
The Effect of the Internet on Education

By
Gov. Lamar Alexander

The following remarks were excerpted from a speech given by former Secretary of Education Lamar Alexander at Sun Microsystems in March 2001. Gov. Alexander is also the former governor of Tennessee and former president of the University of Tennessee. He is now an entrepreneur and a professor at Harvard University.

This white paper is still a draft: Gov. Alexander may make some minor changes within a month. We will send the final version.

July, 2001

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I am a former university president who put distance learning at a high priority, but it was on television not on the Internet. I went in thinking that the way you change schools is school choice, charter schools, decentralization, and higher standards. But I have come out thinking that maybe technology is the secret weapon for changing the American school system.

The Internet and education don't just fit; they were literally and specifically made for one another. In a larger sense, they have a remarkable fit.

Knowledge has always been the privilege of the elite. Young English gentlemen took the Grand Tour of the European continent to finish their education. Philip of Macedonia sent his son Alexander down to the philosophers of Greece so he could know all there was to know before he went out to conquer. Today, knowledge is still the privilege of those with money. Parents want their children to go to the best colleges and universities. Knowledge is the privilege of those with money.

But today the Internet promises that everyone can take the Grand Tour; that knowledge is not anymore the privilege of the elite; that the primary location of the knowledge in the world will be on the Internet.

This must be the heyday of education in the USA. This has got to be the first time that an education bill – The Leave No Child Behind Bill of 2001 -- was the first bill that a new president has sent to Congress and was received so warmly by Congress democrats and republicans. And in the last presidential election, Bush and Gore fought over education. That is the first time in the history of United States of America that education has risen to the top of the presidential issue heap. There are only two issues in a presidential campaign: peace and prosperity. But this time it was education.

You have the Internet giving every access to knowledge, and you have the heyday of education. That's a real blockbuster. And on top of that, we have the education industry panting at the prospect of all this money. Here is \$800 billion spent annually in education in the U.S. Already we have 95% of American schools wired, 63% of classrooms wired and 40% of college classrooms wired. Laptops are appearing in universities in the U.S. and in Great Britain.

Here's our scene: Endless series of telephone conference calls with everyone talking about everything everywhere and all the world's knowledge known to everyone who has \$50 for a handheld device. If all that comes true, that will be remarkable.

I want to suggest another way we can see the effects of the Internet. Here's what my own life looks like: I recently received a phone call from a man offering a "virtual school." He wanted advice. I kept think is "Is that good or bad, comforting or frightening, will it replace or complement existing education?" I thought of which of the companies I advise that I could put him in touch with. I thought of one company in Knoxville that provides high quality, low cost streaming media. Virtual schools are going to need a lot of that. Another one in Philadelphia has won a prize for an online curriculum replacing textbooks. I referred him to a company in Tennessee that owns and operates the network trying to make it easier for teachers and parents to do a better job of helping students by using technology. I referred him to a company whose business is to help colleges and universities do e-procurement. That was just the result of one call.

The next day I had a call with the chairman of the e-procurement company. I had a board meeting with a company in Boston that uses the Internet to help provide teacher training. If there is a killer sub-application for the Internet, I want to suggest it is in the area of teacher training. I have appointments to see an

endless stream of people who have a better way to help children in K-12, including a system to help with teacher absences.

That's just part of my life. Then there are three days at Cambridge. I put my syllabus online at Harvard last week trying to stay little bit head of students. I exchanged notes with a course assistant. I made an appointment to see the author of a book. I made a proposal to create a center at Maryville College in Tennessee based on that professor's book. I looked up the arts and sciences catalog. I researched my readings and added them to the list of what the students should do. I emailed my guest speakers.

And I received an email from my son at the University of Texas in Austin. At Texas they have 50,000 students. He was accepted online. He found out he was accepted into the honors program online. He communicates with his professors online. He gets his grades online. He enrolls in his classes online.

There are a lot of forces making this obvious fit between the education and the Internet easier.

10. Lower cost – search engines are cheaper than books
9. Teachers have more control – The Internet may be the most important engine of school reform, because teachers are not threatened by it. Teachers can take what they want off the Internet
8. Networking – This is how the brain actually works
7. Off-site higher education profit center – Schools believe they can make money for themselves through distance learning
6. On-site higher education -- Doing what you're doing, better. The Internet is useful for efficiency. The Internet is helpful in keeping the customers you already have, and in no place will this be more true than on the university campus. I remind you of my interactions at Harvard over the Internet.

