

POSSIBLE IMPACTS OF THE NEW POPULARITY OF E-BOOKS ON HIGHER EDUCATION

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Abstract

e-Books is a generic term that refers to a device for reading content—including books—in electronic formats as well as the material that users read on those devices (which include books, journals, magazines, and newspapers). The *2010 Horizon Report* listed e-books as one of the technologies most likely to affect higher education in the next two to three years. On the one hand, publishers of educational information have been providing texts in formats other than print for several decades. On the other hand, until 2008, the impact of electronic publication was not felt extensively in the textbook publishing industry. e-Book readers and electronic books have started to emerge in the mainstream, and the impact of the financial crisis of 2008-2009 on school budgets might play a significant role in the emergence of e-books as the dominant means of distributing books. Anticipated impacts of e-books include (1) Books will not die. Instead, experts predict trends similar to those that arose with the rise of digital music. (2) When buying texts online, customers might purchase micro-content such as individual chapters of books and articles from periodicals, and create customized reading materials. (3) The reading experience will change, partly because of the need to adjust to the format of the screen and partly to take advantage of the unique and beneficial features of the e-book devices. (4) Book designs will adjust to the capabilities of e-book readers, eventually providing reading experiences that integrate multimedia, linking, and customization. (5) Electronic publishing will affect scholarship, with material increasingly published in an online format, and journals exploring alternate peer review models and publication schedules that provide for more efficiency. e-Books will impact teaching through pressure for their adoption by students and by requiring instructors to address skills related to using and communicating through e-books in their courses. e-Books will impact theory and research by providing opportunities to study reading patterns online as well as changing adoption.

Keywords - e-books, copyright, electronic publishing, copyright

1 BACKGROUND

e-Books is a generic term that refers to a device for reading content—including books—in electronic formats. These devices include the Sony Reader, Amazon Kindle, Barnes & Noble Nook, and Apple iPad. The term e-books also refers to the content that people read on those devices—not just books, but also newspapers, magazines, and journals. To distinguish the two types of e-books, many people refer to the devices as e-book readers.

The *2010 Horizon Report*, an annual report of the New Media Consortium and Educause that names the six technologies most likely to affect higher education in the coming five years, listed e-books as one of the technologies most likely to affect higher education in the next two to three years [1]. This paper explores how. After explaining the significance of this subject, this paper suggests several ways that e-books might affect higher education. It closes by suggesting some general impacts of e-books on teaching and research.

2 SIGNIFICANCE

On the one hand, publishers of educational information have been providing texts in formats other than print for several decades [2]. For example, audio books—produced on records, then on cassette tapes and currently on CDs and as MP3 files—first appeared in the early twentieth century [3] and were the third most popular training medium by the 1980s, according to TRAINING Magazine’s Annual Industry Survey [4].

On the other hand, until 2008, the impact of electronic publication was not felt extensively in the textbook publishing industry. Although software existed for producing reading material in an electronic format, such as Adobe Acrobat, which produces files in a Portable Data Format (PDF) that can be read online; Adobe Robohelp, which produces help files; and various authoring tools for creating websites such as Blackboard and Moodle that let professors create websites for their courses; reading onscreen was primarily limited to computer screens, which pose numerous practical reading challenges [5]. So manufacturers worked on alternative devices that addressed both the limited portability of computers, as well as the reading difficulties they imposed. Although the technology was emerged in the late 1990s, manufacturers needed to refine it to mimic the most important features of books, improve the processes for manufacturing the devices [6] [7] and then needed to scale up production so that devices could be sold at affordable prices. Sony was the first to market with its e-reader, Amazon’s Kindle 1.0 is regarded as a milestone in the process of popularizing e-books and talk-show host Oprah Winfrey’s endorsement of the device in October 2008 is regarded as a landmark in the emergence of e-books in the popular consciousness.

But the financial crisis of 2008-2009, and its impact on school budgets, might play an even more significant role in the emergence of e-books as the dominant means of distributing books. “Textbooks have not gone the way of the scroll yet, but many educators say that it will not be long before they are replaced by digital versions — or supplanted altogether by lessons assembled from the wealth of free courseware, educational games, videos and projects on the Web” [8]. Cash-strapped California has considered foregoing textbook purchases in favor of these electronic resources. A school in Yorkville, Ontario has replaced printed textbooks with e-books [9]. As a result of developments like these, publishers are preparing for a rapid growth in the sale of e-books and e-articles [10].

