

The Whole World in Their Hands

A North Carolina middle school didn't have enough computers to give students reasonable access to the Internet, so administrators implemented a one-to-one iPod touch program. Now every student is connected.

If you were to walk around Grey Culbreth Middle School in North Carolina today, you'd notice some very engaged students using iPod touches in a variety of ways. Drop in to a science class, for example, and you'd see students using these handheld mobile devices to identify bacteria they had collected from different areas of the school. Stop by the art room, and you'd find groups of students visiting museums all over the world and collaborating about works of art. In a social studies classroom, you'd see students researching, identifying, and using primary-source documents to learn about historical events. Even in the study halls, you would see kids using the touch to organize class work, take notes, and check assignment due dates.

For the past two years, our central North Carolina school has put an iPod touch into the hands of all of our nearly 700 students. This is a big improvement over the technology we had before. Most classrooms at Culbreth have only a few classroom computers. So if students needed to search the Internet or access a website, they often burned valuable classroom time waiting for a seat in front of the monitor.

By Helen Crompton,
Lynne Goodhand,
and Susan Wells



That's why, at a time when other schools are clamping down on the use of handheld mobile devices, Culbreth is going in the opposite direction: recognizing the role these devices play in our society and embracing their use in the classroom.

Culbreth's iPod touch program is not a replacement for desktop computers, but a complement to them. Students are not expected to write essays on the tiny keyboards. But if they were asked to research the food source of an antelope, they would not have to move from their seats to find the answer.

How We Got Here

In the spring of 2008, Culbreth staff partnered with North Carolina Virtual Public Schools (NCVPS) to create the first online middle school curriculum in the United States. NCVPS offers more than 72 online courses—AP classes, world languages, and credit recovery courses—to students across the state.

In writing the grant, Culbreth teachers and administrators thought long and hard about embedding technology in schools. We considered our own pedagogical practices and evaluated the

role of technology within our teaching. After taking a look at all the options available to today's students, we decided any device that we embedded in the district must be personal, mobile, and easily accessible. We chose the iPod touch, which would allow students to surf the Internet and gain access to countless apps.

Fortunately, the partnership with NCVPS came with \$85,000 in funding. Further support came in the way of anonymous gift donations from Culbreth parents, and \$10,000 came out of the school's technology budget. A portion of the money was set aside for professional development.

Careful Implementation

We implemented the program slowly and deliberately.

Stage one. During the summer, we gave iPod touches to teacher leaders from each of the professional learning communities (PLCs), which are two-person grade-level teams from the same discipline who work collaboratively to improve student learning. There are two teams per grade.

In this first stage, the 20 teacher leaders had approximately one month to "play" with their iPod touches to get an idea of what they could do and how students could use them in the classrooms. It was a tremendous success. Teachers were enthusiastic about the devices and collaborated to produce numerous ways to integrate them into their lessons.

Of course, we could just as easily have handed everyone a three-ring binder and led them step by step through a linear workshop. But we felt that allowing teachers to explore ideas themselves was a more authentic and engaging activity than reading worksheets in a binder.

Stage two. In September, our school purchased iPod touches for the certified and classified staff in the school. We feel strongly that *all* staff are part of the learning community and should have access to the tools. During the initial PLC meetings at the start of school, the team leaders shared with other teachers what they had learned from using the iPod touches. The PLC teams then began to meet in groups every other week to share knowledge, ideas, and best practices about using the iPod touches in school.

Stage three. In October, we launched a pilot program with a group of sixth, seventh, and eighth grade students who were members of the school's Advancement via Individual Determination (AVID) program. AVID targets middle schoolers deemed unlikely to consider attending a college or university. The goal of the program is to steer these students toward college. We gave each AVID student an iPod touch to carry during the school day for academic and organizational purposes. Feedback from the student group was highly positive. One student, who is now a high school sophomore, said, "Having this is like having a tool in your pocket that does 1,000 different things."

Stage four. In December, we purchased 60 iPod touches and two charging carts for each grade level. We also bought each of the six teacher teams a \$100 iTunes card and set up accounts for them so they could download apps. The grade-level team members shared the iPod touches and signed up to use them for specific class periods.

Stage five. In January, we sent letters home asking parents if their children owned iPod touches and whether they would be willing to allow their students to bring the devices to school. About 20% of the families agreed to do so, which significantly reduced the cost of the program. The school then bought iPod touches for all the students who did not have one of their own.

Problems Encountered

As with any new school initiative, the iPod touch program was not without its challenges. Before handing out iPod touches to the students, the school had to consider what to do in the event of damage or loss. We decided to create a contract stating that if a student lost or broke the device, the family would be expected to pay for a replacement. Fortunately, in the first year we had no cases of lost or damaged units. The contract also forbids students from using the devices for cyberbullying, inappropriate Internet searches, and visiting chat rooms. Both the student and the parent must sign the document. (See Resources on page 19 for a link to the contract.)

We also had to figure out how to charge approximately 700 iPod touches a day. To address this, we purchased charging stations and placed them on a rolling cart that charges up to 40 iPod touches simultaneously. The devices are updated using a single laptop wired to each iPod touch.

