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EBOOKS AND ELEARNING: A NEW CHAPTER?

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Abstract

This paper reviews the current use of ebooks in elearning environments looking especially at the development of ereaders such as the Amazon kindle and the Ipad. It details the problems involved and argues that the emerging epub3 standard will be capable of resolving these concerns. Finally different eBook sales models are listed and the impact on institutions addressed.

Keywords

Ebooks, elearning, epub3, ereaders, Book models.

1. Introduction

Many, perhaps most, elearning programmes and indeed many conventional higher education courses are now underpinned by electronic content. Econtent itself can vary from self authored notes through to fully developed courses conforming to standards such as SCORM. One particular format of econtent is ebooks – that is content which has been published as a single entity and which is also available electronically. This is a theme which has been developing slowly over the past decade or so as ebooks have become more plentiful (and more relevant to the courses being offered). It is axiomatic that ebooks will be more beneficial to the delivery of elearning than traditional texts for the simple reason that they meet the common elearning requirement of being free from the constraints of time and place, so that students can study at their own pace and convenience. They also improve the cumbersome processes associated with the delivery of conventional print. The development of new ereading devices such as the Amazon Kindle and the Apple Ipad (but not exclusively) have given a new impetus to the ebooks market and have also resulted in a burgeoning interest in how these devices might go some way to support elearning. This paper presents reflections on these developments and speculates about progress and the consequent repercussions on universities and others.

2. Background

Ebooks have been in place now for almost a decade albeit most of those in an academic context have been rendered as PDFs – that is page images of existing published text. They have been supplied to Universities and others as aggregations, either through publishers themselves (e.g. OUP, Springer, Taylor and Francis) or through aggregation services such as Ebrary or Proquest etc. Such texts can be read on screen using standard pdf readers and are usually to be accessed through bespoke platforms. They have been subject to many reviews and papers (see for example Tedd (2005) and also to significant levels of research (the work of Rowlands (2007) et al). Despite the limitations that research and reviews have identified, they have enjoyed a degree of success in that for example many university libraries subscribe to eBook databases and they have become an important component of elearning courses.

But there are limitations and these are probably one of the reasons why ebooks have not perhaps had the impact in elearning that was originally thought. Some of these can be summarized as

- The need for users to have access to a desktop computer or laptop capable of providing a rich reading experience within a pdf file. This is not as significant an issue as it once was, but reading off screen remains an unpleasant experience.
- The reluctance of publishers and authors to permit any large scale off screen printing of their works so that it becomes very difficult to digest the whole of a text book at leisure - a similar issue as above.
- The difficulties of citing or referring directly to a given chapter or page. That is, a user working through a course in, say, a VLE may well want to be led to i.e. click on a link to, the relevant section in the eBook and work through that in the context of the course. This has long been identified as an issue. As Mcoll (2001) has argued “the main advantage (...of web delivery...) is the ability to link to resources in from elsewhere” and Akeroyd (2005), said “the chief problem can be simply expressed as a student is working in the VLE and is recommended to read a given article which is within a licensed database; how can this be enabled with minimum effort and minimum confusion on the part of the user?” In truth this problem has not really been solved in the case of ebooks and indeed has been rendered even more problematic with downloadable ebooks. Both are dependent on books having a permanent link at a deep level in the book. One common solution has been to seek book extracts and to

mount those locally within the VLE on a temporary license - but this can be time consuming and expensive, especially if the book in question is already available electronically on site and will often be unacceptable from a publisher point of view.

- The fact that the books which are available are often not those that will feature as learning resources – that is textbooks; the eBooks published to date are unlikely to be core textbooks, simply because publishers are reluctant to deliver them that way for fear of reducing their market.

3. Ereading Devices

The growth of ereading devices and tablets has given new impetus to the use of ebooks for learning. This year (2011) has been especially critical in that both the sales and the diversity of eBook devices have escalated. IHS i-Suppli estimated that worldwide tablet shipments will exceed 60 million units in 2011, with Apple accounting for a 73.6 per cent of those. Samsung Electronics will be a distant second with a 6.7 per cent share (Scottrade 2011). It is also reported that approximately 25 million ipads have been sold as at June 2011 (Costello). This growth has also been coupled with an increasing use of the internet by students on a proliferation of devices. Thus more than half of undergraduates own an internet-capable mobile device (ECAR 2009)) and the 2009 NMC/Educause Horizon Report named mobile devices one of the major trends in education with an adoption horizon of one year or less.

These ereading devices are many and various; some are specially designed for ereading e.g. the Amazon kindle whilst others are general purpose tablets. The Ipad and Android based tablets use an ereader app to allow users a rich and mobile reading experience. The result of this growth is that ebooks have entered a new phase whereby they are being delivered both as print and as ecopies which are downloadable on to user devices and can be then be used by the student at leisure. And the uptake of these devices by students globally has led has led to a number of projects and experiments in education seeking to identify the possibilities and opportunities for epublishing and the education sector. Some of these have been within Business schools or other such centers where it is possible to recoup the costs of providing such services. Examples might be:

- Leeds University (2011)
- Yale University (2009)

- Fairleigh Dickinson University (2011)
- Leicester University (UK) (Ebooks and Ereaders 2010)
- Open University (2011)

The benefits of ereaders on campus have been indentified by a number of authors; in summary they include:

- Improved support for mobile working
- Portability - especially for part and distance students
- Ensuring all students have access to the same documents at the same time;
- Less printing by students and the University
- Additional features:
    - Built-in dictionaries
    - Links to the web (e.g., Wikipedia)
    - Text-to-Voice

Conversely researchers have also identified the following problems:

- The difficulty of highlighting and annotating text or making notes: this is not impossible but it can be difficult on some current devices.
- The difficulty of citation e.g. that is the navigation issue identified above.
- Not being able to open two documents concurrently so as to be able to (e.g., compare and contrast).
- The need for a student to have an e-reader if one is not supplied; though many students may have an ereader this might not be guaranteed and they may be different and incompatible.
- Problems with eBook formats and DRM e.g. copyright where this may be inconsistent from publisher to publisher.
- With e-ink devices the black and white display can be slow to load.

