E-Books in the Sciences - Gauging Faculty and Graduate Students Needs

Rajiv Nariani
Science Librarian
Steacie Science & Engineering Library
York University
Toronto, ON M3J1K8

Abstract

E-books at York University Libraries are available through consortia agreements from different publishers, content aggregators as well as selecting title-by-title. Given the financial commitment that our libraries are making to acquire these e-books there is a need to understand our student and faculty preferences – what features they want to see in e-books, how they access e-books and the future of e-books in Science, Technology & Medicine.

Scope
This paper will discuss the results of an e-books survey conducted for science faculty and graduate students at York University, Toronto, Canada. It will highlight some of the e-book tools and features currently available from various publishers and e-book aggregators. Based on the survey results, it will emphasize what features were helpful to faculty and graduate students in their research and teaching. It will also explore novel 2.0 tools the university has adopted in promoting e-books within the academic community.

Results and Conclusion
Graduate students are more likely to use e-books compared to faculty members. Both groups would like librarians to promote e-books and lack of awareness of our electronic collection could be one of the important factors in e-book uptake. Users appreciate the ability to create permanent links to book chapters, 24x7 access, access from off-campus, capability to plug data into tables, and chapter downloading features. An understanding of our user needs that relate to accessibility, discoverability and promotion will have a bearing on the use and popularity of e-books.

Pointers to key issues

1. High level of interest in e-books with graduate students

- Graduate students have used some form of e-book and are aware that the University subscribes to e-books. Students and faculty use the library catalogue as the portal to find e-books. Many faculty members are not aware that the library subscribes to different e-book packages.

2. Online reading behaviour and features desired

- Graduate students and faculty spend minimal time reading an e-book on the computer screen. Some of the very important functionalities needed in e-books are the ability to download, print and e-mail chapters. Citing, exporting to bibliographic management software, and highlighting searched text are some of the important features required by our users.

3. Some bottlenecks in the system

- Faculty are not aware of the value-added features available in e-books. Need to increase e-book promotional activities.
- Compatible MARC records from e-book publishers/third party vendors required.

Access problems - downloading proprietary software and time taken to access e-books is a deterrent to their use.

- Difficulty in reading from the screen over prolonged usage.

1. Introduction

Coyle (2001) describes an e-book as the electronic form of a literary work, Anuradha (2006) considers an e-book to consist of both digital content as well as physical devices, such as handheld e-book readers. E-books are comprised of texts published in electronic form as well as physical books converted into digital form, and also books in computer file format, or an electronic file of words and images of monographic character, all of which can be displayed on a desktop, notebook computer, or portable device, including dedicated e-book readers (Rao, 2003).

York University, Toronto, Canada has been at the forefront in acquiring e-books from different publishers and content providers. At present our University subscribes to electronic content from NetLibrary, Ebrary, EBL, Oxford Scholarship Online, Oxford Reference Online, MyiLibrary, Safari, Springer, Oxford University Press, Knovel, Books24x7, Synthesis Engineering E-books, Books@Ovid and some other publishers that are available through Ebrary platform. As our Library diverts substantial amount of its budget for e-books, librarians need to evaluate if these e-books are being used at the university. The e-book format at York University can be viewed as complementary to print rather than as a replacement for it, as it offers a different reading experience to the traditional paper volume.

We conducted an online e-book survey in 2008 and this paper collates the responses from science graduate students and faculty members and delves into some of the questions mentioned below:

- How are e-books perceived at our Institution?
- Do faculty members and students know and use e-books?
- How do they access e-books?
- What are the difficulties faced when using e-books?
- What are the features in e-book platform that are being used by our academic community?

