

Wireless Laptops in the Classroom (and the Sesame Street Syndrome)

Give instructors the option of turning off wireless Web access to accommodate their students' learning styles, in some cases to save them from themselves.



Like many teachers, I want to be able to turn off (and on) Internet access to the students in my classroom. There may be times when access is appropriate for a particular exercise, but there are also times when I need to decrease or eliminate the number of electronic distractions. While classroom access to the Internet may be a wonderful teaching tool, it can also be a barrier to learning.

In 2002, the University of Houston published a brochure highlighting its recent accomplishments. On the cover was a photograph of a professor lecturing a room full of students. Looking toward the front of the room, it showed many of the students using laptop computers. What some in the university failed to notice, even as many others did not, was a student playing solitaire.

In 2005, a reporter from the *Wall Street Journal* sat in on my Management of Information Systems course, then wrote an article on what he had seen: “While Prof. Adams lectures, five students use an online chat room to post comments on his lecture, on classroom stragglers, and on the meaning of his discussion questions. Another student spends nearly two-thirds of the three-hour class playing computer chess, instant messaging and viewing photos of a fraternity party posted on the Web” [6]. One of my students, he wrote, was apparently buying shoes on eBay.

As a faculty member in (and chair of) a computer technology department one would think I would

value computer technology in my classroom. Much of the time I do, but there are times when I find I cannot compete. As computers moved from the machine room to the server closet, to the desktop, to the classroom podium over the past 30 years, teachers have adapted their lectures, assignments, and other classwork to the technology. These tools have had a marvelous effect on collaboration, simulation, classroom management, and information collection and dissemination. However, when the computer on the lectern became only one of many in the classroom, things changed. Faculty need an Internet on/off switch, because students now have the world at their fingertips and simply can't help but go exploring.

SESAME STREET SYNDROME

In 1972, Eda LaShan described a phenomenon—called the Sesame Street Syndrome—that can be seen in modern college classrooms across the U.S. It “teaches children,” LaShan wrote, “there are right answers to many questions, that facts themselves are valuable, that children's questions are irrelevant—since grownups are willing to do all the asking and answering—that thinking is irrelevant, because there's no time for it, that making mistakes is bad, and that failing should be avoided at all costs” [4]. Children growing up with “Sesame Street” and other fast-paced, information-intensive entertainment are accustomed to learning about their world this way.

In 1972, “Sesame Street” was televised only an

hour or so each day. Today, using the Internet and a variety of media, students interact with the world in 10-to-180-second gulps, and the Sesame Street Syndrome has come to describe students who expect to be entertained as they learn. They prefer audio books to real books. They prefer video games to movies and television. They often prefer online classes to traditional instruction. They prefer infotainment to drill and practice [1]. If the entertainment doesn't come from the front of the wireless classroom, it comes from the Internet.

A student in class with a laptop with wireless Internet access can take notes, carry on one or more instant messaging chat sessions, review online coursework, keep up with current news and sports, and still work on assignments. The instructor must be able to compete with all these appealing options, being as important, entertaining, approachable, accessible, and relevant as they are while also having the answers and being energetic, that is, infotaining.

Infotainment integrates entertainment and the information-sharing aspect of education. Teachers have long known that students respond more positively to the relevant application of theory than to the dull derivation of the same theory. However, many students have trouble identifying the line between relevant and entertaining. The days when professors would present facts and theories and leave it to the top-performing students to apply them have given way to PowerPoint animations of problems searching for answers and summations for the end-of-semester examination.

MULTITASKING

If the Sesame Street Syndrome is indeed real, one might argue that our students' brains have adapted to the fast-paced information feeds and are able to multitask better than those without similarly trained brains. Jordan Grafman, Chief of Cognitive Neuroscience at the National Institute of Neurological Disorders and Stroke in Bethesda, MD, disagrees [7], arguing that students who multitask ultimately do not fair as well as their nonmultitasking counterparts. When multitasking, students, he says, are not actually performing tasks simultaneously but mak-

ing decisions about what to turn their attention to next, then executing that decision [7].

