

## **Students, Vendor Platforms, and E-textbooks: Using E-books as E-textbooks**

E-books are a growing area of interest and more are being produced by publishing companies as consumer demand increases. There are many benefits of using a book in an electronic format. The convenience and ability to access an e-book at any time day or night is an obvious benefit<sup>9,11,15</sup>, the ability to search within an e-book is a feature not available in print books<sup>9,15</sup>, and several e-books are much more portable than a collection of heavy print books<sup>15</sup>. Additionally, many e-books sold to libraries offer multi-user licenses, so more than one person can access the e-book at a time, an obvious feature that is not available for a print book in a library.

Electronic textbooks, or e-textbooks, is a subset of e-books that is also growing. Concern over textbook prices has encouraged libraries to research various options for students<sup>4</sup>, and the emergence of the e-book has provided a more affordable option. We have sought to provide this option to the students whenever possible. In fall 2012 we purchased 18 e-books specifically because they were listed as textbooks in engineering courses.

It is expected that our library will increase the investment in e-books, so it is beneficial to investigate the students' use of e-textbooks from the collection of engineering e-books, including their expectations and usability issues they encounter. Brahme & Gabriel capture this sentiment when they state that "it is essential for librarians to understand the needs and preferences of their respective, unique populations."<sup>3</sup> We agree with Shelburne that "Libraries have a responsibility to make certain they are purchasing e-books from providers who offer the appropriate levels of access and usage rights to this content for a large and varied user population."<sup>15</sup>

This paper discusses the results of two surveys: one conducted in fall 2011 and one conducted in fall 2012. The surveys ask questions related to awareness, satisfaction with features, and future use. Specifically we focus on the responses to questions related to students' satisfaction with the e-book features they encountered and used, and we will match them to the appropriate vendor platform. We also look at the open-ended comments students made with regard to the usability of the e-textbooks and the comments about their future use of e-textbooks.

### **Literature Review**

#### ***Students' perceptions of preferred features in e-books***

Foote & Rupp-Serrano conducted a study in which they found that graduate students desired features where they could save a PDF of the e-book, search within the e-books, highlighting, and taking notes. They also noted that graduate students desired more advanced features such as video and data files, and improved graphics<sup>7</sup>. Brahme & Gabriel conducted a study in which they

found that 63% of their participants lamented the inability to take notes and highlight in an e-book<sup>3</sup>.

Several studies found that the majority of users want to be able to print part or all of an e-book<sup>3,13,6</sup>. Nariani found that graduate students' most preferred e-book features are the ability to have multiple users (70.2%), off-campus access (78.9%), 24/7 access (73.2%), and the ability to print sections (70.7%)<sup>11</sup>. Gregory also found that students have a strong desire to print the content of e-books. Gregory notes that "hassle-free printing...without compromising copyright restrictions would greatly ease access and increase student use."<sup>8</sup>

Berg et al. found that their study participants wanted to search within e-books, but often found the search functionality did not meet their expectations. Participants also desired more "clickable" features such as hyperlinks between indexes, table of contents, and chapters. Some participants noted that "moving through e-books was cumbersome and slow."<sup>1</sup> Noorhidawati & Gibb asked students about other features and found that students highly rated the usefulness of doing a full-text search across a collection of e-books, as was the ability to personalize the experience by creating a "bookshelf."<sup>12</sup> Levine-Clark conducted a survey asking students and faculty about their use of e-books, and they summarized one part of their findings saying that "it is clear that respondents value convenience (the convenience of not having to go to the library and the convenience of not having to wait for a print volume) and the ability to search within the text."<sup>10</sup>

E-book vendors Springer and ebrary have conducted their own studies to learn more about how students use e-books. These studies cannot be considered an analysis of their respective platforms, but both provided information about students' thoughts regarding e-books. Springer found that users "value the ability to access eBooks anytime and anywhere and appreciate that access is fast and easy." They also found that "Full-text searching was also named as a top eBook advantage."<sup>16</sup> ebrary's survey asked students how important certain features are to e-books and they found that searching was the most important, followed by "anytime access" and off-campus access.<sup>5</sup>

Rojeski conducted a study to gather student perceptions and preference relating to e-books used as textbooks in library course reserves, but the study was limited to one class of students, and was not able to include a vendor comparison<sup>14</sup>.

