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Education in the Flat World

Implications of Globalization on Education

YONG ZHAO



LOOK INSIDE FOR

• **Executive Summary**

Executive Summary

The No Child Left Behind (NCLB) Act has failed to meet the nation’s education needs. Schools face mounting pressures to narrow what children can learn in schools so that they can score better than their Chinese and Indian counterparts in math and science. Thanks to NCLB, schools increasingly are limiting what is taught and learned, and high-stakes state tests constrain how teaching and learning is conducted.

Other elements of NCLB include centralization and standardization of curriculum, increased demand for teacher quality, more math and science, more school choice, and reduction of diversity and flexibility. The overall goal is better academic achievement of all students, measured by standardized tests of a limited number of subjects, through increased accountability of schools, administrators, teachers, and students.

The impetus for this reform can be traced to two sources: concerns over equity and international competition. Unfortunately, the effects of these reforms are all undesirable: narrowing what students learn, teaching to tests, forcing teachers to cheat, and making schools find “creative” ways to meet Adequate Yearly Progress (AYP) requirements.

More troubling, NCLB distracts us from teaching what will truly enhance global competitiveness. Even if, somehow, these reform measures led to significantly increased test scores in math, reading, and science and wiped out achievement gaps, our children would not be better prepared for life in a more globalized and technological world.

Instead, we are becoming obsessed with test scores in a limited number of subjects, which in essence is the adoption of a single criterion for judging the success of students, teachers, and schools. Once we adopt this single criterion, we will kill the most important and sought-after commodity in the 21st century — creativity. As U.S. policies lead us away from creativity, other countries are attempting to add greater flexibility and creativity into their curricula.

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Globalization has become a crisis in many parts of the world. How globalization will affect us and the future of our education systems depend on how we face the challenges. Policy makers, education leaders, and the public must come together to face this crisis. Together, we need to consider how to educate Americans to become valuable and indispensable contributors to the integrated and interdependent global economy.



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Education in the Flat World:

Implications of Globalization on Education

Yong Zhao

WE NEED TO ENCOURAGE CHILDREN to take more math and science, and to make sure those courses are rigorous enough to compete with other nations. We've made a good start in the early grades with the No Child Left Behind Act, which is raising standards and lifting test scores across our country. Tonight I propose to train 70,000 high school teachers to lead advanced-placement courses in math and science, bring 30,000 math and science professionals to teach in classrooms, and give early help to students who struggle with math, so they have a better chance at good, high-wage jobs. If we ensure that America's children succeed in life, they will ensure that America succeeds in the world.

— GEORGE W. BUSH, 2006

The No Child Left Behind (NCLB) Act, President Bush's prescription for education and American competition in the global economy, fails to meet the nation's education needs. Instead, it is simply fool's gold, attracting American education into a deep dark cave rather than a bright future.

Already, this prescription has caused considerable damage. It has resulted in mounting pressures to narrow what children can learn in schools so that they can score better than their Chinese and Indian counterparts in math and science. Thanks to NCLB, now in its fifth year of implementation, "teachers and principals are poring over test results with unprecedented intensity. Struggling students are receiving extra lessons in reading and math, sometimes at the expense of class time in other subjects" (Rentner et al. 2006, 2). Furthermore, high school reforms have resulted in 22 states requiring students to pass a state exit exam to receive their diplomas. In 2006, 65% of the nation's high school students and 76% of the nation's minority high school students were enrolled in these 22 states. These "exit exams are encouraging teachers to spend more class time on tested subjects" (Kober et al. 2006, 5). More than limiting what is taught and learned, state tests also constrain how teaching and learning is conducted. Russell and

Abrams (2004) found that, though computers are a vital tool for writers and for teaching writing, more than 30% of teachers nationwide do not use computers when teaching writing because the state writing test is handwritten. This is more unsettling when considering that schools are supposed to prepare students for the digital world.

Wrong Fixes

Though high-stakes testing is central to current reform efforts in U.S. education, it is only one of many elements affecting all players in the education enterprise — administrators, teachers, students, and parents. Other elements include centralization and standardization of curriculum, increased demand for teacher quality, more math and science in higher grades, more school choice, and reduction of diversity and flexibility of what schools can offer. The overall goal is to achieve better academic achievement of all students, measured by standardized tests of a limited number of subjects, through increased accountability of schools, administrators, teachers, and students.

The impetus for this reform, including both NCLB and separate state-level high school reform initia-



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tives, can be traced to two sources: concerns over equity and international competition. The equity concern is rooted in the persistent poor performance of a group of schools, located mostly in impoverished inner cities and rural areas, as well as among ethnic minority students in other schools. The concern over international competition has been prompted by both unfavorable comparisons of U.S. students with those in other developed countries, such as Singapore and Korea, and the rapid economic growth of China and India, which have often been blamed for job losses and the surging U.S. trade deficit.

As Bill Gates (2005), founder of Microsoft, has declared:

In the international competition to have the biggest and best supply of knowledge workers, America is falling behind. That is the heart of the economic argument for better high schools. It essentially says: “We’d better do something about these kids not getting an education, because it’s hurting us.” But there’s also a moral argument for better high schools, and it says: “We’d better do something about these kids not getting an education, because it’s hurting them.”

The current reform initiatives have been purposefully designed to address the increasing challenges brought about by globalization. Reform advocates, many of them business leaders like Gates, are acutely aware of — and often helped create — global and digital factors that influence education. They have communicated the sense of urgency for more future-oriented education so that our children can be prepared to compete with their peers in foreign countries (Business Roundtable 2005; U.S. Department of Education 2006a; Committee on Prospering in the Global Economy of the 21st Century 2006).

