

# THE MOBILE ACADEMY

**mLEARNING FOR HIGHER EDUCATION**



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# The Mobile Revolution

The mobile revolution is truly here. For example, in the case of mobile phones, the odds of finding someone who doesn't own one are close to zero. Cell phones aren't the only mobile device, but they are a growth area because increasingly they include the capabilities of other mobile devices. However, tablets are also on the rise, cannibalizing laptop sales (The Street, 2011). Particularly in the academy, the greatest ownership of mobile devices is in the traditional-aged college student demographic: The Pew Internet February 2010 report points out that adults younger than 30 are more likely to own a cell phone, at an ownership rate of 93% compared with 83% for all adults over 18.

## CONTEXT

Globally, access to mobile networks is now available to 90% of the world population, according to the "World in 2010" report put out by the International Telecommunications Union (ITU). Perhaps most importantly, the same ITU report details that the developed world mobile market is reaching saturation, with 116 subscriptions for every 100 eligible individuals. And, unlike laptops, you can't prevent access by shutting down a wireless network; access is now everywhere you get a cell phone signal. Consequently, the question is not whether to allow internet access but how to accommodate it.

Yet campuses have been slow to adapt to the mobilized student. The 2010 Campus Computing survey shows that only 13.1% of institutions already have developed or enabled mobile learning and administrative capabilities, and only another 10.1% are doing so in the 2010–2011 academic year.

The discrepancy between distribution of mobile devices and university uptake likely has several factors, including:

- The relative newness of what David Pogue, New York Times technology writer, calls *app phones*, which not only have internet access but also can host different local software applications
- A turbulent marketplace
- Vendor slowness to invest in what is a relatively new market in tough economic conditions

The ability of phones to provide custom learning solutions is a recent development. While there have been a variety of services delivered, and learning needs met, via text messaging elsewhere, the use of text messaging has been slower to penetrate the U.S. market, and other mechanisms are even more limited. Consequently, the opportunity to provide richer interactions is still emerging.

The marketplace on which to develop those richer interactions has remained unstable. At the time of writing, one of the major players a few years ago, Palm, has essentially disappeared, though the operating system it developed for the next generation may yet achieve success in new hands.

While the platform operating systems are finally seeing some stability, the hardware and marketplace are still in a state of almost constant change, which makes it hard to determine a successful strategy. As a consequence, vendors of tools and technologies have been slow to invest in the development of mobile capabilities.

Yet we now have achieved a state of sufficient stability to start building mobile solutions, and the dynamism that prevented investment is now being exhibited in the market that capitalizes on that investment. Further, the devices also provide internet access, to the point that, for many, mobile is the main form of internet access (OnDevice, 2011).

This leads to our topic: the opportunity and the future, specifically around higher education learning. Mobile has matured and stabilized to the point where

it now makes sense to understand, plan, and start developing mobile solutions. There are already predictions that mobile will fundamentally alter the delivery of learning. With ubiquitous access, why would learning continue to be tied to a location or a time? What we have on tap is the opportunity to revisit the fundamentals of the learning experience and use technology to come closer to the ideals we would like to achieve.

The real opportunity here is to facilitate deeper and more persistent learning. In an all-too apt skit, comedian Father Guido Sarducci talks about the five-minute University: “The idea is that in five minutes you learn what the average college graduate remembers five years after he or she is out of school” (<http://www.youtube.com/watch?v=kO8x8eoU3L4>). The point is that too much of education in general has been tied to industrial efficiency instead of learning effectiveness. As Long and Holeton (2009) point out, the aim was to prepare individuals to be useful factory employees performing repetitive tasks. The classroom model was developed to accommodate the ability to serve a number of students instead of the more inefficient apprenticeship model, and the focus was not on ensuring competency but on finding who would succeed. More fundamentally, what we learn in our college experience is of little use in our everyday lives. And, as Professor Emeritus John Ittelson says, universities are good at resisting disruption from new technologies. Our investment in education disappears too soon after the event. We need to revisit learning. Mobile is not a cure but is a tool to achieve the ends, and consequently it is a catalyst for change.

I believe that technology has been such a catalyst. Arthur C. Clarke said with much foresight, “Any sufficiently advanced technology is indistinguishable from magic” (1984). We really have reached the point where we do have magic, and thus we have the opportunity to ask what we should do with it. When we went back and looked at what makes good learning, to see how to use technology, I think we recoiled in shock from what we were doing in the classroom. So I will characterize effective learning as part of discussing how mobile can be used to facilitate it.

## RELATED EXPERIENCES

The use of mobile devices is growing in other arenas. In the corporate market, where productivity improvement opportunities are quickly capitalized on, mobile is finally on the upswing. Examples range from training courses on phones through

performance support and information access capabilities to augmented reality games to build teams and enhance learning. While academic research continues to lead in concepts, the corporate sector tends to move quicker on practical application and larger-scale innovation. They are also more focused on outcomes.

