sciecominfo
Nordic-Baltic Forum for Scientific Communication

EXPLORING HANDHELD DEVICES AND DIGITAL LEARNING: THE IPAD PROJECT AT OSLO UNIVERSITY COLLEGE

Trude Eikebrokk, Bettina Grödem Knutsen, Jimi Thaule

Introduction

Can handheld devices improve students' study habits? How should we adapt our digital services to new technology? By lending iPads to students enrolled in two different master courses, we set out to explore the opportunities and challenges this new type of technology presents.

After testing the most interesting e-readers/tablets available the choice fell on Apple's iPad. The iPad has a web browser and can display a large number of e-book formats, and was consequently the most compatible with the Learning Centre's already existing digital resources. We believed it would have the potential to improve the students' study situation. We bought 15 iPads, and the project proceeded with training of our employees in an effort to familiarize them with the technology, before moving on the project proper.

Five master students from the Library and Information Science course *Web technologies* and seven master students from *Clinical nursing science* participated in the iPad project. The students and their teachers were all given iPads to keep for the semester.

Due to the iPads' close integration with personal iTunes accounts we chose not to pre-fill the iPads with documents. Instead we chose to set up a joint Dropbox-account for students enrolled in *Web technologies*, and stored their curriculum in that Dropbox-account. (Dropbox is a file hosting service that lets you store and share documents.) This solution was not possible for the students from *Clinical nursing science* as a result of an extensive curriculum of mostly paid-access documents. We could not download the documents for them due to copyrights issues, so we chose instead to publish a list of links on our website, with all the available digital resources. By opening this list on their iPad, they could click on the hyperlinks, access the articles and then save the articles and documents in an app of their own choice.

A librarian from the Learning Centre was present at the first lecture of the semester to hand out the iPads, in addition to an iTunes gift card pre-charged with 100 NOK. This gift card was meant to ensure that the participants would have some money to spend on applications they wanted to test during the project.

The librarian also held a short presentation about how the students could make best use of this new piece of technology. The presentation explained the goals of the project, presented them with how to access the digital curriculum as well as the Dropbox-solution for access to curriculum articles, and showed them how they could read the e-books from DawsonEra and Ebrary online. A few tips on useful apps they should download were also included, such as the PDF-reader-annotation-tool GoodReader. The librarian also came into the class one week later, to give the students the opportunity to ask questions, and help solve any technical problems that might have come up. Throughout the semester the students could contact the same librarian in case of problems. The Learning Centre also established a blog (http://bibliotekoglesebrett.blogspot.com/) where the librarians posted tips, tricks and user guides. The students had to complete a midway questionnaire and a focus group interview at the end of the semester, but other than that, there were no other restraints and they were free to use the iPad as they wished.

Class of Web Technologies

This class is centered on online technology, PHP-programming and protocols for information re-use. We expected the students to be familiar with technology such as the iPad, and that they would feel confident enough to explore the opportunities it presented.

The teacher had agreed to the project beforehand, and chose some of the curriculum accordingly.

The curriculum consisted of seven Open Access articles, from journals with Creative Commons-licensing (D-Lib magazine, arxiv.org), eight technical specifications, also freely available online, a compendium about PHP-programming (provided digitally from the author), and two e-books, bought from our e-book supplier DawsonEra.
Both of the books were about technology, and not something you would typically read from cover to cover. We expected the iPad to work well with this type of book.

The students could either connect their personal Dropbox-account to the joint account, or they could

keep using the joint one. By downloading the Dropbox-app to their iPads they had instant (and offline) access to the curriculum. The Dropbox-account had additional advantages; it gave the students (and the teacher) the benefit of an easily available opportunity to share relevant documents with each other. If one student chose to upload an interesting article – all the students and teacher had immediate access.

The students were very excited about the iPads, and seemed to look forward to exploring the digital opportunities. They were also very pleased with the fact the all of the curriculum was provided for them, and that they didn't have to buy anything themselves.
Problems arose quickly; the students were not very happy with the two e-books bought from DawsonEra. Due to DRM-restrictions the books had to be read online, it was not possible to download them as PDFs. This was a major drawback to the students. Another problem was annotations. DawsonEra has an online annotation-function, but the iPad's 10" screen is not large enough to read and type (keyboard visible on screen) simultaneously, especially as the annotation box is situated on the side of the actual e-book text. These two problems combined rendered the e-books pretty much useless, and most of the students ended up buying the books in print instead.

The students also encountered difficulties with getting the e-books in printable format. If we ever repeat this project we have to make sure that the students are able to get a hold of print copies of e-books, as some unquestionably will prefer this format.

Class of Clinical Nursing Science

Seven students between the ages of 20-30 attended the iPad testing. None of them had tried an e-reader before or even tried to read an e-book on a computer. The student's approach to finding articles and books pre-iPad was to search for the curriculum in the library's database, print the article or borrow the book and then take notes by hand. The workload, both in practical and theoretical terms, in this course is extensive and therefore it would be of great use to the students if they could electronically collect and have immediate access to all the articles, e-books, documents and notes on one single device.

The nursing curriculum consists mostly of journal articles. HiOA (Oslo and Akershus University College of Applied Sciences[1]) has electronic subscriptions to most of these articles. It was important for us not to raise the bar too high when the students got their iPad. With that in mind we linked all the accessible articles, documents and books that HiOA had electronic access to and published the linked list on our website. Seeing as the iPad only had a WIFI internet connection, ensuring offline access was crucial. By clicking on the hyperlinks and saving documents in apps, they students were able to open and read the articles anywhere.

In addition to articles, the electronic curriculum contained e-books, judicial texts and reports. The e-books were to be found in Ebrary and NB digital (books digitized by The National Library), the laws in Lovdata (a Norwegian database of law) and some independent websites were also represented in the curriculum.