The same financial crisis has spurred professional associations such as the Academy of Human Resource Development and Society for Technical Communication to solely publish their journals online because these organizations can save tens of thousands of dollars in printing costs by solely publishing material online.

As textbooks are an essential companion to formal instruction at all levels of higher education, publication in scholarly journals is a key metric of job performance for academic faculty, and books are an important source of supplemental income for academic faculty, e-books could profoundly affect higher education.

3 ANTICIPATED IMPACT OF E-BOOKS

The emergence of e-books could lead to one or more of the following impacts.

3.1 Books will not die.

Instead, experts predict trends similar to those that arose with the rise of iTunes—that electronic materials will gradually dominate the market and substantially eat into sales and profits of printed materials [11].

3.2 When buying texts online, customers might purchase *micro-content*.

Micro-content refers to individual articles and single chapters of individual works, rather than entire books [12]. Micro-content is to books what individual songs are to music albums and, as it offers with the general fate of books, the experience of digital music sales provides insights into what might happen with e-books. When provided with the opportunity to buy individual songs at \$US .99 rather than a full album at \$9.99 (online—higher in CD format), many consumers opted to purchase individual songs. This, in turn, caused a downturn in album sales.

The availability of micro-content will vary by segment of the publishing industry. Popular magazines and newspapers—which have given away their content online—are hoping that the rise of e-readers will let them charge for content to replace lost revenue but the models are still in development. At this time, book publishers are only selling full books through online retail sites, although publishers do make micro-content available through their custom publishing divisions (which create customized textbooks from one or more texts from the same publishing company) and as part of large volume sales for e-courses.

For now, most book publishers are selling entire books online rather than micro-content. The most developed market for micro-content is in journal publishing. As journals have charged for individual articles when creating printed course packs, they now charge for access to single articles online. The prices of these single articles, however, are similar to those for e-books; an informal survey of publishers like IngentaConnect, Wiley, and Sage suggests that prices range from \$US 9.99 to \$US 17.99.

This trend towards micro-content could have a downside both for overall book sales and, for those authors expecting them, royalties from those sales. This trend towards micro-content could also have a negative impact on edited collections. Rather than being considered and sold in their entirety, only the most significant and popular chapters might be sold. Depending on their contracts with publishers, authors might receive partial royalties for micro-content sold, though these royalties are only a fraction of those that might be received from the sale of a complete book.

But the trend towards micro-content has an upside for instructors, who can more easily create customized “textbooks” from diverse sets of materials. In print, copyright restrictions create logistical and practical limits on course packs—that is, packages of additional readings that are assembled for a course, copied through a service, and sold through a book store. Copyright laws require that instructors receive written permission to copy articles. Most instructors are not aware that the publishers of those articles usually charge a fee of \$US .07 to \$US .21 per page per copy to provide that permission (actual copying charges are additional). Furthermore, copyright laws limit to 10 percent the amount of a single book that an instructor can incorporate into a course pack.

Should publishers allow the purchase of individual chapters from books, instructors will be able to include as much as they feel necessary. So an instructor who only uses six of eighteen chapters in a text might choose to create a customized text from the six chapters and have students legally purchase those six chapters. With this increased flexibility, instructors can create customized texts that best meet the needs of their courses rather than making do with a single textbook or course packs whose readings are restricted to those for which permission can be obtained.

3.3 The reading experience will change.

Most of the research on reading online was conducted with full-size computer screens rather than e-readers. But if patterns are similar, then the characteristics of reading on e-readers will differ. As a downside, research of reading on computer screens suggests that reading online is slower than in print, and that reading accuracy online is reduced over print [13]. To compensate, readers of material presented on computer screens have tended to scan material, only closely reading material of interest. Also, the presence of links in much online material invites readers to start reading a related article before completing the one they are reading.

