

Learning on the Run

Todd Hitchcock & Bill Zobrist

Final article appears in the
Experts' Guide to the Postsecondary Market
a new publication of the
Software & Information Industry Association.



© 2011 Software & Information Industry Association (SIIA) ALL RIGHTS RESERVED.

The development, preparation, and publication of this work have been undertaken with great care. However, the publisher is not responsible for any errors contained herein or for consequences that may ensue from use of materials or information contained in this work. Opinions expressed by the authors are not necessarily those of SIIA.

No part of this book may be reproduced in any manner without the express written consent of SIIA, except in the case of brief excerpts in critical reviews and articles. All inquiries should be addressed to the publisher:

Software & Information Industry Association
1090 Vermont Ave, NW
6th Floor
Washington, DC 20005
Phone (202) 289-7442
Fax (202) 289-7097
www.siiia.net

Learning on the Run

Todd Hitchcock & Bill Zobrist

Seems strange, but less than a decade ago, someone walking down the street with a cell phone pressed to his or her ear were looked upon quizzically, perhaps even with envy. Then, wireless headsets added large numbers to those roaming the streets talking to thin air. Again, heads turned and wondered first about the general state of mental health in America, then about the technology that enabled it. More envy. The next phase involved more dangerous behaviors as mobile users soon were hunched over and engrossed by their screen so that walking into streetlights or worse, causing traffic accidents from texting became common. Today, we are at the precipice of a leap forward in how most people use their mobile devices. In particular, access to the web via a smartphone will facilitate rich interactions versus simple communications described above. It's in this realm that mobile learning or mLearning will emerge as perhaps the most important development in learning since the personal computer.

A quick review of some compelling data shows a clear, inexorable penetration of mobile devices as the dominant device in the not-too-distant future for accessing the web. Morgan-Stanley's Mobile Internet Report estimates approximately one billion units/users accessing the web mostly via "desktop Internet" on PCs. As of the publication of the report, Morgan-Stanley proclaimed us now to be at the beginning of a new computing cycle that roughly approximates the decade when ten times, or ten billion devices, will be attached to the web! Nokia reportedly sells more than 250,000 smartphones daily around the world. Using Apple's data, Apple sells nearly 100,000 iPhones a day as of the end of 2010. Android smartphones are shipping at roughly 200,000 units daily. ComScore recently reported one in four people in the U.S. have access to a smartphone. When you add to this mobile devices being used in learning situations, we gain a fuller appreciation for the nexus of the mobile Internet and learning.

So, what are people actually doing on their handheld devices today with regard to learning? We'll take a snap shot by looking at the Apple App Store and the iPhone/iTouch as a meaningful barometer of what's happening in the United States today. Going one step further, we'll review only apps categorized as "education" in the app store. It's clear that among the "Top Paid" apps, which mean apps that cost something and are getting the most downloads, the largest percent fall into elementary school learners. There are a number of astronomy-based apps that make it into the top ten, but by and large, most of the apps are teaching basic math, spelling, and reading.

The "Top Grossing" apps, or apps that have generated the most dollars, tell a very different story. Most of the elementary school apps fall off the list. Interestingly, the

astronomy apps stay! Two apps that jump on the list that are of particular interest are "Becker's 2011 CPA Mobile Flashcards" for \$199.99 and "BarMax NY," a NY State Bar Exam prep app that costs \$999.99.

The final category worth noting is the "Top Free" apps. Of course, these will be completely different from the other lists by nature of their being free; however, you would think that the types of apps listed would be similar in intent or audience. You might even expect to see a "lite" version of a paid app that is common in the games categories for iPhone apps. In fact, there are no such apps of this type. Not a single app developer in the education category with a Top Grossing or Top Paid app has a "lite" version that achieves top ten status. Curiously, one of the Top Free apps is a NASA app, reinforcing the notion that mobile learners are really into outer space! We do see healthy representation of apps directed at early learners, though less instruction-oriented and more entertainment. For example, coloring and story apps exist instead of spelling and math. Another interesting difference is the two language tutor apps. The final observation worth noting is that in both cases of Top Grossing and Top Free apps, there are apps designed specifically for Asian users. Undoubtedly, this speaks to Apple's global appeal.

The conclusions about mobile learning and iOS device owners in particular that we draw include the following: owners of these devices are willing to spend money on mobile learning for their children. There is a preponderance of spending for very low-level learning. There are niche areas, like astronomy, where apps that are well-constructed will result in multiple sales of similar products. There is a clear opportunity to follow the gaming model in producing more "lite" apps as a pathway to entry. Price is not a

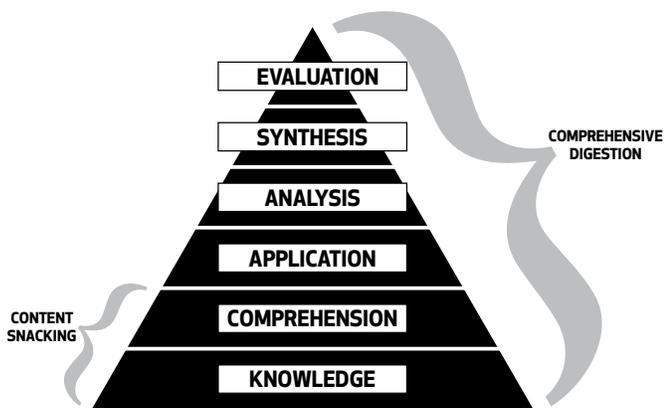
deterrent to sales for mobile learning apps that are on highly valued topics like the Bar and CPA exams. All told, we believe this information tells us that mobile learning has few boundaries from entry into nearly every demographic with access to a smart phone and the web.