Three e-books on the curriculum were accessible via Ebrary. Currently, the e-books can only be read online and does not offer download possibilities (this functionality is underway and launch is scheduled by the end of 2011). Ebrary is currently working on an app for iPad, but as of now reading Ebrary books on an iPad has many issues. The students were not satisfied with Ebrary's interface: no full screen option, a small portion of the screen dedicated to the book page while the rest of the screen is covered with information about the book (you can hide this information and have it replaced with an empty space) and limited search functions. Reading e-books from NB digital had the same challenges and in combination with the lack of e-ink on the iPad (a technology which makes reading easier on the eye), the students gave up on the e-books and borrowed the printed versions instead.

The nursing students have a variety of laws on their curriculum. These laws can be found online at Lovdata. Lovdata have adjusted their web pages so that they will be more compatible with using an iPad. But even then the students preferred to borrow the print version.

The linked list of electronic articles and reading these articles on the iPad were the most useful experience the students had with the iPad. Most of them stored the articles in iBooks, which is a free Apple app integrated in the iPad. The documents are lined up in a virtual bookshelf which helped the students to get an overview of the curriculum. The annotation in iBooks and the other apps they tried (Goodreader, iAnnotate, PDF-notes) did not match up to their expectations and they ended up taking notes by hand.

The students concluded that the iPad was well suited to read articles, but not very useful for longer texts. It was easy to transport and gave quick access to dictionaries, encyclopedias and their curriculum, but they needed better options for annotations on the iPad.

[1] Oslo University College was merged with Akershus University College August 1st 2011, and is now part of Oslo and Akershus University College of Applied Sciences.

Method of Evaluation

To assess and evaluate the practical use of the iPads we created an online poll, for the students to answer. The poll was then supplemented by focus group meetings with more loosely structured questions. The online questionnaire contained queries concerning the use of curricular texts, the use of the iPad during lectures, ease of use and included options for open ended comments regarding the iPad in general. The findings were analyzed, and the students were called upon to give further insights as a group.

The findings were relatively consistent: the students did not find the technology itself to be a barrier in terms of user friendliness and they felt little or no need for support and training in order to use the iPads. However, the poorly developed options for taking notes, printing and accessing documents were of major importance to the students. The two first problems were inherent in the software and device itself, while the latter was a problem with our supplier of e-books, related to restrictions placed on downloading and copying.

The group conversations further verified the results of the poll, and underscored our initial discovery that although the technology itself is user friendly, the available services and contents are poorly customized to this sort of use.

Another discovery we made during the test project, which was further confirmed by the poll and consequent conversations, was the fact that the need for a personalized iTunes account contributed a barrier with regards to use for the students. Lending the device to students was made difficult by its targeting of the private market. The iPad is a personal handheld device, and as such is not necessarily meant to be shared in this sort of projects.

Consequences in Terms of Policy Changes:

The most wide reaching and direct consequences of the iPad-project have been in terms of our acquisition policies. Our experience with Digital Rights Management (DRM) in eBooks led us to include a clause in our policy stating that for the future we only would buy DRM free digital solutions. DRM is a barrier when in terms of sharing notes and downloading documents to your own devices, something that often conflicts with the end user's needs.

The Open Access articles and technical specifications were the most useful for the students to have electronically. The articles were easy to find, easy to share, and short enough to read comfortably on the iPad. Many of the technical specifications were formatted as HTML webpages, and therefore contained hyperlinks. The links made it easier and more natural to navigate in the text, and here the iPad really came into its right.

One of the reasons we chose the iPad was its ability to display e-books from our suppliers that would otherwise be unavailable via Kindle or other e-book readers. Hence, the idea was that the iPad had the inherent advantages present in both e-book readers and computers. The biggest barrier is that most of the e-book market is still dominated by DRM solutions, but we hope that more widespread use of digital content in libraries across the world, including our own, might have the effect that suppliers increasingly move away from this technology, in favor of more user friendly solutions. Library users, and especially students, have requirements to accessibility of material that are significantly more difficult to fulfill unless the material is available without technological barriers, both in terms of platform and interface. Open Access, either green or gold, is another way to avoid many of the issues that arose in this project, such as not being able to give the students the material beforehand, they had to go online and save the documents themselves.

Currently our institution is preparing negotiations over new contracts with our book supplier – including suppliers of digital books, and our experience with e-books in this project has had significant impact on that process. First of all we decided to separate our contracts into physical material and digital content. The difference between the two types of material, technology and associated delivery systems led us to the conclusion that they should be treated separately. Additionally we now have higher demands to technology itself. We decided to focus on other aspects of the technology as well: the need for universal accessibility via all widely used platforms and formats, opportunities to easily make and share notes and easy off campus accessibility. We also need documents to be at least partially available for interlibrary loans.

While our present suppliers have met most of these demands, in part at least, we see that increased attention to technology is necessary for future subscriptions and acquisitions. The end user's opportunity to download and print out the desired document is a key element. As a public educational institution catering to a diverse range of needs our users have high demands and expectations to our services. DRM, along with proprietary platforms and formats makes it difficult to meet the demands of our user groups: scientists, researchers, students and teachers.

Trude Eikebrokk is a librarian working with digital services. She is responsible for the technical solution for HiOA's institutional repository and for the Open Access publishing platform OJS.

Bettina Grødem Knutsen is a librarian working at Oslo and Akershus University College. She also acts as a liaison librarian for the Nordic Institute for Studies in Innovation, Research and Education.

Jimi Thaule is the liason librarian for the institutes of primary school teacher education, and preschool teacher education. He works with acquisition and collection development, both physically and digitally.