Students leave the iPods at school at the end of the day and get them back the next morning. All school iPod touches are engraved with the school name and a number assigned to an individual student. Each student uses the same iPod all year long.



Learn more about apps in "There's an App for This!" on page 36.

Apps, Apps, Apps

Megan Taber, a social studies teacher, uses a number of apps and Web-based programs during her lessons. As a daily warm-up, Taber asks students to answer some questions using a [Google Form](#) embedded on her website. “I can see my students’ responses instantly in a spreadsheet, which allows me to monitor completing and comprehension of material in a way I couldn’t before,” Taber said.

Taber also uses [WorldWiki+](#), which takes information from the CIA Factbook website and organizes it in a way that is easier to navigate than the main website. The students use the site to look up demographic information on various South American countries.

The students also enjoy using [CountryQuiz](#), an app that lets them practice naming the countries of the world. And [gFlash](#) is another popular app at Culbreth. It allows the teachers and the students to easily create a set of digital flash cards. The app can display vocabulary words as regular flash cards do, or it can create instant multiple-choice questions. As students quiz themselves, the app keeps track of incorrect responses and repeats the questions.

As you enter Peter Schwartz’s science classroom, it’s clear that he has found numerous ways to bring science to life with apps and Internet resources. One of his favorite apps is [Decibel](#), which monitors the noise level. “I have the students create various noise levels to see how the decibel levels fluctuate,” Schwartz said.

Schwartz also uses [lapetus](#), an app that shows how Pangaea formed and became the continents we have today. The [iSeismometer](#) demonstrates the different types of waves produced by an earthquake. Students shake their iPods to mimic ground movements. And an app called [Quakewatch](#) shows earthquakes and their magnitudes as they happen. It also maps where the earthquakes occur in the world. Last year, the students in the class watched Haiti’s major aftershocks happening in real time, which brought this terrible tragedy to life for many students.



The first generations of iPod touches did not include phones or cameras. And without these two functions, two significant distractions for students were not an issue. Now that the iPod touches have more capabilities, the devices used in school must have cameras disabled. The school tech specialist has also loaded filters onto the iPod touches so that

teachers can choose to block sites not appropriate for middle school students.

Reactions from Staff

These days at Culbreth, iPod touches are part of the toolkit students find on their desks, along with pencils, pens, and calculators. When students need the Internet, they no longer have to

wait. The students are highly motivated and engaged.

As you move around the classrooms, the students are captivated by the device and generally stay focused. One teacher said, “When I ask the students to begin a task on the iPod touch, I don’t have to ask twice. If anything, it is harder to get the students

to stop working. It makes my life as a teacher so much easier.”

Positive Results

As we look back at the implementation of our one-to-one iPod touch program, we believe the process we used was effective. Mainly, by moving forward in stages, we ensured that there was time to evaluate the effectiveness of the iPod touch before moving to one-to-one implementation.

And, while it's too soon to evaluate the results in great detail, we can point to encouraging data. Culbreth earned North Carolina's top designation—Honor School of Excellence with High Growth—exceeding the growth goal under the state's school accountability program. The school also met adequate yearly progress under the federal No Child Left Behind Act.

More important, the iPod touch program at Culbreth School has had a positive response from students, teachers, and parents. Through the use of this mobile device, we've come a long way. Students have the opportunity to access knowledge, organize their schedules, and work collaboratively. The iPod touch puts knowledge and learning literally into the hands of all Culbreth students.

Resources

- Country Quiz: <http://countryquiz.worldclockr.com>
- Decibel: www.gadgetfrontier.com/apps/decibel
- gFlash: www.gwhizmobile.com/Desktop/gFlash.php
- Grey Culbreth Middle School YouTube iPod Touch resources: <http://bit.ly/c0ySMP>
- iSeismometer: www.iseismometer.com
- QuakeWatch: www.applicious.com/tech/apps/44000-quakewatch-latest-earthquakes-info-latenightprojects
- Student/Parent iPod touch contract: <http://bit.ly/dobjMX>
- WorldWiki+: http://ipa.zoha.vn/WorldWiki+_v1.0.1-1525.htm



Helen Crompton is working on her PhD in education at the University of North Carolina—Chapel Hill. She taught in schools for 16 years.

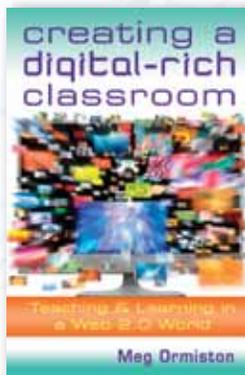


Lynne Goodhand is the assistant principal at Culbreth Middle School and was instrumental in launching its one-to-one iPod touch pilot program.



Susan Wells is the principal at Culbreth and helped launch the one-to-one iPod touch program. She was recently named Chapel Hill Carrboro City Schools 2010 Principal of the Year.

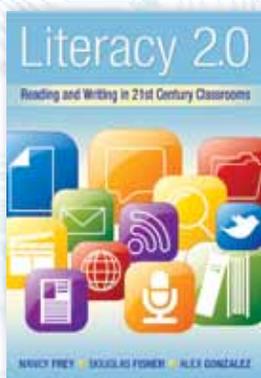
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