Open-software alternatives make for better, cheaper teaching tools

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When I was in elementary school in the early 1990s, I remember asking my parents to keep their grocery store receipts. If my school collected enough of them, the receipts could be redeemed to acquire more of the Apple IIs that populated our computer lab, which we in turn would use to draw pictures with little turtles and die of cholera in Oregon Trail.

Now, as a corruption scandal (http://www.latimes.com/local/education/la-me-deasy-ipads-20140826-story.html) wrecks the Los Angeles schools’ $1 billion plan to give every student and teacher Apple iPads loaded with Pearson Education software, I’m second-guessing my 7-year-old instinct. That L.A. School Superintendent John Deasy improperly colluded with Apple and Pearson executives, however, isn’t the biggest problem. L.A. isn’t just a bad apple, so to speak. The trouble is that plying students with these machines reinforces the power that monopolistic companies wield in our society’s relationship with technology; it teaches young people, incorrectly, that there is no other way.

Free and open alternatives would be better for the students, better for the tech economy and far less expensive for school districts, especially those with fewer billions to throw around than L.A. Unified. I hope Los Angeles takes the scandal as an opportunity to reconsider its entire strategy.

Easy prey

Silicon Valley has been preying on school systems since before the utility of personal computers was widely recognized. In the mid-1980s, cultural critic Theodore Roszak noticed (http://www.ucpress.edu/book.php?isbn=9780520085848) that Apple became especially eager to get computers into schools (either by selling them or getting a tax write-off for donating them) just as the home computer market started to lose its initial momentum. Educators often bought in more out of a desire for the computer’s prestige than
for any clear notion of what it could do. For Apple, at least, this turned out to be an excellent investment in product placement; a decade or two later, my generation of coupon-collecting students helped catapult the company’s rebirth as one of the most profitable in the world.

“A hidden curriculum,” Roszak suspected, “arrives in the classroom with the computer.” He was worried not only about the impact of corporate marketing on students but also about the rise of a kind of education that privileges what can be done on a computer over old-fashioned thinking.

Pearson, for its part, has been doing all it can to realize Roszak’s fears. The company lobbies hard for the adoption of the Common Core standards (http://www.nationalreview.com/article/373881/your-common-core-marketing-overlords-michelle-malkin), a test-heavy curriculum that fits neatly into its business plan to thoroughly computerize (http://eagnews.org/pearson-educations-creepy-vision-confirms-common-core-fears/) education. Pearson is no stranger to impropriety as it goes about securing mega-contracts; last year it paid (http://www.capitalnewyork.com/article/albany/2013/12/8537378/ag-settles-pearson-charity-77m) a $7.7 million corruption settlement in New York, and it is in court in New Mexico (http://blogs.edweek.org/edweek/marketplacek12/2014/07/air_says_it_will_appeal_big_pearson_common-core_contract_in_nm_court.html) over a billion-dollar testing contract. The hidden curriculum, apparently, is no longer so hidden.

Foisting computers on schools has been a lucrative business, one easily disguised as charity. Among Pearson’s allies is the Gates Foundation (http://www.washingtonpost.com/politics/how-bill-gates-pulled-off-the-swift-common-core-revolution/2014/06/07/a830e32e-ec34-11e3-9f5c-9075d5508f0a_story.html), which works alongside Microsoft’s education arm to promote the Common Core in schools (http://pando.com/2014/06/05/revealed-gates-foundation-financed-pbs-education-programming-which-promoted-microsofts-interests/) and support libraries (http://seattletimes.com/html/thebusinessofgiving/2009735027__greg_gilbertseattle_times_for.html), with Microsoft software in hand. Gates’ competitor for the richest-person-in-the-world slot (http://blogs.forbes.com/billionaires/list/#tab:overall), Mexican telecom monopolist Carlos Slim, has proposed to bypass schools altogether by bankrolling the online-only Khan Academy (https://opendemocracy.net/transformation/laura-gottesdiener/is-laughter-best-medicine-for-monopoly-capitalism). Now Rupert Murdoch is trying to enter the education tech business with a tablet of his own (http://www.businessweek.com/articles/2014-03-03/news-corp-dot-s-amflify-launches-a-redesigned-educational-tablet).

