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## Education Technology and Chainsaws

The chainsaw is a powerful tool. With it, people can cut down trees faster and more efficiently than they can with an old-fashioned saw. Should the chainsaw be misused, however, the person operating it just might find him or herself missing a finger—or worse. Like a chainsaw, the computer is also a powerful tool. With it, teachers can enhance the classroom experience in a variety of ways, from showing PowerPoint presentations to initiating international pen pal programs for their students via email. But while misuse of the computer will probably not result in lost limbs, there are other dangers that must be considered when computers are brought into a classroom.



To investigate the way technology is currently being used in our school district, I recently spoke with Jeanine Lowell, who teaches social studies at Lake Town Middle School. Mrs. Lowell informed me that computers, which were introduced into her classroom six years ago, have helped to increase student motivation and prepare her students for life in a technological society. "These kids are probably going to be using some kind of computer system when they graduate from high school," Lowell noted. "It's important that we provide a proper introduction to them in the classroom." Lowell also observed that the computers have made it easier to promote interdisciplinary learning, so that students can work on a project or topic that relates to more than one subject.

For example, last month Mrs. Lowell worked with Lake Town Middle School's math teacher, Stuart Judson, to develop a project on the global population. Each day, students checked the U.S. Census Bureau's "pop clock" website, which constantly monitors and posts the changing population of the United States and the world. Using this resource, students in Mr. Judson's class made three different kinds of graphs showing the rapid rate of change. In Mrs. Lowell's class, students discussed the implications of rapid population growth on world politics and the global economy. "Next year," Mrs. Lowell said, "We're also going to work with Ms. Bickford, who teaches earth science. She's got some fantastic ideas for projects involving the growing population's impact on the environment."

With all of these benefits, however, come a few drawbacks. Although Mrs. Lowell has nearly wallpapered her room with warnings that state: "The computer is NOT A TOY," not everyone in the class agrees with this idea. Mrs. Lowell informed me that students get easily distracted by the many temptations of the internet, and that many students are quite adept at making it look as if they are doing work when they are really checking their email or watching videos—what Mrs. Lowell referred to as the modern-day equivalent of hiding a comic book inside your textbook. "You've got to be three steps ahead," she told me, "if you want to stay on top of what they're actually doing on the computer."

And what, exactly, are they doing? While surfing websites about video games or television shows may distract students from the lesson, these diversions are rather benign in comparison to the other things hiding in the corners of the World Wide Web. Tens of thousands of websites feature inappropriate content for young people. Most schools—including Lake Town Middle—use some type of blocking software to ensure that students cannot access these sites at school. More sophisticated programs use a server-based, network-wide program instead of software that runs on individual computers. Research has shown that these server-based blocking programs provide better security, because tech-savvy students can disable the software on an individual computer. One of the most widely used blocking programs, and the one used by both Lake town and the entire district, is Bess. The Bess program was selected for the district by a committee of parents, teachers, and administrators and is constantly monitored and updated by a team of technical experts. Mrs. Lowell explained to me that when students try to access websites that are deemed inappropriate (such as adult sites) or distracting (such as games), a golden retriever named Bess appears on the screen instead of the blocked site.

Mrs. Lowell was eager to show me exactly how Bess worked. Using her computer at the front of the room, she entered the URL for an adult magazine's website into the address bar and hit enter, expecting Bess to appear on the screen and refuse us access to the site. To our surprise, however, instead of being met with a cheerful golden retriever, we were greeted by an equally cheerful golden blonde, in what I shall assume was a flesh-colored bikini. Mrs. Lowell was stunned. "This shouldn't happen!" She then tried the same thing with a gambling website, and again she gained access. Bess was only successful when Mrs. Lowell attempted to visit an adult website on one of the student computers. This time, Bess faithfully appeared on the screen and informed us that the website we were trying to access had been blocked. "I don't understand it," Mrs. Lowell remarked. "That first computer should have been blocked too. It's a staff computer, but really, that shouldn't make a difference. We're all linked to the same server."

I guess some Lake town teachers can get more than world news on their lunch breaks.

This unexpected development proved one thing to me: there is no fail-safe substitute for the watchful eye of a good teacher like Jeanine Lowell. There are also no electronic cure-alls for any of education's many challenges. Technology is a useful tool, but that is all it is: a tool, which is something used by people to accomplish a task, not a substitute for the people who use it. We must all remember that it is the teachers—not the technology—who provide the greatest asset to our children's education.