

## From Pie in the Sky to the Palm of Your Hand: The Proliferation of Devices Spurs More Mobile Learning

**Not long ago, mobile learning was more fiction than fact, but now that more people access the Internet and connect to one another with a mobile device than with a computer, m-learning is fast becoming the norm.**

By Pat Galagan

One of the more entertaining aspects of social technology is the constant speculation about its future. Here's my current favorite, from Project Xanadu founder Ted Nelson: "Facebook will team up with the Library of Congress to bring real-time history streams to the user. Be a friend of Benjamin Franklin!" However facetious this prediction may be, it's indicative of the "anything-goes" nature of possibilities afforded by the Internet. Almost anything enabled by the Internet, including learning, can be done from the palm of one's hand.

The argument for mobile learning's ascendancy goes something like this: Given the improvements in size, price, functionality, variety, and availability of mobile devices, and the growing number of employees who use mobile devices at work, an increase in mobile learning is inevitable.

Robert Gadd, president and chief mobile officer for OnPoint Digital and author of the mLearning Trends blog, predicted early in 2011 that tablet use would explode and pave the way for training via tablets. "The adoption of tablets, initiated by Apple's iPad but closely followed by several others, proved to be a true driver for enterprise mobility in general, and mobile learning was a real beneficiary of this trend," he says. More than two dozen of his company's clients purchased tablets for



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employees in 2011. The Tracker Marine group at Bass Pro Shops, for example, put them to use in their sporting goods stores for salespeople to stay up-to-date on new products and to share those details with customers.

Many see tablets as the first practical mobile device to overcome the limitations of handsets as learning tools—tiny screens, static content, and an awkward user experience. Tablets are great for showing media content such as videos, plus they allow for the use of long-form content such as e-books, permitting instructional designers to move beyond just PowerPoint.

Another Gadd prediction for 2011 that proved true was that increasing diversity in mobile devices would hasten their acceptance by IT departments and further drive their use for m-learning. “We saw people going from resistance to m-learning to ‘let’s do it.’ BlackBerry-only shops suddenly gave way to Google Android and Apple iOS devices. We saw many customers make a 180-degree switch,” says Gadd.

Moreover, employees with multiple

devices found they could switch to whatever they happened to be carrying—handset, tablet, e-book reader, or laptop—and seamlessly continue learning. Increasingly, people are bringing their personal mobile devices to the office to use for work.

For 2012, Gadd has predicted that gamification—the insertion of gaming elements such as badges, leaderboards, and progress reports into learning programs—will provide the next strong boost to the evolution of m-learning. “These elements drive engagement. Knowing that your peers and boss can see your progress prompts certain positive behaviors,” says Gadd.

### The death of the lecture foretold

M-learning, some experts believe, may finally overcome one of the biggest barriers to improving learning among adults: the lecture—thought by some to be an inefficient, stifling, and clunky means of delivering instruction; a blunt tool in an age of laser precision.

The limitations of the lecture format have been discussed for many years. In 1984, Benjamin Bloom showed that individual tutoring had a huge learning advantage over lectures. In his experiments, the average tutored student performed better than 98 percent of the students in a standard class.

These and similar findings about the advantages of individualized instruction set off a quest to provide personalized learning at an affordable price. Over the years, technology began to make it possible to engage students longer, teach to their individual needs, and hasten their mastery of a subject through trial and error and interaction with others.

Daphne Koller, from the Stanford Artificial Intelligence Laboratory, argued in a December 2011 *New York*

*Times* essay, “Death Knell for the Lecture: Technology as a Passport to Personalized Education,” that by prompting recall and placing ideas in context, “online learning improves the engagement that is a critical component of learning.” She wrote, “In the future, we can adapt web technology to support even more interactive formats, like real-time group discussions, affordably and at large scale.”

In another *New York Times* essay on the future of computing, the director of the MIT Media Lab, Joichi Ito, explained that the development of the Internet Protocol on which every connected device relies “was a triumph of distributed innovation over centralized expertise. Internet assets are decentralized and widely distributed, causing innovation to spring from small groups at its edges.”

Innovation freely designed and freely shared turns out to be an extremely good model for learning in a wide variety of fields and disciplines,” he wrote. “Students at MIT’s Media Lab experiment, create, and iterate; they produce demos and prototypes, and share and collaborate with the rest of the world through the Internet. I don’t think education is about centralized instruction anymore; rather it’s about establishing oneself as a node in a broad network of distributed creativity.”

### Ready or not?

Despite the proliferation of mobile devices that pave the way for m-learning, and its promise of better learning, companies have been slow to venture into the m-learning world. In a 2010 ASTD/i4cp study, *Instructional Design Today and in the Future*, only 15 percent of respondents reported that their organizations were using m-learning, but 41 percent were considering it. More than one-third said they had no plans to use m-learning. Interestingly, in that study the use of m-learning had one of the highest correlations with market performance and the highest correlation with effective instructional design.

A year later, the ASTD report, *Mobile Learning*, noted that “By 2015, human

### What’s Smaller but Larger at the Same Time?

The 1982 Motorola DynaTAC somewhat portable phone weighed two pounds, cost \$3,995, and was capable of only a few phone calls before losing power. The 2011 iPhone4S weighs about five ounces, has Internet connectivity, a battery that lasts several days, an eight-megapixel camera on board, and more than 500,000 apps to choose from.

resource executives plan to leverage mobile devices not only for learning and performance support but also for coaching and mentoring employees (37 percent), micro-blogging (27 percent), augmented reality (14 percent), and mobile gaming (12 percent).”

Instructional designers can look forward to the challenge of creating mobile-friendly learning for tablets, e-readers, and smartphones. Gadd notes, “One trend is to move away from monolithic, structured 20- to 30-minute courses that worked fine online via a PC, toward shorter, stand-alone learning objects that can be more easily discovered, accessed, and consumed at the time of need from any device/app.” The best will mix “formal and informal interactions, performance tools, ready access to information and experts, gaming systems and more,” says Gadd.

Other new roles in the industry may include

- converting social engagement into tangible learning points
- helping learners cut through the chaos, regulation, bad interfaces, and bad manners that will increasingly distract from learning online as mobile use spreads
- keeping up with and applying new features that will be added to mobile devices such as location-aware learning; point-and-shoot learning with camera phones and QR codes; sensors and accelerometers in mobile devices for behavioral-based learning; mobile content creation (including user-generated content); context-aware ubiquitous learning; and augmented reality on mobile devices.

Mobile learning may influence how the value of computers is measured in

the future. We tend to describe their worth in terms of efficiency, speed, and scale. But Drew Endy, who works in bioengineering at Stanford University, suggests better measures might be when and where we use our computers. When you need to know something about work but you’re not at your desk, a mobile device is worth more to you than the speediest desktop back at the office.

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