Their fixes — more accountability (tests and pressure on teachers and schools to achieve better scores), high standards (centralization and standardization of curriculum and instruction), and rigorous instruction (focused teaching to the tests) — are comprehensive. NCLB and high school exit exams already have generated far-reaching consequences. They are about to deliver even deeper, sustained effects on the whole U.S. education system.

Unfortunately, the clearly observed and indisputably identified effects are all undesirable: narrowing what students learn, teaching to tests, forcing teachers to cheat, and making schools find “creative”

ways to meet Adequate Yearly Progress (AYP) requirements. The desired effects — raising student achievement and narrowing achievement gaps — are not so obvious. According to Rentner and her colleagues (2006), 35 states reported that students received higher scores in English/Language Arts than the previous year, and 36 states reported similar results in math. The rest of the states reported scores declining, staying the same, or “other.” The report listed possible explanations for the improvement: a) the students indeed learned more, b) the students developed better test-taking skills, c) cheating, d) changes in tests (less rigorous, easier, or lower standards), and e) normal fluctuations in grades. Other national studies doubt even the existence of such gains reported by state officials. For example, the National Assessment of Educational Progress (NAEP) found no gains in student achievement during the same period. The effect of NCLB on narrowing achievement gaps is equally uncertain.

The effects of current reforms on student achievement are disappointing, but truly troubling is how NCLB distracts us from teaching what will truly enhance global competitiveness. Even if, somehow, these reform measures miraculously led to significantly increased test scores in math, reading, and science and completely wiped out achievement gaps, our children would not be better prepared for life in a more globalized and technological world.

Instead, we are becoming obsessed with test scores in a limited number of subjects, which in essence is the adoption of a single criterion for judging the success of students, teachers, and schools. Once we adopt this single criterion, and we are well on our way, we will kill the most important and sought-after commodity in the 21st century — creativity.

How Not to Kill Creativity

Creativity has led to many innovations in science and technology, literature, music, and art. In the knowledge-driven economy, the “creative class” is at the top of the economic value chain and the driving force of economic and social development (Florida 2002).

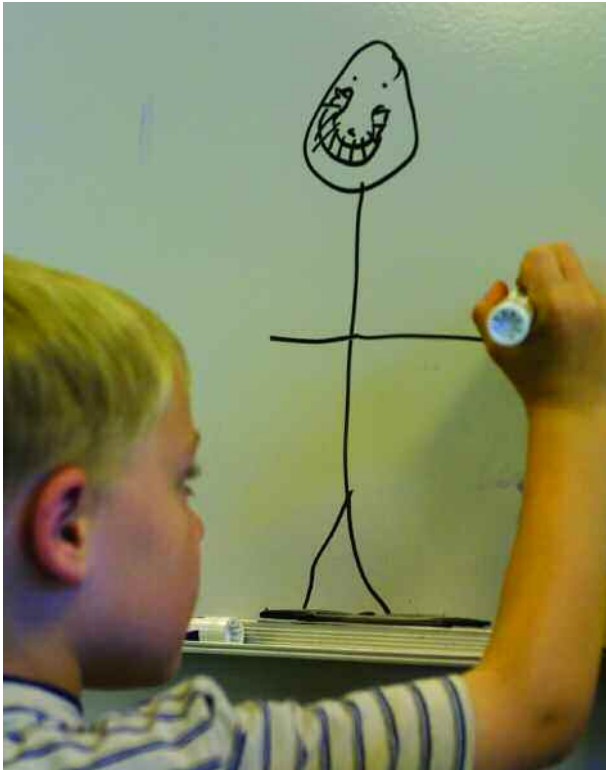
Over the past 150 years, the United States has been the world leader in scientific innovations that have powered economic growth at home and around the world. Though Asia is expected to gain prominence in the 21st century, these countries cannot compete with the U.S. in creativity and innovation. As William

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**Are we willing to kill
more creativity in
exchange for better
scores?**

Hannas (2003) documented, modern development in Asia has been rooted in technology transfers from the United States and European countries. Yet leaders and educators in the United States typically confuse technical skills with creativity. As a result, Asian nations have been working on closing the creativity gap, while the United States has been troubled by the “achievement gap” revealed by international comparison tests.

To be creative is to be different. Florida (2002) found that, in general, tolerance of deviation from tradition and the norm results in greater creativity. In individualist cultures such as the United States, creativity is respected and valued; in collectivist cultures, the emphasis is on continuity and tradition (Sawyer 2006).

Schools tend to demand conformity and obedience, yet “most young children are naturally curious and highly imaginative,” noted Dacey and Lennon (1998, 69). “After children have attended school for a while, they become more cautious and less innovative. . . . Teachers, peers, and the educational system as a whole all diminish children’s urge to express their creative possibilities.”

Yet there is a difference in the degree to which this happens, and this difference may explain, at least in part, the “creativity gap” between Asians and Americans. First, “American children spend less time in academic activities than Chinese and Japanese children do in terms of hours spent at school each day and days spent in school each year” (Stevenson and Stigler 1992, 52–53). Second, Asian teachers “make an explicit effort during the early months of elementary school” to teach children to think of themselves as a group and to be constantly aware of their obligations to the group (Stevenson and Stigler 1992, 62).

Third, American parents generally seem to be more satisfied with their children’s academic performance and their schools than do mothers in China and Japan. American parents define success more broadly and strongly emphasize that children are individuals. In contrast, Asian parents play an extremely high value on grades, test scores, and, most important, admission to prestigious universities. All other activities — including art, music, community, and athletic development — are considered unimportant unless they produce an advantage in entering better colleges.

