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Mobile Learning: New Tools Flying in the Face of the Same Old Schooling

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Currently mobile learning is making headlines in the educational press as a possible path for transforming education, just like it has significantly changed communication in business and society generally. Technology in American schools has a decades-long history of failure compared with its use outside schooling. Until the structure and political goals of schooling change, educational technology will not have a sustained impact on learning in schools.

Changing Education with Technology?
This article discusses some of the seeming paradoxes and contradictions involved with using mobile technologies in the current American educational system—mainly at the middle school and secondary school levels, but to some extent at the upper primary grades, too. Over the past two decades, mobile devices have transformed communication as well as the social and business landscapes (Lahiri & Moseley, 2012; Pollara, 2011). Additionally, case after case has been published describing the use of mobile technology for educational purposes (e.g., AT&T, 2009; Cisco, 2012; El-Hussein & Cronje, 2010; Shuler, 2009; Traxler & Wishart, 2011).

The third-grade classroom at Johns Creek Elementary School in Suwanee, Ga., is a sea of digital screens. Two students type on smartphones with laptops open on their desks; others hunch over small, brightly colored gaming devices or draw on tablet computers. The children are looking up information online, sharing pictures, taking notes, and even Skyping with other students to collaborate on projects.

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From elementary grades to graduate school, these cases strike a similar note to the one above described by the Center for Digital Education (2011), demonstrating the possible transformation of education away from today’s business-as-usual-schooling experience. But example projects using various educational technologies have been developed for the past three-quarters of a century, yet they have not shown a systematic change in the contexts of traditional teaching and learning or the cultural change necessary to sustain such efforts.

Educational Technology Promises

The way people communicate with each other and obtain information has changed dramatically over the past decade as the size of the devices people use has continued to shrink. Today e-mail, mobile phones, social media such as Facebook and Twitter, and apps of all kinds account for the majority of communication exchange and delivery for the majority of people in developed countries, and to a growing number of people in developing countries as well (Iqbal & Qureshi, 2012). In many of the developing countries, mobile phone networks and smartphones have leapfrogged the installation of wired communication networks and the acquisition of personal computers.

This has caused educational institutions from elementary schools to post-graduate programs to look at how to use these tools for instructional purposes. However, when thinking about a model for mobile learning (m-learning), the first thing that should come to mind probably ought not to be the delivery of courses like those found in a traditional, formal educational venue, or even typical online courses. Not everything educational is best suited for mobile delivery (Quinn, 2011a) or formatted for delivery on a small screen, and learners do not want everything educational to be delivered to them on their mobile devices (Brown & Groff, 2011).

For the promises of educational technology that have been made over the past several decades to come true, one probably needs to believe a couple of things: first that the overarching goal of education should be to facilitate learners reaching their own learning goals. And, second, that the way technology can help student learning is to promote learning that is more curiosity-driven. Obisat and Hattab (2009) stated that “since the Internet has been adopted by students, traditional pedagogical models are no more appropriate models. Consequently, new pedagogical models are required. Such models should be
For simultaneously exploring personal interests. Unfortunately, student curiosity and individual exploration are given short-shrift in schools in favor of standardized curriculum.

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Defining Mobile Learning and What Matters

Historically, one of the roots of m-learning has been distance education. Moore and Kearsley (2012) define distance education and then go on to point out a problem with the terminology in common use in the field. Many people use the term distance learning or eLearning synonymously with the term distance education. If referring to what learners are doing at a distance, the term distance learning is appropriate. In general, people mean both teaching and learning when using any of these terms, and therefore, it is much more accurate and clearer to use the term distance education for the distribution of teaching and the dispensation of information. In the case of m-learning, the common usage is probably much more accurate—as mobile devices are constantly in use for information retrieval and communication.

Several educational models for m-learning have been developed (see Koole & Alby 2009; Park 2011), along with various definitions presented over the last two decades. Often the focus of these definitions is on what devices are used during the learning process. While the devices that allow for mobility are important, they are not the only defining characteristic of m-learning. As Sharples, Taylor, and Vavoula (2007) pointed out, mobile learning is personalized, learner-centered, situated, collaborative, ubiquitous, and contextual. While access to most of these attributes is made easier through the devices being used, choice of which technology to use is more a matter of educational philosophy. The eLearning Guild defined m-learning as “any activity that allows individuals to be more productive when consuming, interacting, or creating information, mediated through a compact digital portable device that the individual carries on a regular basis and has reliable connectivity and fits in a pocket or purse” (Wexler, Schlenker, Brown, Metcalf, Quinn, Thor, van Barneveld, & Wagner, 2007, p. 6). Crompton, Muilenburg, and Berge (Crompton, in press) define m-learning as “learning across multiple contexts, through social and content interactions, using personal electronic devices.”

