

Public Education in the 21st Century, 1(1)

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Abstract

As educators ponder what the future may hold for public education, we need to remember that changes in schools are often responses to changing social, political, and economic conditions--and that these conditions in turn result from technological developments. With more social diversity (related to technological changes in production and other aspects of life), education will also be more diversified. No one knows how future schools will be governed or paid for, but we can expect greater variety than at present. Farsighted educators are anticipating this trend and leading it.

Aside from the public policy aspects of education, we can detect trends almost certain to change education. They are greater use of information technology to locate and transform information and increased understanding among educators of the human brain and internal cognitive processing. These will not be restricted to public education, but will influence learning wherever it takes place.

Educators in many parts of the world, but especially in North America, are worried these days about the future of public education. Demographic and economic changes, including changes in the nature of the student population and in the age and financial priorities of taxpayers, make us wonder whether schools will have the support in the next century they enjoyed in the present one.

As Executive Editor of *Educational Leadership*, a widely-read professional journal, I have been an "insider," concerned primarily with monitoring and promoting trends in education. In the last year or two, however, I have become aware that my "progressive" notions about education are not accepted by most members of the public. If parents and others think schools are wrong-headed and ineffective, they will demand something else. But what will that "something" be? Will we still have public education, and if so, what will it be like?

The re-issued movie of *Star Wars* has been attracting huge audiences across North America with its vision of a future in which people behave as violently as ever but with more sophisticated weapons. We are endlessly fascinated by what the future may bring, especially the ever-more amazing gadgets that will be invented. So is futurism concerned just with the new toys we will

have? Well, in a way, yes. What will make the years ahead different from the years gone by is the tools we will be using--and the way those tools will change the way we live.

As we look back through human history we can see that fundamental changes in the way people lived came about because of the development of the bow and arrow, gunpowder, the printing press, the steel plow, the telephone, the airplane, and so on. Why do millions of people now live in Arizona and New Mexico whose ancestors lived in cooler climes? Because of air conditioning, of course. So when we ask what the future will bring, we are to a great extent trying to foresee what new technological developments will come about and what their social, political, and economic effects will be.

Effects on the Public Schools

Moreover, most of the social changes that result from technological developments directly affect the public schools. The modern world is coping with migrations of people from underdeveloped countries to developed ones, made possible by convenient modes of transportation not available until this century--and educators have had to respond by offering multicultural education and English for speakers of other languages. The invention of comfortable, dependable cars made possible mass migration to the suburbs and abandonment of central cities to the urban poor, so educators are trying to cope with the many challenges associated with urban education. Especially in the cities but also in other communities, educators are seeking ways to reduce violence among young people--violence that is glamorized on dozens of programs sent weekly into our homes by another recent technology, television.

I could go on making connections between what technology makes possible and the resulting social and economic effects that in turn affect public education. I don't mean to be saying that technology only causes problems--this is not a unibomber message--but we have to recognize the direct connections between technology and what it leads to, and not assume that these things just happen. We have massive environmental problems--so massive that we may not succeed in solving them in time to save ourselves--because human beings now have the capability to do things on such a large scale. We can dump millions of gallons of oil on a beach somewhere. We can cut down the rainforests with efficient power saws. The tools we humans continue to invent have great potential for good but also for harm, some of it unanticipated.

Public Education Must Help

So what does this mean for the future of public education? One thing it means, in my view, is that schools have a responsibility to help young people understand this connection. The idea goes under different names--environmental education, global education--and it is not popular with everyone. Some of our critics say we should stick to basic skills and not try to shape students' values and beliefs in ways their parents may not like. To some of them, environmentalism is associated with liberal "political correctness."

I sympathize with this concern. I agree that the person most responsible for a child's education is the child's parent, and that public school teachers should not intentionally undermine what the

child is being taught at home. And I am deeply troubled by the distrust and differences in point of view I see. But I also believe every child needs to understand the circumstances into which he or she was born: we live with millions of others on a fragile planet whose air and water we are ruining and whose resources we are rapidly using up. It's not a matter of individual values; we are all in this together.

I brought it up because it is just one example of a difficult issue: teaching values. You could give other examples that are even more controversial. The question I ask myself is what educators should do who feel strongly about such matters but who believe, as I do, that we do not have the right to indoctrinate students against their parents' wishes.

Social and Political Challenges

That leads me to consider some of the social and political challenges we must try to resolve in the new century. Most of the things I will mention will not surprise you, because they are just extensions of current trends.

The Challenge of Diversity

One such trend, for example, is diversity, which for me raises questions about diversification of schooling and what that means for our historic commitment to publicly supported common schools for all the people. I do not have to be a soothsayer to predict even more diversity of all sorts. Certainly the racial and cultural mix is changing in both the United States and Canada. But we are also seeing more diversity in life styles, including all aspects of sexuality--gender roles, sexual practices, and sexual orientation. Because sexuality is so powerful, and therefore has traditionally been controlled by strong social and religious taboos, the changes we are seeing in society are very controversial--and schools cannot help being involved.

