

Preparing students and schools for a radically different future: ten trends will help determine education's role in the 21st century - Education

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WHILE MOST AMERICANS are busy dealing with critical issues du jour, massive trends are shaking the very foundations of society. The world is in motion, changing at dizzying speed. The status quo has become a ticket to obsolescence, and those organizations that spend most of their time defending it will find themselves out of the loop. People will simply go over, around, or through them. It is, after all, the age of the end run.

In fact, as we burst into a new millennium, the exciting task of constantly creating a future is one of the most important leadership challenges we face. Nowhere will these seismic shifts have greater impact than in our schools. Not only will educators at all levels be forced to function within this new environment, they will be expected to prepare students for a profoundly different future.

As schools and communities study each of the following 10 trends, they should ask: "What are its implications for how we run our schools, or universities for that matter, and what will our students need to know and be able to do?"

1 For the first time in history, the old will outnumber the young. In 2000, 27% of the U.S. population was 18 or under and 21% 55 or older. By 2020, 25% will be 18 or under and 30% 55 or older. In 1950, 16 people were working for every person drawing benefits from the Social Security System. By 2030, when the baby boomers are between 66 and 84 years of age, there will be about two people working for every beneficiary. This unprecedented shift raises concerns about issues ranging from the solvency of pension programs to competition for resources between those who are older and those who are younger.

The implications for schools are profound. Education systems will be challenged to deal with growing enrollments at a time when a substantial portion of the teaching force is on the verge of retirement. Demand for adult and continuing education

programs will intensify, and some schools might even offer geriatric day care programs under their roofs. If the schools hope to maintain political support and get the resources they need, they will have to figure out how they will inform, involve, and serve older citizens even better.

2 The U.S. will become a nation of minorities. By 2050, according to the Census Bureau, the traditional white majority will drop from its current 71% to 53%. Students, no matter how multicultural or multiethnic their communities, will need to be ready to live and work in a highly diverse nation and world.

The diversity gap between teachers and administrators and their students is widening. In the early part of the 21st century, one education leader predicts, 41% of U.S. students will represent traditional minority groups, compared to five percent of teachers. An unprecedented trend of this magnitude raises huge questions with profound implications for schools. Will we be able to close the achievement gap among various groups? Are we truly committed as a culture to providing equal opportunity for all?

Currently, one-fourth of all Hispanics in the U.S. live in four counties. Will our nation and our communities become further divided as people find their comfort zone in enclaves, or will we have a gigantic diaspora? Schools need to continue to help diverse people find a high level of common ground. Among other things, this growing diversity will require an even more international focus. Unless we understand the people, histories, and cultures of the world, we may not even understand those in our own communities, including our students.

3 Social and intellectual capital will become the primary economic value in society. Knowledge and relationships are the new coin of the realm, the new basis for wealth. What you know and who you know both count. A prime example of this new economic reality is Microsoft, a company whose foundation is information, ideas, and relationships, not factories. At a World Future Society conference, Daniel McKnight, president of High Performance Strategy Associates, in explaining intellectual capital, said, "You can't use knowledge up. As you use it, it grows, creating a perpetual wealth machine." This extraordinary new economy is held together, strengthened,

and rapidly advanced through wise use of social capital, such as relationships among employees, suppliers, customers, researchers, industry experts, and the community at large.

How will this accelerating move toward social and intellectual capital affect schools? For one thing, educators will need to stay in touch with developments in society to help them better understand what knowledge and skills students will need to be prepared for the future. Schools will be compelled to move away from the factory model, and many already have. Educators and students are learning to collaborate, work in teams, sift through exploding volumes of conflicting information, engage in critical and creative thinking, and use a vast array of technological tools. Every student should leave school with high levels of curiosity and persistence, the real key to lifelong learning. The education system needs to realize that it is one of the primary sources of intellectual capital in every community.

