylvania's Wharton School, has pointed out, there is a key distinction. Growth is a concept concerned with size and expansion; development is a concept concerned with capacity and competence. The distinction is especially significant in an era such as ours, when we are in the midst of two mega-transformations, from a domestic to a global economy, and from an industrial to post-industrial society. Before we concern ourselves with growth – more jobs or a larger tax base, for example – we should be focusing on new institutions and new ways of thinking about how we position ourselves to take advantage of the changes.

Human capital is precisely such a developmental concept. We go into the future only at great risk, as Lester Thurow persuasively argues in *Head-to-Head: The Coming Economic Battle Among Japan, Europe, and America* (1992), if we fail to understand that human capital will be the source of comparative advantage in the 21st century.

I have presented these deeply troubling observations about divergent human capital and economic trends in many lectures over the years, and at this point in the presentation the question would inevitably be posed: “Well professor, what should we do about it?” and my response would be “radical school reform.” I would then be asked, “What does that entail?” and I would propose several principles, but the truth was I didn't have a clue.

The Solution: Standards-Based School Reform

Now I do: standards-based school reform. However, don't take my word for it. In March 1996, 41 Governors and 49 chief executive officers of America's largest corporations met at what has been called the National Education Summit. They agreed the number one priority for the nation's schools was the adoption of rigorous academic standards and internationally-benchmarked assessments.

Their consensus appears to be supported by most Americans because surveys of public opinion find extremely high levels of support for standards-based school reform among all demographic groups. Yet there is also widespread confusion about the actual content of standards reform. I've found some success in describing the revolutionary pedagogy of the standards movement to business leaders, school board members, teachers, parents and administrators in the following way.

1. **Effort v. Ability**

What explains success in school? To this question American parents overwhelmingly respond, “ability.” Our own school experience makes clear that if your children are smart, they get “A’s” and “B’s,” and if not, they get “C’s” and “D’s.” And we “know” that not everyone can be “smart.” However, when Asian parents are asked the same question, they respond, “effort,” by the same margin as we respond “ability.”

The heresy that lies at the heart of the standards movement, as the University of Pittsburgh’s Lauren Resnick argues, is that “effort leads to ability.” The harder you work, the closer you come to meeting the standard. Effort itself is not rewarded directly only results count but research has shown that effort always leads to student improvement. In this way, the standards movement greatly strengthens the classroom work ethic.

2. **The Floor and the Ceiling**

In standards pedagogy, the standard represents the floor, and all students are expected to perform at this level. Effort sustained over a long enough period of time will make it possible for all students to meet the standard. The ceiling is as high as individual students can reach through a combination of effort and ability. Unless you believe that American students are inherently less able than students in Western European and Pacific Rim nations, then you have to conclude that American students can perform at much higher levels. Polls of our own students reveal the belief that we ask too little of them.

3. **International Benchmarks**

How high should the bar be set? Our standards should be internationally benchmarked that is, we should be asking our students to perform at the same levels as their counterparts in the rest of the developed world. It is time to raise the bar – or to change the metaphor -- to define the height of the mountain. We do not have to get our students to the top using the identical methods employed by other countries – after all, our culture is different -- but in a technologically-driven global economy our children have to be able to perform at the same level as their competition. If American workers are to receive high wages and obtain jobs in the high, valued-added industries – computers and software, robotics, civilian aviation, synthetic materials, microelectronics, biotechnology, and telecommunications – they must be able to meet the same educational standards required of students in our competitor nations.

4. **Fix the Standard and Vary the Time**

In standards-based classrooms, the standards remain constant. What should vary is the time it takes to meet them. For example, some students will meet 10th grade graduation standards in 8th grade. Some students will meet them “on grade” in 10th grade. Other students will meet them in 12th grade; and still others will require evening, weekend and summer classes (and this will raise serious resource

questions) before receiving “deserved diplomas” or “certificates of initial or advanced mastery.”

5. **“Move ‘em On” v. “Hold ‘em Back”**

In the current school system, we bring students into our classrooms, expose them to the curricula, test them, and then move them on in order to prepare for next year’s arrivals. In a standards-based system, only students who meet or exceed the standards can move on; everyone else must remain where they are until they raise their performance to meet the required standards. This will require dramatic changes in how our schools are organized, and we’ll have to invent a way of doing this successfully.

6. **Performance-based Classrooms**

Standards-based classrooms focus on student performance. How did you win merit badges in Boy Scouts or Girl Scouts? You didn’t take multiple-choice tests. You practiced with the rope, and then you tied the knot in front of your Scout Leader. How do you get a job in photography? Once again, you don’t take a multiple-choice test. You bring your portfolio of photographs with you to the job interview, and you show your prospective employer what you can do with a camera. How do you get a job in marketing or advertising? In much the same manner as in the above examples, you bring your portfolio with you to demonstrate your artwork and your concepts. It’s performance that counts in the real world. In standards-based school reform, our classrooms will be organized around performance and student portfolios that collect student work.