For example, I met recently with Tom Minnery, policy director for the huge and powerful conservative organization, Focus on the Family, in Colorado Springs. He warned me that if the campaign to legalize homosexual marriage is successful--which I think it eventually will be--schools will have to accept it and traditionalist Christians will have another reason to withdraw their children from public schools. He understands that the schools will have no choice but to respond. But in his view, the result will make public schools, by their very nature, more unacceptable to many of the constituents of Focus on the Family. Some would say "good riddance, if that's how they feel"; people feel strongly on both sides of the issue. My point is that such value clashes continue to erode support for public education.

Distrust of Government

That brings us to another trend that, if it continues to grow, puts the future of public schools at risk. It is the growing loss of confidence in government services of all sorts. We see it at every level: national, state (province), and local. People seem convinced that private business can do almost anything better than government. Maybe as a result of the experimentation going on, we will find a new balance, but for the time being, people whose services are paid for through public taxation are on the defensive.

There is even a small but media-wise group working actively for complete privatization of education. The Alliance for Separation of School and State says the reason religion has prospered in the United States is our tradition of separation of religion from government. They say the same thing will be true if we get government completely out of the business of running schools. I do not expect them to win the day anytime soon, but it is an indication of the way some people are beginning to think.

Diversification of Education

To some degree, by the way, I welcome a "market" approach to education. I think that with the increasing differences characteristic of modern society, just as we have diversity in foods, dress, occupations, politics, and religion, we should have more diversity in educational funding, governance, and programming. These days people expect goods and services to be customized to their requirements. "One size fits all" will not do. Instead, I like the idea of schools of choice--not just choice among look-alike schools, but alternative forms of schooling. One way to get them is to have charter schools--schools chosen both by parents and by teachers that are freed from adherence to most external regulations in exchange for a specific written commitment to an authorized agency to perform a particular educational mission.

Besides variations of the charter schools idea, we will undoubtedly have more home schooling, because of parents' doubts about public schools but also because of the growing number of people who will be working in their homes rather than commuting to jobs somewhere else. With more home schooling, public schools will undoubtedly provide a greater range of services to parents who are educating their own children. It is already happening in some places. In Des Moines, Iowa, certified teachers visit home schools, not just to inspect them but to offer supplementary teaching and support. And the Snowline district in California has a computer center that helps homeschooling parents and students learn to use computer resources. In fact, the day may come when public schools offer a wide range of services from which parents can pick and choose to fit their personal circumstances and desires--in a way, like a travel agency that asks you where you want to go and then helps you get there.

Many teachers and administrators would object to such a concept. They rightly point out that education is a public good as well as a private good, and that the public which pays for and governs a service as important as education has a right and a responsibility to shape it. I agree. Public agencies can and should establish conditions for the services they provide. And they may offer recommendations, in some cases very strong recommendations. But when they impose requirements against the wishes of their clients, they make enemies--so they should not do so lightly.

I perhaps should make clear that in calling for more choice I am expressing a personal view, not an official position of ASCD. A proposed position expressing cautious, responsible acceptance of public school choice will be discussed, and perhaps adopted, at the ASCD Annual Conference in Baltimore in late March 1997.

What Educators Can and Cannot Control

If present trends continue, there is a strong possibility that in some communities, conventional public schools will become a last resort for those who cannot afford or do not care enough to pay for better schools. Most of us would call that a tragedy, but things are headed that way. Educators are not in control of all the factors that will affect the situation. We will not have much direct influence on future technological developments or on the social, political, and economic changes they will bring.

This is a depressing prospect, and I cannot offer a simple recipe for how to make things come out right. I can only observe that educators must not take public support for granted. Some issues will be settled by the democratic process, in which the majority of people impose their will on the majority (with due consideration for minority rights). Other issues will be settled by specifically providing for differences. Education officials and policy makers will need to negotiate with parents and voters which issues are settled in which ways.

Learning in the Future

I have concerned myself so far with public education in the 21st Century. That modifier immediately raises issues of decision making, funding, and politics--but I want to turn from the public policy aspects of education to the teaching and learning part. We do not know who will be providing education, who will be paying for it, or how decisions will be made about it, but there are at least two ways in which technology will almost surely have a dramatic effect on what and how students learn.

The Promise of Information Technology

The first, of course, involves the use of information technology itself. Technology is changing the way we store, retrieve, and process information --and information, broadly conceived, is the raw material of education. In many of today's schools, students are using computers for word processing and data processing. The really lucky ones are learning to use the almost infinite resources of the Internet. Lots of others are learning basic skills with powerful integrated learning systems that make drill and practice interesting and adjust the level of difficulty automatically. All these things should be fully available to every student, not just the lucky ones, and eventually they probably will. But there will also be other applications, some of which we cannot even imagine yet.

