

Reaching the President's Technology Literacy Challenge: What's Next?

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Abstract

Linda Roberts, the U.S. Department of Education's Director of Educational Technology, introduced the Families, Technology, and Education conference by discussing the Clinton Administration's policies and goals for technology use in schools. Issues discussed include equipment and accessibility, teacher training and professional development, and integrating computers into the curriculum. The government's Technology Fund, competitive grants, the education rate, and equity and quality concerns are also briefly discussed. This introduction concludes with the observation that the bottom line of all efforts to use technology well are to make sure that there are benefits to all of society—not just to learning in classrooms, but to learning for the rest of our lives.



Introduction

What I would like to do in the short time I have is give you a sense of what we are trying to accomplish and what's happening that I think is important in terms of both policy and programs.

I want to talk about why technology matters and point out some of my concerns—because there always are concerns. Finally, I want to talk about what I think you all can do to help me, because we don't do it all in Washington—you do it in every one of your communities.

Goals

What are our goals? What are we trying to do with technology? What we've worked on so far—and please understand that we can do much more—is the K–12 education system. This is the area where we thought that technology could make the greatest difference. We began 3 years ago and took a year and a half to develop a strategy based on what we learned in meetings across the country, hearings, forums, and several month-long seminars online. We talked to school board members, to parents, to teachers, to students, and to industry leaders, and civic and local government leaders. We talked to

everybody who would have a stake in helping us think through technology use. It was amazing to me how consistent the messages were about what we have to do to really make technology make a difference in education.

Equipment and Accessibility

The first message was that we have to get technology into the schools so that it is both ubiquitous and accessible. This means getting modern computers into the classroom and getting those classrooms connected. Even if there are computers in the lab, it doesn't necessarily mean that they are available to students when they're doing their work. (As we were doing this, the whole phenomenon of the Internet was just happening literally under our feet. Remember this was about 3 years ago.)

Professional Development

The other message we heard over and over again was that if we don't help teachers learn to use technology, we might as well not buy one computer or lay any cable out there. Training is taken for granted, and we don't really invest very much in professional development overall. But this is an area where we must invest in training and support—

concentrated effort and support and continued learning, and continued evolution of resources—because everything keeps changing.¹

Most importantly, there's got to be support. I don't think teachers are any different from anybody else—we all learn incrementally; we don't learn everything all in one day or one week, or even in one year. People started to tell us that when you look at the technology budget that's in place, you should really worry if there isn't about a third of the budget devoted to *people*—to support, to training, to hand holding, to curriculum development. The average is somewhere around 10%.

Technology as a Means to an End

The last thing we heard over and over again, and particularly from the research community and from the school districts who had already been there, was that we must not lose sight of what we are trying to accomplish educationally.

When we started to look at some school districts using technology successfully, we found that when you come into the school and you talk to people about what they're doing, they never talk about technology. Technology is there, but what they talk about is their curriculum goals, their content goals; what they're trying to accomplish; what they think students should be able to do with these resources, what skills they need to have, what knowledge they need to have. It was clear to us that we had to somehow find a way to make the connection between educational reform—the standards, the things you try to accomplish educationally—and the applications of technology.

Recent White House Initiatives

Technology Fund

We've been very successful in the budget so far. We have a 5-year, \$2 billion Technology Fund that goes to the states. The smaller states get just minimum grants in the first year. The very small states (by population) receive grants of a million. The larger states receive grants between 14 and 16 million. That was \$200 million a year. This year, we hope it's going to be \$425 million.² Everything will double. What's so encouraging to us is that this money is leveraging unbelievable resources at the state and local levels. The investment is much larger there. Federal funds have acted as a catalyst and in some cases the glue that brings things together.

The other thing I'm very encouraged about in terms of the Technology Fund is how much of the money is actually being used for professional development.

Competitive Grants

The second program that we were able to put in place was a competitive grant process to allow educators and school districts to live out their dreams and to develop a vision about technology and its compelling applications across the curriculum. The grant program was intended to encourage school districts to go out and seek partnerships with other districts, with libraries, with museums, with computer companies, with software developers, with telecommunications providers, with colleges and universities. We have had three rounds of these Challenge grant competitions, and every year, they've gotten better and we have received more applications. This past year, we received 625 applications.

We feel very good about what these projects are doing. What's even more exciting to us is the number of projects we could fund. We have about 62 projects overall, but they involve hundreds of school districts and hundreds of individual business high-tech partners. It's like venture capital for education, for *public* education. The grant application has to come from a school district.

As I said, we have 62 of those projects, and we expect to do another round this year. We've asked for enough money to do what we call the fourth round.³ It looks like Congress is going to give us an extra \$30 million to do a new kind of Challenge grant competition that is going to focus on new models of professional development for both teachers in teacher education programs and for teachers in the field.