5. e-commerce – The private sector is ready to help.
4. Demand for higher education, especially outside the U.S. -- This seems to me to be a force that will make the Internet and education fit together.
3. Corporate training budgets -- Bill Gates says if you take the 20 best people away from Microsoft, you have an unimportant company. Companies are learning of the importance of human capital. There are 200 private companies ready to help you if you want to train your employees over the Internet. Investment bankers say it will be a \$20 billion budget by 2005.
2. New K-12 standards
1. \$800 billion growing fast. Education responds to money.

There's 15 to 20 years of buildup for new higher standards for children to learn what they need to know. Now the issue is what do you do with those standards? One application of the Internet is to help the schools of America and the world help children learn. Our vision should be to have individual education plans for each child. The Internet gives us a way to do that.

Education is about 5 years behind the business world in terms of what's on the Internet. We have largely just moved textbooks online. We've got a long way to go. But we could have customized home pages. What if we had a personalized curriculum for every student? We could go along individual tracks for every student. You could take your smart card from one school to the next with your own education plan. In addition to that, not only will we be measuring the individuals, we'll be measuring the schools. We can now let the data speak for itself.

There are a number of things making the Internet/education fit harder:

10. Pornography – This is one of the main activities of students using the Internet in schools
9. Shortage of IT people in schools
8. Cost of course preparation – It is difficult and time consuming to produce courses for the Internet.
7. E-commerce – We're finding slow decision, slow pay, low prices.
6. Fragmented Market – You have to sell the same thing thousands of times.
5. Economic slowdown
4. New digital divide – It will take up to \$7 billion to upgrade current K-12 equipment
3. Confusion in purchasing and use
2. We forgot teacher training and parental involvement
1. Behavior change and clash of cultures -- Entrepreneurs don't want to go into business with any well-respected university in America to develop online education, because the schools are anti-entrepreneurial. The culture of the college and the university does not fit with entrepreneurship.

The Future

From my vantage point I see....

10. Consolidated education companies
9. More online textbooks and purchasing
8. More corporate training – The discipline of the corporate bottom line ought to move human behavior more rapidly to what happens in schools and universities
7. More efficient U.S. higher education
6. More online library services
5. Wireless on-site/online tutors – I expect the combination of tutors and Internet learning
4. More demand for K-12 standards – The Internet can be involved in helping students meet standards
3. More government funding for technology
2. More K-12 teacher training – If this doesn't happen, nothing will
1. More online higher education growth outside the United States.

There are a few runners up

- Online English learning
- Adopt-a-school training in IT – If companies want to partner with schools, they should help them with their IT.
- More designers for online media – Migrating education online requires creating a new product, and that will require creative design talent.
- More centralized K-12 standards
- More centralized K-12 networks – Small school districts can't handle all this.
- Decentralization of content decision-making – This will free the teacher and the parent and the principal to be more innovative and professional.

Robert Putnam at Harvard has written about the decaying social capital in America. He says we have become increasingly disconnected from our families and communities. This is visible in declining membership in PTA's, churches, political parties and bowling leagues. Decaying social capital means more teen pregnancy, teen suicide, low birth rate, low quality neighborhood and lower education performance. He's telling us what we already knew: If you want a child to be educated, you're better off with an active interested parent, teacher and community.

In the last century, Putnam says, the same thing was happening. And at that time people sought reform through organizations like the Red Cross, the Urban League, The Knights of Columbus, the YMCA. So the question for us might be, "Is the Internet this century's Red Cross or the Urban League or will it finish off what's left of our social fabric? Will the computer-mediated information breed new and improved communities, or will it weaken already weakened community structures?"

Putnam sees four challenges:

1. Digital Divide – Putnam calls it Cyber Apartheid, but he says we can fix it. If we can have televisions and phone in every house, we can all have handheld devices.
2. Lack of face-to-face non-verbal communication – Body language is not a part of the Internet
3. Cyber Balkanization. Will the Internet encourage us to get in our own little groups and not socialize? Will we not be able to say, "We are all Americans?"

4. Will the Internet in education prove to be a niftier telephone or a niftier television? Will it be active social communication or private passive communication?

Dr. Putnam says 42% of Internet users watched less TV and only 19% read fewer magazines and newspapers. But other studies say the Internet causes isolation and depression.

I think back to my friend with the virtual school. If the virtual school is for complementing and encouraging communities in America, then I think he is very likely to succeed. And who will answer the questions? Dr. Putnam says in his book *Bowling Alone*, "It's not what the Internet will do to us, but what we will do with it."