2. Method

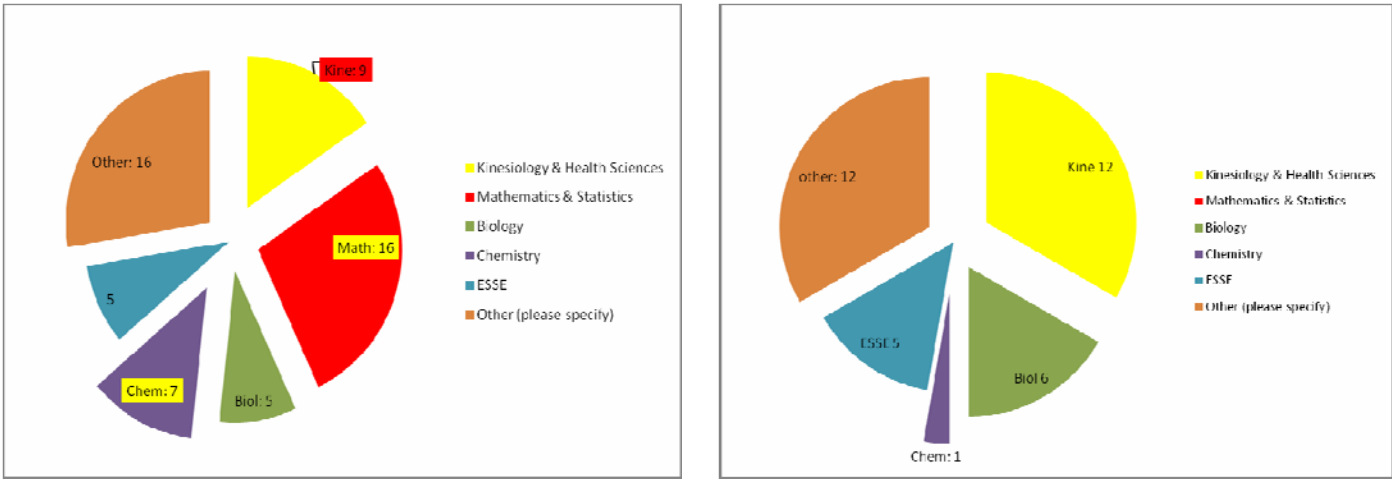
The online E-book survey was administered using the survey monkey tool available from www.surveymonkey.com. The survey was kept open for one month from mid-October to mid-November in 2008. The survey questions for graduate students and faculty members differed slightly (Appendix 1 & Appendix 2). We had three part-time students and fifty-five full-time students participating in the survey. The survey link was e-mailed to full-time and part-time faculty members, thirty-six full-time faculty members participated in the survey.

The online survey link was sent via an e-mail to Graduate Program Secretaries and they were requested to forward it to graduate students. There were no prizes or draws so it can be assumed that the participants had a genuine interest in e-books or that they had used an e-book at some time and wanted to share their experiences. The usual confidentiality part was mentioned to the participants and their e-mails were not collected as a part of the study.

3. Results & Discussions

3.1 Population Distribution

We had a total of 94 completed responses comprising of 58 graduate students and 36 faculty members from different departments. The response rate was considerably more than we had expected considering that there were no incentives at the end of survey completion. Out of the 58 graduate students, 27% were from Mathematics and Statistics, 15.5% from Kinesiology & Health Sciences, Chemistry (8.6%), Biology (8.6%), Earth Sciences (8.6%) and around 27% from other departments including Computer Science & Engineering, Nursing, and Physics (Figure: 1).



Graduate students (n=58) **Faculty (n=36)**

Figure 1: Population Distribution of participants in the e-book survey

Thirty-two students were completing their Doctor of Philosophy (PhD) and twenty-five students were completing the Masters program (Appendix: 3, Slide: 1). One of the reasons for higher percentage of Mathematics and Statistics, Kinesiology students participating in the survey could be because of constant promotion of e-books to these group of students as compared to students from other departments. Two of the part-time students were completing their Masters degree and were aware of e-books and had used it at some time during their program. Similarly we had a higher percentage of faculty from Kinesiology & Health Sciences (37%) which was followed by Biology (16.7%) and Earth Science (13.9%). Faculty from Mathematics, Nursing, Bioinformatics, Computer Science & Engineering, Physics, & History of Science comprised the remaining 29 % of the sample (Appendix: 3, Slide: 10).

