

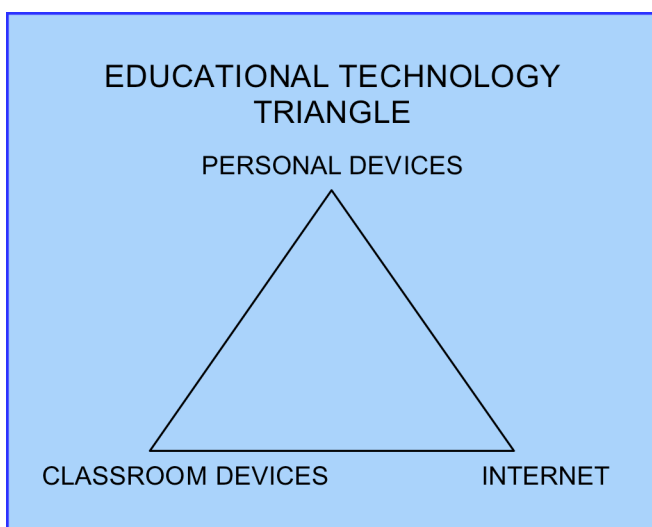
## Phoning It In

**ABSTRACT:** This article, the second in a series on educational technology and student-produced media, examines the uses of cell phone technology for teaching and learning. Cell phones, smartphones, and similar devices can be used in the classroom, for example, as instant-response systems—and can connect teachers and students for learning beyond the classroom. Educational gaming on mobile phones seems to be particularly engaging and can be employed to energize learning. But the creative production aspects of cell phone technology are even more exciting because they allow students to be active media makers, which further increases learning.

**KEYWORDS:** cell phone, computer, educational technology, Internet, mobile phone, m-generation, smartphone, student-produced media.

The phrase “phoning it in” usually refers to making a perfunctory or half-hearted effort at something, as in the **Urban Dictionary** example, “She sang the National Anthem, but she was just phoning it in as far as I could tell.” When it comes to educational uses of cell phones—or *mobile phones*, as they are called in most places outside the United States—“phoning it in” takes on a positive, proactive connotation.

The first purpose of this article is to examine ways that cell phones and their jazzed-up counterparts, smartphones, can be used to enhance and expand tech-savvy teaching and learning in creative ways. The second purpose is to suggest how school policy, which often is anti-phone, might be crafted to permit and encourage the use of phones.



In the initial article in this series I suggested that educational technology can be thought of in a tech-savvy triangle (*see at right*) of classroom devices, the Internet, and personal devices. These elements are fundamentally interconnected. This is especially true when it comes to incorporating cell phones and smartphones into instruction.

Many schools have been, and continue to be, reluctant to allow students to use their personal phones in school or to encourage teachers to connect with students by phone. There are legitimate policy issues involved and concerns about safety, privacy, and disruption cannot be taken lightly. These are key issues that will be addressed later. But, first, let’s consider effective, creative instruction using phones.

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## Using Mobile Phones in Teaching and Learning

Liz Kolb has written extensively about using cell phones in education, notably in her 2008 book, *Toys to Tools: Connecting Student Cell Phones to Education*.<sup>1</sup> Kolb found support in the research literature for concluding that “if the home culture of students [for example, cell phone use by parents, students, siblings, and others] is integrated into their classroom learning, they are more likely to be academically successful.”<sup>2</sup>

Listen to Liz Kolb’s interview with California educator Joe Wood about using cell phones in learning on a podcast of Kolb’s **Cell Phones in Learning Radio Show**: [http://www.cellphonesinlearning.com/2009\\_05\\_01\\_archive.html](http://www.cellphonesinlearning.com/2009_05_01_archive.html).

