# Supporting Cell Phone Use in the Classroom

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C ell Phone use is increasing, though it is still repressed more than accepted as an educational tool in US high schools. This article discusses how cell phones have been used in a charter school for at-risk students, as well as how and why they should be used on a

broader basis. Also discussed are some future possibilities for cell phone use based upon the emergence of web 2.0 applications that support mobile phone use.

My first experience using a phone in the classroom was early in the age of the Net. I was in a school with only three phone lines going out, and I needed one of them to get online. After about four hours of crawling through the ceiling and ductwork, I was able to connect my 2400k modem, and use a text based lynx browser. Computers in school are now highly dependent upon the telephone in order to appropriately access the Internet, which has been integrated into most school curricula.

My students were in my class, with its computers, because they were at-risk of failing. The school had invested a large sum of money on both hardware for the lab and the software, but the software was "skill and drill", and the students quickly learned to click through it, showing improvement, but learning nothing. That's when we "Borrowed" the image of Snoopy on his doghouse (from the comic strip, "Peanuts"), in fighter pilot mode, and became "ACES Around the World". The students were taught how to use the Lynx browser to find out information, and they became the school's internet search service.

Want to know how to say "Merry Christmas" in fifty languages? Ask an ACE student. Want to know how many miles an African elephant travels in its lifetime? Ask an ACE. The students became the information experts of the school, and it changed them. No longer were they the "dummies" of the school, i.e., knowledge challenged. They were the information experts. Their grades improved, and they "graduated" from my program.

More than ten years later, I was working multiple administrative roles for a charter school for inner city HS students in Cincinnati. Our students were HIGHLY at-risk; many of them had been in knife and gun fights, and had the scars to prove it. I was setting up a literacy program for these students when I discovered Google SMS. For me, it was an "Aha" moment. By using Google SMS, students who would never, ever use a dictionary had access to Google through their favorite medium, the cell phone. The results were much the same. Students who were previously the "dummies" in their old school were the information experts again. The spread of the "news" that their cell could access information through Google was viral, and they used it.

While I have moved on to work as an assistant profes-

sor at Dakota State University, my belief in the use of cell phones in schools is unwavering. However, I recognize that there are barriers to cell phones being adopted as a tool of academic instruction. While a few of these may reside in the cell phone, the majority reside in the educational system.

## Opening Question

How does the dynamic interaction between you and your students change if you can say, "Please put away your cell phones, we are not ready to use them yet" instead of, "Put away your cell phones, you know they are not allowed during class time!"? All over the country, cell phones have been banned in schools. By doing so, schools have banned a thin client to the world's most powerful webservers, while at the same time complaining that they do not have the funds to keep up with technology. While schools do need to teach appropriate use, they are fairly experienced at that, letting students know when to put away books and take out paper and pencil for decades. Clearly, schools are not reticent when it comes to telling students what to put away, and what to take out. In the case of the cell phone, it is not the device that is the problem, but rather the behavior of the students using the cell phone that needs to be modified in school.

Seems as though educators are sometimes fooled by appearances.



Which of these has the most computing power? The modern cell phone or the 10 year old Apple Computer? Can you spot the input and output devices for each? At first glance, the devices

look and are used completely differently. However, both have keyboard input, storage capacity, and recordable output capability, the computer through the printer, the cell phone through a mobcast.

The knowledge base on the use of mobile phones in education is rapidly approaching a critical mass, where the question changes from "Why use cell phones in education" to "Why aren't we using cell phones in education?" Cell phones are mobile, easy to use, interactive and connected. Because of their usability, mobile phones allow users to transcend the boundaries of time and space imposed by schools to connect to a world of information anytime and anywhere (Rogers & Price, 2007). In addition, cell phones allow learners to collaborate, create new knowledge, and share this knowledge immediately on the Internet, all within real-world contexts (Alexander, 2004).

## Uses in the classroom

One of my first uses of cell phones in the classroom was developed by Google. Google has created the SMS Search, where you text message your search query to **466453 ('GOOGLE'** on most devices) and they will text message back the results. This makes the Cell Phone a "Thin Client" in a very real sense. At the Cincinnati charter HS school, we used "Define" and "Q &A" as the primary tools for a SMS search.. As I mentioned before, the students were quite satisfied to become knowledge experts. When engaging students with literacy activities, it was important for them to realize that words could have different meanings, and different shades of meaning. I had them text **collaborate",** then form groups to discuss what the definition said, and whether or not they agreed with it. Some terms lend themselves to this practice better than others.

One of the technical drawbacks of using a cell phone rather than the computer is that the cell phone cannot

printout pages of paper. However, Web 2.0 tools are changing that. There is a school principal who "writes" his evaluations by calling them into JOTT.com, which then converts his voice notes to text he can later access. Another way of creating output is to create a MOBCAST, that is, to create a podcast using the cell phone via gabcast, evoca or similar sites to create an instant voiceblog. In this activity students "call in" their response to an instructor's question. The instructor can either then have parents, outside experts, other classes of students, or even review the voiceblog herself. The sound files are there, in the form of MP3 files on the web.

Some uses for a Mobcast that my college undergraduates have suggested include: a discussion board, journaling activities and projects, creating a space for students in different class sections to collaborate on projects, communicate with community members and parents, market the school, job hunting by sharing job needs and desires with the larger community, Pen-Pals for younger children, cross-class peer interaction, speech recording—assignments, dialogue for group work, management of projects, communication at anytime and anywhere, share information between different schools, teachers can post new assignments, and students can ask teachers questions about tests or assignment through posts.