3.2 Awareness & Usage

While a majority of the graduate students were aware of e-books and 76% of them had used e-books, only 44.5% of the faculty members used e-books and half of the faculty members in the survey were aware that York University Library subscribed to e-books (Table 1).

Specific Audience	Graduate students	Faculty
Do you use e-books?	76%	44.5%
Are you aware that York University Libraries subscribe to e-book packages from different content providers and/or publishers?	65.5%	52.8%
Do you recommend or actively encourage your students to use e-book materials?	50%	20%

Table 1: Percentage who answered *Yes*

Bennett and Landoni (2005) reported that 46 per cent of their respondents were not aware that there were e-book holdings in the library. Similarly, Abdullah and Gibb's (2008) reported that 72% of the participants from the University of Strathclyde were familiar with e-books however 57 % said that they were not aware of the e-books from the library.

Although more than 50% of the faculty taking the survey were aware of e-books available from different publishers, only 20% of the faculty encouraged the use of e-books (Figure: 2). Faculty members at York who have large classes were not sure if users were allowed unlimited access at the same time. They had questions related to 24/7 access policy, copyright and downloading issues. Some commented that they would promote e-books on a larger scale but were not aware of the electronic content in their subjects. Other faculty presumed that the library did not have enough e-books in their subject.

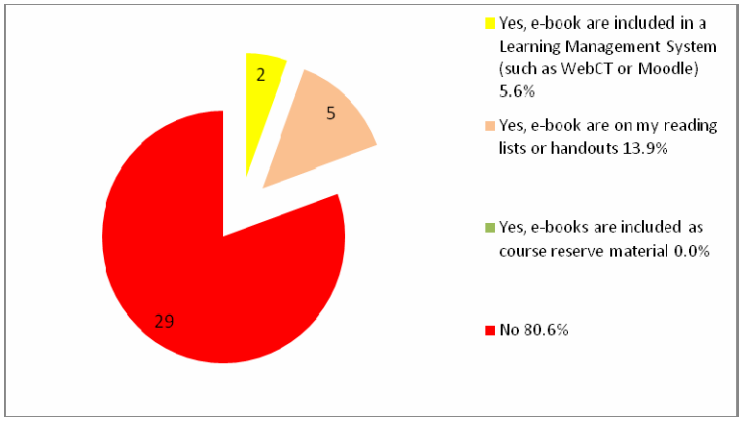


Figure 2: Faculty response: *Do you recommend e-books to your students?*

3.3 Book Discovery Process

Library catalogue remains the most popular way to find e-books. (Table: 2).

e-book discovery route	Graduate students	Faculty
Library Catalogue	67.2%	41.7%
New books blog	1.7%	-
New books title list	1.7%	2.8
Peers	8.6%	2.8
Library orientation	1.7%	5.6
E-mail notification from the library	10 %	5.6
Posters & promotional material	-	2.8
Library newsletter	5.2%	-
Subject research guide	10.3%	2.8
This survey	17.2%	30.6
Other	13.8%	33.3

Table 2: How do you usually find and access E-books?

Faculty were using Google Scholar and NCBI bookshelf to access health science e-books. A small percentage also browsed the New books title list on the library home page and discussed with colleagues to find e-books in specific subjects (Appendix:3, Slide: 6). Library posters and other promotional material were not the best means for promoting e-books to graduate students and library newsletter and books blog were not used by faculty for finding e-books (Table: 2). This survey also served as a means to inform faculty and graduate students about e-books. Including the complete MARC records for easy findabilty and increased uptake of e-books is of utmost importance.

3.4 Online Reading Habits

Graduate students and faculty were asked how much time they spent reading a book online during a typical session (Table: 3).

Answer	Graduate students	Faculty
More than 20 minutes	41.4%	22%
11-20 minutes	20.7%	11.1%
6-20 minute	13.8%	11.1%
3-5 minutes	6.9%	5.6%
Less than 3 minutes	8.6%	5.6%
Other	8.6%	44.4%

Table 3: In a typical session, how long do you spend reading an e-book from the screen?