Some of the many dozens of definitions of m-learning that have been developed, and no doubt the many more to follow, emphasize the type of devices or technologies used, others the mobility of learners or of learning, and still others the experiences that the learners have using the mobile devices (Rajasingham, 2011). It is important to understand how people develop and express their curiosity across the many contexts in which they find themselves every day, and how this drives their learning. What holds the most potential for those persons who see the use of m-learning for educational purposes is the combination of context-specific learning (i.e., when and in what circumstances learning is taking place) that meets immediate, personal goals. This combination becomes especially clear when contrasting m-learning in training in the workplace with its use in education (schooling). In the workplace, performance support during the acquisition of knowledge and skills is valued and a normal way of thinking (Quinn, 2011b). Just-in-time learning is what mobile learning is all about. On the contrary, schooling has historically been a just-in-case business.

One important aspect of m-learning is accessing and using the tremendous amount of information on the Internet. For the past 150 years, teachers have lectured to the class. While this may have been an efficient way of transferring information when information sources were scarce, the accessibility of knowledge sources is no longer the limiting factor in the learning process. Schooling can move away from the Fordian model used in the 20th century toward mirroring the problem-solving and inquiry models commonly used in most other learning areas in life, with students electronically connected to the world’s information. These changes in information accessibility need to be reflected in our schools. But these changes will only occur when educators design for the diversity in students’ needs, using authentic learning activities, and rewarding individual performance.

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Mobile Learning in the Current School System

There are some seeming contradictions and paradoxes in the definitions of m-learning. As learning in context is emphasized, formal learning, as known in today’s schools, needs to be de-emphasized. This requires a change in the model where students are learning knowledge or skills, as directed by their teachers, just in case they may need them later. Mobile learning is often very contextually based, with performance support and immediate need for learning particular bits

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1For an in-depth review of similar pedagogy in the 1920s, see Osborne (2001). While the paper deals with the discipline of history teaching, the same debates and issues occurred in the other disciplines, too.
of skills or knowledge—the most common approach to learning on-the-spot using mobile devices.

Increasing Both Individualization and Collaboration
There seems to be a lot of clamor about how m-learning can increase collaborative learning, but there is a lot less said about how individualization in learning can increase (Berge, 2011). Why? Probably it has to do with the traditional structure of schools organized into classrooms and students into classes, rather than consisting of structures set up for attaining individual goals.

Socially, politically, and technologically our schools—both the buildings and the process of teaching and learning—were designed for the industrial era. Throughout history, new technology has ushered in changes to the social, cultural, and political order. For example, telecommunication systems, along with computers, have changed the social order of the industrial era to the communication era. In the corporate world, the concept of “one size fits all” and mass production of identical units have largely been abandoned in favor of careful and continuous assessment of customer demands, the creation of customized products and services, niche marketing, and just-in-time implementation of processes and materials.

In much of the workplace, work is moving toward a more self-paced and self-directed approach than in the past, with various functions being outsourced and a dependence on just-in-time suppliers who are outside the traditional factory setting. Rapid technological and social change is pervasive outside of schooling, but educational institutions appear to be exceptionally resistant to change (Berge, 1999). The type of social and cultural changes that technology is catalyzing necessitates changes in the roles and functions of students, teachers, the curriculum, and the educational institutions themselves.

Learner-Driven Learning Goals Versus Standardized, Teacher-Driven Curriculum
Given the high-stakes consequences of failing to meet standardized assessment criteria, school administrators impose the state-driven curriculum in a dominant way, leaving room and time for little else. “As we insist on imposing a standardized curriculum on individuals having the most diverse interests, passions, talents, and backgrounds, we only breed homogeneous thinking, shallow research, little new exploration, and a deep lack of skilled and sustained critical thinking talent” (Good, 2006, para. 4). M-learning is, by its nature and its repurposing of personal electronic devices, just-for-me learning. Is it any wonder m-learning will have trouble reaching the mainstream in today’s schools?

Students Creating Content Rather Than Simply Consuming It
There has been much palaver about “technology enhancing learning” in schools, but what I see happening is really the enhancement of teaching contexts. It is trying to sugar-coat the tasks that teachers want accomplished rather than the promotion of personal and personalized learning of students.