The iPads that the L.A. Unified School District hoped to buy are the epitome of a business-friendly device. Unless jailbroken — a hack of ambiguous legality (http://www.cultofmac.com/213144/unlocking-a-new-iphone-is-now-illegal-but-jailbreaking-is-still-safe-what-it-all-means-for-you/) — an iPad will allow users to install only programs that Apple has approved (https://en.wikipedia.org/wiki/Censorship_by_Apple). It hides its file system and restricts certain functionalities that might disturb Apple’s bottom line. iPads are intuitive to use, but they can’t teach their users much about how they actually work. Their casing is designed so that conventional tools can’t open it. They are also powerful surveillance devices, capable of beaming users’ personal data to app developers (http://oleb.net/blog/2013/12/app-store-rules-on-data-collection-and-privacy/) and security agencies (http://arstechnica.com/security/2014/07/undocumented-ios-functions-allow-monitoring-of-personal-data-expert-says/). The kind of digital native these machines create is woefully hapless and enamored with a fruit-shaped god.

Free and open

One might, for instance, replacing the iPad with a little device called a Raspberry Pi (http://www.raspberrypi.org/). About the size of a credit card, it’s a fully featured computer, though a keyboard and screen need to be plugged in separately. It comes as a single circuit board with no casing, which reflects its philosophy; the basic parts of the machine are plain for a student to see — the video card, the CPU, the power system, the USB ports. The nonprofit Raspberry Pi Foundation sells it for as little as $25, compared with $299 to $929 for an iPad. One Laptop per Child (http://one.laptop.org/) (OLPC), another nonprofit project, produces low-cost laptops and tablets with education in mind.

Software can be even cheaper. The Raspberry Pi and OLPC run on Linux, a free, open-source operating system, which is constantly being improved and expanded by thousands of programmers around the world. An enormous variety of free, community-developed programs, including fully featured office suites, graphics tools and games — as well as popular commercial programs such as Skype and Dropbox — can be installed on the device. Apple and Microsoft often tell us that open-source software is unreliable and unfriendly to
More and more governments are turning to free and open software. Munich, Germany, has saved as much as 10 million euros (http://www.omgubuntu.co.uk/2014/07/munich-city-saves-millions-going-open-source) by gradually weaning municipal workers off Microsoft Windows. Iceland is in the process of making a similar transition (http://www.zdnet.com/iceland-swaps-windows-for-linux-in-open-source-push-3040154870/). Geneva, Switzerland, has moved all its primary schools to Linux (https://joinup.ec.europa.eu/community/osor/news/geneva-class-rooms-switching-free-software), and it will do the same for secondary schools by next summer. The Chinese government is undertaking a massive effort (http://www.businessinsider.com/china-wants-to-replace-microsoft-apple-and-android-software-by-october-2014-8) to move from Apple, Microsoft and Google software to Linux-based systems.

Forgoing iPads means taking a different approach to technology from what many of us are used to, but it's an approach particularly well suited to public education. Rather than pay big companies millions of dollars for licenses for prefabricated software, school districts could pay little or nothing for the basic software and hire education-minded developers to adapt existing open tools to their needs and create new tools as necessary.

The resulting products would be customized to a district's particular needs, and they could in turn be used and adapted by other districts. Thus rather than create pressure on others to buy fancy gizmos, wealthy districts' investments in this kind of technology would ultimately benefit those with less money to invest.

Meanwhile, students encounter computers that are designed to be explored, improved and understood, not ones made mainly for canned experiences and product consumption. They get to use tools adapted for their communities, and they can even play a part in the local development process. The public funds invested in these projects help enrich the collaborative public commons rather than go to the coffers of a mammoth, competition-driven corporation. L.A.'s schools should spend their $1 billion on technology that benefits us all.


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