Given the adoption data on mobile globally and the clear trends in usage above on apps, is there any reason to believe that the speed at which mobile devices are penetrating our society is the same speed at which they will penetrate education and learning modalities? Is it so outlandish to suggest that mobile learning may in the near future become larger than any other modality of learning? The pervasiveness of mobile devices seems destined to achieve ubiquity in the near future. With that ubiquity, we submit mobile learning as a modality will become just as omnipresent.

Defining learning on a mobile

So far, we've seen mobile learning at its earliest stages. Whether you call it content snacking or short form content, many of the most popular apps can be defined within Bloom's Taxonomy at the lowest levels. Largely, learning apps are comprised of activities like study content, flash cards, and quizzing. There may be some video, but it essentially replaces content that traditionally you would expect to read. We already know people prefer viewing over reading as their main form of consumption.

In this respect, most apps fall into the categories of Knowledge and Comprehension. Simple activities like those mentioned have physical world equivalents. The value of using a mobile device for these equivalents is debatable except for the tremendous convenience they afford the learner. The importance of which is not to be underestimated. But, is there any change to learning? Have we changed the process?



Where learning on a mobile can begin to substantially redefine the model are in areas of higher order on Bloom's. With the recent release of the iPad and the forthcoming onslaught of Android devices, Windows and others, change is upon us in deeply significant ways. The footprint of a tablet signals a shift in learning to a comprehensive model that allows for deeply personal interactions, which in turn should lead to comprehensive digestion. By this, we mean that a tablet allows learning to take place like never before and in a deeply meaningful way.

In the late 1990s and early 2000s the learning management system launched a new era in education—online learning. Online learning has revolutionized education, increasing access to educational opportunities for students that they otherwise would not have had. Online learning broke down the barrier between time and space and blew up the agrarian calendar that had been the mainstay in education for hundreds of years. Mobile learning will extend the online learning model exponentially.

In planning for this article, we identified numerous ways that mobile learning will transform learning (based on evaluating hundreds of apps in the app store and assessing numerous existing educational technologies). We have categorized these into four key areas:

- ▶ **Connectivity/Access** While online learning extended access to quality education beyond the traditional classroom, access is not truly everywhere for most users. Learners needed to be in a location where wired or WiFi access is available. While that is more convenient than getting to campus, learners are still required to plan ahead to insure they are in a location that provides adequate connectivity. WiFi enabled mobile devices remove this barrier and further increase access and truly provide for everywhere learning.
- ▶ **Immediacy** One major advantage of the iPad/tablet is the speed at which the device powers on. “Instant on” allows for a small, but significant mental and physical barrier of “logging on” to work. Like the quick twitch muscles of 100-meter sprinters, learners often want to jump in quickly, complete an activity (such as a blog post, discussion, reading, video, or activity), and then jump back out to something else. Instantaneous access provides the learner with the immediacy desired for quick twitch learning. Removing this latency results in more frequent engagement with others and with the content.
- ▶ **Learning Modality** Just as the web has opened up a new array of tools for learning, so will the mobile device. Of the hundreds of apps we reviewed, we found examples for visual/spatial learners, auditory learners, tactical/ kinesthetic learners, and interpersonal learners. Touch screens and altimeters will add new and

innovative ways for learning to be delivered to the learner.

- ▶ **Continuous Learning** In North America, when we think of the word learning, for the most part we think of formal educational institutions. Elementary schools, middle schools, high schools, colleges, and universities all come to mind. What we don't often think of is the continuous learning that is occurring nearly all of the time outside of traditional educational institutions. Whether someone is a student perusing formal education or is in the workforce, constant learning is required to both subsist and remain competitive.

Cradling a 10-inch screen in your hands, touching the glass, the instantaneous responsiveness, we are seeing a new frontier of learning where *Application* may have to be re-thought. Powerful *Evaluation* engines can be at work determining whether the user has *Synthesized* the concepts and *Analyzed* them properly. While most apps have simple assessment, before long, assessments will be done in real-time as the user is working. As a learner seeks to *Apply* their understanding, an evaluation engine will provide immediate feedback.

What's next?

There are only a few things we believe are virtually certain: 1) it will be faster; 2) it will be lighter; 3) it will be cheaper. You might be thinking we are referring to the devices, but we have every confidence that it is the learning process of which we speak. Once technology makes access to learning ubiquitous, does formal learning also dissolve into the Internet and become just as ubiquitous as the cloud? How do institutions adapt to meet the needs of learners of today for access, immediacy, and relevancy? If they don't, will they eventually disappear from the business of learning just as other services have become completely disrupted in the Internet Age?

References

1. Mobile Internet Report, Morgan-Stanley, December 15, 2009, 14 Jan. 2011 <http://www.ms.com/techresearch>

ABOUT THE AUTHORS

Todd Hitchcock & Bill Zobrist *This article was planned, collaborated on, and written using mobile devices and apps. Todd Hitchcock is Vice President of Pearson Learning Solution. He has been working in the educational technology field for the past twenty years. He has held a number of leadership roles in the United States and Canada, including Technology Officer for a large suburban school district, Director of Account Management at eCollege, Vice President of Global Services at Florida Virtual School, and for the past three years, Vice President of Online Solutions for Pearson Education. Todd is an advocate for educational improvement through innovative technologies and currently is on the Board of Directors for the International Associate for K-12 Online Learning (iNACOL) and the United States Distance Learning Association (USDLA). Bill Zobrist is the Director of Online and Emerging Product Strategy in the Pearson Learning Solutions (PLS) group of Pearson. Bill envisions and builds new educational technology products and services. Presently, he is crafting mobile learning products. Bill can be reached at bill.zobrist@pearson.com or followed on Twitter: [bzobrist](https://twitter.com/bzobrist).*