e-marking – Using iPads to deliver feedback on student assignments at the University of Ottawa

Opportunity

Professors Robert McLeman and Eric Crighton in the Department of Geography at the University of Ottawa worked with Richard Pinet, the Director of the Centre for e-Learning at the University of Ottawa, to develop and test the use of the iPad for e-marking in environmental studies courses.

The goal of this initiative was to reduce paper usage while providing students in large-enrolment classes with quality commentary and corrections on their assignments.

The iPad, with its iANNOTATE app, was seen as having potential, and pilot tests took place in fall 2010 and winter 2011 environmental studies courses.

Existing learner support software at the University of Ottawa allows students to submit their assignments electronically, but it has limitations for large classes. The first trial of this initiative blended the institutional software with the iPad – but this had multiple technical problems. In subsequent trials, the iPad-based system was tested on its own.

Innovation

The e-marking solution is quite straight-forward:

- Five Teacher Assistants (TAs) in the environmental studies course are given access to iPads already loaded with the iANNOTATE app (at a cost of $10). Five iPads were purchased so that each TA had one for the duration of the pilot.

- The students can use any computing device and send in their assignments in PDF format to a course e-mail account. The e-mail system generates a 'message received' response. Students do not need access to an iPad.

- The senior TA moves the assignments from the e-mails to a folder on a cloud server. In this case, Dropbox was used, providing sufficient free space for the assignments of 350 students.

- The TAs mark the assignments using text boxes and/or his/her finger or a stylus – writing comments, circling words, underlining, using arrows – anything that can be done with pen and paper.

- The professor can verify and modify the marking of each paper in Dropbox.

- Once the marks are recorded, the annotated papers are returned via e-mail to the students.

See an illustration of an annotated paper below.
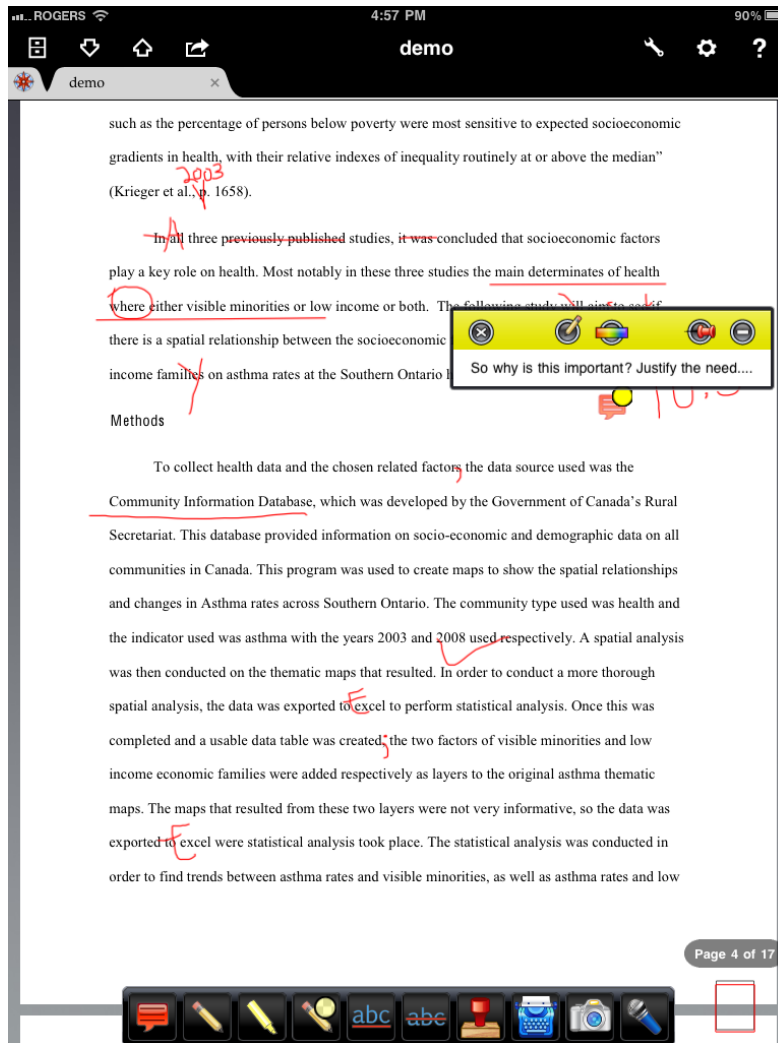
Outcomes and Benefits

The iPad-based solution was received positively by students, teaching assistants, and professors.

Among the benefits identified by these users were:

- Students received their marked assignments in a more timely manner and reacted positively to submitting and receiving feedback and marks electronically.

- The electronic delivery ensured that all students got their assignments back.

- The solution was relatively easy for all to use after some initial instruction and training.

- The goal of a substantial saving of paper was achieved, as well as reducing the burden and risks of transporting the paper assignments around campus.

Specific attributes made the iPad particularly attractive, especially when there was considerable marking to be done on a crowded, urban campus:

- The TAs could take advantage of "anywhere, anytime marking" as the tablets could be used anywhere with Wi-Fi access.

- With the use of a finger or stylus for writing comments, the TAs were not tied to a keyboard and this reduced pressure on office space and computer access for TAs.

- The use of the iPad reduced eye strain relative to the use of a computer monitor.

Challenges and Enhancements

The testing of the iPad e-marking solution revealed some challenges and recommendations for its wider implementation, including the importance of training the TAs. The 'train the trainer' model is effective – one TA took part in both the fall and winter pilots and he was able to support and coach the others. Given the need for training time, the iPad solution may not be as efficient for smaller classes.

Students also need clear instructions and reminders about the process and occasional help with such tasks as creating a PDF file.

Having one iPad per TA is ideal but, with appropriate scheduling, it is possible to share six iPads among TAs in two large enrolment classes - but that is probably the maximum. With course assignments often due at the same time, additional iPads would be necessary for a wider application.

The iPad itself is not essential to this system; other tablets may work as well. A stylus is better than a finger for providing legible comments.

Potential

The pilot project is being integrated into the environmental studies courses, and as a result of an article in the *Gazette*, the University of Ottawa newsletter, considerable interest in adopting this system has been shown by other faculties. Other institutions may find this application useful as well. As Richard Pinet says: "This is a portable solution which is easy to apply and can be implemented in a relatively short period of time at colleges and universities across Ontario. We'd be happy to discuss our experience in doing this pilot with those who are considering implementing a similar system."

Further Information

Richard Pinet
Director, Centre for e-Learning
University of Ottawa
rpinet@uottawa.ca

Marquis, Isabelle. The iPad: "Correction 2.0" for tech-savvy profs. *University of Ottawa Gazette*.
http://www.gazette.uottawa.ca/article/the_iPad_correction_2_0_for_tech_savvy_profs/