7. **Content Standards and Performance Standards**

Content standards tell us what our children should be able to do at given ages. The National Council of Teachers of Math, the National Council of Teachers of Science, and the National Council of Teachers of English have been engaged in establishing content standards for some years. But only very recently have we begun to see performance standards: examples of student work that meet content standards. When teachers use these performance standards in their classrooms – when they can compare the work of their own students to student performance that experts cite as meeting content standards – they are in a much-strengthened position to teach effectively.

8. **Norms-based Testing v. Standards-based Testing**

American testing is largely norms-based – which is to say that we rate our children in terms of how well they perform in relation to others. However, if your child scores in the 85th percentile and most people taking the test are dummies, what does that tell you about your child’s ability? Conversely, if most people taking the test are brilliant and your child scores in the 15th percentile, what have you learned? We should be far more interested in knowing whether our children meet international standards – “above,” “at,” “near,” “below,” “don’t have a clue” – than in knowing how they rank in relation to each other. Let’s find out how

close our children actually come to solving problems that students elsewhere in the world are asked to solve at a given age.

9. **Open-ended v. Multiple-choice Examinations**

Standards-based exams are open-ended rather than multiple choice, and they are characteristically of a problem-solving nature. Multiple-choice exams cannot get at problem-solving abilities as well as open-ended exams, but they are cheap, costing \$1 or \$1.25. By contrast, the open-ended, New Standards Reference exams cost \$10 to \$12. The higher costs are warranted because our tests must measure the abilities students will require for success in an economy characterized by rapid change, one that is ill-served by workers adept at rote memorization. These abilities hinge on the quintessential skills of critical thinking and problem solving. In standards-based, problem-solving exams, for example, it is not enough to remember mathematical formulas -- students must also be able to use these formulas to solve problems.

10. **National Voluntary Standards v. Federal Mandatory Standards**

The federal governments of most developed nations set mandatory standards and establish mandatory curricula for all students. But for better or worse (depending on your political beliefs), America has a long-established and deeply held tradition of local control of public schooling. As a result, the federal government, which contributes only about five percent of all K-12 spending, will continue to play a limited role in public school education. Many people believe that in the place of federal, mandatory standards, we can establish national, voluntary standards. Their hope is that educators and business leaders will agree on a core set of internationally benchmarked standards. States and regions will then adopt these core standards, embellishing them to reflect their unique history, geography, and culture. But the strength of the widely adopted common core will mean that students educated in Massachusetts, Mississippi, or Montana will all be able to perform at the same high levels. Whether it's done state-by-state, or school district-by-school district, political realities suggest that our best hope is to persuade parents and students, teachers and administrators, business leaders and elected officials across the nation to voluntarily adopt common standards.

11. **The Teflon Standards: Math, Science, English, Applied Learning**

Given the ideological clashes in establishing standards in disciplines such as history how many times is Booker T. Washington mentioned as opposed to George Washington it may be wiser to pursue standards in the foundation disciplines of math, science, English and applied learning. If we could agree on voluntary national standards in these mainstream disciplines – I like to refer to them as Teflon disciplines because ideology has a tough time adhering to them – many people would be deeply satisfied.

12. **Ideological Criticisms from the Right and the Left**

The standards movement has encountered criticisms from both ends of the ideological spectrum. “If the call for national testing fails, Checker Finn recently

told the New York Times, “it will be because the Right can’t stand the word ‘national’ and the Left can’t stand the word ‘testing.’”

From the Right, we hear that national standards are part of a plot in which “Big Government” -- some nameless bureaucrats in Washington, D.C. -- is attempting to impose its values on your children. There is some paranoia in this charge because the core standards proposed to serve as voluntary national standards -- such as the performance standards developed by the New Standards Project -- were created by educators and business leaders without federal involvement. Given the strength of local control over the public schools, standards will not be welcomed at the grass roots if they are imposed from the “top down.” There are 15,000 school districts in America and for standards reform to succeed, standards will have to be embraced from the “bottom-up,” one district at a time.

From the Left, we hear that if all students are to be held accountable to the same standards and if wealthy school districts spend significantly more per student than do poor districts, standards should be opposed on grounds of equity. Only after school funding is made equitable, the argument goes, should school districts adopt standards-based reform. Yet waiting for additional funding assumes that the status quo well serves the interests of students in low-income districts. Yet nothing could be further from the truth. We do these students a real disservice by asking them to meet reduced standards. All students should be exposed to same real-world standards at the get-go, and they should be required to meet these standards every step of the way. The equity issue is real, but it must be addressed in the judicial and political realm, not in the classroom. Besides, standards-based reform -- in holding all students to the same standards -- significantly strengthens the legal basis for court challenges on the grounds of inequitable funding.

