

Learning in a Mobile Ontario



Definition

While mobile learning (m-learning) is correctly perceived as part of overall electronic learning (e-learning) implementation, mobile enables unique opportunities for learners to engage with others and their environment in novel ways by enhancing their interaction with subject material, providing new skills and appearing to influence completion of both specific learning outcomes and graduation. Mobile learning brings unique affordances to learners, including mobility, ubiquity, accessibility, context sensitivity and personalization.

Opportunity

Learning in a mobile Ontario:

- Affords quality.
- Affords efficiencies.
- Integrates new groups of learners.
- Improves student retention.
- Supports experiential learning, mentorship and year-round and self-paced learning.
- Facilitates student credit transfer.
- Is well suited to workplace-skills development.
- Provides opportunities for the e-learning and educational publishing industries.

The unique affordances of mobile devices—mobility, ubiquity, connectivity, interconnectivity and context sensitivity—empower mobile individuals, whether they are engaged in K–12 education, post-secondary education or lifelong learning. It is these qualities that propel m-learning beyond standard computer-mediated learning.

K–12

Ontario already has in place an e-learning mandate that is working toward a connected Ontario for every student with a variety of portals and tutoring, mostly for students at intermediate levels. However, school boards will need to set up loan programs to provide mobile devices for those students who cannot bring their own to school, and will also need to provide ubiquitous Wi-Fi throughout the schools in their jurisdictions. Support that allows student learners and teachers to fully integrate mobility into curriculum will be needed, as will the teaching of “netiquette”—the appropriate use of online technology in a learning environment.

PSE

Universities and colleges have increasingly placed a greater emphasis on the quality of learning and the adoption of strategies that encourage student engagement. Almost all analysts and institutions agree that system change must drive toward more flexibility, a focus on distributed learning and increased mobility. E-learning and m-learning will be fundamental means to:

- Allow students to move between institutions with learning resources in the cloud and on their devices.
- Help students pace their educations more effectively and condense their time to completion.
- Enable experiential learning through enriched work placement and service-learning experiences supervised by mentors or faculty in a remote location.

As learning becomes less formalized and accreditation becomes available from outside traditional catchment areas, post-secondary institutions should look to mobile technologies as a means to extend catchment area and to become more inclusive as well as accessible.

Through m-learning- management systems and e-services, Ontario students can acquire a post-secondary education while maintaining the economic benefits of living with parents or in affordable locations, and, in the same way, students from other provinces or countries may find and Ontario-based education becomes more feasible.

While enrollment in PSEs is expected to increase in the next 10 years, enrollment is expected to return to 2003–06 levels by 2024. M-learning enables post-secondary institutions to respond to fluctuations in enrollment without exerting pressure on capital resources or requiring investments in physical infrastructure that will be underused when enrollment levels decrease.

Reskilling and Lifelong Learning

We live in a mobile society experiencing increasing globalization. Global sourcing and global labour mean that employees can train anywhere in the world. In many jobs, the workforce is also mobile and not fixed to a specific place, or workers increasingly work from home or from “third-party spaces”—not the office. There are many business drivers that will propel m-learning forward at the corporate and large-organization level. The widespread deployment of mobile computing means that an infrastructure for m-learning is already in place.

Some of the specific benefits of mobile lifelong learning are as follows:

- Mobility provides speedier just-in-time training that responds to an environment of hyper-competition in which companies are often constrained to do more with fewer people. Mobile devices enable workers to train during commuting time.
- In many larger organizations, there is a demand for greater access to and integration of information, data management and communications, all delivered in real time and in context, whenever possible.
- Mobility provides an excellent means through which to offer courses to update compliance with government regulations or industry standards.
- Mobile communications, including m-learning, are in great demand in specific industries, including healthcare, natural-resources monitoring, agriculture, emergency services, government inspections, retail and transportation.

For these reasons, managers in large organizations are aware that m-learning is on the rise, and are at the stage of formulating their own mobile learning strategies.

