# Reviving the Conversation:

Preparing Students for the Future through Digital Inclusion

Introduction

Classroom technology use has evolved from fixed computer labs, where classes are scheduled one at a time and students learn word processing and typing, to one-to-one computing programs, where all students and teachers are provided with a computer providing software applications, Internet access and online research materials to work collaboratively anytime and anywhere. Studies show these programs work. A Mediamark Research Inc. report suggests that spending time online helps children ages six to 11 develop the skills, knowledge and self-confidence they need to fully participate in the world around them.[1] Anecdotal stories testify to rich, complex learning experiences. For instance, at Franke Park elementary school in Fort Wayne, Ind., third-grade students learn the relevance of math and science firsthand as they use high-speed Internet video conferencing to travel with NASA engineering teams and visit some of the most remote places on Earth, such as Antarctica.[2] Yet such programs remain an exception rather than the rule.
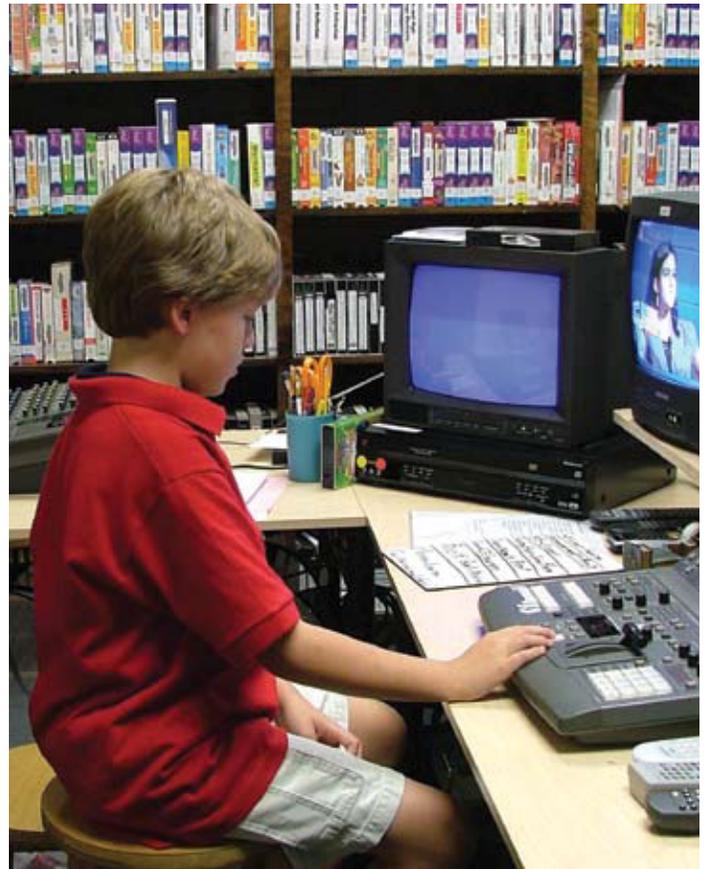
Access to the Future

Eileen M. Lento, Ph.D., is an educational strategist for Intel Americas who continues to raise her voice in an effort to revive the public digital debate, and to inform a nation of the importance of technology access to train the engineers, designers, doctors, mathematicians and scientists of tomorrow. Lento is convinced that access is not a luxury, but is critical to preparing today's students to work in the 21st century. She boldly states,

Technology — both access to it and the understanding of it — will increasingly define our national competitiveness in this ever-shrinking world. Our children cannot succeed in the workforce without computer literacy. Yet, in our country, as many as 20 million households with children do not have access to computers and broadband at home. If we are to succeed in this new century, all children in the United States must have access to the technology that will be so much a part of their future.[3]

In this same vein, following is an interview the Center for Digital Education conducted with Eileen Lento. Her responses highlight the importance of digital inclusion and its potential impact on the future of our students.