In the past, it has often been a person’s location that communicates the separation of learning from home, or social interactions. Not only that, there are “classroom rules,” “home rules,” and “social media rules”; implicit scripts that govern the behavior and the expectations of all participants. What happens when all these aspects get jumbled because the communication channels and locations seem scrambled? When learning is taken out of its traditional spaces and encroaches into social spaces of home and Internet café, those rules and scripts no longer work the way they always have in the past.

Not only do students have problems with defining their spaces and knowing how to behave in the new venues, teacher have these problems, too. Teachers are often skilled “performance artists” who thrive in the high bandwidth context of the classroom filled with students providing rich and constant feedback.

Teachers’ Roles
Keegan (2002) pointed out that traditional, classroom-based, in-person education has been (and in 2012 still is) using a model where technology simply supplements the teacher-controlled curriculum and activities.

...in distance education technology is a substitute for the teacher and not just a supplement to the teacher as is the case in conventional education in schools and universities. What the first distance educators did was to break with the 2000 year history of the education transaction taking place by interpersonal communication in the learning group between the teacher and the taught...(Keegan, 2008, p. 5)

I don’t think the solution is to get rid of teachers, as some might think Keegan is suggesting above. But teachers’ roles need to change from what has historically been that of sole, or even primary, information bearer.

Implications for Practice
The salient characteristics of m-learning in education and training include the mobility of the learners through their use of small, portable, wireless devices that create learning spaces wherever each user happens to be, in a just-in-time approach. Add to this an emphasis on personal communication and computing that supports the solving of problems and challenges often found in an individual’s daily life in performance support and informal learning that is just-for-me learning.

Furthermore, defining mobile learning can emphasise those unique attributes that position it within informal learning, rather than formal. These attributes place much mobile learning at odds with formal learning with its...
formal classrooms used in education. State, national, district, and teacher control of nearly everything that happens in the classroom—i.e., how, when, where, and what should be learned—challenges and often totally represses students’ curiosity-driven learning.

Technology can empower individualized, student-controlled, inquisitive learning that can help to improve performance and learning. “Mobile learning emphasizes the centrality of learners and close integration of learning with other aspects of their lives and work, so that education is no longer seen as a separate activity that has to take place in a school, college, university or other establishment” (Kukulska-Hulme, 2010, pp. 4–5).

The student becomes the central element of m-learning; not the teacher or the curriculum.

Conclusions

Clearly m-learning will continue to grow and support learning in the daily lives of learners, outside schools. Will it change anything in any substantive way regarding what is done in schools?

Advocates chasing the baton in the race to capture educational transformation can feel transformation dancing at their fingertips. Will the baton pass finally be made or will it be dropped, like it has before with so many technologies that have been repurposed for education in the past (e.g., radio, television, telephones, computers)?

The specific technology is not as important as whether it has sufficient gravitas to act as a catalyst for educational reform and cultural change. Standardization in both testing and curriculum in many ways works against personalization and curiosity-driven education, both of which require a large amount of learner autonomy. Education in the United States is moving toward more standardization. This seems to be pushed by people who value equality of outcomes more than equality of opportunity, in failing attempts to solve political and societal problems through changes in schools that have little to do with effective education.

There were 55.5 million students enrolled in pre-kindergarten to 12th grade in the fall of 2011 in more than 130,000 U.S. schools, with a record 21.6 million students expected to attend American colleges starting fall 2012. Given the high cost of mobile devices and access to wireless and data networks, the cell phone and tablet-using student is nowhere near a mainstream phenomenon.

My sense is that, as time moves on, the mobile phones and tablets of all shapes and sizes that we have now and that will be developed will become more widespread throughout the world, so affecting everyone’s learning very significantly.

Forget the seemingly intransigent inertia in education over the past 150 years, and forget the political hurdles affecting education that seem to increase daily. Because, unless the core structures and philosophies driving schooling change, m-learning will be just one more of the long list of technological innovations that have failed to help our schools.

Formal schooling will continue on its path to total irrelevancy with regard to learning; while actual learning will take place more and more in the world outside of school.

With the future promising such technologies as real-time augmented reality, wearable learning devices, learning implants, and ambient intelligence (Oller, 2012), is mobile technology one more tool in the myriad of those that will be passed over? Is mobile technology to remain one more promising tool used to pave over the same old paths to school?

Unless school structures and philosophy change fairly drastically, m-learning will become one more flash-in-the-pan that will fail to spark lasting change in schools, regardless of what it becomes outside the context of formal schooling. No amount of smartphone-assisted student access to terabytes of knowledge can change outdated organizational systems and teaching philosophies.

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References