As an upside, e-books provide features that have the potential to enhance the reading that experience, such as built-in audio capability (allowing for a voice reading of the text). This ability is especially helpful to vision-impaired students as well as second language readers of texts, who might have difficulty with pronunciation of terms. (Many textbooks are only published in English, so students whose instruction is in other languages still must read texts in another language.) On some devices, second language readers will also have easy access to electronic dictionaries and electronic translators. Although these promote comprehension, the quality of electronic translation in 2010 (when this paper is written) is limited, and could promote incorrect uses of the second language.

3.4 Book designs will need to be adjusted to the smaller and fixed size of e-readers.

As television started with the visual broadcast of the audio-focused radio programs then increasingly took advantage of the visual characteristics of the medium [14], so e-books will start as books and magazines presented online and eventually develop in ways that take full advantage of the linking, programming, and multiple media available in an e-book format [15].

At first, downsides might prevail. An early concern will be inter-operability because several software formats exist for e-book readers—such as the Portable Data Format (PDF), ePub, and Kindle—and different readers use different software formats. As a result, readers might not be able to read an e-book purchased for use on one device with another. As a result, publishers might need to consider in which formats they intend to publish their books, journals, and articles—and in which formats they don't.

Similarly, many e-book readers do not actively support the printing of books; their manufacturers assume that users will read e-books online. Although many consumers are likely to prefer the lower costs of e-books, many will want to print them. At first, this might cause frustration. Many textbook publishers provide books in a format that lets users print the materials, but these materials can only be read on computers and on devices that let users surf the web. They do not work on dedicated e-book readers.

After these initial adjustments are addressed, focus will move to the upsides of the new format. Publishers will increasingly integrate video, photos, and illustrations into online texts, creating a multi-media experience similar to the demonstration of a prototype of the popular magazine *Sports Illustrated* [16]. Similarly, as e-book readers let instructors create customized textbooks, so e-book readers let users customize their own reading experiences by creating their own tables of contents and combining content from several online publications. Although doing so lets users personalize their reading experience, users also run the risk of only reading about topics that interest them, perhaps missing content of importance to them but outside of their designated interests.

3.5 Electronic publishing will affect scholarship [17].

Although academic journals and publishers eventually adopted technologies such as desktop publishing, e-mail, electronic submission systems, and duplicate publishing of journals in PDF formats that can reduce errors in, and increase the efficiency of, the academic publishing process, adoption was slow and underlying processes and attitudes have not fully adjusted to a situation in which the majority of publications are electronic. For example, academic publishing still relies on the traditional peer review even though alternative models like rating systems have emerged. Similarly, publication occurs in formally numbered issues even though online publication can occur when an article is approved for publication. This requirement delays publication for several months or even a year. Most significantly, a preference for print publication continues to pervade academia. As a result, electronic publications carry less weight in the evaluation of the work performance of academic faculty and researchers.

As a downside, resistance is likely to continue at first. But weak economic conditions could force many publishers of academic content to follow the leads of the organizations like the Academy of Human Resource Development and the Society for Technical Communication to publish online-only versions of their journals. As once-printed journals move online and transfer their credibility with them, attitudes towards online publication will change. The process is likely to be slow.

Acceptance for publications that never appeared in print is likely to be slow. To ensure their credibility, many early publications designed only for the online environment are likely to retain traditional peer review processes to increase the likelihood of their acceptance. Many will also continue to publish “issues,” even though they can publish content as soon as it is approved for publication.

4 IMPLICATIONS TO TEACHING AND RESEARCH

e-Books have two immediate implications for teaching. First, in response to the high costs of printed texts needed for university courses [20], instructors will be under increasing pressure—first from students, eventually from other sources—to use less costly e-books. Because e-books can be read without printing

them, environmentally conscious students might also might also pressure instructors to switch to e-books. Second, instructors will need to teach students how to use these devices. Specific issues that instructors might need to address are critically assessing and reading online material [21], the responsibility for citing sources when copying entire segments of content becomes increasingly easy, and how to write their papers and other academic materials for reading online.