E-Rate

The last thing that we have put into place is probably the most momentous of the policy and program initiatives. What I'm talking about is the Education Rate (E-rate). How many of you know what the E-rate is? In a nutshell, the E-rate is an unbelievable bargain that we struck in the passage of the Telecommunications Act.⁴

In the early stages of the discussions about the Telecommunications Act and the potential that we might have there to do something, it turned out that data were very important. I met with the head of the

National Center for Educational Statistics, who did a fast response survey to find out how many schools and classrooms have access to the Internet. As a result, as the Telecommunications Act discussions were moving along, and we were starting to propose the idea that this universal service fund should support affordable access for schools and libraries, we had the data, and we were able to say, "Only 3% of classrooms have access today. And the reason more don't have access is because the costs are so high."

In addition to this survey, with the help of many people like you who were on the Internet, we found out what schools were paying, per month, for Internet access. It was amazing. Costs ranged from nothing in some cases, because they were able to link up with a university or they found a patron, to about \$200, to as high as \$2,000 per month. We were able to show how many people were disenfranchised because of the system that was in place. We convinced Congress that the E-rate was worth doing. Never before have we had a Secretary of Education testify before the Commerce Committee, but Secretary Riley did, and he convinced them that this was an opportunity for all of us—that it was a win for the telecommunications industry because ultimately this would expand their markets—and it was a real win for education because we would level the playing field for everybody.

In the process of the discussion, we had a lot of help from the American Library Association, and very quickly we became convinced that public libraries absolutely had to be in this equation. This was an interesting point at which we almost lost it all because everyone marched up to the table and said, "Me too." The whole idea would have blown apart, but the Secretary very strategically said, "Let's start here. Let's get schools and libraries, schools and libraries." That's what we kept pitching, and we've done it.

Equity and Quality

Why do we think having technology in our schools is important? There are many ways this technology can significantly contribute to our schools' effectiveness and to real learning across the curriculum. It will serve children well for the rest of their lives.

I started to say before that, with technology, there always remain issues. I think that we are on the

road; I think we have very good models for what to do; and I think that we can make it happen. But what I worry the most about are two things. One is, of course, the issue of equity.

The other issue is quality. The quality of what we do, the content of what we do, is critical. Particularly if we look at the Internet and what's happening with the Internet, we can go two ways. We can let it become overcome, overblown, or overwhelmed by what I would describe as the not-so-great and in some cases harmful resources that we don't want any of our kids to have access to. The good news is that the Internet is a technology that has tools in it that allow the education community—broadly that's K and beyond, including libraries, museums, and all the institutions that have a stake in learning—to be contributors to and developers of the resources that can be out there. But I will tell you that I think we are still investing far too little as a nation in high-quality content and in high-quality resources.

If you ask me what I'm going to be concentrating on in the remaining 3 years that I think I have with this job, it's going to be to work in these areas. I think the equity issues are going to be OK as long as we are vigilant in our communities, vigilant in playing out the E-rate, and in encouraging universal access. We have to get technology into our communities; we have to get it into our libraries; we have to get it into our schools. We can't allow what looks like the demographic profile of today to remain the profile of tomorrow, which is if you are moderately wealthy and beyond, you are 7 times more likely to have a computer in your home and even 10 times more likely to have Internet access than if you have family income below \$25,000 a year. We know we can't just allow this to continue. We've got to invest in our communities.

Conclusion

I think that one of the ways we can proceed is to build partnerships through our schools, through our libraries, and through our communities. These partnerships will build the kind of foundation for learning and resources so that every student, every family, and every community has the benefit of these technologies.

I was just at the Star Wars opening at the Smithsonian Museum, which I know is going to be visited by millions of people. You know what the real

message is in this Star Wars exhibit? It's a message about myths and society and culture and ideals. What is so amazing about what George Lucas and all those creative people did in the Star Wars trilogy was that they used technology to tell an incredibly powerful story. They used characters, ideas, and myths to engage many, many people in society. Technology was used to convey powerful ideas. I think that the bottom line of all of our efforts to use technology well is in fact to do good, to make sure that we get benefits, substantial benefits, to all of our society—not just learning in classrooms, but learning for the rest of our lives. We're on a really great adventure.

Endnotes

¹In FY99, \$75 million was appropriated for a new program, "Technology for Tomorrow's Teachers," which will focus on technology teacher training for prospective teachers.

²\$425 million was appropriated for both FY98 and FY99.

³Congress did appropriate the extra funds, and 20 new grants were awarded in FY98 focusing on professional development. Also, a new competition will be run in FY99.

⁴The E-rate is now being implemented in schools and libraries all across the country. In November 1998, funding commitments totaling \$1.925 billion started being distributed.