### ***Vendor analyses***

Although there have been studies related to evaluating e-books and patrons' use of e-books, not many studies have applied this to specific vendors' e-book platforms. Foote & Rupp-Serrano conducted a study in which they looked at graduate students' and faculty preferences of vendors when comparing ebrary, Elsevier, Knovel and Springer. They found that faculty preferred

Elsevier and Knovel, while graduate students were more evenly split between the platforms, with ebrary and Elsevier at the top of the list<sup>7</sup>.

Shelburne briefly mentioned that their study asked about SpringerLink and although there were not many responses related to usability of the platform, some comments indicated there was some confusion about the content of the platform since both e-journals and e-books are available<sup>15</sup>.

Nariani found that the majority of survey respondents (60% of graduate students and 25% of faculty) used Springer e-books as opposed to other available platforms at their institution including Safari and Ovid<sup>11</sup>.

Levine-Clark conducted a survey at the University of Denver in which they had a section devoted to asking questions about netLibrary. Of those respondents that had used netLibrary, 78.7% of occasional users found it easy to use, and 80.1% of frequent users found it easy to use<sup>10</sup>.

Bierman et al. conducted faculty interviews in which they asked the participants to view two e-books on two different platforms chosen from SpringerLink, Wiley InterScience, ebrary, Knovel, ScienceDirect, and NetLibrary. Despite using different vendors, their paper did not include a comparison between the vendors, except for noting that ebrary did not offer the option to download, and that ebrary requires a user to create a personal log in to access more advanced features<sup>2</sup>.

## **Setting**

Our study takes place in the context of a large Midwest research university with a strong library system. The university consists of nineteen schools and colleges, one of which is the College of Engineering. In the fall of 2011, the College of Engineering consisted of a diverse student body with 5,644 undergraduate students, 1,743 masters students, and 1,477 doctoral students. The library system consists of fifteen different libraries and collections which are located in eight physical buildings. Our particular library building serves the teaching and research needs of the College of Engineering, along with several other departments and colleges on our part of campus.

We provide a course reserve service at our physical building, separate from the main library's course reserve location. One of the efforts we've made toward assisting students with textbook costs is to provide a physical copy of engineering textbooks on course reserves. Unlike the main library's course reserves, we actively gather textbook information for the classes offered by the College of Engineering, and we will purchase a physical copy of a textbook we don't already own.

Since the library began purchasing e-books several years ago, the engineering librarians set up a process in which we also check our e-book collections to determine if the engineering textbooks are available electronically. For assigned textbooks that we do not already have in electronic format, we will purchase the electronic format if it is available through one of our e-book vendors.

The engineering selectors notify the professors in their subject areas of the existence of the electronic versions of their textbooks and provide URLs. The expectation is that the faculty members notify their students of the e-textbook option available through the library. This effort is conducted prior to the beginning of each semester.

### ***2011***

The fall of 2011 saw the library providing 41 e-textbooks\* to 36 classes within the College of Engineering, both undergraduate and graduate classes, which is approximately 8% of engineering classes. The library provided access to these e-textbooks through various platforms including:

- ebrary (2 books surveyed)
- IEEE Xplore (1 book surveyed)
- Knovel (4 books surveyed)
- MyiLibrary (15 books surveyed)
- NetLibrary (1 book surveyed)
- Safari Tech Books Online (3 books surveyed)
- ScienceDirect (1 book surveyed)
- SpringerLink (5 books surveyed)
- Wiley Online Library (3 books surveyed)

### ***2012***

The fall of 2012 saw the library providing 71 e-textbooks\* to 64 classes within the College of Engineering, both undergraduate and graduate classes, which is approximately 14% of engineering classes. The library provided access to these e-textbooks through various platforms including:

- Cambridge Books Online (1 book surveyed)
- ebrary (2 books surveyed)
- EBL (2 books surveyed)
- EBSCO eBook Collection (1 book surveyed)
- ENGnetBASE (1 book surveyed)
- Knovel (7 books surveyed)
- MyiLibrary (6 books surveyed)
- Safari Tech Books Online (1 book surveyed)

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\* Not all available e-textbooks were surveyed - see Method section for more information.

