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A screen too far? Findings from an e-book reader pilot

What might the student experience of using e-book readers be in terms of functionality, ease of use and availability of content? Do e-readers fit into current study practices? These were among the questions which Cranfield and The Open University Libraries wanted to investigate as part of an e-book reader pilot study. Six participants were selected at each of the two universities, and given an e-book reader to use for their studies over a period of three months. Their experiences were recorded through surveys, workshops, an online forum and interviews. The pilot explored what the students used them for and how, what their ideal e-book reader would be like and looked at the potential role for academic libraries in supporting student use of these devices.



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Introduction

In the summer of 2009 Cranfield University Library and Library Services at The Open University (OU) joined forces for a small pilot project to explore the student experience of using e-book readers. In addition to investigating student experience we wanted to collect information about the ease of use of two different e-book readers for study purposes, and to investigate content available to students for use on these devices.

The findings from the project would then be used to inform future development of library services.

Methodology

Six participants were selected at each of the two universities. Before the pilot we conducted a survey asking them about previous experience of using e-book readers.

We ran start-up workshops at both universities, where the participants were each given an e-book reader to use for three months (August – October 2009).

The devices used were the Sony PRS-505 Reader¹ and the iPod touch 8GB², which uses downloadable e-reader applications.

A private *Ning* forum was set up, and the participants were encouraged to blog their experiences of using the e-book readers, ask for help and check for project news.

In September we held a mid-project 'get together' to discuss how the students were getting on and to solve any technical problems.

At the end of the project we ran a second survey and conducted interviews with each OU participant to log their experiences.

Participants

The Open University

We chose participants based on the course they were studying and considered whether it was running over the time period of the pilot, what level it was and what subject area the course covered. The aim was to get a range of subjects and levels of study. We had three men and three women taking part.

Breakdown was as follows, with the devices they piloted:

- Student A: Level 1 beginners' Welsh (L196) – Sony
- Student B: Level 2 child development (ED209) – Sony

- Student C: Level 3 history of technology (AT308) – Sony
- Student D: Masters-level business (B822) – iPod touch
- Student E: Masters-level education (H812) – Sony
- Student F: PhD geography – iPod touch

Cranfield University

As the University is all postgraduate, the breakdown of participants was different from the OU:

- Student G: Eng student Cranfield Health – Sony
- Student H: PhD aerospace and aeronautics – Sony
- Student I: PhD water science – Sony
- Student J: PhD nanotechnology – Sony
- Student K: Exec MBA School of Management – iPod touch
- Participant L: a course director – iPod touch

Results from the pre-pilot survey

Before the pilot less than half the participants had used e-books. Those who had, viewed them on either a laptop or PC/Mac (i.e. they had no experience of e-book readers). They located their e-books from a variety of places including the library catalogue and Amazon, but top of the list was Google. Primarily, the majority of participants were interested in non-fiction e-books.

Of those participants who had never looked at an e-book, we asked them why. Reasons given included concerns that they might be tricky or complicated to use, that they liked holding a physical book and that they seemed expensive.

All participants were asked what benefits they imagined the e-book readers would give them.

The most popular expectations were that of portability, ability to carry multiple books around on one device, saving on paper, speed in finding information, quick access and speed of delivery of new content.

Results from the post-pilot survey

This survey was conducted at the end of the pilot, to get an overview of general impressions. Eleven out of 12 people responded. We asked what they had used their e-book reader for. Most participants had used them for more than one purpose (see Figure 1). Those answering ‘other’ noted down MBA course books, games and RSS news feeds (iPod only).

Participants found switching on and initial use easy, but getting content onto the devices was complicated and their use for study purposes tricky or difficult. They were generally lukewarm about whether they would borrow a device from the library, and most would not buy the model they had tested even if they would consider buying an e-book reader. The main barriers for use were issues around formatting and navigation, lack of annotation functionality or ability to interact with the text, and that they were tiring to use.

In-depth findings – from the blogs, discussions and end-of-project interviews (OU participants only)

Expectations

We asked the students what their expectations of e-book readers had been before the pilot. Some had high hopes:

“It was very exciting... just the idea of having all the course materials in one place, easy to carry around, I

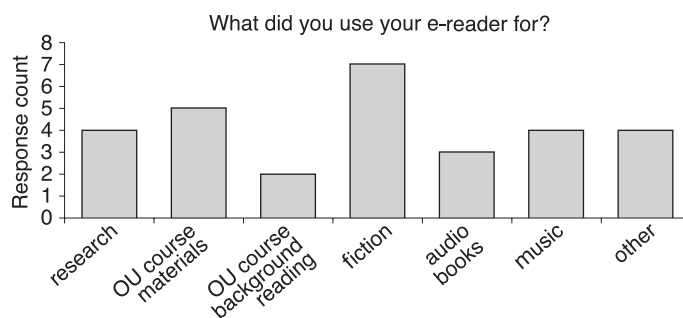


Figure 1. Most participants used their e-books for more than one purpose

thought 'Wow, how fantastic is that gonna be' " – Student B.