Q: How would you define digital inclusion?
A: By some estimates, as many as 20 million children do not have access to home computers and broadband. While this may have seemed a luxury even just a few years ago, today it is rapidly becoming a necessity. Technology — both access to it and the understanding of it — will increasingly define our national competitiveness in this ever-shrinking world. Our children cannot succeed in the workforce without computer literacy. We must include them in the digital present to make sure they have the skills to contribute to our future knowledge economy.

Q: Why do you think digital inclusion is an overlooked need for U.S. education?
A: We have not done a very good job of educating teachers and school administrators on the role of technology in education. In some ways, we are hurt by our country's past success in getting computer labs in many schools. Now, when we talk about technology for education, school boards often feel they've addressed it with a few computers in labs and Internet connections.

We need leaders in education to understand that the way we equip our students with technology needs to change, just as technology has changed. If students are to learn the skills needed for tomorrow's workplace, they need computers in their hands, not in computer labs. And they need to be able to use these computers to connect to the Internet at home as well as at school. This means getting computers to all students, regardless of their socioeconomic status.

Q: Why is it so important that students have full-time access to technology?
A: Early on, the Internet was something of a novelty. Now it is the primary way we communicate, access information and conduct business. The Internet gives students in remote, rural towns access to the Smithsonian. It provides students in the smallest school districts the ability to reach math tutors anywhere in the world. It can allow parents to review class assignments, attendance and test scores every day.

Q: Paying for technology has been a difficult problem in the nation's K-12 school districts. What perspectives can you share from the private sector and from around the world about how the challenge of funding could be tackled?
A: We have to get past the idea that a computer for every student is impossible to achieve. School districts get stuck with this kind of thinking, and never have a chance to explore all the possibilities. Parent purchase programs, low-interest loans, corporate sponsorships — all have been implemented in other countries, and some even in this country. School districts should take advantage of the fact that there are many successful programs that can be replicated.

Technology companies such as Intel also have a role to play. We need to take the mystery out of buying a home computer. It is baffling to try to buy a home computer. There are dozens of options for memory, disk size, soundboards, video boards and operating systems. We need to give school boards, parents and students easy choices for purchasing computers. And we need to make the computers more affordable for parents and schools.

Lento's responses echo a current theme in the national education conversation: if schools are to prepare all students for the challenges of the new millennium, educators and community stakeholders must become engaged in a deliberate process of preparing students to learn, work and live successfully in a knowledge-based, global society.

Cooperative Purchase Programs

Although the benefits of education technology programs are well-documented, budget worries keep many public school districts from pursuing and implementing them. Maine spends upwards of $11 million annually on their one-to-one computing initiative.[4] However, some districts have used imagination and unconventional partnerships to create one solution to get technology into the hands of students: cooperative purchase programs.

Fairfax County Public Schools (FCPS) in Virginia is one of the largest school districts in the United States, with a student population of 166,000. While the median household income of the county is more than twice the national average, there is also significant poverty, with some clusters having as many as 70 percent of the students qualifying for free or reduced lunch.

Dr. John English, former superintendent of the district, knew he needed to get technology into the hands of the students. "High school students are at a serious disadvantage if they don't have Internet access at home. We needed to get computers into the homes," English stated. He wanted to give parents anytime access to their student's information; he wanted students to have access to the tremendous educational resources the Internet offers. English looked at several options, including using refurbished computers. However,

refubrished computers had no support or warranty. Instead, he began looking for a way for parents at all economic levels to purchase new computers.

There were two major challenges: money and, equally important, the mystery of the PC. "We found that many parents had the funds. What they needed was someone to explain what to buy," explains English. The solution came from an innovative partnership between the school district, Dell Inc., America Online (AOL) and Apple Federal Credit Union (FCU). Apple FCU is a local credit union with student-run branches at several high schools. Dell provided several standard configuration options; AOL provided one year of free access; the credit union developed a two-year no-interest loan program. Then the district held an informational fair.

Dell representatives were on hand to help parents pick out computers. The student-run Apple FCU branch was open to process all loan applications during the fair. Apple FCU structured its loan requirements to meet the needs of low-income families. "We developed a loan program where the qualification was simple and the loans could be approved on the spot," says Mike Engly, business development specialist for Apple FCU. "The vast majority of the loans were approved, even for families that would not usually qualify for a loan," Engly explains. Computers, complete with a two-year warranty and technical support, are delivered directly to the buyer's home.