- ScienceDirect (3 books surveyed)
- SpringerLink (4 books surveyed)
- Wiley Online Library (2 books surveyed)

Note: Some e-textbooks in 2012 were available through more than 1 platform, and survey responses for these e-textbooks were excluded from the vendor associated results.

## **Method**

We chose to conduct a survey to see if students were getting notification about the e-textbooks through the library and if they were, what they thought of the usability of the e-textbooks. One of our team members was involved in a wider e-book initiative and had conducted a previous survey that provided a starting point and ideas for questions we could ask.

In the survey, we gathered some basic demographics of the students, asked when they were notified of the existence of the e-textbook, and asked if they used it. Students who had used the e-textbook were asked about their experiences: did they encounter technical problems and what features did they like. The survey in 2012 was altered slightly from the 2011 version to ask more efficient questions and we added a question about how the students used the e-textbooks. For a full list of the questions asked in the 2012 survey, please see Appendix 1.

Once the survey questions were established, the survey was implemented in Qualtrics. Qualtrics is an online survey tool that has the ability to skip questions depending on how a person responds to a previous question. So, for example, if a student responded “Yes” that they had used the electronic version of their textbook through the library, the survey would continue with a series of questions regarding the usability of the e-textbook. If they responded “No,” the survey would skip to the next set of questions after the usability section.

We created a separate survey for each class. This allowed us to include the title of the textbook in an individual class survey and ensured that students responding to the survey would know about which textbook the survey was asking. The questions were the same in each survey, with only the class names and the e-textbook titles changing. In the event that a class had access to more than one of their textbooks electronically, we selected one textbook and asked students to consider that specific book. A required textbook was preferred over an optional textbook, and the e-textbook from a platform that was less represented among the other classes was also preferred.

We delivered the two surveys slightly differently. In the fall of 2011, we had assistance from the university’s IT department to acquire the email addresses of the students taking each of the classes that had an e-textbook option available. In the fall of 2012, we asked each class professor to add us to their class’ course management site so we would have the ability to send an email or announcement to the class about the survey. Once we had our contact method in place, each

engineering selector then sent out an email with a link to the survey developed for each of the classes in their subject areas.

In the fall of 2011, the survey was distributed to 2014 students in 35 classes. The survey was open for two weeks, during which an initial email was sent asking the students to respond, and a reminder email sent after about one week.

In the fall of 2012, the survey was distributed to 2033 students in 42 classes. The survey was open for one and one-half weeks, during which an initial message was sent to the students, and a reminder message was sent 3-5 days before the survey closed. We also offered an incentive for the fall 2012 survey: a random drawing for six \$25 Visa gift cards. Our library's web team assisted with this by setting up a method of collecting contact information from survey participants who wished to enter the drawing.

## Results

Following the closure of the surveys in 2011, there were 299 usable responses, a 15% response rate. In 2012, there were 449 usable responses, a 22% response rate.

The data were exported from Qualtrics, cleaned up to remove unnecessary columns and merged into one Excel spreadsheet, then put into STATA for analysis. This allowed for a comparison of all the data at once, since there were separate Qualtrics surveys for each class.