4 Education will shift from averages to individuals. If their children aren't able to do well on the burgeoning number of high-stakes tests, parents will come to school demanding even greater personal attention. In a world of mass customization, standards will likely push school systems toward greater personalization.

Appropriate standards are important, but even those who have staked our educational future on them have become constructive standards critics. They must ask some key questions. Here are a few:

- * Are the standards focused on preparing students for the future or for the 1950s?
- * Will the pressure to do well on high-stakes tests eventually narrow the curriculum to just those things that are tested and show up on the front page of the newspaper?
- * Will children who have problems drop out of school in droves because they can't measure up, or will they get the help they need? (One way to raise test scores is to narrow the curriculum only to those things that are tested and push the kids out who are having a tough time.)

* Will teachers and administrators be driven from the field and aspiring educators discouraged from pursuing an education career because adequate resources are often not provided to help students reach the standards?

Personalization will bring more performance-based testing, and schools will focus on the multiple talents and intelligences that students bring with them to the classroom. The cookie-cutter approach simply doesn't work. At the same time, educators will likely make a concerted effort to educate their communities about the benefits and the limits of current systems of testing. An unbridled demand for uniformity and a growing scoreboard mentality could put a damper on what, until now, has been a highly creative society.

5 The Millennial Generation will insist on solutions to accumulated problems and injustices. The Millennials (or Gen Xers), born beginning in 1983, are showing signs that they will insist on solutions to an accumulation of problems and injustices. School systems that are ahead of the curve will focus on helping these students become civil, responsible citizens with the ability to make change peacefully and democratically.

Generational experts, who have traced trends across several centuries, remind us that every fourth generation has a tendency to repeat itself. Four generations ago, we had the G.I. Generation, the people who, whether on the battlefield or the home front, fought tyranny and "saved the world for democracy."

Already, the Millennials are seeking their own causes. Many, for better or for worse, made their debut demonstrating at world economic conferences during the early part of the 21st century. For the Millennials, a multicultural society, the world order of the post-Cold War era, and the rise of violence and terrorism have helped define their generation. High-speed computers and satellite communication are not necessarily an innovation, but a normal part of their lives. They are connected.

The rise of the Millennials hits schools and society with a panoply of challenges. As they get older and move into positions of national and world leadership, they will be driven by a moral calling to right wrongs and deal with injustices. They will have very large weapons. That means we had better teach them how to make change

peacefully and democratically, or we could end up anywhere from Nirvana to Armageddon.

Astute educators will intensify their civic and character education programs, develop teamwork skills, and help these students understand intergenerational communication. It is certain that, as they try to make massive changes, the Millennials will be outnumbered by older generations.

Looking for opportunities? If schools can convince the Millennials that the best way to create an even better world is to become a teacher or administrator, then our education system could be the big winner as it attracts these energized citizens into education careers.

6 Continuous improvement and collaboration will replace quick fixes and defense of the status quo. Demand for quality, effectiveness, and service is increasing. People expect it in every aspect of their lives, including their schools. No matter how good our schools are today, we will have to make them even better tomorrow.

The push for improvement is fueled by competition, technology, new thinking, and growing impatience among people who want products and services that work, meet their needs, and are delivered on time. If organizations don't continuously improve, they will stimulate those with an entrepreneurial spirit to step in to fill the "opportunity gap." That is as true for education as it is for business.

For schools, that means moving beyond defensiveness and toward solutions. While our education system has done a magnificent job of preparing students for an industrial age, it is now presented with the opportunity of a lifetime--shaping the education system of the future.

7 Technology will increase the speed of communication and the pace of advancement or decline. Twenty-first-century technologies are having a profound effect on every person, organization, and nation on Earth. Those that have those technologies and know how to use them are moving forward at an unprecedented rate. Those that don't are declining at the same accelerated pace.

Scientists are predicting a computer the size of a sugar cube with more power than all the computers that currently exist on the planet, and they are expecting it to be up and running during the early part of the 21st century. If the prospect seems daunting, all we need do is consider how people of 1900 would have felt had someone told them about the developments in communications, transportation, and medical technologies that would change their lives in the forthcoming 20th century.

