Get Cell Phones into Schools

Forget one laptop per student. It's time to embrace the device that kids are expected to put away when they get into the classroom—the cell phone

By Cathie Norris and Elliot Soloway

Evidence abounds that many schools don't consider technology central to their core mission.

Mobile technologies such as cell phones, digital music players, and handheld gaming devices are by and large banned from America's K-12 schools. While the number of desktops and laptops is rising, there's still a dearth of computers in the classroom.

Even where the computer-to-student ratio is high, there's hardly enough IT staff to ensure that the PCs run smoothly. On average, there's a single IT staff member per 800 students, teachers, and administrators in U.S. public school districts, compared with one IT staff person per every 11 users in business. And business IT folks earn about 50% more than their counterparts in K-12 education.

Schools Are Stuck in the 19th Century

It's not hard to see why technology isn't given greater prominence. The curriculum in U.S. schools today traces its roots to the 19th century. In 1892, at Harvard College, the Committee of Ten promulgated a curriculum that American schools needed to enact in order to prepare students to attend Harvard College. You don't need 21st century computing technologies to teach a 19th century curriculum.

Of course, teachers, administrators, and districts have made important changes to the curriculum's content since 1892. Still, U.S. K-12 schools are still shackled to the fact-focused, information-transmission pedagogy of that 1892 curriculum, as Roger Schank explains in his excellent analysis of America's educational system, *Making Minds Less Well Educated Than Our Own*, published in 2004 by LEA Publishers.

An emphasis on memorization made sense in earlier times—say, when printed materials were scarce. But now that a Google (GOOG) search delivers vast storehouses of information in seconds, a fact-focused, memorization-based curriculum is no longer appropriate.

Progress Takes More Than Laptops

The good news is that at long last, change is a-comin' to K-12. Recently, the call for teaching 21st century skills and content in K-12 has gained considerable momentum and acceptance. Problem-solving, communication, and teamwork are examples of 21st century skills; a deep, integrated model of key science processes, for example, is 21st century content. To learn such 21st century content and skills, students must use 21st century information and communication technology.

But simply issuing a computer to a student isn't enough to guarantee its effective use. Following on the pioneering one-laptop-per-student initiatives in Maine in 2002 and Henrico County, Va., in 2001, districts across the country rolled out pilot laptop projects with the expectation that putting modern computing into a young person's hands would dramatically change education. But as *The New York Times* noted in its May 2007 article, "Seeing No Progress, Some Schools Drop Laptops," schools were spending their budgets on computer maintenance and had little left over to purchase educationally specific software and training to help teachers integrate the laptops into their existing curriculum. Generally speaking, the computers devolved into glorified typewriters and interfaces to Google.

Let the Kids Go Mobile

We have learned from the past; this next round with computing technologies promises to be different. A new generation of computing technologies—mobile, handheld, low-cost—is emerging. Students are already bringing these technologies to school; we just need to allow the kids to bring them out of hiding and use them in their classroom for curricular purposes. Schools can then use their limited funds for educational software and teachers' professional development.

For example, rather than spending a bundle on building a sophisticated wireless infrastructure and another bundle on maintaining it, a school could make use of cell-phone computers and the telecoms' existing wireless infrastructure for Internet access. Besides connectivity at school, the students would then have wireless access to the Internet at home—which significantly helps the poor who don't otherwise have wireless access at home. Schools outsource cafeteria services and bus services; why shouldn't they outsource networking services, too? And don't worry: The telecoms have excellent firewalls that will protect your children when they are online.

One computer per student isn't enough. Schools should emphasize the notion of "continuous, seamless use." The focus on providing a 1-to-1 ratio of laptops to students should be shifted to how students use technology. The State Education Technology Directors Assn. just published a vision statement that reflects this idea: "Ensure that technology tools and resources are used continuously and seamlessly for instruction, collaboration, and assessment."

Mobile technologies define the youth of today. First, adults brought laptops into schools for the children; the children were not impressed. Today, the children themselves are bringing their technology into schools. Educators simply need to lighten up and wise up—and use the student-provided technologies to further the educational mission of the school. Our youth are already comfortable and successful with these mobile technologies; not using them at school wastes

resources and causes a disconnect. Students now say they have to "power down their brains" when they come to school. Let the kids be themselves and stay powered on when they enter the school door with their mobile devices.

But wait, there's more! These mobile technologies may enable schools to leapfrog hurdles they are currently facing and jump-start the revitalization of education that everyone—parents, educators, business and union leaders, academics, and President-elect Barack Obama—is calling for. Some say the way to school improvement is through teacher improvement, and there are myriad strategies for addressing that goal. Others want to move to online education and essentially do away with teachers. In the end, some hybrid form of education will undoubtedly arise. But until then, while those and other camps work out their issues, our children, especially those from poor urban and rural districts, are losing out.

How to Make It Work

So here's the plan: On his first day in office, President Obama changes the rules so that E-Rate, the federal program that allocates money to provide Internet connections to schools and public libraries, can pay a telecom for the cellular data plan to support students doing schoolwork on their handheld computers. The telecom drops its cellular data rate from $60 per month per device to a federally mandated $6 monthly per device. Don't shed tears for the telecoms. They'll make up the difference by collecting fees from families of the millions of schoolchildren now using the cell-phone voice plans. In the meantime, the schools are required to commit, from their own funds, 30% of the cost of the technology, paid for by E-Rate, to be used for professional development and educational software purchases. Literally overnight, America's schools can move into the 21st century.

After World War II, Congress passed the G.I. Bill that paid for educating America's soldiers, which in turn fueled an unprecedented spurt of productivity unmatched anywhere in the world. America's public education system was the vehicle then, and can be the vehicle now, to revitalize and rebuild a great America. The means for doing so have emerged and are within our control; we must mobilize our schools—pun intended—now!

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