The table below shows the number of respondents by class level for each of the two surveys. Numbers for 2012 do not include numbers of respondents from classes whose textbooks are available from multiple vendors (which are omitted from the vendor analysis below).

|                      | 2011       | 2012       |
|----------------------|------------|------------|
| <b>Undergraduate</b> | (202)      | (179)      |
| 1st year             | 77         | 27         |
| 2nd year             | 16         | 12         |
| 3rd year             | 64         | 57         |
| 4th year             | 40         | 76         |
| Other                | 5          | 7          |
| <b>Graduate</b>      | (97)       | (213)      |
| 1st year             | 62         | 116        |
| 2nd year             | 24         | 71         |
| 3rd year             | 8          | 1          |
| 4th year             | 2          | 4          |
| Other                | 1          | 6          |
| <b>Total</b>         | <b>299</b> | <b>392</b> |

### ***Student Perception***

While the primary purpose of our surveys was to measure the awareness of e-textbooks and our efforts in promoting them (see the section “Additional Findings: Awareness” below), we also saw the opportunity to learn from students their perceptions of the usability of e-textbooks. In more general terms, we wanted to know from students how easy it was for them to use the e-textbooks the way that they needed to use them. Student perceptions of the e-textbooks and vendor formats are informative to us as we consider the value of continuing to purchase and promote e-textbooks.

Both the 2011 and 2012 surveys asked students for their perceptions of the e-textbooks. We asked them to rate whether they found the books:

1. Easy to Use
2. Easy to Access
3. Easy to Read
4. Easy to Print
5. Easy to Copy and Paste Content from the e-textbooks
6. Easy to Highlight and Take Notes,
7. Easy to Search for Particular Words
8. Portable
9. Environmentally Friendly
10. A Positive Benefit for Student Learning

For each of these items, students responded Strongly Disagree, Disagree, Agree, Strongly Agree, or Don't Know.

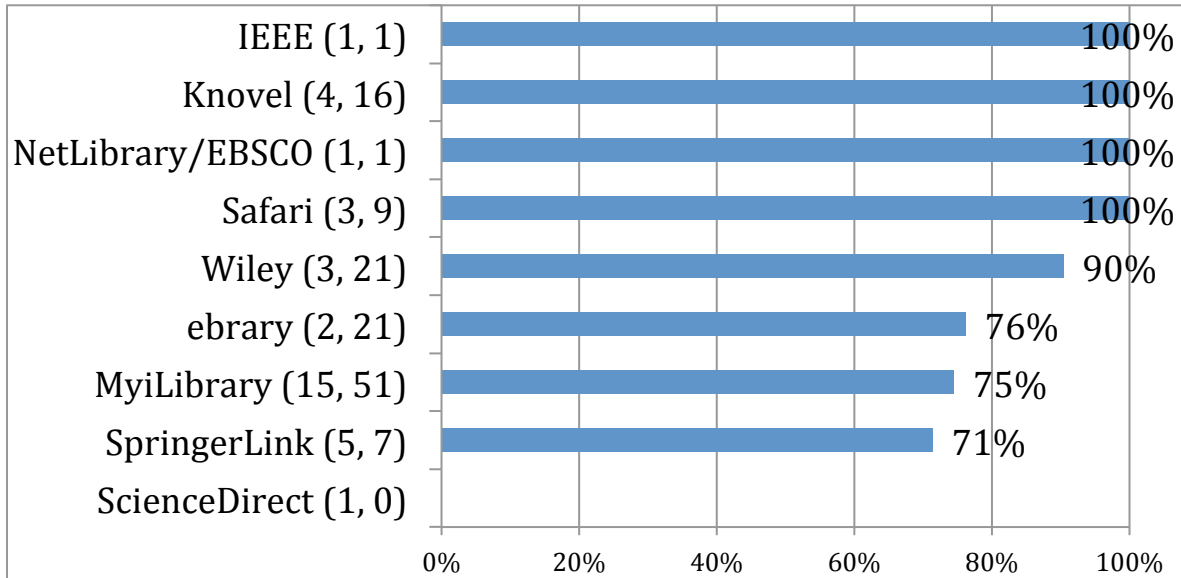
Results for four of these criteria, Ease of Use, Ease of Access, Ease of Printing, and Ease of Sharing, are discussed below. Our results are presented as the percentage of respondents who responded either agree or strongly agree. For the purposes of this discussion, Don't Know responses are omitted. Books available on more than one platform are not considered in these results.