A sample Mobcast was made by students of Dan Schmit, author of "KidsCast", on the fifth anniversary of 9/11. It's moving, the audio is clear, and it was recorded with a cell phone. Skyler's memories of 9/11, five years later:

"Hey, this is Skyler, this is my podcast. I was in my Spanish class when the plane first hit the World Trade Center. My teacher walked in, and this is what she said, "I guess some plane just flew into a building or something in New York City

or something." I guess we all just kind of laughed, cause we did not think it was that big of a deal. When the second plane hit, it came over the intercom, and we kind of realized that it was a big deal. We got a little worried. We went to the next class, and there was a military guy there, but the teacher had already had him scheduled, so that was sort of a weird ironic twist. We spent the rest of the classes that day just talking about it. Today is five years later, and it has affected me quite a bit, at least the way I think about things. I realize that our country is pretty vulnerable, and anything good that we have, like our freedom, is something that we will have to fight for. We cannot take it for granted"

Skyler's mobcast is an example of a student's higher order reflective thinking being captured in a "digital native" format. Could he have done the same reflection on or in a term paper? Surely. Would he have been as willing to do it, and share it with the world? Probably not.

Why should we do this? Because students need to be practicing the 21st Century Skills they will need in the future. Everywhere in the world, except in the schools, cell phones are being used to achieve what are considered essential 21st century skills of collaboration, communication, and innovation. Kathy Schrock (2007) points us to the "Disruptive Technology Adoption Cycle", where tools become available, students use the tools at home and at school, the school responds with bans, the use of the tool spreads, and finally education responds with a version or way of using the tool that is compatible with teaching. An example of this would be the iPod, once banned and scorned by teachers in the schools, but now seen as a useful device, assisted by Apple with it's creation of iTunes University.

Hall Davidson (NECC, 2008) points out that parents are not likely to give up their primary means of communicating with their children, making schools attempts to "ban" the device ultimately futile.

How should we do this? In this case, to get to the future, look to the past! Look At Bloom's Taxonomy, again! The Taxonomy encouraged the use of higher order thinking in the classroom. Doing that is not all that difficult, e.g., apply the fortune cookie technique, where you add a phrase to the end of the fortune to create a new meaning; you "upped" the cognitive level of the classroom. In the case of technology, educators can leverage their experience in distance education with tools like BlackBoard, WebCT and Desire2Learn by substituting "on a discussion board" with "on a mobcast".

## Emerging Technologies

Technologies, both web and phone, will continue to have an impact both on use and pressure to use cell phones as an educational device. As Web 2.0 applications become more mobile device friendly, use and pressure to use will continue to grow.

**Polleverywhere.com** is an emerging tool that allows students to text in polls in realtime. Thus, teachers have instant anonymous responses to let them know if there are students who may be struggling, but afraid to ask questions in the class. Polleverywhere becomes a tool for providing instant feedback, a use of technology specifically aimed at improving core instructional strategies (Pitler et.al. p. 45)

While I have used Google SMS service as a resource, another emerging technology resource is **chacha.com**. Here, a human being will look at your query and interpret it. Not quite as fast as GoogleSMS, but frequently more accurate in returning usable results.

**Blip.tv** provides a method of upload-

ing cell phone videos to a web blog. This means that not only can students create instant cellphone blogs; they could create mini-documentaries with their cell phones and share those online.

**Foneshow.com** is a new website that allows users to listen to Podcasts on their own cellphones, as well as to upload and create their own radio show. Visually impaired students could use this tool to subscribe to NPR or other podcasts, as well as create their own "radio" show. In addition, one could download podcasts from iTunes university.

**NEC** has been developing a speech to text to translation software for their cell phones that will enable instant translation of over fifty thousand common phrases (NEC, 2008). Currently, the translations are being developed for Japanese to English, but plans are also underway for English to Japanese and Japanese to Chinese as well. The applications for this feature, when fully implemented are staggering, as language would be effectively reduced as a barrier to communication.

Researchers Tom McNeal and Mark vant Hooft (2006) have been leveraging a grant from Verizon to create desktop videoconferencing for students using the cell phone. Although the US protocols do not allow for synchronous video conferencing (Europe's do, the US is behind), students were able to create several projects, including interviews at the Akron Zoo, the mayor of Stow, Ohio, and the Cleveland Museum of Natural History.

Finally, no discussion of the potential of cell phones use in the classroom would be complete without a mention of the iPhone. Apple has managed to detach the physical interface of the standard phone from the user experience, so creating a much wider potential for more flexible uses of the

phone. Both web browser and music player experience is enhanced by the new design, and Apple, with its close historical ties to education, may well be willing to support research into academic use.

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## Florida Association for Supervision and Curriculum Development

## Vision

Providing educational directions for all who impact teaching and learning.

## Purpose

The purpose of this association shall be the general improvement of instruction and supervision and the encouragement of professional growth.

## Goals

Provide a forum for collaboration to improve education.
Deliver programs in a variety of formats, which meet the needs of Florida educators.
Provide a communication network that links Florida educators.
Support and encourage research and development activities designed to enhance educational practice.

## Beliefs

We believe that . . .

- Collaboration fosters a quality educational system.
- An ever-changing world necessitates life long lerning.
- Dialog among people promotes understanding and vision for a common purpose.
- Diversity strengthens society.
- Learning occurs in an environment that fosters safety, love and trust.