American parents’ broader definition of success and the emphasis on internal standards of success may not lead to high test scores or good grades, but they do help to preserve and protect individuality and

creativity. A broader conception of student success and less emphasis on external indicators allow students to “feel good” even if they excel in areas other than academic subjects. This also enables, if not encourages, children to pursue their interests and thus preserve some level of intrinsic motivation, which is essential for creativity (Dacey and Lennon 1998).

Asian parents’ emphasis on external indicators and high expectations for the education system lead to less self-confidence and externalization of motivation, which is detrimental to creativity. Consequently, Asians are much more interested in external rewards than Americans when they enter the work force. When asked to select the important aspects in a job, about 82% of Americans mentioned “a job that is interesting.” In stark contrast, only 18% of Chinese mentioned this (World Values Survey 1999–2004).

Finally, standardized and centralized curricula, another feature of Asian education systems often praised by reformers, serve to further squeeze opportunities for individual differences. Teaching at the same pace, in the same sequence, and using the same textbooks for all students leaves little room for exploring individual interests and accommodating different learning styles. Curriculum standardization and high-stakes testing do not nurture creativity.

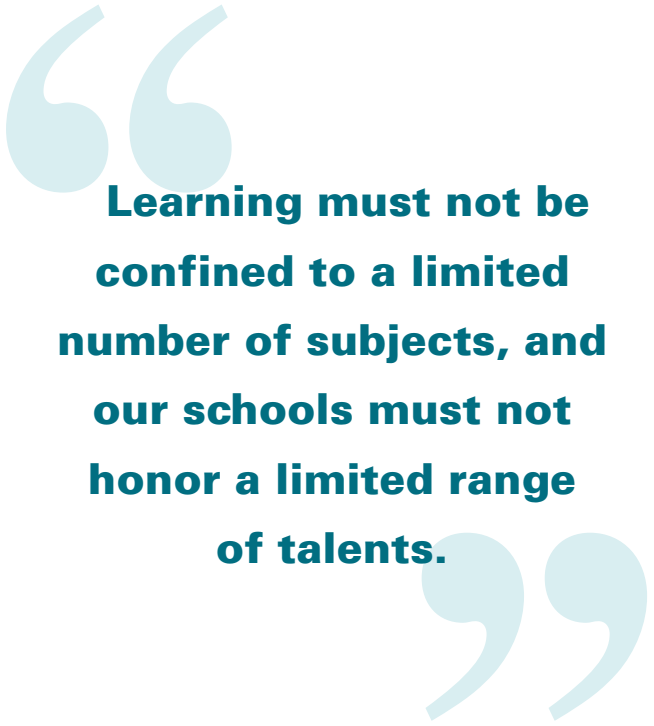
The U.S. education system can make a choice. Are we willing to kill more creativity in exchange for better scores? This seems to be the path current reformers have chosen, and we risk losing the position of the world’s leading hub for scientific and technological innovations. Such a loss would be difficult, if not impossible, to reverse.

I’m not arguing for a system that lets children do whatever they want. Indeed, systematic, in-depth, and disciplined learning is required for anyone who wants to succeed in life. But this learning must not be confined to a limited number of subjects, and our schools must not honor a limited range of talents.

Multiple Intelligences and Global Education

By now, more than 20 years after Howard Gardner’s seminal book *Frames of Mind: The Theory of Multiple Intelligences* was first published in 1983, the idea that there is more than one “intelligence” — that each of us possess a unique set of intelligences — has been generally accepted. As Gardner (1993, xxiii) wrote in his introduction to the 10th edition:

In the heyday of the psychometric and behaviorist eras, it was generally believed that



Learning must not be confined to a limited number of subjects, and our schools must not honor a limited range of talents.

intelligence was a single entity that was inherited; and that human beings — initially a blank slate — could be trained to learn anything, provided that it was presented in an appropriate way. Nowadays an increasing number of researchers believe precisely the opposite; that there exists a multitude of intelligences, quite independent of each other; that each intelligence has its own strengths and constraints; that the mind is far from unencumbered at birth; and that it is unexpectedly difficult to teach things that go against early “naïve” theories that challenge the natural lines of force within an intelligence and its matching domains.

For both biological and cultural reasons, we are “intelligent” in different domains, more intelligent in some areas while less intelligent in others. Yet, in its attempt to cultivate certain talents, school suppresses other, less valued talents. Most schools today tend to value only two of the intelligences on Gardner’s original list: linguistic and logical-mathematical. Though many have embraced the spirit of Gardner’s theory and the associated research, schools have not broadened what they value. A child’s performance in math and language is still the primary indicator of intelligence or ability. As a result, those inclined toward math and language are considered good students, while those with less mathematical and linguistic capacities are considered at risk, regardless of strengths in other areas. The latter group of children receives poorer grades and lower scores on standardized tests, which then affects their self-esteem, their chances of attending college, and ultimately their future.

The degree to which schools value linguistic and logical-mathematical intelligences varies across cultures. East Asian education systems have traditionally valued academic performance in math and language almost exclusively over any other type of talent, which has resulted in students spending almost all their time on getting good grades in these areas or withdrawing from school. Schools and parents have also put all their efforts into helping students perform well in these areas. As a result, these education systems have shown excellent performance in international comparative studies, which have mostly measured performance in mathematics.

In contrast, American schools and parents have traditionally tolerated other intelligences in schools and held a broader, more individualized view of success. Unfortunately, these other opportunities, such

as sports, student clubs, and music, may gradually disappear as education reforms squeeze other intelligences out of schools.