We had hoped to be able to use the survey to make comparisons between vendors. If we can conclude that students have clear preferences for one vendor's format over another's, then we can perhaps use this information to inform our purchase decisions. For that reason, we also look at the four criteria by vendor.

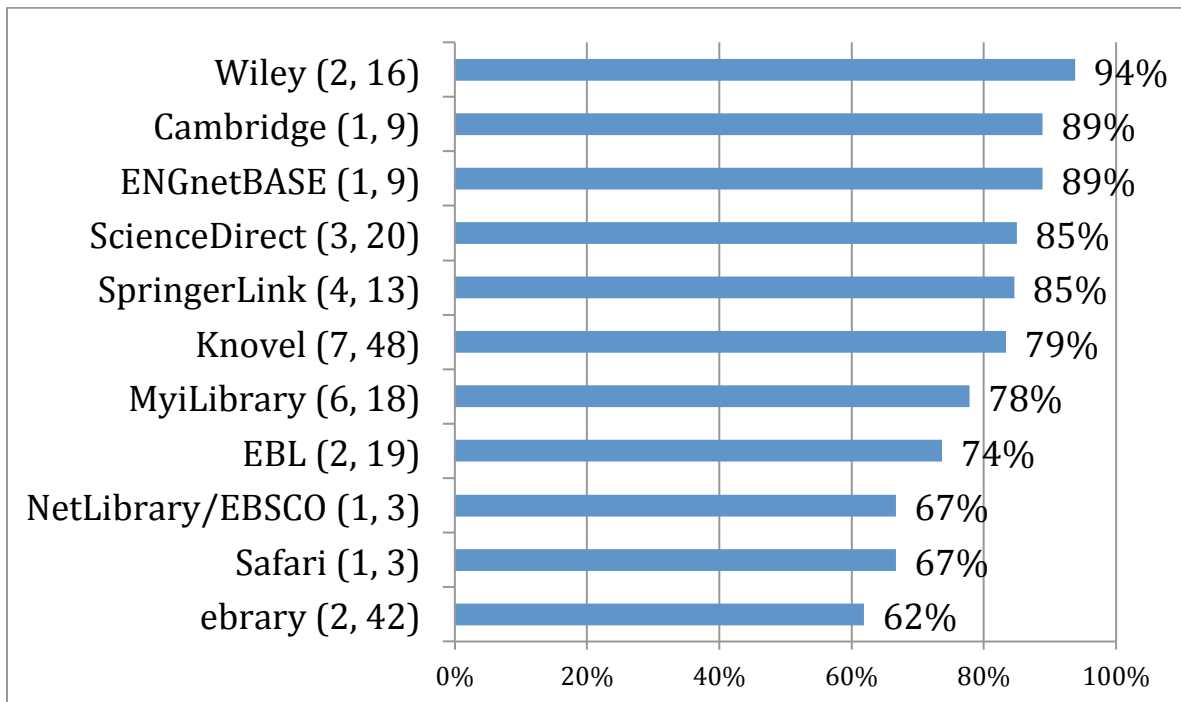
### Ease of Use

Percentage of respondents who agree or strongly agree that e-textbooks are easy to use.

