

The Boston Globe

Opinion

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An 'Hour of Code' isn't enough



By Edward L. Glaeser | GLOBE COLUMNIST DECEMBER 12, 2013



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Third-graders in an "Hour of Code" class.

IT’S “COMPUTER Science Education Week,” and President Obama and House majority leader Eric Cantor — who usually dislike each other more than Google and Apple — recently came together to support an “Hour of Code.” The goal is to expose all students, for at least an hour, to the computer programming techniques that make games and other routine apps possible. Toward that end, classroom teachers can find lesson plans and tutorial videos available online.

It’s a useful exercise. Every Massachusetts student should learn basic principles of computing, and one hour of instruction won’t suffice. Yet the task of giving students the computer-science education they need should not be loaded onto our already overburdened teachers — especially when there’s no consensus on precisely which computer skills children should be taught.

Computing skills are valuable. The average US worker in software publishing earns over \$44 an hour, more than double the \$20 average across all private industries. In Massachusetts, the average payroll per worker in all industries is \$56,000; in software publishing, it’s \$126,000. But even students who don’t grow up to be software engineers will live in a world saturated with computers and need a basic grasp of how they work.

Even though Massachusetts is the best-educated state in the nation and a tech-sector magnet, only 23 of the state’s 378 public high schools, according to the Globe, offer classes in which 10 or more students took an Advanced Placement exam in computer programming. Statistics like that explain why a group called MassCAN, which is billed as “a partnership of organizations collaborating to inspire and educate Massachusetts students in computing,” is encouraging schools to develop curricula and set standards. MassCAN is clearly right to press the issue. Yet computing is likely better taught inside the school building, but outside the school’s regular curriculum. I suggest a universal, state-funded, after-school training program — and choosing the providers through competitive means.

As MassCAN notes, we must begin with standards that spell out precisely what we expect any computer education program to teach. The state could then take bids from would-be computing teachers — private or public — to offer after-school programs

that deliver the required skills. The instruction providers could include software companies, online educators, passionate nonprofits, charter schools and public schools themselves.

Adding, say, three one-hour classes per week might seem like a burden to many over-scheduled kids. But schools could seek providers who make learning computing a joyful experience. The state can start small, with an after-school computing program during one year, like seventh grade, in a limited number of districts. If the program works, it can be extended to all seventh graders. Once one year becomes universal, other years can be added.

In any case, student progress can be independently tested at year’s end. Underperforming educators may face financial penalties and be shut down. Superstar providers can expand.

Computing and computer education are constantly in flux. Computing should be taught in a nimble way that allows constant adjustment to change; shoe-horning computing into a standard K-12 curriculum ensures bickering and a glacial pace. An independent after-school program avoids making yet another demand of public school teachers — most of whom aren’t the kind of computer specialists that this subject needs. As technologies evolve over time, the outside computer instruction providers who adapt their approaches fastest would likely fare best.

Students of means will always have access to technology education. But with a public policy dedicated to universal computing knowledge, the computer age will empower everyone — rather than expanding the inequities that already exist.

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