Daniel Goleman (1996, 34) noted, “One of psychology’s open secrets is the relative inability of grades, IQ, or SAT scores, despite their popular mystique, to predict unerringly who will succeed in life. . . . At best, IQ contributes about 20 percent to the factors that determine life success, which leaves 80 percent to other forces.”

Globalization and advancements in technology have made intelligences in these other domains more important than ever. Daniel H. Pink (2005) has argued that what was important in the Information Age — left-brain, sequential, literal, functional, textual, and analytic thinking — is no longer sufficient. As we move into the Conceptual Age, what really matters is right-brain, simultaneous, metaphorical, aesthetic, contextual, and synthetic thinking — the type that is not assessed well on standardized tests.

Cold War Mindsets vs. the Globalized World

So why are well-intentioned and otherwise intelligent political and business leaders working to further narrow the definition of success for schools and students to performance in math and science? The answer, according to Joseph Stiglitz (2006, 25), is that “economic globalisation has outpaced the globalisation of politics and mindsets.” Reform advocates are applying a Cold War mindset to the globalized world. Instead of rethinking education and human capital in the context of globalization, they are holding on to an adversarial mentality, which is evident in the frequent references to “Sputnik” in many reports.

For example, the Business Roundtable (2005, 2) argued that, to meet tomorrow’s educational needs, “the United States must respond . . . as energetically as we did to the Soviet Union’s launching of Sputnik in the 1950s. To remain the technological leader in the 21st century, we must establish and achieve an ambitious goal: We must double today’s science, technology, engineering and mathematics graduates with bachelor’s degrees by 2015.” Similarly, the U.S. Department of Education (2006a, 4) declared, “Today, America faces not a streaking satellite but a rapidly changing global workforce.”

One of the most fundamental elements of the Cold War mindset is that we have to maintain superiority over “them.” Any sign of losing that superiority, no

matter in what domain, is considered a defeat and a threat. Though research has repeatedly shown that grades and test scores in schools are inadequate in predicting life success or overall productivity, international comparative studies such as TIMSS and PISA have been repeatedly cited to suggest that U.S. education is in trouble, especially in math and science.

Furthermore, we often are presented statistics that show an increase in students studying math, science, technology, and engineering in other countries and a decline in the number of U.S. students in these areas. These sobering figures suggest that other countries, particularly China and India, are overpowering the United States in math, science, engineering, and technology. From a Cold War perspective, this suggestion may be correct; but our more interconnected, globalized world demands a different interpretation.

Globalization, the increasing integration of world economies through trade and financial transactions, involves movements of goods, people, and money across national and geographical borders. Ben S. Bernanke (2006), has noted, “The traditional distinction between the core and the periphery is becoming increasingly less relevant . . . as the mature industrial economies and the emerging-market economies become more integrated and interdependent.” Bernanke (2006) added, “Production processes are becoming geographically fragmented to an unprecedented degree. Rather than producing goods in a single process in a single location, firms are increasingly breaking the production process into discrete steps and performing each step in whatever location allows them to minimize costs.”

Theoretically, a business can locate any of its elements anywhere in the world and can employ anyone from anywhere; conversely, any individual can work for any business located anywhere in the world through telecommunication or migration. The tie between individuals and their nations and national enterprises is weakening. Today, countless Chinese and Indians are working for U.S. businesses located in any of the three countries. Similarly, millions of Americans are working for Japanese, Chinese, German, French, or Indian businesses. In 2005, China imported more than 300,000 experts and technical workers (Lin and Wang 2006).

Yet reform advocates continue to point to signs of crisis. Businesses seek to maximize profit, which will send them anywhere to hire anyone, regardless of their national affiliation. Though U.S. schools produce



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qualified workers, U.S. businesses will send their jobs to other countries where they can find similarly qualified workers at lower costs. The number of U.S. students interested in math, science, engineering, and technology can decline; for businesses, it is a moot point.

For the United States, competitiveness has more to do with immigration policy and other factors irrelevant to education. The degree to which a community can prosper is dependent on talents, tolerance, and technology (Florida 2002). Living standards, financial infrastructure, cultural and legal respect for intellectual properties, and other political, social, economical, and cultural influences have kept the United States competitive despite repeated alarms sounded about its “horrible” education system (Zhao 2006a). Since the publication of *A Nation at Risk* (National Commission on Excellence in Education 1983), which painted a bleak picture of American education and issued an urgent call for reform, many similar publications have argued that U.S. education is floundering. Yet the United States has remained competitive, leading global growth over the past two decades and in scientific research, entrepreneurial activity, and worker productivity (Council on Competitiveness 2006).

To remain competitive, a nation must cultivate new industries and its businesses must innovate. As traditional industries move to other countries, those jobs get outsourced. Instead of trying to keep them, the United States should consider creating new ones, which demands different talents and intelligences. As millions of Chinese and Indians become qualified engineers, technical workers, and call center workers (all at a lower wage), we must develop different abilities, talents, and skills rather than compete with them in the same domains. Indeed, Americans may be doing precisely that, which could explain the decline in enrollment of U.S. students in math, science, engineering, and technology.

The Real Problems

American education is not free of problems. Teaching and learning can be improved. Yet the current reforms are undermining the nation’s competitiveness by squelching creativity, squeezing out space for intelligences and talents that are truly needed in the global economy, and taking resources away from students.

1. LACK OF PREPARATION

One problem is that American schools are not adequately preparing students to develop global knowledge and skills. According to the Committee for Economic Development (2006, 14), “Many American students lack sufficient knowledge about other world regions, languages and cultures, and as a result are likely to be unprepared to compete and lead in a global work environment.”

