Building a 21st Century U.S. Education System

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CHAPTER 14

Education and the Economy

Ed Rust

For the past decade or more, I have been actively involved in education improvement in my home state of Illinois and in the education reform movement nationwide. I'm in regular contact with business leaders and national business organizations around their education agendas. Business leaders strongly support public education and are committed to work with the education community on the challenges of educating all children. The word "all" is important. Business leaders are passionate about ensuring that all students have the opportunity to succeed in college and the workplace. They believe that education must become the number one economic priority.

But all our children are not being educated to succeed. Too many students are simply not prepared for postsecondary education or responsible, skilled jobs. The business community expects to train its workers for specific job requirements. But much of the $60 billion spent for training is on remedial work in reading, writing, and mathematics. Postsecondary institutions also provide remedial course work for 28 percent of entering freshman. In public 2-year colleges, the number increases to 42 percent.[1] And these are the students who graduated from 12th grade!

Further, we have the problem of a high school dropout rate that is too high in general and disproportionately high for minority students. A report from the Education Testing Service (ETS) noted that 72 percent of white students finish high school, 54 percent of Native American students, 52 percent of Hispanic students, and 51 percent of African American students.[2] These data are unacceptable.

Meanwhile, the United States' workforce is aging. The labor force is growing by only one percent a year. We are also experiencing slow population growth. The most rapid population growth is among minorities and immigrants—those groups who continue to fall behind their peers in educational achievement.

At State Farm®, only 50 percent of high school and college graduates who apply for a job pass the employment exam. The employment exam doesn't test applicants on their knowledge of finance or the insurance business. We look for critical thinking skills, the ability to calculate and think logically, read for information and communicate effectively. We're also looking for an understanding of teamwork. I'm disappointed that so many students who take this exam are unprepared to get a job. While business benefits from an educated workforce, so do the individuals themselves, their communities, and the economy. The evidence is clear. People who have a good education earn more money and have improved career prospects. They are more likely to vote and participate in civic affairs, are generally healthier, and are less likely to receive public assistance.

After World War II, the United States faced relatively little global competition. The majority of its citizens had a good standard of living and the economy offered ample unskilled jobs. The job market and the economy have changed. The Bureau of Labor Statistics reports

that In the United States, only 12 percent of all available jobs are considered "unskilled" and that number is predicted to fall to two percent. It is also estimated that 80 percent of new jobs will require some level of postsecondary education whether it is college or a training program. By 2010, there could be as many as seven million skilled jobs that are unfilled and by 2020, three times that many.

In 1980, a college graduate earned 50 percent more than someone with only a high school degree. By 2004, the college graduate earned 100 percent more than the high school graduate and this gap continues to widen. Too few of our high school graduates are able to pursue college studies in areas that this country needs to maintain its lead in innovation. For example, the percentage of American students planning to be engineers has dropped by one third. At the same time, baby boomers are retiring, cutting the current number of scientists and engineers by more than one-half. Many factors influence a student's decision to enter or forego college. My concern is that those who forego college will be unable to find a job with a livable wage and career advancement unless they have the same academic preparation as their college-ready peers.

As recently as 20 years ago, the U.S. led the industrialized world in the percentage of 25 – 34 year olds with high school and college degrees. That is no longer the case. The International Organization for Economic Cooperation and Development (OECD)—an intergovernmental organization of 30 industrial nations—now reports that the U.S. ranks ninth and seventh respectively on these two measures. Our high school graduation rate places us 16th among the 30 OECD member nations.[3]

In 2000, the OECD began assessing the performance of 15-year olds. Every three years, the Program for International Student Assessment (PISA) measures student performance in reading, science, and mathematics literacy. The most recent PISA report (2003) showed that performance for U.S. 15-year olds was below the average score of the OECD member nations in mathematics literacy and problem solving. The U.S. was also lower in science literacy. The average U.S. score in reading literacy was not significantly different than the OECD average. How can our country remain economically competitive if our young people are not as well educated as their global peers?