M-Learning Action Plan

Access

The challenges involved in developing comprehensive mobile learning are parallel to challenges in overall mobile inclusion. Barriers include: issues with patents and copyright; the high cost of data plans for mobile devices in Canada (compared with others jurisdictions); and the difficulties of reaching rural and Northern areas of Ontario with high- speed broadband.

- While it is not sensible to delay m-learning strategies until they can be deployed uniformly across Ontario, it is imperative that any action plan include steps to identify and mitigate connectivity weaknesses in the province.

K-12

The following strategies will facilitate the integration of mobility into K–12 education in Ontario:

Public/Private Collaboration

- Through a consortium, infrastructure providers, school boards and the Province of Ontario could create a cost-sharing mechanism to ensure that students have access to devices that support m-learning.
- Infrastructure and device providers will benefit by building loyalty among younger consumers, and can build new businesses that provide educational services and content in alliance with the strong educational content industries.

School Boards

- School boards can create support for positive m-learning policies and leadership through multi-year projects that allow the growth of mobile learning in each school. Budgets can reduce the number of laptop and desktop computers that are purchased and increase the purchasing of mobile devices.
- Technical support and best practices must be provided to enable educators to use these technologies easily and effectively and to reflect the excellence of Ontario education.
- Working in collaboration with service providers, school boards will need to set up loan programs to provide mobile devices for those students who cannot bring their own to school, in order to ensure that no students are left behind for economic reasons.

Government

- Ontario can continue to encourage the integration of m-learning skills and outcomes within Ontario learning objectives by providing school boards with the tools to create and implement curriculum.
- Boards should be guided in policies related to safe wireless exposure by Health Canada guidelines.

PSE

Post-secondary institutions would benefit by moving in parallel with the K–12 school system in adopting

m-learning opportunities; this will effectively manage incoming students' expectations of m-learning. In order to facilitate m-learning, post-secondary institutions can:

- Build a PSE consortium through university and college associations to develop m-learning materials and infrastructure. One strategy would be the creation of an online-learning portal that prioritize online and mobile content and facilitate collaboration and support for the creation of that content as well as for student mobility between institutions and sectors in accessing the content.
- Support faculty in mobile curriculum development, undertake research into mobile pedagogy and its impacts, develop an international marketing mechanism
- Integrate mobile technologies and learning support into experiential learning opportunities and mentorship.
- Adopt mobile platforms for student-facing operations such as fee payment and for internal operations to create productivity gains.
- Commission Higher Education Quality Council of Ontario (HEQCO) to undertake a rigorous, longitudinal Ontario-wide study regarding the effects of m-learning on student retention, including the retention of students in rural, Northern and Aboriginal communities.
- Continue to build m-learning environments and study the impact on space use and student productivity.

Industry

The adoption of m-learning is a core element in productivity enhancement for Ontario companies, allowing them to ensure that their labour force is competitive in a rapidly changing global context. In Ontario, the beginnings of an m-learning industry are starting to appear. The following actions would accelerate the adoption of m-learning:

- Through an aggregate approach of industry associations, create an opportunity for Ontario firms to develop methods of converting e-learning materials into content that will run well on mobile devices.
- Higher education textbook publishers should develop mobile electronic versions of their major textbooks—which could include interactive simulations, instance evaluative feedback and online activities.
- At the industry level, service providers and the mobile industry could join with universities and colleges to provide funding for special programs to produce mobile materials at the post-secondary level.
- Offer a major prize for innovations, or one or more prizes or fellowships for innovative projects in m-learning.

Government

- The government could respond to PSE m-learning initiatives by further supporting e-learning and m-learning through strategic mandate agreements that include e-learning and m-learning. This approach would provide support for internships and place-based learning.

- The Ontario government can encourage the adoption of m-learning through its procurement of m-learning applications for its own retraining purposes, hence encouraging competition and the production of new innovative products by Ontario vendors of learning materials.
- The Ministry of Training, Colleges and Universities could create an experimental fund for m-learning, one that would support programs to pilot curricula focused on new learning approaches and learning outcomes
- The province could divert a portion of its planned investment in physical infrastructure to virtual infrastructure. It could broker public-private partnerships to support mobile learning infrastructure.