

It's My Laptop

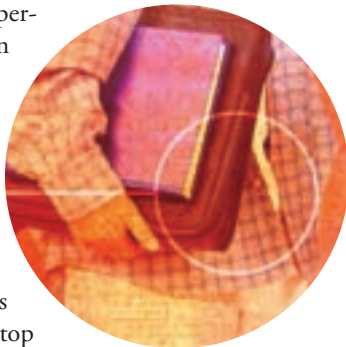
Pride of ownership and more individualized approaches to learning are just two benefits for students in 1:1 schools.

BY SAUL ROCKMAN

ALTHOUGH PERSONAL COMPUTING HAS BEEN AROUND FOR A QUARTER OF A CENTURY, IT has only been in the last 10 years that students have had their own “personal” computers. Until then, most students used the school’s computers, at least when the school computer lab was available or when they had permission to get up from their desks and use the computers in the back of the classroom. Some students used their parents’—or in a few cases their own—home computers, and some had access through programs such as Apple’s ACOT (Apple Classrooms of Tomorrow) initiative or Indiana’s Buddy Project, which provided a desktop computer at school and at home.

Widespread access, however, came only with one-to-one programs that gave large numbers of students a laptop computer to use at home or in school. Started in this country by Toshiba and Microsoft, 1:1 computer programs have evolved and expanded to the point where they have influenced the nature of schooling and redefined personal computers for kids in school. It is only when students have a computer 24/7 that the personal computer becomes a “personal” computer.

Tens of thousands of students are now participating in 1:1 school programs that provide them with a laptop computer. Most often, these students are in middle-school grades or above; they can be in public schools or in independent schools; and their schools may be providing the computer free of cost or for a nominal sum, or their families may be leasing or leasing to buy. Variations abound, but the end result is that students have their own computers to use whenever and wherever they want.



A personal computer is personal not only because it’s always there, but also because it has your stamp on it, whether that’s a decal, a personalized desktop, or an individually, even idiosyncratically, named hard drive. A personal computer houses your work, your programs, your music. You decide whom you are going to com-

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municate with and what new software you are going to master. You decide what work you are going to accomplish on it—and what play.

Opportunities and Obligations

Laptop programs give students all of these options, and for most students, it’s an exciting, almost unprecedented, opportunity. It is the most expensive thing they will have

until they get a car. It gives students a sense of pride and ownership—and, often, a sense of responsibility. Parents have told me that their child loses two or three winter coats each year, left on the bus or the ball field, but they don't lose a laptop. Others have said that their children clean their rooms to have a place to put their personal computer, or fill their leisure time browsing the

popping off those loose keys. For the most part, however, students are proud of their laptops, treat them with care, and exhibit an awareness that they are carrying around a valuable resource containing their own content.

Wander around a schoolroom that's involved in a laptop program. You'll see a great variety of organizational



Internet instead of watching television.

Parents also notice that having a personal computer changes their child's attitude toward school. One of the first things they notice is how students care for the physical object and make it their own personal learning environment. They add decals from favorite sports teams or from the school and tailor the desktop, the software, and the organizational structure to work best for them. Sure, there are corrupted hard drives because students add software and games from outside of school, and broken screens now and again because students cram too many books in their backpacks along with their computer. And there are some kids who just can't resist

patterns as you observe computer desktops, many of which will not make sense to you. Students will put pictures of themselves, their friends, their families, or their favorite rock stars, movie stars, or athletes as backgrounds on their desktops. Some will have rows and columns of files or folders; others will have what appear to be random patterns of objects; some will be clean of all content. The contents of each student's hard drive will be different, too, as students add software that the school finds acceptable—or at least doesn't object to. It works for them as individuals. It is their *personal* computer.

Stay long enough and you also may see students working together—much as adults in an office do. You

Stuart Bradford

also may see presentations that could rival boardroom fare. And you'll probably see students playing games, checking out music sites, or doing some creative multitasking. When schools offer laptops to students or families, they logically expect that appropriate use will be made of them, and that appropriate use means the work of the school. But remember, these are *personal* computers, and schools expect—or have come to expect—that 24/7 access allows for some personal use. The parallel is more like how businesses handle computers that are provided to professionals than what they expect in computer labs or of clerical personnel. Reasonable constraints or responsibilities are noted, but some freedom and flexibility must be assumed. Just as I can e-mail a friend from my office computer or make a purchase on Amazon, students can usually do the same things—just not during class time.

districts or states) start laptop initiatives is to ensure that students master 21st-century skills and prepare for a workforce that leverages technology to accomplish meaningful work. Organizations such as the Partnership for 21st Century Skills have outlined the kinds of attributes and skills a productive citizen should have and suggested how schools can help students attain them. They include independent learning and responsibility, but also collaboration and presentation skills, organizational skills, problem-solving skills—many of the same skills and activities that students engage in while doing 1:1 computing.