In an interview in an issue of Educational Leadership published in the fall of 1995--a long time ago in computer history--Chris Dede (1995) told about his work in what he called "immersive distributed learning environments." That is another way of saying "virtual" environments: the use of computers with helmets and gloves that give you the feel of actually being someplace that you otherwise could not be, such as in the middle of a human cell, where you can walk around and touch things to see how the cell is constructed. You may have seen, or heard about, a video made at Harvard University showing that undergraduate science majors at a prestigious school like Harvard could not explain why it gets colder in winter and warmer in summer, and so on. Maybe

with virtual learning, students will better understand scientific concepts that are otherwise just words.

Understanding the Human Brain

The second exciting development is our growing understanding of the human brain. Again, my mention of this topic will not surprise you; we have been hearing a lot about the brain in recent years, and we're sure to hear much more. A recent issue of Time magazine (February 3, 1997) had a cover story about baby's brains, and almost a year ago Newsweek had one much like it. I attended three invitational conferences last summer at which educators and neuroscientists discussed how educators could use what researchers are learning. I concluded that it is difficult to translate knowledge of neurons and synapses into practical teaching methods. Still, the Time article is a product of those conferences, and it makes a strong case for paying much more attention to the development of children in the years before they enter public school. In fact, the most astounding growth in the brain takes place between conception and age three. In light of that knowledge, Time says we need to take another look at our child care and welfare policies.

And that is just the beginning. An army of scientists is studying every aspect of the brain in ways that were impossible ten years ago. With so-called MRI (magnetic resonance imaging), researchers can actually watch what is going on inside the normal brain. Those who try to keep up with scientific literature on the brain--people like Bob Sylwester of the University of Oregon, who wrote the ASCD book **A Celebration of Neurons**, and Renate and Geoffrey Caine, who wrote **Making Connections** and have a new book coming out from ASCD in April, say that educators in the future will know a lot more about brain functioning and base their practice on it. After all, those are brains we are teaching.

The End of Work?

I want to mention one more aspect of the future that I have saved until last because it is the least well established and most controversial--but if we are to design schools for the 21st century, we must have some idea what life will be like in the years ahead. How can we educate students without having some idea what we are educating them for?

I have offered my view that education has to adapt to social, economic, and political circumstances, and that those circumstances are often the result of technological changes. That idea is consistent with the thesis of Jeremy Rifkin's book **The End of Work**. Rifkin, who lives in Washington, DC, and has been working with several education groups, including ASCD, reviews employment trends. He cites data showing how in the late 19th and 20th centuries people moved off the farms and into the cities until we now have only about 2-3 percent of our population engaged in agriculture. He also cites figures showing that the same thing has been happening over the last 30 years to industry. Again, we have all heard about the drop-off of industrial employment and the rise of employment in what is called "service" work.

What Rifkin adds is that service jobs, too, are being automated just as surely as the factory jobs are. You know that most people do not go into banks anymore but instead use automatic teller machines. We do not need nearly as many engineers as we used to, either, because their work

can be done more efficiently with computer-aided design. And so it goes. Rifkin argues that we are used to thinking in terms of two sectors: the private sector and the public one. He says we need to recognize that more and more people are working in the third sector, what he calls the "civic sector." You might also call it the nonprofit sector. He believes schools should be preparing students right now for a world in which a third or more of them will not be able to find regular jobs. They should be learning how to serve others in volunteer work--what is sometimes called "service learning." And he has some ideas about how this should be paid for--which make sense to me, although I am not optimistic that his suggestions will be widely accepted in the current political and economic climate.

So, at a time when the United States government has just made a dramatic change in our welfare system based on the idea that if people want to eat they should get a job, we have a very credible prediction that things are actually going in the opposite direction: there are not enough jobs to go around already, and there will be far fewer, at least in government and business, in the future. Relate that to Time magazine's call for rethinking child care and welfare reform, and--stay tuned.

Summary

In trying to foresee what may happen in the next century, I have said there may be a difference between the future of public education and the future of teaching and learning. We may or may not hold on to the idea of a quality education for the children of all the people, rich and poor, at public expense. But whether we do or not, we are almost certain to see much more diversity in the way that education is provided. And whether or not there are public schools like those we know, there will be children, who will need to know more and more in order to take their place in this complex society, which means there will be teaching and learning in some kind of a suitable setting.

And just as technology will create conditions, good and bad, that will affect institutions of learning, technology will also help us improve the learning process. We will have new tools far more powerful and sophisticated than today's computers and, also thanks to modern technology, we will know a lot more about how our brains actually work. So with all the challenges we will face, I expect we will also have new knowledge that we can use to help people learn.

In my view, those of us concerned with public education need to:

1. Recognize the connection between technological change and the resulting social and economic changes education must deal with. As a profession, we should consider what further changes are likely based on future trends.
2. Be conversant with emerging knowledge about the human brain that help us understand the learning process, and with new uses of information technology that promise to revolutionize what we still call "instruction."
3. Make even greater efforts to communicate with members of the public about the needs and prospects of public education, including listening as well as telling.
4. Support differentiation and choice in public education. The Edmonton, Alberta, public schools are a model of such responsiveness.

5. For students whose parents accept a future-oriented curriculum, include service learning and other ways of preparing for life in an expanded civil society.

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