Faculty members prefer spending less time reading e-books on the screen and only 22% of them spent more than 20 minutes reading material on the screen. 44% of them responded that they never read a book online (those replying *Other*) and a faculty member commented that it was easier to print and read at leisure. The results were markedly different for graduate students where 41.4% had spent more than 20 minutes reading a book online (Table: 3).

Answer	Graduate students	Faculty
Whole book	3.4%	None
Several chapters	19.1%	16.7%
One whole chapter	12.1%	13.9%
Less than one chapter	36.2%	33.3%
Browsed through the book	29.3%	36.1%

Table 4: How much of that e-book did you read online in one sitting?

Only 16.7% of the faculty said that they had read several chapters, 33.3% of the faculty read less than one chapter and 36% had browsed through the book (Table: 4). The numbers were similar for graduate students: 36.2% had read less than one chapter in one sitting, 29.3% had browsed through the book and 19% had read several chapters. None of the faculty members had read a whole book while two graduate students had read the whole book in one session (Appendix: 3, Slide: 8). Physics students said that they preferred having the book chapter printed on paper which would give them an opportunity to scribble on it. A Computer Science student had a similar response and said that it is easier to jot down points on printed paper and share it with colleagues. A significant number of students were not aware of the ability to annotate and highlight features that are now available in e-book packages. This could be one of the marketing points that can be used while promoting e-books to our students.

"Most (e-books) only actually allow for a 'skimming' of chapters and will remove your ability to read them after only a few chapters or minutes (the student gave an example of one e-book provider) claiming you are violating their usage policy"

E-book Survey response from one Graduate student at York University.

3.5 E-book Packages Used

Both groups were provided a list of e-books from different publishers subscribed by the libraries and the groups had to select the packages they had used (Appendix: 3, Slides: 4, 5). E-books that have been catalogued and are findable through the library catalogue had the highest usage statistics. The Springer series were ranked higher in terms of usage (Table: 5), since a higher percentage of students in our survey were from Mathematics and Statistics (Figure 1) and the complete MARC records from Springer are included in the library catalogue.

Students prefer using online reference material and indicated Encyclopedia Britannica (12.1%), Oxford Reference (6.9%), Wiley Encyclopedia of Life Sciences (6.9%), and CRC Handbook of Chemistry & Physics (5.2%). 22% of the students had not used any of the e-books packages and some students were using Google Books. A relatively small percentage of faculty members were using reference e-books (Appendix: 3, Slides: 5).

Publisher/vendor	% of Gradaute students	% of Faculty
Springer e-books	60.3	25
Lecture notes in Mathematics	20.7	2.8
Safari Books Online	17.2	5.6
Lecture notes in Computer Science	15.5	13.9
Encyclopedia Britannica	12.1	8.3
Books@Ovid	5.2	16.7
CRC Handbook of Chemistry and Physics	5.2	11.1
None of the above	22.4	58.3

Table 5: Top used e-book packages

A faculty member in Engineering had used Morgan & Claypool e-books even though it was not listed in the survey and are not included as yet in the library catalogue. The faculty member had a faint recollection about the Synthesis (Morgan & Claypool) e-book collection from the e-mail sent by the Engineering Librarian. Graduate students mentioned about e-books from Oxford Scholarship Online (OSO) which is also surprising since content from OSO had not included in the catalogue at the time of this survey. Students knew about this resource from e-mail alerts. E-mail reminders are an important means to get information across to graduate students and faculty about new e-content.

3.6 Preferred features

Some of the very important features for faculty members and graduate students were off-campus access to e-books, ability for multiple users to read the book at the same time, 24/7 access, capability to print and download sections or chapters on their laptops, and capability to search by series.

Very Important features in e-books	% Graduate students	% Faculty
Ability for more than one student to use an e-book at the same time	70.2	72.2
Ability to email text	41.5	20.6
24/7 access	73.2	74.3
Off-campus access	78.9	80
Formatted citations in APA, MLA etc	31.4	25.8
Capability to print/download sections of content, such as chapter or page range	70.7	52.8
Copying and pasting	53.4	27.8
Downloading to laptop	53.6	47.2
Hyperlinks to citations in books or links to other books	41.1	30.3
Capability to search by series, such as “Lecture Notes in Computer Science”	41.1	40.6

Table 6: *Very important* features desired in e-book packages by graduate students and faculty

3.7 Promoting E-books

E-book promotion needs to leverage the convenience, searchability and accessibility of e-books as a format. A number of faculty members commented that they were not aware of the various e-book packages and features available within them. They have suggested organizing faculty workshops and other information sessions to inform them about new e-books at York.

