Barking Up The Right Tree

Reports of U.S. jobs, especially high-tech jobs, going to India and China have led to calls on the schools to emphasize math and science. Wait a minute, cautions Mr. Houston. What if the future belongs to the artists, storytellers, and poets?

BY PAUL D. HOUSTON

There is a childhood saying about a confused dog who thinks he sees a possum in a tree. The problem is that the possum is actually in a different tree, so the dog barks up the wrong tree. American education is constantly playing both dog and possum. Sometimes we are the prey, and sometimes we are just confused about what and where the prey is.

The last few years have revealed growing concern about U.S. global competitiveness, particularly against a backdrop of the rising economic power of India and China. This is not unlike concern in the 1980s with Japan and Germany. But this time the competition looms larger, and the stakes are higher. This topic has been regularly addressed in the news, and CEOs and governors have weighed in with their views, as has President Bush in his 2006 State of the Union address. The hysteria could best be summed up, in a paraphrase of a 40-year-old saying, as “the Asians are coming, the Asians are coming.”

Undoubtedly, the ascendance of China as an economic power and of India as a place where many American jobs go to die has raised legitimate concerns. Thomas Friedman, author of the best-selling book The World is Flat, suggests that with the rise of China and India, America will have to run faster just to stay in place.

Today, hardly an American CEO can be found who does not look with awe and concern at what is happening on the other side of the world. Many U.S. businesses have shipped work and jobs to both India and China, and, as with every previous threat to American dominance, our schools have been called to account for failing to produce enough engineers and math and science workers to compete with this rising threat. The education solutions offered are that we should make our students work harder and study more math and science. And we need more and harder tests to motivate them to do so.

The problem with this thinking is that it just isn’t that simple. First, the math doesn’t add up for the United States. Both India and China are massive countries. If they educate only their elites, they will still have a massive edge in available knowledge workers. America could make all its children high-tech workers, and we would still be outnumbered. Further, an engineer in either Beijing or Bangalore will work for a fraction of the wages of her American counterpart. To remain competitive, our workers would have to take monumental pay cuts, with attendant reductions in lifestyle, simply to hold their own. If we were to stop examining the situation at this point, despair would

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seem to be the only rational response.

The good news is that there is more to the story — a right tree to bark up, so to speak. Put most simply, America should compete at what it has always done best: being the innovative engine that drives the world economy. To do that will require increased efforts at producing greater numbers of highly talented engineers and technical workers. But we must improve the way we teach math and science by making these subjects more engaging to more students.

Yet there is also a bigger issue emerging. Daniel Pink in his provocative book, A Whole New Mind, has gone so far as to declare that the Information Age is nearing an end and that we are entering the “conceptual age.” He argues that the dominance of the “left-brain-driven” world, where everything is sequential and logical, is giving way to a more “right-brained” endeavor that focuses on the creative, holistic skills.

Pink suggests that, if you have a job that can be done by a machine, can be done cheaper, or can be done somewhere else, you have cause to worry. Those who work on conceptual and creative work — design, storytelling, and the like — will dominate in this new world. He turns the current discussion upside-down. It isn’t about how many engineers a nation has; it is about how many artists and poets it produces. These are the individuals who can create the new meaning necessary in a conceptual world.

Richard Florida, in his Rise of the Creative Class, makes similar arguments. The future belongs to the creative. They will be the leaders, the earners, and the learners of the new age. It is not the programmers in India who will dominate; it is the people who conceive of the work the programmers should do who will “rule.”

Already we know that most of the places where America has an economic edge are where our creative workers have gone before. For example, our popular culture, best exemplified by the entertainment industry, is a major export for the U.S., and in fact it might be argued that “the American Century,” as some called the 20th century, came about not simply because of our economic or military might, but because we were the source of the images and sounds people savor. Even our high-tech industries have found their dominance at the edge of such work — creating new concepts of the way work should be done or “imagineering” (as the Disney folks call it) new ways of doing things. While it is important that our children be educated to be comfortable with and conversant in the languages of math and science and while we need to continue to produce our fair share of technical workers, the future will not be created by these folks. The future will be created by those who can dream bigger and more innovative dreams.

THE IMPLICATIONS for education are profound. We must reexamine how we teach children and what we teach them. I was one of those students who grew up hating math and science. I wasn’t much happier with social studies and language arts. As an adult educator I finally came to understand why. When I became superintendent of schools in Princeton, New Jersey, I was thrown into an environment rife with Nobel laureates and world-class theoretical mathematicians and physicists. And I made a profound discovery in talking with them. I found out that the math I learned in school had the same relationship to mathematics as a log has to a blueberry.

Mathematics wasn’t about mastering rules; it was about discovering the elegance of a well-stated problem. Further, science is not about mastering the periodic table and a series of formulas, it is about seeking answers to the mysteries of the universe. Likewise, social studies isn’t about dates and events, it is about understanding the human condition, and literature is a way of coming to understand more about ourselves.