Meanwhile, our economic competitors and emerging market nations have accelerated improvements in education and continue to do so at an impressive rate. An increasing number of the youth in emerging nations are attending primary, secondary, and postsecondary education. China, South Korea, and India have made remarkable progress between 1990 and now. China plans to open 125 new universities within the next five years and is expending huge resources to attract new scholars from other countries. South Korea, a country with one-sixth the population of the U.S., graduates as many engineers as we do. Last year, China graduated 2.5 million students from college; India graduated 2.3 million. The sheer numbers of educated people in these countries make up a continually growing pool of available talent. The U.S graduated 1.3 million students. Clearly, with these demographics, we cannot afford to leave even one student behind.

There are other indicators that affect our economy and the future of the country. According to the Council of Competitiveness, the U.S. share of world output—once at 40

percent is now 21 percent; our share of world published research was 61 percent but has fallen to 29 percent. Only 52 percent of U.S. industrial patents are U.S. held. This is the lowest in our history. These trends tell us that more and more innovation is happening elsewhere. Our once pre-eminent competitive advantage is not secure.

The link between education and the economy drives other nations and must inspire us. Globalization has forever changed the education landscape. We have closer contacts with societies around the globe. Multi-national corporations manufacture their products in many countries and sell to consumers everywhere. Technology and raw material move swiftly across borders. We live in an interdependent economic universe but it is not just the economies that are interconnected. Ideas and research are readily transferred across countries. Scientists and other academics interact and continually strengthen the global knowledge base. Through all of these transactions, we learn more and more about other cultures. Economic success for any country depends on the educational attainment of its population and the translation of that education into creativity, innovation, and production.

Raising Expectations and Aligning Standards

The challenges to our education system are well known. People realize that many students are struggling and too many students are not succeeding. The public education system has to be more flexible and responsive to the needs of all children. Partisanship and blame are of no use. The world has changed. Over the past decade, business faced shifting realities and had to realign operating and delivery systems to meet customer needs. I believe we have the expertise and the resources to get our education system right and to prepare all children for college and the workplace. What we need is the collective will to do it.

How can we best focus our energy and resources? At a minimum, we have to raise the culture of expectations in schools. We can't afford to behave as though there are groups of students who are "college bound" and groups who are not. We can't pretend that there will be jobs for students who don't meet the same academic standards as those who are aiming for college admission. If students are going to succeed in college level courses without remediation, or if they are going to enter the workforce ready to learn job-specific skills, their preparation must be the same.

Academic standards must reflect these higher expectations. We have to be sure the standards are aligned with the specific knowledge and skills required for success in postsecondary education and work. These standards must be understood by K-12 educators, the business and higher education communities, and by students and their parents. This will require better communication among these groups. It's essential that the postsecondary and business communities affirm that the standards reflect what high school graduates need in order to enter their colleges and workplaces. Everyone should be on the same page.

The alignment process goes further. High schools, middle schools and elementary schools need to work together to align curricula and standards of achievement. The flow from one academic level to another should be transparent. Results from the National Assessment of Educational Progress (NAEP) underscore the need for alignment throughout K-12. The scores show a troublesome trend towards gains for younger students, while older students

lose ground or their scores remain flat. In science, the average score for fourth-graders was higher in 2005 than in previous assessment years; eighth-graders' scores showed no significant change; and twelfth-graders' average science score was lower than it was ten years ago and was unchanged from where it was six years ago. In comparing reading scores between 2003 and 2005, fourth-graders' average score was a little higher; eighth-graders' a little lower. Mathematics scores for the same years are better. Fourth- and eighth-graders' average scores in mathematics were higher. And the average scores in mathematics for these two grade levels have increased since 1990.[4]

In support of high expectations and meaningful standards, we have to raise graduation requirements. High school graduates should be confident that the diploma they receive represents achievement that has prepared them for entering college or obtaining a good job. Every student should take a core curriculum that includes four years of rigorous English and mathematics (including at least Algebra II), three years of science, three years of social studies, two years of foreign language, and one year of computer science. In fact, this is essentially the same core curriculum recommended more than 20 years ago by the National Commission on Excellence in Education's report *A Nation at Risk.* Schools have made progress in adopting such a core curriculum but it's not enough. In 2004, about 31 percent of high school graduates completed this core curriculum as compared to two percent in 1983.