This assessment is backed up with a long list of compelling evidence. More than 80% of New York City eighth-graders did not meet the state standards in social studies in 2004. Moreover, the number of students meeting the social studies standards has decreased by almost 20% since 2002.

Furthermore, most young Americans lack geographic knowledge or an understanding of how the United States fits into the world. A survey conducted by the National Geographic Society (National Geographic–Roper Public Affairs 2006) found that:

- 63% of young American students could not locate Iraq on a map of the Middle East, “despite near-constant news coverage since the U.S. invasion of March 2003” (6).
- 75% could not find Indonesia, Iran, or Israel on a map.
- 18% correctly identified Mandarin Chinese as the world’s most commonly spoken native language, while 74% believed it to be English.
- 29% correctly identified the United States as the world’s largest exporter of goods and services, while half thought it was China.

In Sweden, surveys have indicated that 89% of young adults speak at least two languages, and 92% have ventured outside of their home country within the previous three years. In stark contrast, at the time of the survey, only 36% of young Americans spoke more than one language and a mere 22% had left U.S. soil in the preceding three years. In fact, only about 25% of all U.S. citizens have passports. The Committee for Economic Development (2006, 6) has noted, “Compared to their counterparts from universities in other parts of the world, U.S. students are ‘strong technically’ but ‘shortchanged’ in cross-cultural experience and ‘linguistically deprived.’”

The U.S. economy depends on its capacity to interact with other economies in the world. Nearly 60% of growth in earnings of U.S. businesses came from overseas in 2004; one in five U.S. manufacturing jobs

is already tied to exports. Trade between the United States and Asia is already approaching \$800 billion annually. In 2002, U.S. affiliates of foreign companies directly employed more than 5.4 million workers in the United States. American companies lose an estimated \$2 billion a year because of inadequate cross-cultural guidance for their employees in multicultural situations. Nearly 30% of U.S. businesses argue that they had failed to fully exploit their international business opportunities because of insufficient personnel with international skills (Committee for Economic Development 2006).

2. NATIONAL SECURITY

National security is a critical challenge. Yet it depends less on military might, as some might suppose, than on diplomacy, cross-cultural communications, intelligence, and maintaining a positive image across the world. A nation is truly secure when it does not have enemies. Though achieving this position may be nearly impossible for the United States, a more positive image around the world can only help. Anti-Americanism in the Muslim world is well known, but nowadays the United States is not very popular even in Western nations.

Anti-Americanism may have many causes, but U.S. foreign policy and perceived arrogance should certainly be on the list. Our lack of understanding of other cultures, unilateralism, and perceived arrogance result from our education. Abraham Lincoln once said: “The philosophy in the classroom of this generation is the philosophy of government in the next.” America needs talented diplomats and a public that understands and respects other cultures.

The negligence of American schools in preparing students in foreign languages and cultures has had a direct effect on the nation’s security. The Committee for Economic Development (2006, 9) noted, “The September 11th intelligence failures provide considerable evidence of our shortage of expertise in Arabic and Asian languages and cultures.” The Army, the CIA, the FBI, and other national security agencies had considerable difficulty in recruiting experts in critical languages (U.S. Department of Education 2006b). As a result, the FBI’s counter-terrorism efforts were hampered. As the National Commission on Terrorist Attacks upon the United States (2004, 77) argued, “The FBI did not dedicate sufficient resources to the surveillance and translation needs of counter-terrorism agents. It lacked sufficient translators proficient in Arabic and other key languages,



U.S. education is moving toward more standardization and centralization, while Asian countries are working hard to allow more flexibility and autonomy at the local level.

resulting in a significant backlog of untranslated intercepts.”

3. MULTICULTURALISM

Understanding other cultures and languages is vital to the continued prosperity of the United States as a multicultural society. Racial and ethnic harmony rests upon mutual understanding and respect. Despite progress made over the years, racial relationships remain a critical issue in the United States. The nation must continue to face this difficult problem and keep America an open society. To do that, schools must teach about other cultures and languages.

In fairness, President Bush and this administration recognize the need to prepare America to be globally competent. In the statement for International Education Week in 2001, the President said, “America’s leadership and national security rest on our commitment to educate and prepare our youth for active engagement in the international community. I call on schools, teachers, students, parents, and community leaders to promote understanding of our nations and cultures by encouraging our young people to participate in activities that increase their knowledge of and appreciation for global issues, languages, history, geography, literature, and the arts of other countries.”

However, NCLB and the high school reform initiative at the federal level pay little attention to foreign languages and cultures. The U.S. Department of Education’s initiative, *Strengthening Education: Meeting the Challenge of a Changing World*, was released in February 2006 following the announcement of the American Competitiveness Initiative by President Bush in his State of the Union address. The initiative commits \$5.9 billion in FY 2007, and more than \$136 billion over 10 years, to increase investments in research and development and to strengthen education and workforce training. Yet nearly all of the programs associated with this government initiative focus on math and science learning, high standards, and accountability.

The National Language Security Initiative (NLSI) is one exception. It will address our shortage of people who speak languages critical to our national security and global competitiveness by: encouraging earlier and stronger coursework in critical-need foreign languages from kindergarten through postsecondary education; increasing proficiency among all speakers; and providing incentives for government service and teaching critical-need foreign languages (U.S. Department of Education 2006c). Yet NLSI is tightly

coupled with current national security needs and has a narrow goal. Even so, the mere \$114 million requested by Bush for FY2007 has to be shared across the departments of Education, State, and Defense as well as the Office of the Director of National Intelligence. The Department of Education requested \$57 million, an insignificant figure compared with the amount devoted to math, science, engineering, and technology.