#### 2011



#### 2012



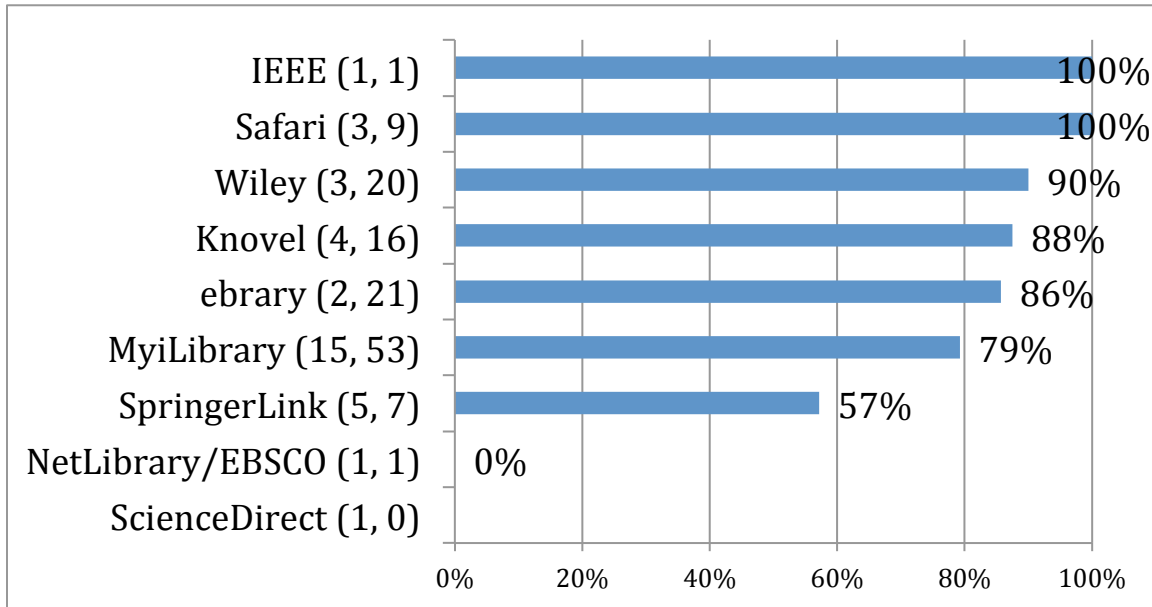
Note: Numbers in parentheses are numbers of books surveyed and numbers of respondents, respectively.



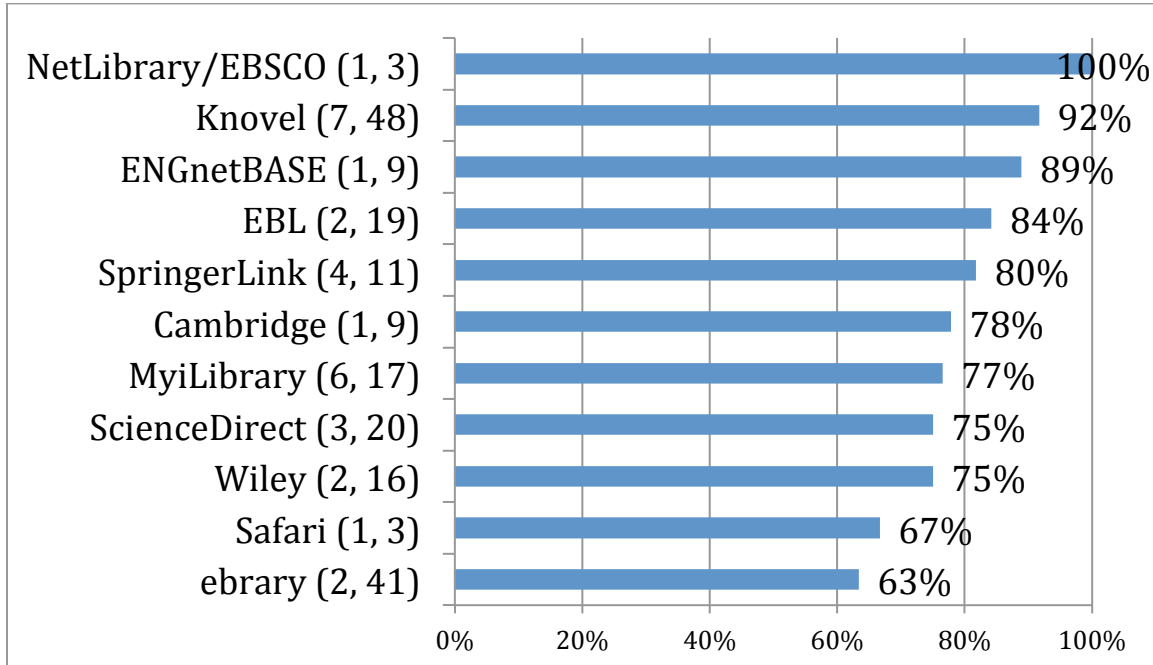
### Ease of Access

Percentage of respondents who agree or strongly agree that e-textbooks are easy to access.