Organizational and time-management skills are central to accomplishing the work of school, and having full-time access to a laptop supports these skills. Research on laptop programs report that students, parents, and teachers all agree that students in the programs are

Students in laptop programs often have a greater level of **autonomy**, **independence**, and **responsibility** than they have ever had before.

Getting work done almost always involves taking responsibility for *getting it done*, and students in laptop programs often have, for the first time in their lives, a greater level of autonomy, independence, and responsibility than they have ever had before. Since most classrooms do not have a plug at each desk, coming to school with a fully charged laptop is itself a responsibility. Since class periods are concentrated stretches of work, it most likely won't be appropriate or responsible to check e-mail or explore music websites during that time.

Schools with laptop programs have devised various ways to monitor and guide students: Some teachers rely on remote desktop software that allows them to see what students are doing; others have instituted a quick “lids down” signal that lets students know their eyes need to be somewhere other than on the screen. When a well-constructed 1:1 program is in place, students learn the difference between appropriate and inappropriate personal use of a personal computer.

Personal Skills and Attributes

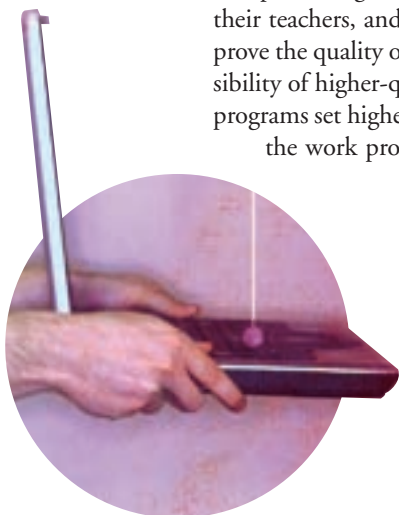
Responsibility for the work you do and the tools you use to do it is one of those adult, preparation-for-life-beyond-school skills. Among the reasons that schools (or

increasingly more organized about their school responsibilities and are more likely to get their work done on time. These are not just the students who tend to have well-organized notebooks or lockers: In some cases, the fun of color-coding desktop folders or the outlining features of presentation software turns disorganized students into organized ones, and drop boxes on home-accessed school websites make it far less likely that students will lose their work between home and school.

There are other personal skills, such as perseverance, that emerge as students have plenty of “seat time” to master applications (and games) on their own computer. They also have to develop a means of dealing with defeat when their programs crash and they haven't saved their work. Some savvy students learn how to troubleshoot and retrieve their work, and acquire other important problem-solving skills when software programs aren't compatible or when logins fail. In many laptop schools, students become the school experts and troubleshoot or perform computer repairs for their peers and teachers.

Personal computers for students offer benefits to teachers beyond having resident repair teams. When each student has a laptop—and especially when teachers have access to Internet resources and software that

expand instructional possibilities, encourage creativity, and allow for self-paced work—they get more chances to individualize instruction. Collaborative project- and problem-based learning activities that mesh well with laptops give teachers the opportunity to do more walking around to see students in the process of working and learning together. Laptops and 24/7 access give students time to explore design and composition possibilities, and they, their teachers, and their parents agree that laptops improve the quality of their work. The flip side of the possibility of higher-quality work is that teachers in laptop programs set higher standards for challenging work and the work products that students have to provide.



The Dark Side

Round-the-clock access to a laptop gives students 24/7 access to a range of resources that were unavailable, even unimaginable, to previous generations. With broadband Internet access, students can quickly capture these resources for later use and just as quickly share them with friends. Sometimes this sharing facilitates learning, in and outside of school, and creates communities that help students accomplish schoolwork in much the same collaborative fashion that they share music and entertainment. Sometimes, however, easy access and effortless file-sharing lead to an adult-defined dark side, in which illegal and inappropriate content becomes

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Parents seem to share in these higher expectations as well and become more involved in the academic aspects of their children's schooling.

More involvement in work often translates into more parental involvement in school, which schools appreciate, encourage, and often find hard to achieve. Another benefit for laptop schools is higher attendance. Because students in laptop schools are more motivated, they are more likely to want to come to school, and the school's average daily attendance goes up. In at least some cases, the implementation of a laptop program has drawn parents and students to schools in areas where enrollment was previously declining. Higher levels of attendance, motivation, and engagement also can mean fewer disciplinary problems and, ultimately, lower dropout rates.

available and circulates with alarming speed and without apparent restraint.