Southeastern Pennsylvania's New Standards in Education Project

This message -- why we must raise the bar of academic performance in our schools and what standards-based school reform consists of -- has been well received in Southeastern Pennsylvania.

The goal of the New Standards in Education project, organized by the University of Pennsylvania’s Center for Greater Philadelphia and supported by major foundations and corporations, is to have rigorous academic standards and internationally-benchmarked assessments adopted by all the region’s school districts.

In October, 1996, 54 of the 61 school districts in Bucks, Chester, Delaware, and Montgomery Counties sent teams of superintendents, school board members, curriculum specialists, parents, union and business leaders to our opening Conference to learn about standards-based reform.

Since then, 15 school districts have formed the Southeastern Pennsylvania Standards Consortium. Each district is free to choose any standards they wish their own, those adopted by other states, those recommended by Governor Tom Ridge’s Standards

Commission, or those developed by the national New Standards Project. However, they have all agreed to use the New Standards Project's internationally-benchmarked reference tests to measure student achievement. Finally, member school districts, drawing on the talents of faculty across the region, will work collaboratively on the tasks of curricular and professional development.

The Center recently held a briefing for the region's print and electronic media professionals to introduce the complex issues raised by standards-based school reform. This is arguably the "education story" of the decade because it will ultimately affect every student, parent, taxpayer, and voter in the region.

Seventeen Chambers of Commerce have also joined together in a Standards Coalition to support the work of the school districts and to ensure that standards and assessments are successfully implemented. Work is now underway to form business-led coalitions in each school district so that the region-wide effort is paralleled by efforts at the local level.

The effort to bring standards-based reform to all the region's schools, then, can be thought of as proceeding along two parallel tracks -- one inside the classroom, which is the responsibility of the Consortium's K-12 educators, and one outside the classroom, which is the responsibility of the Chambers of Commerce Coalition. Work on each track faces major challenges, but it is clear that standards-based reform cannot succeed if confined to the classroom. In a fundamental sense, success involves changing the place of education in American culture, elevating it to a position of high regard that reflects its strategic importance in a rapidly changing, technology-driven, highly competitive global economy.

Conclusion

We can talk about this subject in dry analytic terms: "Once our schools were perfectly aligned with our economy. They no longer are. We need to realign them." Or we can say with passion "sending a child into the economy of the future with the skills currently being taught in our schools is the equivalent of sending a child into a snowstorm dressed in T-shirt and a pair of shorts."

Anyone who sails knows that you can turn a small sailboat on a dime. But if on a foggy day you're on the bow of a large ocean liner -- in light of the foregoing discussion we might call it the Titanic -- and you see an iceberg, you will surely hit it because while you can turn an ocean liner, you cannot turn it on a dime. Societies are just like ocean liners. Now is the time to turn the wheel.

Nor will crisis government, which has served America well on so many occasions, be able to rescue us if we fail to act now. When Social Security or Medicare run out of funds, Congress will change the rules and raise taxes and the crisis will be resolved. But government will fail America if it delays because it takes a generation to educate a labor force. Nor will there even be a crisis as we have grown to understand it because business is not waiting for the problem to build to a breaking point. Already

business is inducing every mother it can to leave home and come to work, at least part-time. They are exporting back-office jobs by satellite to countries whose K-12 schools are working far better than ours. They are importing the best and brightest from around the globe. They are robotocizing.

Although many professional educators see the standards movement as a fad, yet another gimmick to fix the schools such as “open classrooms” and the “new math,” they could not be more wrong. Nor is the standards movement an effort to turn public schools into vocational schools. “We [business] can teach [students] how to be marketing people. We can teach them how to manage balance sheets,” said Louis V. Gerstner, Jr., IBM's CEO and host of the National Education Summit. “What is killing us is having to teach them to read and to compute and to communicate and to think.”

Albert Shanker of the American Federation of Teachers understood the challenge. The same can be said of Bob Chase, the new President of the National Education Association. While the traditional union agenda -- salaries, benefits, working conditions remains important, Chase argued in his inaugural address, it is “utterly inadequate” for the future. NEA, a strong supporter of standards-based reform, must become the “champion of quality teaching and quality public schools in the United States.” Either we “revitalize them from within, or they will be dismantled from without.”

Finally, the human capital development challenge is not one among many – rather it is the greatest challenge facing America. Creating a future labor force that can compete successfully in the twenty-first century global economy is an intimidating task because key changes must occur in every component of the nation's human capital development system, not simply our K-12 schools, where standards-based school reform must serve as an indispensable foundation.

Yet we can succeed provided that we admit the nature of the crisis, recognize that a generation's effort lies ahead, and get to work now. This determination will take us into the next millennium secure in the future of our economy, assured in the quality-of-life we will bequeath to our children, and confident in the capacity of our democracy to endure.

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