2011



2012

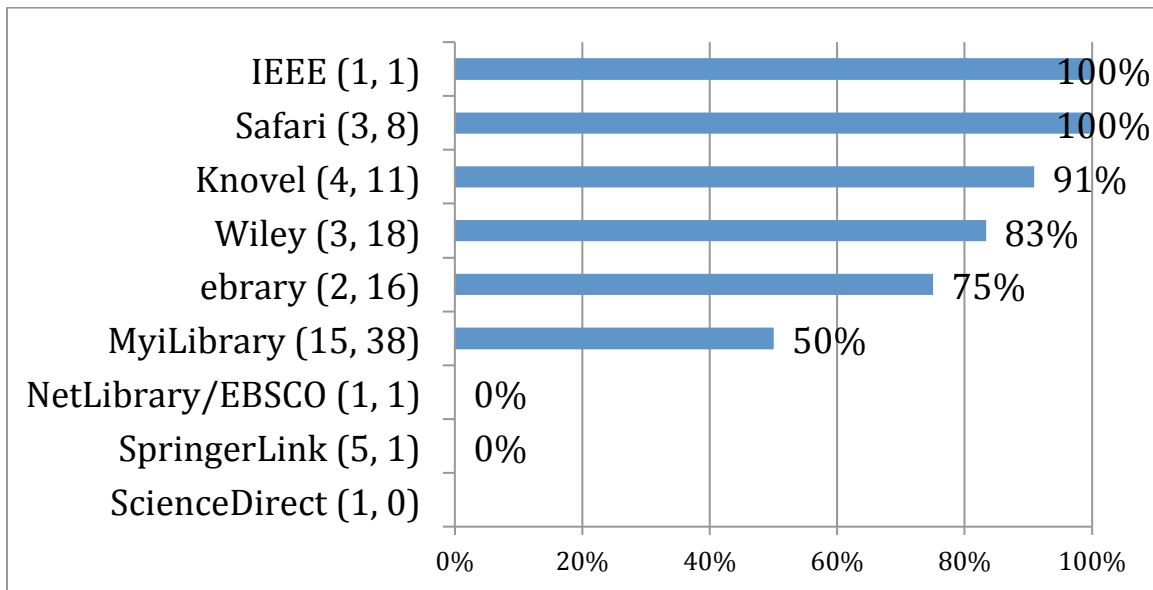


Note: Numbers in parentheses are numbers of books surveyed and numbers of respondents, respectively.

