Going Mobile – Developing and supporting mobile learning opportunities for students at Nipissing University

Opportunity

Nipissing University is expanding its long experience in the use of technologies for student learning into mobile learning. Research at the University has shown that many students have mobile devices including laptops, smart phones, and tablets. Mobile applications can provide access to learning outside of the classroom for enhanced flexibility and facilitate greater use of technologies in the classroom for more dynamic learning. Professors are working with the staff in the Centre for Flexible Teaching and Learning to develop and assess resources and classroom experiences that take advantage of best practices in mobile learning.

Innovation

Three diverse mobile learning projects are outlined – two focused on student learning and the third on capacity building:

School of Business: In September 2012, all full-time, first-year students enrolled in the four-year Bachelor of Business Administration Program in the School of Business will receive iPads. To prepare for this innovation, pilot tests of mobile learning projects have been ongoing since Summer 2011 in courses offered by the School of Business. For example, in one pilot study, the aim was to counteract the tendency of faculty to stay at the podium when using technology for presentations. Based on this goal, the professor's iPad was wirelessly connected to a laptop at the podium which is connected to a projector, enabling the teacher free movement around the class. Through this connection, the iPad could also simulate an interactive white board, so that presentations, through use of software such as SMART Notebook and neu.Annotate, were more dynamic. For example, neu.Annotate allows interaction with static PDF documents, including the addition of drawings, highlighting, text notes from the keyboard, mathematical calculations, camera usage, images, and icons. During the pilot, iPads were loaned to the students so they could add their own notes to presentation slides and save their files. The professor's copy of the annotated and illustrated presentation was also saved and distributed to the class as a collaboratively produced record of interactive teaching and learning.

Mobile Experiential Leadership Development (MELD): In this project, Nipissing University and the Trillium Lakelands District School Board offered a grade 11 Leadership and Support course with Nipissing's University Success course into a two-week full-time, dual credit active learning experience enhanced through mobile technology. The residentially delivered course, held at Nipissing's Muskoka Campus, included guest speakers, activities such as a wilderness excursion to learn about leadership in stressful situations, practice in academic writing, independent assignments, group work, and classroom activities to cover all aspects of the combined curriculum and to provide students with diverse learning experiences. iPads, with pre-loaded academic software, were included in the cost of the tuition. Throughout the two week course, the iPads were integral to the learning experience. In particular, they were used for communication, note taking, photos, portfolio development, reflection, collaboration, and even essay assignments.

Developing Apps: Nipissing University is active investigating the benefits of developing its own apps for mobile learning. Recognizing the wide range of platforms that students have access to and the complications of having the apps delivered to and reviewed by the app store for each of the three main operating systems (Android, BlackBerry, and Apple), the decision was made to develop web applications hosted on web servers that look and function like apps. This choice was made for three reasons:

- Ease of use for the content developer;
- Adaptability for all platforms; and
- Ease of making changes to content: If Nipissing produces its own apps, changes are easier to facilitate. Users would need to go to the web, not to the app store.

Both jQuery Touch and jQuery Mobile are being considered for use as the open source framework for development of learning-centred mobile apps. jQuery Touch has the advantage of working best on the iPhone, while jQuery Mobile works well on all three operating systems. It also has documentation about its use built into the interface and arranges content according to the size and shape of the device's screen. It supports multiple colour schemes, including the high contrast levels that are useful for some users. The initial access to a Nipissing-developed app would be through the browser. However, then, the app would be available through the person's home screen and accessed like any other app.

Outcomes and Benefits

School of Business: In Fall 2011, in an advanced business course, the students were loaned iPads in week 5 of the course. An evaluation at the end of the course indicated that students found the iPad easy to use, and 70% of them reported that they enjoyed using it for learning. These same students are using iPads in a further trial in Winter 2012. In this course, the use of the iPad will be evaluated twice in order to gain a more complete picture of the impact on learning, the most appropriate applications, and the supports required for optimal usage and effective learning.

Mobile Experiential Leadership Development (MELD): In the design of the program, the iPads were envisioned largely as communication devices and learning tools–students would

use them for communication and research, as well as for note taking and photos during the learning. A computer lab was provided for the preparation of essays and other assignments. In reality, however, the teachers found that many of the students preferred using their iPads all the time, including for academic writing and other assignments. For these students, the iPad was, a tool for all stages of the learning process. The MELD program was assessed to be successful by students, parents, the program developers, teachers, and administration at the University and the School Board.

Developing Apps: A professor in Graduate Studies in Education is presently researching the development of an app for math instruction in grades 7 and 8. In this project, there is a link to a channel the professor is creating on the Vimeo web site which includes specifically chosen videos for learning and support. Through links to Twitter and Facebook, also part of the app, comments on the videos can be shared.

Challenges and Enhancements

School of Business: According to assessments done to date, some students suggest that they would prefer to use tablets other than the iPad; this may be due to the fact that they own other mobile devices and, therefore, have familiarity with alternate devices. The necessary infrastructure was not entirely in place for the first pilot as the initiative was set up very quickly. As an outcome, it is recognized that students need workshops and ongoing support for use of the iPad for learning. While, in the first pilot, an introductory workshop was provided, ongoing supports and further training were identified as important requirements.

Mobile Experiential Leadership Development (MELD): The cost of tuition for the program may have limited the diversity of students able to enrol in the course. For next summer, there is discussion of exploring funding opportunities so that more students and students from diverse backgrounds can take advantage of the unique dual credit offering.

Developing Apps: The principal challenge in this work will be that students may not see apps that are on a web server as apps–they are used to getting apps from an online store. It is hoped that the capacity to move it to the home page will compensate for possible initial resistance.

Potential

School of Business: With a Fall 2012 roll-out of iPads to every first-year Business student in the program, considerable work is underway so that individual professors make informed decisions about how to use iPads effectively in their classrooms. In the first year of the program, students will be introduced to the basics of iPad use for learning such as neu.Annotate and working with PDFs. Over time, the iPads will be used more extensively and as tools for collaborative learning. Some of the potential uses of the iPad include functioning as e-clickers or personal response devices for classroom polls and providing access to bubble sheet answer software for testing (this software is used for multiple-choice testing). Through use of the iPad and the testing software, a test could be distributed on screen or on

paper with students respond on bubble sheets through their iPads. Results would then be sent directly to the learning management system and the instructor.

Mobile Experiential Leadership Development (MELD): Responding to the positive feedback to the experience in 2011, this dual-credit experience will be offered again in Summer 2012. This second offering of the program will provide an opportunity for further assessment and improvement of the model before it is extended to other course offerings. Students have requested that other courses be made available in this format as they really enjoyed the experience.

Developing Apps: Once the jQuery framework is confirmed and implemented, the Learning Systems Technologists in the Centre for Flexible Teaching and Learning (CFTL) will be ready to help professors develop apps for their face to face classrooms and online teaching environments.

Staff in the CFTL are very open to discussing their initiatives and learning more about how their colleagues across the province are addressing the pedagogical and technological challenges of mobile learning.

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