This "evaluate, choose, and move" process consumes time and energy and encourages the pursuit of more instantly pleasurable inputs. The boring lecture gets fewer and fewer time slices. "Habitual multitasking," Grafman says, "may condition [a student's] brain to an overexcited state, making it difficult to focus, even when they want to" [7]. Fast-paced infotainment seems to fit the way these students learn.

LEARNING STYLES

The popular Felder-Silverman learning styles model [3] suggests that students can be classified into five general categories: sensing or intuitive learners; visual or verbal learners; inductive or deductive learners; active or reflective learners; or sequential or global learners.

Sensing learners are practical and fact-oriented, while intuitive learners are more conceptual and theory-oriented. Visual learners learn from visual representations, while verbal learners learn by reading and listening. Inductive learners prefer to generalize from specific examples, while deductive learners prefer presentations that move from general to specific. Active learners prefer hands-on and sometimes team-oriented activities, while reflective learners want to think about problems before solving them. Finally, sequential learners prefer linear, stepwise approaches to learning, while global learners want the big picture.

These learning styles represent a range of relatively good and poor compatibility for students with Sesame Street Syndrome. The students are sensing, visual, inductive, active, and global learners, gathering facts from the Internet-connected world, usually through some visual representation. They induce a model to fit their facts, actively seek information from other sources to refine it, and manage a collection of potentially conflicting global models.

However, most university instruction assumes deductive, intuitive, and passive learning styles in which students are expected to take the sequential knowledge being presented and reflect upon it at a later time. Even with the proliferation of such presentation and teaching tools as PowerPoint, most

instruction is still verbal. It is little wonder that students are regularly lost to the Web; it fits the way they prefer to acquire knowledge.

The problem is that Googling delivers data and information, not knowledge. Knowledge is defined in [2] as “information combined with experience, context, interpretation, and reflection. It is a high-value form of information that is ready to apply to decisions and actions.” Unlike the classroom, the Web has no teacher to help students create knowledge from information.

Faculties are reacting. Some universities, including Wisconsin, Virginia, UCLA, and Memphis, have blocked or are considering blocking Internet access in classrooms, viewing it as a distraction and temptation for cheating. Some forbid laptop use altogether. Whether or not these policies represent a growing trend is unclear, but they underscore the concerns being raised by many faculty.

Restricting the use of laptops in the classroom is a difficult decision. The laptop is a ubiquitous and necessary tool for college students who go online to find their grades and assignments and correspond with classmates and professors. Many colleges and universities require that their students purchase them before even coming to school. For a faculty member to forbid their use seems inconsistent at best. All this is clearly an ongoing discussion within universities that will require new technologies and policies.

The nature of wireless communication makes controlling Internet access in the classroom a non-trivial task. For example, instructors in classrooms adjacent to one another may have different access needs, so access must be based on student identification, date, time of day, and type of connection allowed. Such systems must support ad hoc, just-in-time access to give instructors the flexibility they need to grant or restrict access to certain resources. With wireless access being delivered by cell phone companies, the battle may already be over. In any event, faculty members still need a mechanism to limit access.

Rudy McDaniel, a faculty member at the University of Central Florida disagrees, writing “If you’re going to ban wireless computers from the classroom,

then you might as well ban pens and paper, too” [5]. This argument is that the instructor must be relevant and draw computer users into the classroom and out of the virtual world, and that even technology that would allow selective Internet use in the classroom should not be allowed.

These arguments usually cite the risk of censorship—typically a trump card in academic circles for deflating practically any argument—and anachronistic teaching styles and materials, a position held by many parents and students. It makes sense until we consider the Sesame Street Syndrome. We have to help these students concentrate because they may be unable to help themselves. It is difficult to equate the distraction that may be caused by a number 2 pencil with the Web.

Being able to limit access does not relieve me of the responsibility of being a relevant, energetic teacher. Turning off Internet contact will not magically transform a Sesame Street Syndrome student into a deductive, intuitive, passive learner. I must still work to reach that student. I just want a fair fight. **C**

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