"I was interested in how I could use it for my benefit, which was slip it in my pocket and have a few dozen books with me and then pick and choose what I wanted to read" – Student C.

However, Student A "just thought it was going to be a screen with words on it".

Some participants had other interests. For instance, Student D was a member of OU course production staff and was interested in "seeing how the OU could deliver things in different ways". She said that "using new handheld devices was something that appealed to me because it seems that our students have an expectation that it would become part of the norm".

Student E had particular requirements: "I'm doing a course which is completely online. That means quite a lot of time in front of a computer screen so I was really hoping it would enable me to study on the move a bit more. Perhaps in odd half hours, when someone else is on the computer or I just have a little bit of time, perhaps unexpectedly I can sort of pick it up and put it down."

Getting content onto the devices

One of the first hurdles which the participants had to negotiate was getting appropriate content onto the e-book readers. There was mixed experience, with audio and PDF causing particular challenges.

Audio files These were a bit of a problem for Student A who was studying a language course (L196 beginners' Welsh). She wanted to upload the audio material from the course CD to the Sony Reader so that she could have both the course text and audio in one place. However, she needed to change the format of the files and after trying for a while she gave up.

Others reported that using the device to listen to music expended the battery power very quickly.

PDF course materials The Open University course materials are made available electronically via the virtual learning environment (VLE). At the time of the pilot they were available in PDF format only, which works well on a computer screen. Uploading these materials onto the Sony proved easy. Student B had already downloaded 'absolutely everything' onto all his computers at home and work, and found it straightforward to then transfer them to the Sony Reader. Student E put a selection of the recommended readings – particular journal articles and book chapters – on her Sony Reader.

The iPod Touch was slightly more complicated in terms of uploading PDFs. Student D described it as 'very fiddly', but thought that if you had your own device you would be more engaged with it and know its oddities a bit more. She also pointed out that universities need to be thinking about how we make things easier for our students when producing things in different formats, and that they 'just want to be able to press a button and download it'.

Commercial content

Getting hold of a commercial e-book via the collections held by Library Services at the OU was rather problematic too. Library Services-subscribed e-book content is only licensed for PC use, not for downloading onto e-book readers. Student E got around this problem by independently purchasing the title she wanted and claiming it back via the expense system from the Library Services budget. This was obviously only possible during the pilot project and is an issue which needs addressing.

Finding content for the iPod touch was not without its frustrations. Student F wanted to find the e-book version of a best-selling biography he was already reading, but could not find it on Amazon, Google, etc. "There were just so many different places that you could search for books from", he said. And there was no guidance as to what to find where.

Using the devices for study purposes

Benefits

Students were pleased with the portability and flexibility of the e-book readers. A number of participants used them outside at lunch time (in bright sunlight), and read them in bed at night. One student took portability and flexibility to another level by multitasking with her Sony e-reader – she propped it up and read some articles while doing the ironing.

An unexpected benefit came about for one student who found that the e-book reader could be used in tandem with working on screen: "I was doing a quiz, a kind of mini-assessment on the PC. I had the e-book reader open in front of me ... I could actually look things up without having to flick away from the screen I was on and lose my flow. I quite liked having different technologies on the go at the same time. And it's sort of the way that you might spread your papers

out. *It's an electronic equivalent of that really*". – Student E.

Other benefits reported were a decrease in stress and eye strain due to less time spent at the computer screen, reduced printing and interconnectivity (iPod Touch) which made it easy to move between reading and checking things on the web.

E-book readers were found to be useful for OU residential and day schools where it was impractical to take all the course materials along. The Sony was used to refer to things quickly and also for collaborative working purposes.

Challenges

There were a number of barriers to using e-book readers for study purposes.