Similarly, e-books have implications to research and theory. The first is the need to study reading patterns on electronic reading devices to ensure that texts that are specifically designed for e-book readers emphasize the strengths of those devices and address their limitations. The second implication is a need to study the process of process of adopting e-books. At the least, researchers should study this process for historical purposes. At the most, researchers should study this adoption process to understand the cultural changes initiated by e-books. A third implication to research and theory is that, given the potential for creating new e-books from segments actually written and published by others, some thought must be given to the what makes an original book and definitions of plagiarism and copyright [22].

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TEACHING WRITING IN THE PROFESSIONS ONLINE: A CASE STUDY

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Abstract

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Keywords - Innovation, technology, research projects, etc. [Arial size 10, left alignment].

A. *Figures and Tables Instructions*

Tables, figures, and graphics should be centred, numbered and accompanied by a legend. Figure captions should be below figures; table heads should appear above tables. Insert figures and tables after they are cited in the text. Use the abbreviation "Fig. 1", even at the beginning of a sentence.

1 PROBLEM

The online unit of a large urban university in North America wanted to include a writing course in its course offerings. The unit was responsible, among other things, for developing and offering for-credit undergraduate courses in the university. Its primary base of students were undergraduate students who would take these courses, nearly all of which were elective, to fill gaps in their schedules that could not be filled with classroom courses. In some cases, work and family responsibilities limited students' flexibility in scheduling classes. In other instances, students could not find room in an on-campus course. The online unit specifically wanted a course that addressed the techniques of technical writing. No specific course existed in the academic curriculum but an undergraduate course called Educational Communication from the Education Department and intended for instructional-designers-in-training, was being proposed. The online unit and the Education Department teamed up to develop this course as an online offering.

2 SOLUTION

One of the most challenging aspects of teaching writing, is that effective writing instruction includes extensive practice. For example, many U.S. universities require instructors of mandatory writing courses to include a minimum number of writing assignments in the course (usually one every 2 weeks), along with timely feedback. Fortunately, a large body of experience and research underlies the instruction of writing online. These suggest that students first need an orientation to writing for practical purposes, which differs substantially from academic and creative writing, and focuses on clarity, conciseness and accuracy. Courses then typically emphasize how to write in specific forms (genres). Courses typically start with the simple forms, like definitions, and work to complex forms (which are built from simpler forms), such as how-to articles. The description of each form should emphasize purpose and audience, provide learners with heuristics for effectively writing that form as well as effective and ineffective examples, and the opportunity to prepare an assignment in the form. Nearly all of the literature emphasizes the importance of using practical, real-world content that is relevant to learners for both examples and learning activities. Most of this approach is easily transferred online. The course consisted

of eight lessons. Some were intended to last a single week, others for two. The first provides the orientation to practical writing that is common to most technical writing courses; each of the remaining lessons addressed a different form of writing. Because this course was focused on communicating for educational purposes, each of the forms pertained to an instructional context, though they were broad enough to apply to others. These included definitions, descriptions, procedures, reference entries, how-to articles, and feedback. Each lesson consisted of several parts that, together, would build the desired competencies. Each lesson started with a video introduction, which defined the form and provided an overview of the content for the week and its direct relevance to learners. Next, students performed an orienting activity, in which they would experience the form in a practical way. A brief follow-up video debriefed that activity. It addressed the variety of responses by first addressing likely incorrect answers, why learners might choose them, but what would makes these responses incorrect. The video closed by identifying the correct response, explaining what made that response correct, and then referring learners to read the assigned selections for the lesson. A Reading Guidesheet, a word file with leading questions that learners were expected to answer, guided learners through the readings and were collected to ensure students kept up with readings. A recorded lecture followed, which first emphasized and extended the key points of the readings. The second part of each lecture would address a related issue of writing style, ranging from points of grammar and usage to the design of effective pages and screens. An exercise following the lecture provided learners with a series of examples of materials in the genre. Learners commented on their strengths and weaknesses, and compared their responses with those of the instructor. Most units closed with a graded assignment in the genre (one is handled in the on-site final, required to validate learners' identity). Students are pleased with the course, commenting that it involves more work than initially but, in the end, provides them a new view of writing and skills to match it.

References

[1] Reference 1 [Arial, 10-point, left alignment, upper and lower case]

[2] Reference 2

[3]