The Education Department's investment of \$5 million to put 1,000 new foreign language teachers in the classroom by the end of the decade further reveals a lack of real appreciation of the critical need in foreign language and cultural talents, considering the current state of foreign language teaching in American schools. After all, most U.S. school districts do not offer foreign languages until high school, though it is commonly understood that foreign language teaching must start much sooner. Still, even a requirement that all high school students take a foreign language, especially a non-Western language, could have a tremendous effect — though doing so would take tremendous efforts and resources at all levels.

What Other Countries Are Doing

While the U.S. administration worries about raising test scores in reading, math, and science and subjects students to high-stakes testing and an increasingly standardized curriculum, other countries, especially our economic competitors, are doing something different. U.S. education is moving toward more standardization and centralization, while Asian countries are working hard to allow more flexibility and autonomy at the local level. We are investing resources to ensure that all students take the same courses and pass the same tests, while Asian countries are advocating individualization and attending to emotions, creativity, and other skills. While we are raising the stakes on testing, Asian countries are exerting great efforts to reduce the power and testing.

CHINA

In 2002, the Chinese Ministry of Education issued a policy authorized by the Chinese State Council to reform assessment and evaluation in elementary and secondary schools. Entitled *Ministry of Education's Notice Regarding Furthering the Reform of Evaluation and Assessment Systems in Elementary and Secondary Schools*, this policy calls for alternative ways of assessment to simple testing of academic knowl-

edge. It specifically forbids ranking school districts, schools, or individual students based on test results or making test results public (Chinese Ministry of Education 2002).

In 2003, the Chinese Ministry of Education released its plan for high school curriculum reform, which was scheduled to start in 2004. The primary goal of this reform is consistent with the previous curriculum reform for primary and middle school: foster creativity and the spirit to innovate and develop practical life skills. The specific strategies include granting more flexibility and autonomy to students and schools in deciding what to learn, more courses outside traditional disciplines, and a more authentic assessment and evaluation scheme. The reform pushes for more electives and fewer required courses for students, more local and school-based content, integrated studies, and such new subjects as art, environmental studies, and technology. A strong community service and experiences component is also included (Chinese Ministry of Education 2003).

In addition, foreign language (mostly English) is a required course starting from 3rd grade in China.

SOUTH KOREA

In 2001, South Korea released the 7th National Curriculum. It aims to cultivate creative, autonomous, and self-driven citizens who will lead the era's developments in information, knowledge, and globalization. The curriculum promotes fundamental and basic education that fosters sound human beings and nurtures creativity. It helps students build their self-motivated capacity and implements learner-oriented education that suits students' capability, aptitude, and career-development needs. And it ensures expanded autonomy for the local community and schools in curriculum planning and operation (Ministry of Education and Human Resources Development 2001).

As in China, foreign-language learning (again, mostly English) is being promoted in the elementary grades.

SINGAPORE

Since 1997, Singapore has engaged in a major curriculum-reform initiative. Titled *Thinking Schools, Learning Nation*, this initiative aims to develop all students into a community of active, creative learners with critical-thinking skills. Its key strategies include the explicit teaching of critical and creative-thinking skills; the reduction of subject content; the revision



The globalized economy demands a diversity of talents. American schools should capitalize on their strengths: flexibility, openness, and tolerance.

of assessment modes; and greater emphasis on processes, rather than on outcomes, when appraising schools.

In 2005, Singapore's Ministry of Education released another major policy document, *Nurturing Every Child: Flexibility and Diversity in Singapore Schools*, which calls for a more varied curriculum, a focus on learning instead of on teaching, and more autonomy for schools and teachers (Ministry of Education 2005). Singapore is already multilingual in its education, but there have been recent calls for stronger teaching of Chinese.

JAPAN

Since 2001, Japan has been working to implement its *Education Plan for the 21st Century*, which has three major objectives. The first is "enhancing emotional education" by cultivating students as emotionally well-rounded human beings. The second objective is "realizing a school system that helps children develop their individuality and gives them diverse choices" by moving toward a diverse, flexible educational system that encourages individuality and cultivates creativity. The third is "promoting a system in which the school's autonomy is respected" through decentralizing education administration, enhancing local autonomy, and enabling independent self-management at the school level (Tokutake 2000).

UNITED KINGDOM

On 15 November 2004, Charles Clarke, then Britain's Education and Skills Secretary, launched a comprehensive national strategy to build stronger links between the nation's education system and their world partners, requiring every British school to have an international partner school within the next five years. "Our vision," Clarke noted (in Department for Education and Skills 2004), "is that the people of the UK should have the knowledge, skills and understanding they need to fulfill themselves, to live in and contribute effectively to a global society and to work in a competitive, global economy. It means, in short, putting the world into the world class standards to which we aspire."

What We Should Do

I am not suggesting that math, science, technology, engineering, and reading are unimportant; nor am I saying that we should not teach these subjects in schools. But these are not the only subjects that are

needed. The globalized economy demands a diversity of talents. American schools should capitalize on their strengths: flexibility, openness, and tolerance.

Nor am I opposed to setting higher standards for schools or more accountability, but I am against excessive standardization and testing because of their negative effects on creativity, individual interests, and passion for real learning. We must be mindful of the criteria we use in establishing accountability and avoid teaching students that what can be tested is what's important. A sign in Albert Einstein's Princeton University office noted, "Not everything that can be counted counts, and not everything that counts can be counted."

Furthermore, I am not against international comparative studies. If conducted properly, we can learn a lot about the effects of educational policies and practices from different countries. However, I am against treating these studies as an international horse race that compares student achievement in a limited number of domains. Test scores may provide information about how students are doing on certain tests but have limited power to predict the future of a student. Indeed, their use might damage a student's future.