Monitoring questionable, possibly illegal, content can be much more challenging than monitoring a little multitasking during class time, and parents and teachers should be concerned. My experience as a researcher and as a parent suggests, however, that overprotection and rigid, absolute rules will lead to creative problem solving. If students want to, they will find a way, and the credibility of adults will be diminished. Sometimes they don't even need to be trying to get around adult rules. Inappropriate websites are a part of life; even if you don't set out to explore them, it is hard to avoid them in the normal use of e-mail and search engines.

A wiser route would be to acknowledge that not all of what students do with their personal laptop will be consonant with the best of what the schools or parents want. In fact, sometimes it is exactly what the school and parents *don't* want. Both groups of adults need to operate in a realistic world in which perfect screening and protection is impossible and the normal explorations of growing up are left to the individual. It is easy to learn how to illegally download music, and many students will do so. They will play games, and games, like music, will absorb a great deal of time and hard-drive space. These things are not exclusive to laptop access or behavior. Young people have been able to find what they want to find well before the development of the personal computer,

RESOURCES

Anytime Anywhere Learning Foundation.
aalf.org

Learning With Laptops.
www.learningwithlaptops.org

Ubiquitous Computing Evaluation Consortium. ubiqcomputing.org

Laptops at the Ready, Students Get Results

ONE OUTCOME OF 1:1 LAPTOP PROGRAMS IS THAT ACCESS AND AVAILABILITY OFTEN INSPIRE TEACHERS TO design and assign challenging projects—and give students the freedom to explore meaningful topics. As a consequence, students can sometimes produce impressive and consequential products. A project in Crawfordsville, Ind., that combined laptops and problem-based learning has given students the skills, tools, and confidence to become advocates for school, social, and environmental causes. Here are some of their stories.

- As part of their **study of the fragile state of a local watershed**, seventh-graders at Tuttle Middle School used laptops to do Internet research and record on-site information, and, with the help of a local university graduate student, published a DVD entitled *Beyond the Delicate Banks: Protecting Our Sugar Creek Watershed*. Special-education students at Harshman Middle School created a “Tox Drop” rap and iMovie about pollution, which earned them a public service announcement on a local radio station. Other Harshman students created an iMovie that inspired a school-based “adopt a family” program and a promise from the principal to make it a long-term effort, a legacy for subsequent classes, and a gift to the community.

- Over three years, eighth-grade English language learners at Tuttle Middle School developed **projects around the general theme of immigrants**. One year’s class used laptops, multimedia software, and digital video cameras to write and produce a bilingual movie about the struggles of immigrant families. The second group looked at workplace challenges of immigrants, using a fictional account of harassment to illustrate the all-too-real inequities that family members experience. The third group used laptops to produce a bilingual guide to help students—new not only to middle school, but also to the community and the English language—negotiate a difficult transition.

- English classes at Crawfordsville High School looking at what could be done to **improve a local “Am-shack” railroad station**—an eyesore and anything but a welcome center for the community—used laptops to write letters to officials and the newspaper. Their efforts convinced community volunteers, the mayor, and the city planner to help spruce up the station. Armed with more laptop-produced charts and graphs, students then traveled, at Amtrak’s request, to Chicago, Ill., to make a presentation to Amtrak officials. They eventually took their cause to Congress—via train, of course. Their efforts earned them the Golden Spike Award, and their activism resulted in increased train ridership. —S.R.

so why would we expect this generation to be different? Wireless broadband outside of the school and the home is beyond parental and educator control.

But, while acknowledging that students will experiment and that what seems problematic to adults seems normal to students, schools and parents have a responsibility to help inform young people about sensible risk taking and responsibility. It is important to differentiate what is appropriate or acceptable in school and what is not.

What we don’t want to lose in the process, however, is the social networking that seems to be of great interest

to young people. Students in laptop programs seem to form these networks very naturally. They have an opportunity to present themselves as individuals to the larger world. And, not surprisingly, the same elements that kids see as portraying their individuality are the ones that make them part of a community. That’s the contribution of social-networking sites, building a community of those who listen to Death Cab for Cutie or Beyoncé or read Emily Dickinson or prefer first-person shooter games. Students can establish friendships across age and race. The individual becomes part of a mass; personalization gains entry into a community. ●●●