As I reported in the first article in this series, that certainly was the case at Chester Middle School in the Hudson Valley, where principal Ernie Jackson challenged reading and social studies teacher Mel Wesenberg to find ways to teach poetry by cell phone. As a result, students who “used their cell phones to boil down the main points of the stanzas got 80 percent of the questions about the poem correct on a state test.” By contrast, students taught the same material in the traditional way scored only 40 percent correct.<sup>3</sup>

Researchers and practitioners have coined a new term for learning with mobile devices: *m-learning*. Presenters at an International Conference on Computers in Education noted,

Researchers\* in the United States have developed several educational programs for PDAs. Designed for elementary schools, these programs allow educators to freely experiment with m-learning. These programs include the game-like quiz *Bubble Blasters*, the science simulation *Cooties*, and the concept map editor *PiCoMap*. [\*E. Soloway, C. Norris, P. Blumenfeld, B. Fishman, J. Krajcik, and B. Marx. (2001). Handheld devices are ready-at-hand. *Communications of the ACM* 44 (6): 15-20.]<sup>4</sup>

Among this list, for example, **Bubble Blasters 1.1** is freeware (downloadable free of charge) and is described as “a simple, stable and fast multimedia application that provides teachers with practice drills for students. The practice drills are in the form of multiple-choice questions, where the answers float across the screen. Students must choose an answer before their choices float away.” Initially Bubble Blasters had material for sixth-grade math, but later versions allow teachers to implement any subject material. Future versions of Bubble Blasters, according to the providers, will have an engine that allows teachers to furnish their own questions and possible answers.

It’s easy to imagine how such a teaching protocol might be ideally suited to the small-screen format of a cell phone, essentially making the cell phone into a handheld gaming device. The notion of gaming as learning certainly is not novel, but new technology has reinvigorated this concept. WideOpenDoors.net, for example, credits technology educator and blogger Elliott Masie (**The Masie Center**) with a conceptual phrase that is telling: “fail to success.” According to the WideOpenDoors writers,

gaming allows learners to “fail to success.” This concept of failing forward allows learners to test their limits in a safe environment. In addition, gaming increases muscle memory, or the rehearsal necessary to solidify correct behavior. Finally, gaming increases an internal and external competitive spirit related to learning opportunities.<sup>5</sup>

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On the language-learning **Babbel Blog**, Matthew Kam at Carnegie Mellon University, described dissertation research in Indian communities from his award-winning **MILLEE** (Mobile and Immersive Learning for Literacy in Emerging Economies) project, funded by the National Science Foundation. Kam reported that

kids playing mathematical E-Learning games two times per week improved their scores on math tests. That was by far the strongest evidence so far that games have an impact for education. We thought, when mathematical games can make a difference, you should be able to achieve the same kind of benefits with language-learning games too.<sup>6</sup>

The point of these examples is that no matter the subject, cell phones—particularly when they incorporate some aspect of gaming—can be powerful learning tools. What makes them so powerful, however, is not just the gaming aspect. Rather, it also is the accessibility and the portability of cell phones that allow students to take learning with them wherever they go. In the 2010 *Generation M<sup>2</sup>* study, researchers found that 66 percent of eight- to eighteen-year-olds had personal cell phones, and among high-schoolers 85 percent had cell phones.<sup>7</sup> As the authors of this study put it: “Today, the image of a teenager with a cell phone glued to her fingertips—either texting away furiously, listening to music, playing games, or watching videos—has become almost iconic.”<sup>8</sup> Much of that high-volume use can be tapped for learning.

Even voice-only cell phones—still the most prevalent worldwide—can foster learning. English speakers living in Japan, for example, can turn to **TangoTown**, which “turns your mobile phone into a complete communication, reference, and learning tool”—all for 300 yen a month (about \$3.50). Add text-messaging capability and the options expand further. For example, U.S. students preparing to take the ACT can download **Kaplan ACT for Wireless Phones**, which uses text messages to convey 500 sample questions and test-taking tips in a game format (complete with sound effects if the user desires) at a modest one-time download cost (currently \$19.99).