One difficulty which was encountered by almost all participants was the issue of reading PDFs (i.e. OU course materials). As mentioned earlier, the Sony Reader does upload PDF files easily. However, they appear very small on the screen and therefore have to be enlarged. Student B explains the problem:

"In our course materials we will often have things in the margin, we have pictures, illustrations, diagrams. To retain all that the resolution was very very small. In order to get round that you have to make it bigger, so you press the button to make it bigger and as soon as you do that you lose the things in the margin. They tend to wrap round into the body of the text. The diagrams and pictures just go hay-wire. So you get the benefit of it now being readable and legible but you've lost the margins."

This also caused confusion when studying languages, when the actual meaning of sentences changed:

"They had things like a postcard written in Welsh, which then just distorted. It broke up and the sentences split up so they were the wrong way round. And Welsh hasn't got the same word order as English, so that actually really foxed me because I didn't know whether this was how it was written or how it had come out." Formatting issues affected this student's ability to undertake an activity on the device: *"They'd do a sentence and you had to insert a missing word or complete a sentence, and again the format of that would disappear – the little lines, the sort of space holders would disappear, so you couldn't see what was there."* – Student A.

Other barriers to study were the limited bookmarking features, and lack of ability to make

notes and annotate the text. These and other issues led the students to conclude that e-book readers did not currently support their study practices. Most of the students said they liked to spread their work out on the desk, have multiple books and articles open on the desk, using lots of sticky-notes. They wanted to scan the material quickly before reading through, and also pointed out that they did not seem to be digesting the material in quite the same way. Perhaps the devices encouraged surface rather than deep learning?

A screen too far?

Students were asked if the e-book reader had a place among their laptops, mobile phones and other devices. The responses were mixed. Some students said they would rather use a laptop as it provided more functionality and could be used for multiple purposes. However, the iPod touch had a lot more functionality than the Sony, and the problem there seemed to be the 'tendency to be distracted' or get overwhelmed by all the features. Some thought the e-book reader had its place when you just needed to read.

Ideal e-book reader

We asked the participants what their ideal e-book reader would be like for study purposes. Here is their wish list:

- would have a way of jotting down notes easily, in the margins, perhaps with a stylus
- sized between A5 and A4
- lower retail price
- touch screen, easy navigation, with ability to set your own links on the top level
- internet access
- an easy e-book search facility which tells you where to find the e-book you are looking for
- ability to transfer content directly onto the device
- ability to pull out references when extracting quotes
- good bookmarking and easy highlighting.
- ability to pull together tagged material into a concise document for revision purposes.

Thoughts on libraries

We then asked the participants to think about what they would like Library Services to offer in terms of e-books. There was some interest in borrowing an e-book reader with course materials and recommended reading pre-loaded, or to have packages

of the material available to upload onto the readers. A long loan period would be necessary to make it worthwhile – possibly for the duration of a course. However, there was concern over support issues here. In terms of content, there is clearly a role for libraries in helping people to find e-book content, and potential for library services to negotiate better licence agreements for commercial content.

Enhancing the OU student experience

The pilot participants also commented on how they thought the University could improve the general student experience of using e-book readers. They felt that we need to make it easier for students to transfer course material to mobile devices. Those who are technically able are already creating their own solutions and sharing them with fellow students, so one idea was to create an official 'app' which would easily do this.

In order to resolve the difficulties of reading PDFs on e-book readers, which have been described in this case study, it was suggested that the OU course materials should be created in the ePub format because this is the most widely used format across e-book devices, and would allow pictures/diagrams, etc. to be displayed correctly. (Since the pilot concluded, this has in fact been achieved.)

Conclusions

The latest *Horizon Report*³ predicts across-the-board adoption of e-books in Higher Education (HE) in the next two to three years. Yet most participants in this pilot study found that the devices were limited by their functionality and did not fit in with their current study practices. As newer devices like the iPad, with enhanced facilities, appear on the market these limitations may be addressed.

The pilot study highlighted some opportunities for HE libraries, such as loaning out pre-loaded e-book readers, facilitating and guiding students to find e-book content and negotiating better licence agreements for commercial e-book content. However, there are also threats. Libraries could be seen

as marginal by students in one to two years time if they are not e-book-friendly. Students who have adjusted to using e-book readers may ignore content which is not e-book reader-friendly, hence missing out on high quality and recommended material. Manufacturers and content providers for e-book readers are still basing use on the one-reader one-book model, aimed at individuals not libraries. The JISC national e-books observatory project⁴ and the subsequent JISC e-textbooks business models study are working hard to address these concerns.

Both Cranfield and The Open University Library Services are now considering the findings of the pilot study, and making plans to incorporate some of the recommendations into future strategies.

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