Finally, I completely agree with the spirit of NCLB; there are intolerable gaps in the quality of education between the rich and the poor, between inner-city students and those in the suburbs, and among different racial groups. However, an exclusive focus on math, reading, and science may exacerbate the situation by shutting out those students who need the most help.

So what should we do?

CHANGE OUR MINDSET

The first thing that we, as educators, must do is change to a global mindset, to accept the reality of globalization and seek opportunities, rather than to get distracted by the problems of the past. Current reform efforts offer a "manufactured crisis" (Berliner and Biddle 1996) or false alarms instead of insights into the future. Lower test scores are not the end of the world; fewer Americans majoring in science and technology is a natural reaction to the transformed global economy. As China and India graduate more engineering students, we must develop different talents.

A child born today will be entering the society as an adult in 2027, and the changes that can take place in those 20 years will be dramatic. Consider the last



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Citizens must be able to competently negotiate cultural differences, manage multiple identities, comfortably interact with people from different cultures, and confidently move across cultures.

20 years: the collapse of the Soviet Union and the end of the Cold War, the invention and coming of age of the Internet, the formation and expansion of the European Union, the rise of China to the world's third largest economy, the addition of some 40 new member states to the United Nations, and the first and second Gulf wars, to name just a few.

We don't know what the future will require of our children, but we can prepare them. About 150 years ago, Herbert Spencer asked, "What knowledge is of most worth?" His answer, "science," challenged policy makers and educators to replace religion, Latin, and Greek, which had been the primary subjects for hundreds of years, with modern sciences. Globalization and the digital revolution compel us to ask Spencer's question again.

PREPARE GLOBAL CITIZENS

Citizens must be able to competently negotiate cultural differences, manage multiple identities, comfortably interact with people from different cultures, and confidently move across cultures as well as the virtual and physical worlds. To do so, they need a deep understanding of the interconnectedness and interdependence of all humans, cultural knowledge and linguistic abilities that enable them to appreciate and respect other cultures and peoples, and emotional and psychological capacities to manage the anxiety and complexity of living in a globalized world.

To actually make this happen will require determination, effort, and resources at all levels. The federal and state governments must recognize the great importance of international and foreign language education. The severity of the current situation in schools demands sufficient political and financial resources to help schools with this critical yet extremely difficult change.

Many schools will need to reconfigure their curricula, develop or adapt a curriculum framework, identify teaching materials, recruit or retrain professional staff in international education and foreign languages, organize international experiences for students, and offer courses in these areas. Some of these tasks can be accomplished only with substantial investment and policy changes. Schools can begin by:

- Learning more about globalization, international education, and foreign language education. The Asia Society's International Education (<http://internationaleled.org>) website is a great starting point.

- Developing, with the help of technology, international partnership schools. Oracle (www.think.com) has developed a platform for international networking of schools, and ePals (<http://epals.com>) is another source of potential partnerships.
- Offering foreign languages through online instruction, if needed. For example, the Confucius Institute (<http://confucius.msu.edu>) at Michigan State University has been offering online high school Chinese courses through Michigan Virtual High School.
- Engaging in teacher and student exchanges. Though very limited, the Federal Fulbright-Hays program offers support in this area, and other organizations and the local community can be sources of support.

CULTIVATE DIVERSE TALENTS

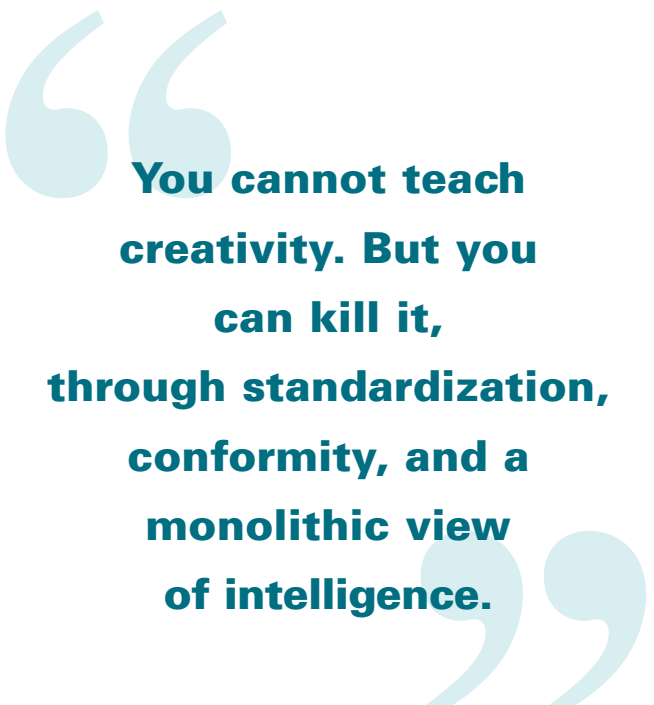
We must help children develop their “multiple intelligences.” And we must avoid head-on knowledge competition with such developing countries as India and China. Our schools must develop niche talents that will fit in the large, integrated, global supply chain of talents. To do so, schools need to:

- Resist the temptation of winning the academic horse race in a narrowly defined set of domains: math, science, and reading. U.S. schools, compared to many schools in the world, have a broader definition of talents, but NCLB and associated reform efforts are effectively eroding this great tradition.
- Broaden the definition of success. U.S. schools must purposefully define student success in even broader terms and celebrate diverse talents and accomplishments.
- Keep and even increase programs in the arts, music, sports, literature, humanities, and digital citizenship.