Our ability to assure student success depends as much on the quality of our teachers as any other resource. We have all experienced the influence of good teachers. State Farm supports the efforts of the National Board for Professional Teaching Standards (NBPTS) because we recognize the importance of the teacher. All teachers should be educated in the subjects they are expected to teach. This applies to elementary school teachers who should have a subject major just as high school teachers do. Nationally, 25 percent of secondary school classes in core academic subjects are taught by teachers who do not have even a college minor in the subject. It doesn't make sense to have teachers teaching subjects they did not study or studied only briefly. The situation is particularly serious in mathematics and science and in high poverty urban and rural schools.[5] Postsecondary institutions should make sure their undergraduate, graduate and continuing education programs are aligned with the skills and knowledge teachers need. States and localities should keep open the idea that the laws of supply and demand may be applied to teacher compensation. Why not offer a financial incentive to the chemistry teacher who is prepared to teach in geographically remote areas or high poverty schools?

Measuring Results and Taking Action

The tools for assessing student performance have to be consistent and effective. A recent report from Achieve states that "…There is no shortage of testing for high school students… particularly for those preparing to attend a post-secondary institution. The problem is that most of the tests students take are not aligned with one another…the result is too many unnecessary tests and mixed messages to students, parents, and teachers about which (tests) matter most…" The report also states that tests measuring readiness for college and work should be given to all high school students before their senior year. Test results help determine what high schools need to do to fill learning gaps before the students

graduate.[6] It is also important to publicize assessment results in a useful format that makes sense to students, parents, educators, postsecondary institutions and employers. People should be able to understand what the results mean and how student and school performance compare locally, statewide, and nationally.

Finally, we have to take action when schools and students are failing. States have their own accountability systems for identifying low-performing schools. Each state has to do a better job of supporting these schools and turning them around. Local school leaders should have the authority to make needed changes. Ultimately, if low-performing schools cannot improve, even with adequate support, then states have to take stronger action such as reassigning children or replacing the school with a model that has proven effective. There are examples of schools in every state that have high-achieving, low-income and diverse populations. It can be done. We don't have time to waste on excuses.

Mixed News on College-Readiness

In two national assessments of postsecondary education readiness, the SAT and the ACT, there are mixed results. While the 2005 SAT scores showed an increase across all student groups, the 2006 results of the revamped SAT show a decline in both reading and mathematics. The SAT reading scores reflect the biggest annual drop in 31 years.

The national ACT scores rose significantly in 2006 and were higher for students across all racial and ethnic groups. The 2006 increase is the largest in 20 years with the average score reaching its highest level since 1991. Despite this increase, the results suggest that the majority of ACT tested graduates are likely to struggle in first year college mathematics and science. Only 21 percent of those tested met or exceeded the College Readiness Benchmark scores on all four ACT exams, unchanged from last year. So, while the ACT scores in general are rising, we still have much work to do to assure college readiness in all the major subjects. ACT score results point to the importance of taking a challenging program of courses in high school and suggest that far too few students are doing so. Students who took a core curriculum earned a markedly higher score than those who took less than a core curriculum.[7]

Conclusions

Public schools have successfully moved our nation through changing times. The immigrants of the 19th and 20th centuries found more than a haven in the United States. They found public schools that became a path to their economic and civic well-being. The role of our schools today is to assure equal access to a world-class education for all students. This will require that we:

- Develop meaningful standards for all students and align standards with postsecondary education requirements and the demands of the work place.
- Raise graduation requirements to include a core curriculum for all students.
- Measure dropout rates consistently among states and implement programs to improve graduation rates toward a goal of 100 percent.

- Streamline assessments of student performance. Make sure the assessments accurately measure performance for all students according to established standards and course content.
- Assess student performance at regular intervals that allow enough time for students and teachers to improve performance well in advance of high school graduation.
- Publicize assessment results widely.
- Plan interventions and new programs as indicated by assessment results in order to close achievement gaps.
- Assure teacher quality commensurate with the expectations, standards and core curriculum.
- Hold schools accountable for student performance.

As we reflect on such a demanding course of action, let's not forget history. The U.S. was a pioneer in aviation and built the first mass production assembly line. We harnessed the power of the atom, discovered polio vaccine, and were first to set foot on the moon. The electric light bulb and the Internet were born here. Imagination and optimism have always sustained us as a nation. The public schools have educated our inventors, writers, and scientists. They remain our best hope in the face of global challenge and opportunity.

Endnotes

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