But what if teachers want to create their own cell phone-distributed quizzes or lessons? A useful program can be found through **Poll Everywhere**, which allows teachers and students to use cell phones like instant-response systems. According to *Inside the School* writers Michelle Freeman and Kent N. Schneider,

Students send their text message to a special number from PollEverywhere.com, starting their message with a code word that identifies the class. Their responses can be in the form of a multiple-choice answer or free text, depending on how the professor sets up the poll. The website then compiles the student responses in real time and displays the results on the instructor’s monitor. If desired, the results also can be projected onto a large screen for the entire class to view.<sup>9</sup>

Think of the strategy as turning learning about, say, climate or geography into a version of *America’s Got Talent*, complete with instantly graphed “audience” (class) responses submitted by cell phone.

### Student Project Idea

“How might you use a cell phone to learn about \_\_\_?”  
If you’re uncertain how to answer this question when you put the subject of interest in the blank, ask your students.

Regardless of subject matter, cell phone technology can be applied to learning—and students who are adept users and early adopters of technology of all sorts are a teacher’s best resource when it comes to tapping the potential instructional applications of cell phones and smartphones.

Conduct a brainstorming session: *Just ask them!*

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## Smartphones Ramp Up the Potential

Smartphones are actually handheld computers with phone capability—and the phone capability may or may not remain active when these types of phones are used in school contexts. So when is a phone not a phone? Maybe the answer is, when it's a computer. For example, Apple's iPod Touch is virtually identical to the iPhone but without the phone.

One school district that has been in the news has sidestepped the cell phone controversy to some extent by issuing smartphones to students with the voice and text features disabled and by specifically referring to the devices as *cell phone computers*. Haverstraw Middle School is one of the schools in the North Rockland Central School District in Garnerville, New York, just north of New York City, where teachers, administrators, students, and parents are successfully integrating these cell phones in learning.

Read more about Haverstraw Middle School's approach and take a look at the video newscast on **CNN's American Morning AMfix** at <http://amfix.blogs.cnn.com/2010/04/21/school-discourages-texting-by-giving-students-phones/-more-12591>.

Haverstraw's principal Avis Collier Shelby is overseeing a pilot project that has distributed seventy-five smartphones to fifth-graders with the notion of taking control of the technology before it takes control of the school. The phones cannot be used for voice or text messaging, and Internet access is filtered. However, the phones still hold allure for students, and they eagerly use them for everything from taking notes to doing online research.

For these students, the smartphones are MLDs, or mobile learning devices, basically handheld personal computers—a concept that the district says comes with a lower price tag than traditional computers. And the mobility feature builds ownership while it promotes responsibility on the part of students and flexibility on the part of teachers. For example, in social studies these eleven-year-old students researched Ellis Island on their phones and then put together a PowerPoint presentation, thus becoming producers rather than only consumers of media.

Cell phones and smartphones almost invariably include a camera. Most phone cameras take snapshots, but all of the major phone manufacturers have now introduced video, or cam, phones. Education consultant Marc Prensky refers to them as “a gold mine” because they “provide possible tools for scientific data collection, documentation, and visual journalism, allowing students to gather evidence, collect and classify images, and follow progressions over time.”<sup>10</sup>

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A recent study showed that newcomers and veterans in the teaching force are on par when it comes to using technology in teaching. Although younger professionals may make greater use of technology in their personal lives, when it comes to teaching with technology they don't have the edge.<sup>11</sup> The study by Grunewald Associates for Walden University also pointed out that access to technology is not the main determinant of whether it is used. Rather, such factors as the use of technology in teacher education and whether the teaching environment encourages technology use seem to be important. There are policy ramifications here, too.

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Powerful learning can come from the use of these small devices—if teachers, administrators, and parents are willing to look at the positive potential of phones instead of merely their nuisance value. So what's the hang-up?

## School Policy Issues

For opponents, *cell phone* is synonymous with *distraction*. The complaint most often leveled at allowing cell phones in school is that they distract from learning. But consider: Paper can be used for

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making spit wads, playing basketball with the classroom waste container, and folding into airplanes. Yet no one seriously considers banning paper from school on the grounds that it can be a distraction. Unchanneled use of cell phones means, of course, that students will use them to communicate with classmates and friends when they should be paying attention to instruction. However, if phones are used as instructional tools, then they are not distractions. The real point is using cell phones for learning, not merely allowing students to possess them in school.