Nanotechnology--technology at the molecular level--will very likely drive the economy of the future. Who will develop these new technologies? It will be the students who are now in our schools. The Internet and other technologies are bringing an expanded world of information and ideas into the classroom. However, because some students have more technology in their bedrooms than some schools have in their classrooms, they will likely come to class armed with more information on certain subjects than their teachers. That will mean a higher-level role for teachers in their relationships with growing numbers of students--mainly becoming a partner in their learning, helping them turn data and information into usable knowledge and knowledge into wisdom.

8 Knowledge creation and breakthrough thinking will stir a new era of enlightenment. Knowledge is increasing exponentially. At the same time, technologies are making ideas and information instantly available to individuals around the world and in all walks of life. As people discover relationships between and among ideas, information, and experiences, they see things in a whole new light. Fragments come together to create new wholes. That is how knowledge creation and breakthrough thinking take place.

For schools, this phenomenon will mean more teaching across disciplines, greater attention to the multiple intelligences of their students, and a commitment to turning students into intellectual entrepreneurs. It will also mean paying more attention to cognitive research, which tells us that, more than anything else, the brain is constantly seeking connections.

Harvard University professor and biologist Edward O. Wilson has long expressed concern about "the ongoing fragmentation of knowledge." A commitment to

knowledge creation and breakthrough thinking will reverse the process. Anyone with doubts about this accelerating trend should look more closely at emerging occupations, such as bio-informatics or telematics, which are prime examples of disparate disciplines coming together as new wholes.

At the end of a class period, wouldn't it be great if the teacher would ask, "Does what we learned today trigger any ideas for you?" We might find that the world is a bit smarter at the end of class than it was just a few minutes earlier.

9 Scientific discoveries and societal realities will force widespread ethical choices. In a world poised for unprecedented progress, we have seen a mind-boggling escalation in the possible benefits and consequences of our actions. Schools will be expected to model ethical behavior and help their students understand the need to identify the possible ethical implications of their decisions.

Among the ethical issues today's students will face are world poverty and inequities in the distribution of resources; violations of basic human rights; production, distribution, and control of weapons; computer ethics; genetic engineering and cloning; stewardship of the environment; dealing with crime and corruption; and the introduction of new life forms on other planets.

10 Competition will increase as industries and professions intensify their efforts to attract and keep talented individuals. The battle to lure and retain talented people is growing in intensity. Recruiting the more than 2,000,000 teachers and administrators the nation will need during the first decade of the 21st century is fast becoming an issue with profound implications for schools.

Our schools are faced with a formidable recruitment and retention task for several reasons: Growing numbers of educators are retiring; new industries are paying hefty salaries, offering compelling benefit packages, and altering working conditions to meet the demands of diverse generational groups; and unemployment rates are relatively low. In attracting and keeping people--ranging from teachers and administrators to bus drivers and custodians--schools are increasingly on the short end of the stick.

What's the solution? Schools may need to become more flexible, making it possible for their seasoned employees who might otherwise fully retire to stay on the job--but on a more limited schedule. They might consider job-sharing arrangements with other organizations, including businesses. Let's face it, if business is so competitive that schools can't get the people they need, the pipeline that delivers their future employees will go dry. Finally, communities, states, and the nation need to support their schools as they attempt to become more competitive in a world of high salaries and flexible working conditions.

School systems might want to appoint Trends Councils, made up of representatives from staff and community. These councils could study those and other trends, speculate on their potential implications, and provide ongoing advice to superintendents, school boards, and others in the community as they think about and plan for the future. In short, these councils would engage in generative thinking.

These seismic shifts might jolt us into a sense of urgency. At best, they could serve as a launching pad for thoughtful consideration of how the nation's schools and school systems should be shaped to get students ready for the future. The future, after all, is where they'll be spending their lives.

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