

The False Promise of Classroom Technology

By Charles Kenny

BusinessWeek, November 11, 2013

The cover story of *Life* magazine on Oct. 16 was “U.S. Schools: They Face a Crisis.” Of course, there’s pretty much always a sense of crisis in education—in fact, the *Life* story dates from 63 years ago: Oct. 16, 1950—and it isn’t limited to the U.S. Two weeks ago, the U.K. announced it would revamp its curriculum and testing for 16-year-olds yet again, on the basis (yet again) that the previous system wasn’t rigorous enough.

Both the American and British school systems could surely do better. The trouble is that the perpetual sense of educational crisis leads to a search for quick fixes—the latest of which is throwing Information Technology at the classroom. That “solution” has a bad record in the West and, if anything, a worse record in the rest of the world—including in countries where schools are truly failing. Computer labs are still no substitute for teachers with the flexibility and incentive to teach backed up by parents with a commitment that their kids learn.

For all the complaints Americans have about their schools, other countries have far more reason to worry than we do. In the U.S., education assessments actually show slow but continuing progress in learning outcomes. By contrast, in India, only about one in four kids completing primary school has mastered the four tasks of reading a simple passage, performing division, telling time, and handling money. The huge gap between the number of kids completing primary school and the number who have mastered even a fraction of the syllabus is sparking discussions of a genuine “crisis of learning” across the developing world.

One common response has been to put more computers in schools. In 1996, Al Gore promised to give every child in America access to high-quality educational technology by the dawn of the new century. The United Nations’ Broadband Commission extols (pdf) high-speed Internet as a tool “to deliver education in developing and developed countries alike.” Encouraged by such visionaries as Stanford computer scientist Peter Norvig and tech companies such as Apple (AAPL), global leaders have waxed nerdily over the potential for information technology to transform learning.

As any parent knows, kids love computers. Years ago, Indian researcher Sugata Mitra put a computer in the wall of a slum in Delhi and just left it there. Within weeks, children were accessing the Disney website. A group founded by MIT’s Nicholas Negroponte updated the trick by dropping off 20 tablet computers in an Ethiopian village last year—without an instructor or instruction books. Sure enough, kids started playing with them, some even learning to read a few words of English as a result.

It’s great when that natural curiosity can be used to help educate children. Khan Academy has put thousands of lessons in subjects from biology to art history online—it’s surely helping a lot of kids with their homework. Pratham, an Indian NGO, tested a computer program that combined math questions with a knockoff version of the Asteroids arcade game and found that when children used it for two hours a week, it had a considerable impact on math test scores.

Sadly, however, the wider educational impact of wiring up schools and homes and giving computers to kids has been disappointing. The University of Chicago’s Austan Goolsbee studied the impact of subsidized Internet rollout in California’s school system in the late 1990s: The program worked to extend Internet access, but there was no impact on learning outcomes. As broadband rolled out across North Carolina, Urban Institute researchers found (pdf) “modest but statistically significant and persistent negative impacts on student math and reading test scores.” On the other side of the Atlantic, Carnegie Mellon’s Rodrigo Bello and colleagues looked at schools in Portugal and found significant declines in ninth-grade national exam scores as broadband use increased; meanwhile, “students in schools that block access to websites such as YouTube (GOOG) perform relatively better.” And looking at results from across the countries that take part in the Program for International Student Assessment (PISA), test scores are lower pdf among students who use computers intensively.

In the developing world, analysis of the One Laptop per Child program, which hands out specially designed computers loaded with learning applications, has shown similar and consistently disappointing results. In Peru, a program that randomly assigned the computers found that kids who got them certainly used them—and did a little better on IQ tests—but researchers at the Inter-American Development Bank found no impact at all on math or language scores. Another evaluation (pdf) of the program in Nepal suggested computer-assisted learning had “no impact or a negative impact on student learning, non-cognitive skills and attendance.” Or look at the results of a laptop-distribution program in schools in Costa Rica: Give kids a laptop, and they’ll do considerably worse on their math tests.

That’s not to say we should ban computers from the classroom altogether. Beyond their considerable entertainment and social value, computers can be a real tool for learning—and computing is a valuable skill in its own right. But integrating computers in the schoolroom is hard work and is likely to succeed only when the basics are already there. When teachers are well-trained and motivated, and when computer use is embedded in well-designed lesson plans, and when access to Disney (DIS) and YouTube (and Facebook (FB), and Twitter (TWTR), and World of Warcraft ...) is disabled, information technology can be a useful adjunct to teaching. But it’s no silver bullet, and it certainly can’t make up for a broken school system. Systemic education reform is messy, arduous work—and it can’t be done with an iPad, either.

Kenny is a senior fellow at the Center for Global Development and author of *The Upside of Down: Why the Rise of the Rest is Great for the West*.

Writing/Discussion Topics:

- Do you think using technology in the classroom improves learning? Why/why not?
- Would you prefer to take an online class instead of coming to school to learn?
- Do you think your use of the Chromebook has had a positive impact on your grades?