Some critics also make a safety argument, for example, that cell phones may be used to spread rumors or that overuse of phones might hamper legitimate communication in emergency situations. The Education Commission of the States recalled that state legislatures began restricting students' possession or use of cell phones in the late 1980s. "However," the Commission noted,

in response to the use of cellular phones to contact family members during the events at Columbine High School in April 1999, during the terrorist attacks of September 11, 2001, and in other emergency situations, some state education policies have been revised, revoking the statewide restrictions on use of such devices and permitting local boards to adopt policies limiting or prohibiting student possession of pagers and cellular phones on school property.<sup>12</sup>

Consequently, in most school districts today the door also is open to crafting local policies related to phones that can permit and encourage their educational uses.

Many schools have found outright bans unworkable in any case. Teachers object to them on grounds that such bans prevent innovative teaching with technology, parents object that they invade students' personal space or limit emergency communication<sup>13</sup>, and students are remarkably adept at using phones in spite of any prohibitions.

**M**eanwhile, the potential benefits of channeling students' natural inclination to use phones into new ways to learn increase exponentially. Therefore, the best course for schools is to craft policies that allow teachers to innovate using new technologies—including phones—while limiting ways that students use phones instead of studying.

Not surprisingly, one factor in favor of using cell phones in education is their cost-effectiveness. Educator and blogger Greg Kulowiec, who teaches history at Plymouth South High School in Plymouth, Massachusetts, offers an example. Blogging on the **History 2.0 Classroom** about his decision to use **Posterous** as a blogging platform for his students, for instance, Kulowiec gave his reasoning as follows:

1. We have a school of over 1400 students with one computer lab.
2. I have one desktop, one laptop, and one netbook in my classroom.
3. Last year, of the 120 students I taught, all but 5 of them had cell phones with texting plans.
4. Students could post anytime, anywhere, without an internet connection.<sup>14</sup>

Posterous, Kulowiec reasoned, would allow his students to post to the class blog using text messages sent from their cell phones. And students with smartphones could send posts by email as well as post photos, videos, and voice messages.

Today's adolescents (and even younger children) are sometimes referred to as "screenagers." Think of the many screens this generation of young people looks at,

Take a look at "**Cellphones as Learning Tools**" on YouTube. This video examines how Craik School in the Canadian province of Saskatchewan was exploring using cell phones in education in 2008.

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the most ubiquitous being the tiny one on a cell phone or smartphone, and the urge to use such screens to create learning must be—should be—irresistible to educators.

For additional background information that may aid in policy development, readers can check out a **Principal's Partnership Research Brief** on cell phones.

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## Questions to Ponder

The following questions are largely rhetorical—questions to generate ideas ... or other questions:

What kinds of learning might be engendered using cell phones or smartphones? Would phones be a new way of thinking and working, or would they supplement traditional teaching? How would you need to rethink your lesson planning to use phones?

Could cell phone technology supplement or replace computer labs? What limitations might phones have that computers in the classroom do not? What advantages might cell phones have over, say, individual laptops for students—and what disadvantages?

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## Online Resource Notes

URLs for items shown in **bold** are as follows:

### *Page 1*

Urban Dictionary at <http://www.urbandictionary.com/>.

### *Page 2*

Bubble Blasters 1.1 at <http://pda.wareseeker.com/Home-Education/bubble-blasters-1.1.zip/15089a269c>

Cell Phones in Learning Radio Show at [http://www.cellphonesinlearning.com/2009\\_05\\_01\\_archive.html](http://www.cellphonesinlearning.com/2009_05_01_archive.html).

Masie Center at <http://www.masie.com/>.

### *Page 3*

Babbel Blog at <http://blog.babbel.com/>.

*Inside the School* at <http://www.insidetheschool.com/>.

Kaplan ACT for Wireless Phones at <http://store.handmark.com/products/detail.php?id=402>.

MILLEE at <http://www.cs.cmu.edu/~mattkam/millee/>.