The workload for school district personnel is eased because the business relationship is between the provider — Dell and the credit union — and the family. This frees the district to spend their time helping broaden curriculum to include technology-enhanced offerings, spend time developing parent information applications and other valuable initiatives. The program has been so successful that is now being expanded to other district schools.

Bridging the Divide — International Imperatives

Other countries have also recognized a new approach to obstacles of funding. The lessons of innovation, ingenuity and cooperation they provide can be applied anywhere.

France wanted to improve the offerings from its universities through technology, and to encourage technology adoption by students. To accomplish this, the French Ministry of Education installed Wi-Fi at all universities. The ministry also established incentive programs for students to purchase laptop computers. In less than nine months, notebook ownership doubled from 8 to 16 percent.

Similarly, the Brazilian government developed a program called *Escolas em Rede*, or Networked Schools. The program involves collaboration of local and international vendors and various government agencies. Program results include technology in rural areas, computers and training for students and teachers in thousands of schools, infrastructure and Internet connections.[5]

Creative Offerings at Home — New York's Technology Placement Program

The Technology Placement Program in New York, commonly referred to as NYTPP (www.nytpp.org), is a public-private partnership between New York public schools and technology corporations, including Intel, Dell, Microsoft and Adobe. The goal of the program is to enable teachers to have access to the technology resources they need at school and at home.

Rather than simply speaking to teachers' needs, the technology placement program offers reduced-price computers and software tailored specifically to meet instructors' demands. Because teachers do most of their classroom prep work at home, it is imperative that they have access to state-of-the-art technology to help them stay organized, conduct research and monitor student progress. Technology "bundles" are also available through the program, which include advanced software, helpful training and computer support.

The benefits of the TPP program for New York teachers include:
- professional development and training,
- discounted PC bundles that include hardware and software,
- Adobe digital classroom bundle,
- Microsoft Office Student & Teacher Edition,
- a custom TPP portal site that provides teacher resources and training opportunities,
- business-class hardware,
- a single-use coupon for 10 percent off Dell electronics and accessories when teachers purchase a Dell bundle,
- dedicated account team,
- service.

The objective of TPP is to provide teachers the tools and training they need to increase their instructional ability and familiarity with 21st century resources, enhancing teaching success in the classroom and passing that success on to student learning. Stan Silverman, director

of technology-based learning systems for New York Institute of Technology, believes, "The TPP program will afford Teacher Centers the opportunity to positively impact the ability of educators across the state to bring technology into their classrooms and improve the performance of their students." He continues, "We are excited and proud to be able to enter into these wonderful partnerships and look forward to adding to the list of offerings in the TPP program."

Conclusion

The public conversation about digital inclusion got lost in the crises and revenue collapses of 2000 to 2004. It needs to be revived. New, innovative purchase programs can help get computers to students, and their parents and teachers. The world of the future will require students who are not just tech-savvy, but are trained to thrive in the global economy. The students and instructors of tomorrow must be prepared, and adequate preparation includes access to the best resources available.

Endnotes

[1] "Digital Culture," *Government Technology* magazine, June 2006.

[2] Wallendorf, Liz. "Hoosiers Go High-Speed," *Converge* magazine, Fall 2006.

[3] According to the Organization for Cooperation and Economic Development, in 2003 (the last year for which statistics have been recorded), 65.3 percent of U.S. households with children had access to the Internet. http://caliban.sourceoecd.org/vl=19119931/cl=15/nw=1/rpsv/scoreboard/gd07b.htm.

[4] *Toward a One-to-One World: Mobile Computing is the Lifestyle of Learning.* Center for Digital Education. http://www.convergemag.com/blueprint/images/CDE05_INTEL_One2One_12%209.pdf

[5] *At home with IT: how governments make the information society happen.* A report from *The Economist* Intelligence Unit, March 2006.