

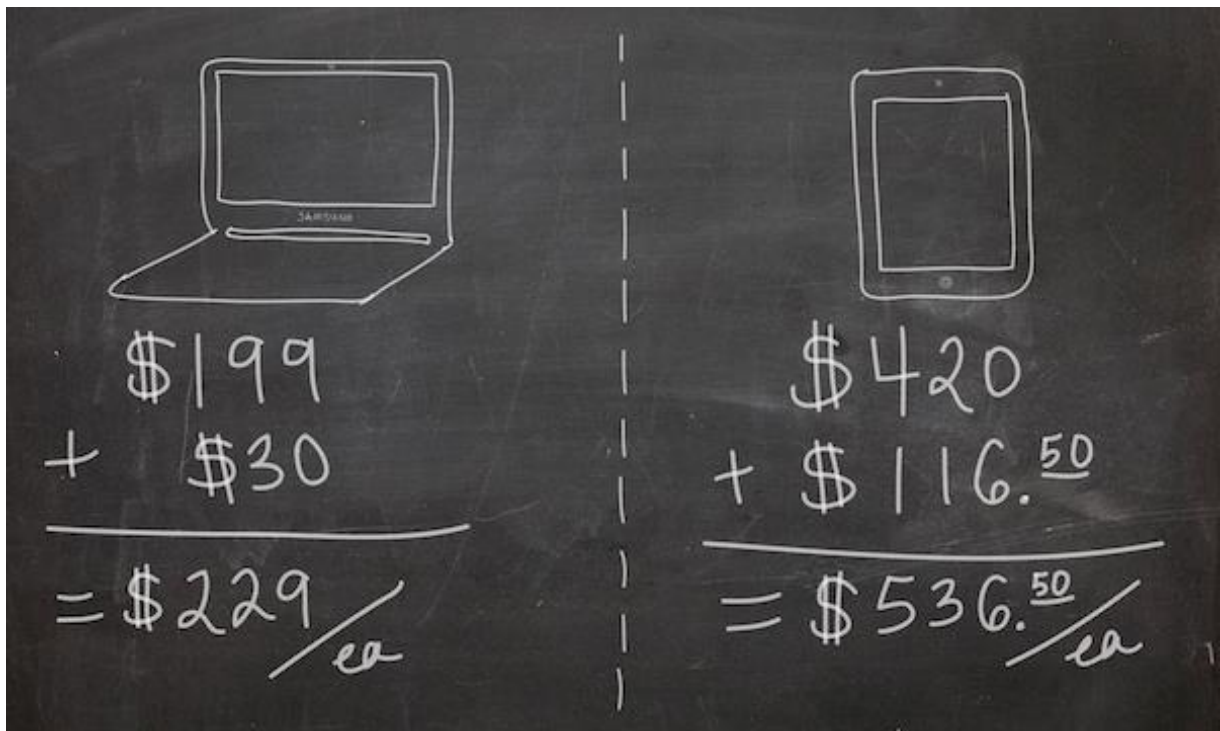
## Mobile Technology in Education: Part Two

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Originally published in Tech Page One, June 2013

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With Google Play for Education's wireless distribution model, schools can potentially expect to spend much less on in-house technical support and maintenance. But those savings pale in comparison to the up-front cost of Google's mobile hardware. Wi-Fi-enabled Acer C7 Chromebooks cost \$229 each for schools and educators in the US – that's \$199 for the Chromebook and \$30 for management and support.



*Graphic credit: Madison Andrews*

For cash-strapped schools, even Chromebooks are expensive. But some US districts have already paid much more for iPads. The San Diego Unified School District, for example, spent \$2.8 million in capital appreciation bonds to invest in more than 21,500 iPads and nearly 77,800 laptops last year. The district purchased its iPads in two phases: for the first 10,729, it used a series of 40-year bonds. Each tablet cost \$420, plus \$116.50 for three-year warranties and accessories. But after reviewing the bond documents, the [Voice of San Diego concluded](#) that the district will pay roughly 7.6 times that amount in total – or \$4,077 per iPad.

The second phase will be less burdensome, with similar per-device calculations amounting to \$2,731. Nevertheless, that's some incredibly expensive hardware to put in the hands of

students, and it incited considerable outrage from San Diego's County Taxpayers Association. But the district stands by its decision, citing projected improvements in their students' educational experience as justification for the cost.

Exactly how, and to what degree, do devices like the iPad and Chromebook really improve the educational experience? The jury's still out on that question, at least in terms quantifiable results. Even if schools do report higher scores after an infusion of pricy gadgets, how would they go about asserting a causal link between technology and student performance? Any number of factors could contribute to those results, including – and perhaps most importantly – how teachers actually use the tools on a daily basis. In the hands of an unenthused or uninformed educator, new technology will make little difference.

Jennifer Carey said it well on the [Powerful Learning Practice blog](#):

“Simply handing out iPads to teachers and students (and going over the security protocols) isn't going to accelerate learning in your school. Educators need to become skillful at using these tools and then think deeply about how to integrate them into the learning environment in powerful ways.”

The possibilities are endless with mobile technology. But at the end of the day, it's up to individual teachers to go home and re-imagine their classrooms in the light of a new device. Would Great Expectations be more engaging if students could leave comments on a classroom-wide ebook? Are cell structures easier to memorize in the form of an interactive chart? Could a YouTube video help students with their Algebra homework, and ease the burden on parents who can't remember how to solve for  $x$ ?

My point is that technology – whatever the price or the logo attached – is not a panacea in and of itself. At best, mobile devices and software are highly functional platforms for curricula, which can greatly enhance learning if implemented in thoughtful, creative ways. At worst, they are a huge waste of money for districts and taxpayers.

To put it another way, a pneumonic device may have helped me learn the quadratic formula in middle school. But it was my Algebra teacher who really made it stick. Day after day, she led the class in a rousing chorus of variable recitation. Years later, I rely on my iPhone for the simplest of calculations. But I can still sing that formula by heart.

Can an app do that? Maybe. But it still takes the dedication of individual teachers, and the support of thoughtful administrators, to get an entire classroom of students excited about learning math.