K–12 education, too, is seeing growing use of mobile. From Elliot Soloway’s pioneering work with PDAs for kids (Soloway et al., 1999), collecting data via sensors and uploading, we have seen uses of mobile devices extend from e-books and clickers (audience response systems) for data collection to communication and location-based activities and more. K–12 education has different demands in terms of learner developmental level, ubiquity of devices, and institutional inflexibility, but the goal of formal education is shared.

Around the world, mobile devices have become a tool for empowerment. Farmers have been able to access information about crop prices and free themselves from the tyranny of a single buyer. Health information about safe sex made accessible on cell phones in Africa has the potential to save lives.

Mobile is also changing behaviors. When shoppers are reported going alone into changing rooms but staying longer, it turns out that they are taking pictures of themselves in their selections and sharing with their friends to get opinions. Actually turning off a cell phone during a conversation signals the importance of the discussion. And, tragically, individuals are feeling the need for communication so drastically that they are willing to risk their lives to drive while texting.

Mobile activities across domains inform the discussion but do not define it. While we can learn from what they have achieved, we need to abstract the principles and recontextualize them for the purposes of learning in higher education. We are seeking a path that uniquely characterizes what we can do in the academy to facilitate learning.

## **WHY HIGHER EDUCATION NEEDS TO PAY ATTENTION**

Higher education does need to pay attention to the opportunities others are seizing and the societal changes that are occurring. Mobile devices are out there, and consequently they can be ignored to the instructor’s peril or capitalized on for the learner’s benefit. Students may be tweeting about the class, for instance, or in response to questions or issues in the class. They could be using their phones to send text messages or to answer questions posed by the instructor.

A number of years ago, I visited a higher learning institution that had installed high-tech classrooms. They had cameras, projectors, and wireless Internet. At the time, the faculty were asking that the Internet be disabled because they were afraid that the learners might be surfing or, of all horrors, day-trading. At the time, my thought was, “You can lead a learner to learning, but you can’t make them think” (paraphrasing Dorothy Parker); if you cut off the Internet, students could still play solitaire. If you took away the laptops, they could still doodle. In short, you cannot force learners to pay attention; they will vote with their eyeballs and ears, and you better have a compelling value proposition.

Today, things are even worse from this perspective. You can’t control learners’ mobile devices, which increasingly have internet access. There are two sides to the issue of internet access, as suggested already, but the increasing power of connectivity exacerbates the situation. On the negative side, learners not only can distract themselves but also can interact with others. With social networking tools like Twitter and Facebook, they can be having a side conversation, even about the subject matter and the instructor. This has already happened at a conference, where a speaker was pilloried by tweets from audience members and the awareness was shared broadly.

The upside, however, is worth considering. In Jane Bozarth’s (2010) prescient book *Social Media for Trainers*, she touts a wide variety of ways to use social media in the training room, and this extends to the classroom. Beyond social, further opportunities also exist to extend the university experience to enhance learning, student satisfaction, and of course those derivative outcomes: recruitment, retention, and completion. The opportunities include tools, content, interactions, and more.

The inherent nature of mobile devices has been quick and contextual access (Palm, 2003). This is changing with tablets supporting more prolonged experiences, and greater support for learning as opposed to information access. These are topics we will explore.

## THE REST OF THIS BOOK

This book, as suggested, is about ways to use mobile to improve and optimize the learner experience. The mobile field is incredibly dynamic, as a new area tends to be. While some principles are emerging, the pragmatics change almost daily.



So, while I can talk about solutions, I can't talk about implementation in any meaningful way that won't be out of date before the book is available in print. As such, throughout the book I discuss principles and concepts rather than the specifics of implementation such as coding and tools. Where opportunities exist, I mention approaches to implementation, but that is not the focus. After all, if you get the design right, there are lots of ways to implement it; if you don't get the design right, it doesn't matter how you implement it.

### **Outline of What Is to Come**

To truly capitalize on the opportunities for mobile devices to improve the learning experience, two essential background components are an understanding of mobile devices, covered in Chapter Two, and an understanding of good learning, discussed in Chapter Three.

From there, the components of the learning experience are broken down. Chapter Four considers the context of learning, including the institutional setting and administrative functions.

The various functions of learning are then examined in Chapter Five on content delivery, Chapter Six on the opportunities for interactive learning, and Chapter Seven on social learning.

Chapter Eight tackles topics that are on the horizon, including augmented and alternate reality, adaptive systems, and meta-learning. Chapter Nine looks at the organizational issues including platforms and policies before giving a call to action.

## **PRACTICE**

1. Investigate the platforms currently in use on your campus: Which have mobile options already available? Are any enabled at your site?
2. What can you find out about your institution's population and their device profiles? Does this information already exist? How could it be collected?



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