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Questioning Our Mania for Education Technology

By Jack Schneider

The solution to the nation's education problems is as simple as binary code: a smartboard in every classroom, an iPad in every backpack, and wikis across the curriculum.

That seems to be how the logic works these days, as reformers in foundations, government, and school districts pour billions into educational technology projects.

There's only one problem: It doesn't work.

A recent [front-page story](#) in *The New York Times* on the Kyrene school district in Tempe, Ariz., is the latest tale of heavy investment and slender results. Since 2005, the district has invested roughly \$33 million in technology, using money secured under a ballot initiative. But even as statewide scores have risen, Kyrene's scores in reading and math have stalled. And how have district leaders responded? They're ready to head back and ask taxpayers for more. Even if standardized-test scores aren't the most perfect measure of student learning, such faith in the power of educational technology seems unwarranted.

Yet it seems these days that everyone is in on the act. In 2009, for instance, the U.S. Department of Education [awarded \\$270 million](#) via its Enhancing Education Through Technology, or EETT, grants program, with another \$650 million coming through the American Recovery and Reinvestment Act. The national economic slump and the looming budget crisis resulted in reduced appropriations for fiscal 2010, but the EETT grants program still received \$100 million. And the public purse is hardly the only funding source school leaders are tapping for technology funding. Private foundations cut seven- and eight-digit checks for educational technology projects with stunning regularity. Foundations like Dell and Gates, with their computer roots, get much of the press; but grocery-store money is just as green. The state of Idaho was happy to accept \$21 million recently from the Albertson Foundation for so-called "21st-century classrooms." Yet Kyrene is hardly an outlier in its failure to produce results that merit such spending. Even technology boosters like Tom Vander Ark, formerly of the Bill & Melinda Gates Foundation, admit that the research is weak. As he put it in the recent *New York Times* article, "It's very difficult when we're pressed to come up with convincing data." But not *that* difficult, obviously, because the money continues to flow for educational technology projects even as thousands of teachers lose their jobs because of budget shortfalls. So what gives?

Americans, and particularly those interested in school reform, have long sought to bring technology into the classroom. Experiments with radio, television, film, and early computers were all pitched as major breakthroughs in the process of education. Yet because they did not fundamentally alter the core processes of teaching and learning, such innovations made modest or marginal contributions.

In the past two decades, the interest in educational technology has developed into a full-blown obsession. Not because technology is more deeply affecting the work of teaching and learning. Rather, because of a shift in the way that America's most ambitious and well-resourced reformers see the world.

For most of the 20th century, reformers fell into one of two camps. Those concerned with social efficiency made the case that the educational pyramid should be grown higher—that American competitiveness depended on identifying future leaders and pushing them to their intellectual limits. Those concerned with social justice argued that a pyramid was the wrong shape entirely. Resources, they contended, should be channeled into low-income and minority neighborhoods long underserved educationally.

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By the end of the century, however, an emerging corps of reformers began to fuse these traditionally separate aims in a new, entrepreneurially oriented theory of change. Their aim was to promote excellence for all students by discovering "what works" and taking those solutions to scale. In so doing, they would increase opportunity and advance equity without undermining national strength or resorting to heavy-handed government intervention. Excellence for all, they argued, was not only a politically expedient approach to reform—appealing to those on both the left and the right—but also, in an age of an increasingly global economy, a necessity. The vision was as simple as it was ambitious: identify high-leverage reforms, fund them to scale, send all kids to college.

This approach to educational change is the working credo of the nation's reform VIPs—from Arne Duncan to Eli Broad to Joel Klein. As such, it makes perfect sense that, even in a time of budget shortfalls, money is raining down on educational technology projects. Why? For one thing, it can be easy to credit technology for what makes a class "work." Head to a thriving school where every student has a tablet computer, and you might be tempted to think that you've stumbled on a solution: Tablet PCs help kids thrive! You are also likely, however, to be on campus at a well-resourced school with lots of other things going for it. Working to pinpoint a particular practice that makes a good school work, in other words, is to deny the deep complexity of the educational environment.

The other reason that the reform elite loves technology is that it can be taken to scale. Great teachers, after all, are also easy to credit for a school that works. But how do we get one in every classroom? The iPad, on the other hand, requires only a checkbook.

If money were no object, it would be hard to take a position against educational technology. Especially in less privileged neighborhoods, students do benefit from hands-on experience with the kinds of tools that are standard in white-collar workplaces. At worst, kids like new gadgets, and it doesn't hurt to give them what they like once in a while.

This, however, is a zero-sum game in which money that goes to technology could just as easily have been spent on other approaches that, though perhaps not scalable, are directly connected to the processes of teaching and learning. Funding projects to improve teacher training, development, and retention, for instance, is less sexy than cutting the ribbon on a lab full of lightning-fast computers. But it's also more likely to help kids learn.

"If we know something works," Kyrene's director of technology asked, "why wait?" His point underscores the urgency of working toward school improvement. We can't wait. But simple-minded thinking about what works and the obsession with scale have turned our penchant for

educational technology into a national mania. We can't wait. But we also can't afford to get it wrong.

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