Poll Everywhere at <http://www.polleverywhere.com/>.

TangoTown at <http://www.tangotown.jp/tangotown/>.

### *Page 4*

CNN American Morning AMfix at <http://amfix.blogs.cnn.com/2010/04/21/school-discourages-texting-by-giving-students-phones/-more-12591>.

### *Page 5*

“Cellphones as Learning Tools” on YouTube at <http://www.youtube.com/watch?v=zhAH6nncCKw>.

History 2.0 Classroom at <http://kulowiectech.blogspot.com/>.

Posterous at <http://posterous.com/>.

### *Page 6*

Principal's Partnership Research Brief, search on “cell phone” at <http://www.principalspartnership.com/>.



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He is a frequent contributor to the education literature. His most recent book is titled *Writing for Understanding: Strategies to Increase Content Learning* (Corwin Press) (<http://www.corwin.com/booksProdDesc.nav?prodId=Book232389&>). He also writes two blogs: Arts in View (<http://artsinview.blogspot.com/>) and Writing Tips for Teachers (<http://writingtips4teachers.blogspot.com/>).

<sup>1</sup> Liz Kolb. (2008). *Toys to tools: Connecting student cell phones to education*. Washington, D.C.: International Society for Technology in Education. <http://www.iste.org>.

<sup>2</sup> Ibid., p. 4.

<sup>3</sup> John Sullivan. (2010, April 26). Texting poetry inspires kids to learn. *Times Herald-Record/recordonline.com*. <http://www.recordonline.com/apps/pbcs.dll/article?AID=/20100426/NEWS/100429736>.

<sup>4</sup> Chris Houser, Patricia Thornton, and David Kluge. *Mobile learning: Cell phones and PDAs for education*. Proceedings of the International Conference on Computers in Education (ICCE'02). See <http://www.computer.org/>.

<sup>5</sup> *Gaming in Education*. (2007). WideOpenDoors.net. [http://www.wideopendoors.net/educational\\_technology/gaming.html](http://www.wideopendoors.net/educational_technology/gaming.html)

<sup>6</sup> “Cell phone learning can make a difference” – Matthew Kam on a game-based approach for English learning in India. (2009, February 27). <http://blog.babble.com/cell-phone-learning-can-make-a-difference-matthew-kam-on-a-game-based-approach-for-english-learning-in-india/>.

<sup>7</sup> Victoria J. Rideout, Ulla G. Foehr, and Donald F. Roberts. (2010, January). *Generation M<sup>2</sup>: Media in the lives of 8- to 18-year-olds*. Menlo Park, Calif.: Henry J. Kaiser Family Foundation, p.18. <http://www.kff.org/entmedia/8010.cfm>.

<sup>8</sup> Ibid.

<sup>9</sup> Michelle Freeman and Kent N. Schneider. (2009, February 20). PollEverywhere.com: Turning cell phones into a tool for student engagement. *Inside the School*. <http://www.insidetheschool.com/articles/poll everywhere-com-turning-cell-phones-into-a-tool-for-student-engagement/>.

<sup>10</sup> Marc Prensky. (2005). What can you learn from a cell phone? Almost anything! *Innovate* 1:5. <http://www.innovateonline.info/index.php?view=article&id=83>.

<sup>11</sup> Research dispels common ed-tech myths. (2010, June 29). *eSchool News*. <http://www.eschoolnews.com/2010/06/29/research-dispels-common-ed-tech-myths/>.

<sup>12</sup> Education Commission of the States. (2004). Pagers and cell phones on school property. *ECS State Notes: Safety/Crime/Violence*. <http://www.ecs.org/clearinghouse/54/44/5444.htm>.

<sup>13</sup> Amy S. Clark. (2006, May 12). School cell phone ban causes uproar. *CBSNews*. <http://www.ecs.org/clearinghouse/54/44/5444.htm>.

<sup>14</sup> Greg Kulowiec. (2010, August 24). Posterous X Student Blogging Option? *History 2.0 Classroom* (blog). <http://kulowiectech.blogspot.com/>.