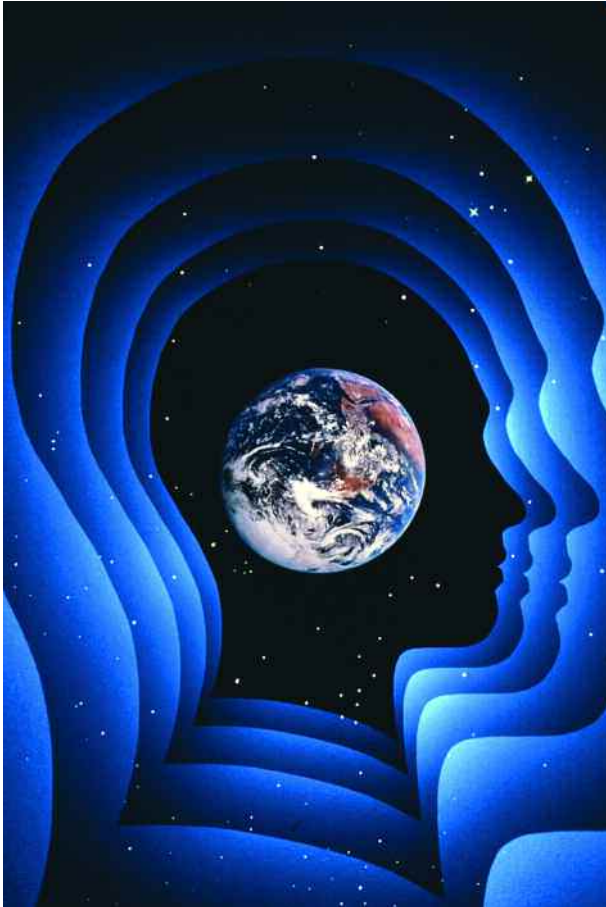
Facing the Globalization Crisis

As I have argued elsewhere (Zhao 2006b), you cannot teach creativity. But you can kill it, through standardization, conformity, and a monolithic view of intelligence. To limit the power of schools in “creativity killing,” we must:

- Reduce, not increase, the frequency of high-stakes standardized testing.



You cannot teach creativity. But you can kill it, through standardization, conformity, and a monolithic view of intelligence.



How globalization will affect us and the future of our education systems depend on how we face the challenges.

- Stop imposing high-stakes standardized testing at the elementary grades; instead, provide more tools for teachers to diagnose early problems.
- Follow Britain's example on high-school exit exams by including more subjects so that students can choose a subset of them from which to demonstrate their abilities.
- Allow high school students to choose from a set of different specializations — including art, sports, humanities, language, technology, math, and science — rather than require them all to do the same things.

Globalization has become a crisis in many parts of the world. How globalization will affect us and the future of our education systems depends on how we face the challenges. Policy makers, education leaders, and the public must come together to face this crisis. Together, we need to consider how to educate Americans to become valuable and indispensable contributors to the integrated and interdependent global economy — to be respected, loved, but not feared, neighbors in the global village.

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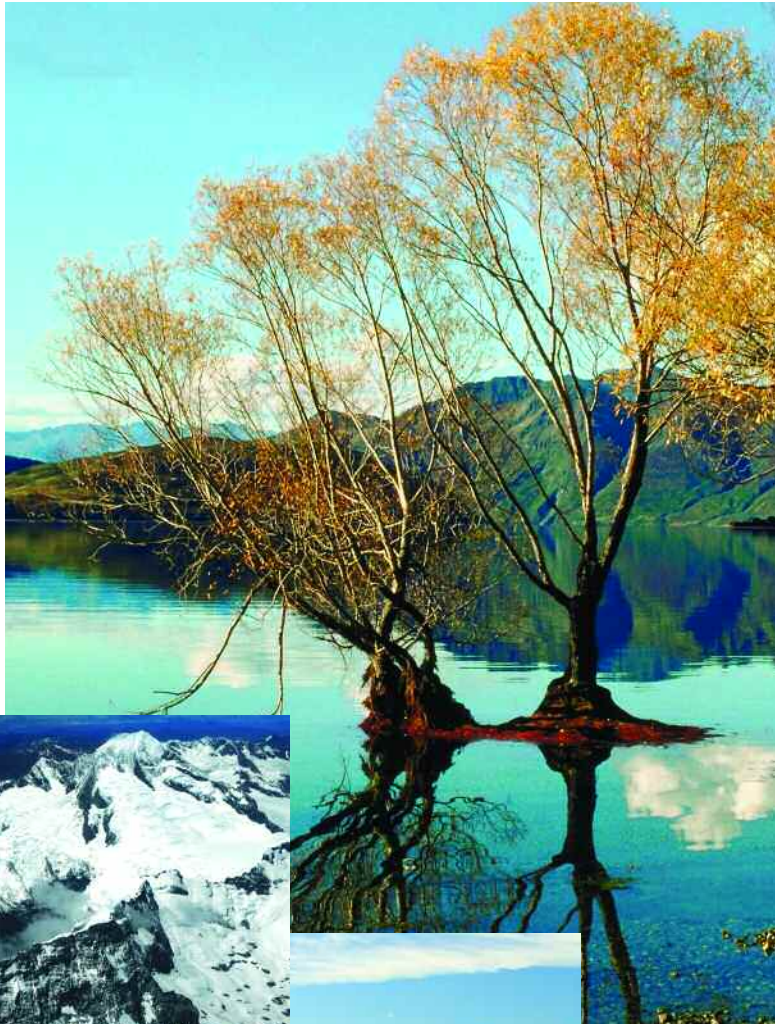


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