The Digital Swiss Army Knife

The following excerpt is based on an interview conducted by Gerry Bayne, EDUCAUSE multimedia producer, at the EDUCAUSE 2010 Annual Meeting in October 2010. To view a video of this discussion, go to <http://www.educause.edu/er/PerkinsCasdorph>.

Gerry Bayne: What has been your experience in finding mobile applications that further engage students or enhance the learning experience? Are there any particular applications you’d like to tell us about?

Scott Perkins: At Abilene Christian University, we’re now in our third year of deploying an iPhone or iPod Touch to all incoming freshmen. When I look for trends broadly across our undergraduate program, there are apps that our teachers and students are using to extend learning outside the classroom—for example, flashcard apps. We’ve also been using within-the-classroom apps, such as ResponseWare from Turning Technologies. And we’ve had an explosion of course blogs in the last year. Over 70 percent of faculty have made use of at least one course blog, representing several thousand students each semester.

Course blogs and Internet searches during class are examples of things that happened ahead of our deployment of mobile devices. As the campus culture caught on with the excitement of the initiative, folks who were teaching upper-level classes, where students did not yet have mobile devices, got excited about the things they could do.

Michael Casdorph: At Georgia Health Sciences University (formerly the Medical College of Georgia), we started with the low-hanging fruit: the convenience tools, the directory, the map, the ability to deliver learning videos through the mobile device. But we thought that wasn’t enough. We wanted to add a suite of applications that students, physicians, and our faculty would use. So we incorporated the Blackboard Mobile Software Development Kit (SDK) into our platform. We added a suite of medical applications, medical calculators, and an obstetrics wheel. And then we wanted to take that even a step further to push students to want to use the mobile device and the resources that we were providing, to want to do more with more educational apps. We looked into providing site licenses of various apps for the students. We had difficulties with the publishers, so we ended up doing our own in-house development.

We’ve been successful in deploying several procedure apps. In the health sciences, students learn procedures that are repetitive in nature. Apps that show a video of a procedure, including the preprocedure and the postprocedure, are particularly useful. We made a template, so that faculty can send us procedures with the video and the images and the text they want, and we can then create the app from that.

Bayne: Are you getting any metrics on how these apps are being used?

Perkins: We’re piloting a couple of classes with digital textbooks on iPads. From the developer of that platform, we can get student log-in and log-out and some metrics of student activity. With the suite of academic apps that some of our own developers wrote back in early 2008, before the Apple App Store was even open, we collected hits and other usage statistics. But collecting metrics has been a challenge all along the way. In terms of faculty app use and development, we’re seeing patterns where faculty are using apps for what we would call administrative tasks—for instance, apps for attendance, the class roster, class assignment due dates, the course calendar. We continue to try to move faculty along to tinker with and pilot that first classroom app, giving enough tech support to help it be successful quickly. And then we encourage some out-of-classroom activity—either a preclass podcast on the front end or blogs or some other activity on the back end.

Casdorph: We’re doing two educational research studies. One, with the Anesthesiology Department, requires the residents to have iPhones. The course integrates lecture capture, uses ResponseWare for assessments, and provides a mobile app that teaches the residents fifteen different procedures that they can use as a reference tool. We’re going to track their performance on their board scores. The other is a breast cancer app for patients. We’re providing breast cancer patients with an iPad that includes an app tracking them from the diagnosis through their treatment. We’re going to capture data in that study, and the iPad provides some of that data.

In addition, some of the app manufacturers now also include very granular data tracking, to tell exactly what part of the app or what part of the content users are spending the most
time with, so you can track some of that data. That's become a more popular feature.

**Bayne:** How do you think these apps will shape the courses in which they're used?

**Perkins:** I think the fundamental challenge of mobility to education, especially higher education, is the always-present ability of students to get to the world of information in just a moment, both in and out of the classroom. That is changing the way we've thought about classes and lecturing for literally hundreds of years. The faculty member as a lecturer on the stage, dispensing information that's going to be the core basis of an exam to see if students can memorize that information, is a model that just doesn't work anymore. When I talk about the criteria for diagnosing a mental health disorder in my psychopathology class, and the students say “But wait a minute” and question me with information from Wikipedia, I've got to think about what I'm doing. My assessments within the course were driven by students regurgitating those diagnostic criteria that they're now going to access, along with all the drug interaction and differential diagnosis decision trees, from a device carried in their pocket. It's a different world. There's not such a need for them to have that stuff memorized anymore.

So we need to think about how to reengineer the classroom to really engage students. Mastery of content has always been, I think, our criteria, and mastery of content still matters at some level. But in many cases, we were doing that fairly well already. I don't know that mobile devices help us do that any better. In fact, I think mobility makes it a little less important for us to work on mastery of content during those class minutes. Now, class time can be used to engage students with interactive, collaborative, and active-learning teaching strategies. And these can be organized around this idea that the information can be found anywhere and anytime. But how do students weed through the thousands of hits from Google to find the good information for a decision or problem? Teaching and training students with skills to evaluate information is probably our biggest challenge now.

Teaching students how to make efficient use of the technologies around them and in their workplace future is a different world for faculty. And that is something that we consistently try to lay out as a challenge for faculty members. In a sense, the old role of the faculty lecturer is facing extinction. Even if faculty would like to turn off all the WiFi on our campus, the students are bringing their own WiFi with them—3G or 4G now comes with them—and we can't turn it off.

**Casdorph:** I think that's right. Our students were already going out and looking at YouTube and other resources and finding procedure videos and medical content. But the way a procedure is done at Georgia Health Sciences University may be different from how the procedure is done elsewhere. Even though there's a wealth of information out there, it may not be what or how we want our students to learn. So by providing them with our content in a mobile device, which is really their digital Swiss Army knife that they carry with them everywhere, we're facilitating their style of learning. And that's what we're trying to embrace—their way of thinking, their way of learning.