Science librarians at York have been promoting e-books using new books blogs, creating public blogrolls for publishers providing RSS feeds, personal communications, creating posters, and informing faculty and students at library open houses. Librarians at York are using innovative Web 2.0 tools like blogs and public blogrolls to promote e-books. Springer, Morgan and Claypool and the Royal Society of Chemistry (RSC) have DOIs for books and book chapters and some science librarians have created proxy authentication links which are embedded in the publisher's link. Librarians e-mail these massaged URLs when faculty want to promote certain e-books via course reserve materials or course readings.

At Steacie Science & Engineering Library, York University, we have created a webpage that lists all subject specific e-books from different publishers and also created dynamic links to the SIRSI library catalogue to show all e-books available through Springer and EBL.

4. Conclusions

The qualitative and quantitative data was rich enough to give an understanding of reading preferences and challenges faculty and graduate students face while accessing and using e-books. Our survey data points to the fact that while students and faculty are open to the concept of using e-books, their experiences have not been positive in some instances. Some of the challenges they faced were related to findability of e-books and the misperception that there are fewer e-books in their subjects. E-books that are indexed in the catalogue are more likely to be used than e-books that do not have complete MARC records even though they are being promoted via e-mail and other channels. Faculty and students are not aware of many value-added features that are now available through e-books. Librarians will need to promote this information in new and traditional ways to the academic community. Faculty have questions related to copyright policies and accessibility of e-books before they can promote e-books to a wider audience.

As academic libraries increasingly turn to e-books as an alternative to purchasing multiple copies, it's important that we understand how e-books are perceived and used by our faculty. Their endorsement as well as understanding the challenges faced by our student community cannot be underestimated. Faculty mentioned about the importance of DOI in e-books and if they are provided ready to use DOIs or permanent links, they would link chapters or the e-book in their course reading material. Science faculty and students are interested in being able to manipulate and link information in an online environment, for their teaching and learning purposes, and if e-books could incorporate features like the ability to plug in data and interactive graphs there could be a wider uptake of e-books (Appendix: 3, Slide: 11, 12).

As the number of online course offerings and distance learners continues to grow at our University, we anticipate that faculty and teaching associates will increasingly face the need to find new ways of providing course materials and this demand can be met by e-books. In addition to marketing e-books to faculty and students, academic librarians have a responsibility to advocate the needs of their users to e-book vendors. They will have to address issues related to complete MARC records, digital rights management and agree on a basic set of online searching features desired in an ideal e-book platform. These key issues will need to be considered as Library Consortia work towards an enhanced e-book platform. Without the input of libraries and academic community, e-book vendors' primary clientele, there is no guarantee that the necessary improvements in usability, accessibility, and interactivity would ever be made. E-books have the potential to serve the teaching, learning, and research needs of the academia and together e-book vendors, librarians, faculty and students can enhance the adoption of this product.

References

Abdullah, N., & Gibb, F. (2008). Students' attitudes towards e-books in a Scottish higher education institute: Part 1. *Library Review, 57*(8), 593-605.

Anuradha, K. T., & Usha, H. S. (2006). E-books access models: An analytical comparative study. *Electronic Library, 24*(5), 662-679.

Bennett, L., Landoni, M. (2005). E-books in academic libraries. *Electronic Library, 23*(1), 9-16.

Coyle, K. (2001). Stakeholders and standards in the e-book ecology: Or, it's the economics, stupid! *Library Hi Tech, 19*(4), 314-324.

Rao Siriginidi. (2003). *Electronic books: A new genre of content management.* Unpublished manuscript. Retrieved 4/28/2009, from http://www.saoug.org.za/archive/2003/0306a.pdf