If we expect our children to become more adept in all of these subjects, we must begin to educate our teachers to be more knowledgeable about their subject matter and to be more creative in the way material is presented. Teachers must be designers and storytellers. Further, school leaders must reassess their roles as instructional leaders. How do we reinvent the learning process so that it becomes meaningful and engaging for students, so they are motivated by more than a test or benchmark? As one student, quoted in a recent Time cover story on the current science crisis, said, “I associated engineering with long, boring assignments. No one showed me why it was cool.”

We have to find a way to make learning relevant and “cool.” We can do that only by having teachers who are supported in using their own creativity.

So how do we recruit and support teachers who see themselves as artists? Sadly, with the way we currently approach schooling in America, we are destined to become a third-rate economy and a Third World power. We are forfeiting our greatest edge by walking away from what we do best. In a Newsweek commentary in January 2006, Fareed Zakaria described a conversation about education that he had with people in Asia. China has increased its spending on colleges and universities tenfold in the past decade. This comes at a time when states in the U.S., which cut taxes during the boom years of the 1990s, are struggling to hold their own in education spending and when the recent federal budget proposed to cut support for education by over $12 billion. Clearly it will be hard to maintain our edge without investment. Again, Zakaria's
commentary pointed out that America has slowed its investment in research and development at the very time other countries have accelerated theirs. The U.S. currently ranks seventh in percentage of GDP devoted to research spending.

But money isn’t the only issue. Zakaria talked with the minister of education in Singapore, a city-state that is often compared to the U.S. in education. Singapore is the top-ranked nation in the global rankings of children’s performance in science and math. Zakaria asked the minister to explain why it is that, even though the Singaporean students do so well on these tests, when you look at the same students 10 to 20 years later, few are world beaters. American students, by contrast, test much worse but seem to do better in life and the real world — particularly as inventors and entrepreneurs. The minister explained that both countries have meritocracies. America’s is based on talent; Singapore’s, on test scores. Since there is much to the intellect that we cannot test well, such as creativity, curiosity, ambition, or a sense of adventure, the tests don’t measure areas where America has an edge. The minister further explained that America’s culture of learning challenges conventional wisdom, even to the point of challenging authority. He suggested that these are areas in which Singapore must learn from America. He ended by explaining that the problem in America is that poor children are not brought along and that very bright children are allowed to coast.

America is currently caught up in a frenzy of test-based reform, designed ostensibly to benefit those most likely to be “left behind.” The problem is that this authoritarian model, which emphasizes the achievement of the left brain, is doomed to fail with many of these children. And the failure will not be because students do not test well; there is every indication that, when emphasis is put on tests, the scores rise. Just ask Singapore. The real test will be faced when we ask whether this increase in scores will lead to increased life success for these students.

And this brings us back to the premise of Pink’s work — that the future belongs to the creative. The “test and tremble” model of school reform that is the current craze, which values a score over broader success, is unlikely to move us toward a more conceptual and creative society. In fact, with the emphasis placed so solidly on basic reading and math, the creative activities that Pink espouses (art, music, and creative expression generally) are being squeezed out of the curriculum.

Ellen Langer, in her book Mindfulness, suggests that an education that is based on an outcomes model leads in fact to “mindlessness.” She points out that from kindergarten on schooling usually focuses on goals rather than on the processes needed to achieve them. She points out that, “when children start a new activity with an outcome orientation, questions of ‘can I’ or ‘what if I can’t’ are likely to predominate, creating an anxious preoccupation with success or failure rather than drawing on the child’s natural, exuberant desire to explore.” We know from brain researchers that fear inhibits cognitive ability. An educational model based on coercive strategies is doomed to undo the very thing it is trying to create — a smarter and more capable America.

The major goal of American education under No Child Left Behind is to “close the achievement gap,” which as the minister of education from Singapore noted exists because America has a large underclass that has not been educated to the highest possible levels. This problem is pretty universally accepted. The question is whether an educational model that focuses on outcomes and deficits will close the gap or whether a different approach — one that focuses on a broader definition of education and focuses on assets — will work better.

The irony of our current educational angst over poor and minority children is that the same children who cannot read well can create and remember incredibly complex song lyrics set to hip-hop music. In fact, much of America’s creativity in music came from blues, jazz, rock and roll, and rap — all products of the so-called underclass. Further, children who cannot spell “systems thinking” demonstrate an understanding of the movement of 10 people on a basketball court as they move through time and space at high speeds and are able to anticipate future moves and instantly create elegant responses to them. Children who have trouble following a teacher’s instructions can shift language and culture numerous times a day, and children who have trouble with basic math can create intricate designs and artistic creations.

The good news is that much of America’s creative expression has come from the very people we worry about not having received a great “left brain” education. But as creativity and invention grow in importance, the assets that are already present simply need to be nurtured.

Is there a way for America to rediscover its competitive edge, not by becoming more like the Asians, but by being more like Americans? Is there a way to use the inherent talents that many of our underperforming children exhibit in nonschool activities and bring those talents into the classroom by helping teachers focus on the assets the children have and by honoring their thinking skills and ways of looking at the world? Isn’t it time we started barking up the right tree?