4. Future

So are the problems indentified above resolvable and if so by whom and when? There is no doubt that the technical issues can be overcome; there are technologies emerging which for

example can open two screens simultaneously so that books can be compared and contrasted. Perhaps more important is the development of software which can seriously mirror the way in which people go about reading, so that all the activities of textual annotation and sharing (content, bookmarks etc) can be assured? Systems such as ReadandNote (2011) and Xplana (2011) have developed applications which can be run both on the Ipad but also on Android devices.

A second major development is that of epub3 (Idpf, 2011, Freese, E; 2010) – this standard has been widely adopted though there has been continuing competition between it and others... Epub3 is a significant improvement and as it is even possible that the Kindle Fire will be capable of reading epub3 it ought to become a true standard. Epub3 has several major benefits in what it can support and the following are relevant to elearning:

- Embedded video and audio so that eBooks can become akin to textbooks and not just novels and can be enhanced by the insertion of say video clips to explain a particular technical point or sound to make text or pictures audible; it implies that science textbooks, in particular, will become much more prominent in eBooks publishing.
- Support for mathematical scripts – producing similar benefits for publishing mathematical texts than now.
- Enhanced metadata capabilities – one of the chief criticisms of the current eBook market is that it is difficult to discover ebooks and the opportunity to include enhanced metadata with the book itself should help that.
- Improved accessibility - epub 3 is intended to provide content which supports assistive systems for visually-impaired readers through Braille readers and other technologies.
- Linking standards – Epub3 has created a specification for creating and accessing various locations within the content. This allows very fine grained access, even at the word or phrase level and could allow indexes etc to link to the exact word within the content. It is also the basis of a future inter-document linking specification due out in the near future. Given the problems described above, the fact that epub3 has a standard for linking means that it should be possible to connect to the deepest levels of an eBook from within an elearning programme or the VLE and the links will be persistent across the lifetime the book.

It can be seen that an eBook developed under the epub3 standard can become much more like a text book firstly in being much more of a multimedia offering with colour, graphics, animations and so on as well as in being able to interact with the web and with other web systems such as VLEs. It can thus be referenced any point by course creators in the knowledge that the links will be permanent.

Epub3 will be rendered usable by ereading software or devices - the trend is towards software. Thus the Android apps market has at least 25 ereading systems already in place and more are likely to develop. These will compete in the way in which they interpret epub3 and also enable more advanced features such as annotation, bookmarking, page sharing and collaboration, customised online dictionaries as well as the conventional reflowing of text. These reading experiences can be delivered directly into the VLE

5. *EBook licence models*

EBook business models are characterized by experimentation – that is there is no overarching consensus as to how elearning content should be paid for - if at all. Indeed there is one primary division between on the one hand open access resources, generally culled from government education providers and put into a learning repository or federation of repositories (i.e. Merlot, Jorum) for common use, and on the other published, licensed repositories (Equella). With the latter there is then a continuum of models from a simple out and out, once and for all payment to very short term licensing and variations in between.

Some examples are:

- Pay per title – whereby each individual title is purchased in perpetuity for use by the buyer effectively as they wish. This equates with existing book buying.
- Variations on the above whereby access to the purchased title is time delimited (per semester) or with restricted print or other rights.
- Subscription models where an aggregation of content can be purchased; this being more of library model than otherwise so that a considerable volume of material can be bought for an annual subscription enabling access and perhaps limited print rights. A disadvantage of this model is that it is entirely possible to buy considerable amounts of redundant material. There is a variation which is often referred to as user driven or

patron driven models where what users do or demand, drives the procurement process.

- Open access or free models albeit that additional functions to view might be charged and in other cases works are subsidised by advertising;
- Rental models are also increasingly common, which might imply full access to the work but for a limited period of time – in effect rent-a-book scheme;
- Lending models which support library type lending so that a book can be loaned for a specific period to be 'returned' at that point.

In truth none of these has really established itself and it will likely require much more research and pilots to arrive at a consensus between purchases and providers.

6. Summary

How and when will the changes identified above come about? Epub3 is now a reality and there are very many eBook devices and tablets now available. The onus is on publishers and right owners to start enabling their content to deliver to these markets. However this is perhaps a major challenge for them, not least in the reticence some may have on unleashing their content into a global digital market even though the technology of DRM is there to protect rights. Universities will continue to seek ways of building quality content intro courses in a seamless way and are likely to have to look for ways to recoup the costs of achieving that as students expect more from their education both in terms of simple delivery and also their own expenditure. Universities might also want to consider exploiting their own content and these technologies provide an easy way to enable them and other governmental rights holders to get their content out to wider global market.

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