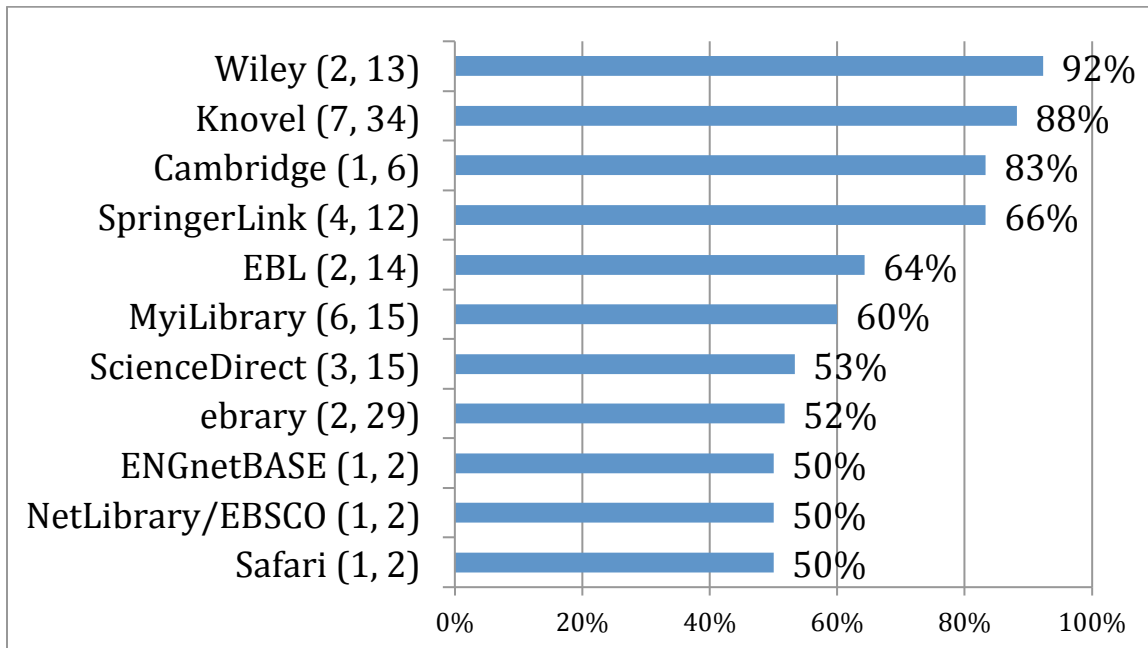
### Ease of Printing

Percentage of respondents who agree or strongly agree that e-textbooks are easy to print.

2011



2012

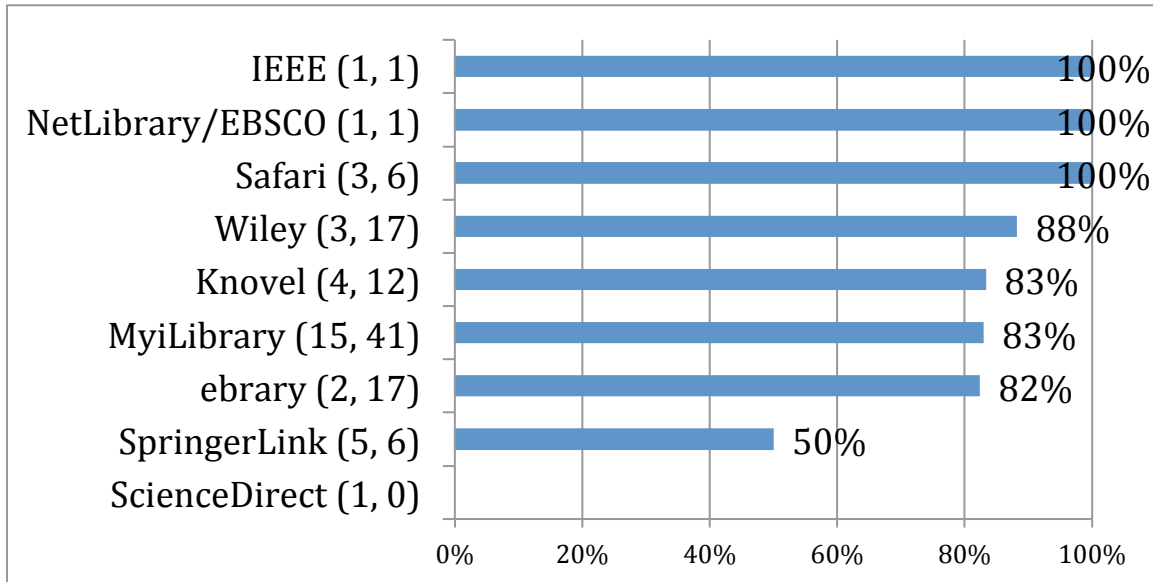


Note: Numbers in parentheses are numbers of books surveyed and numbers of respondents, respectively.

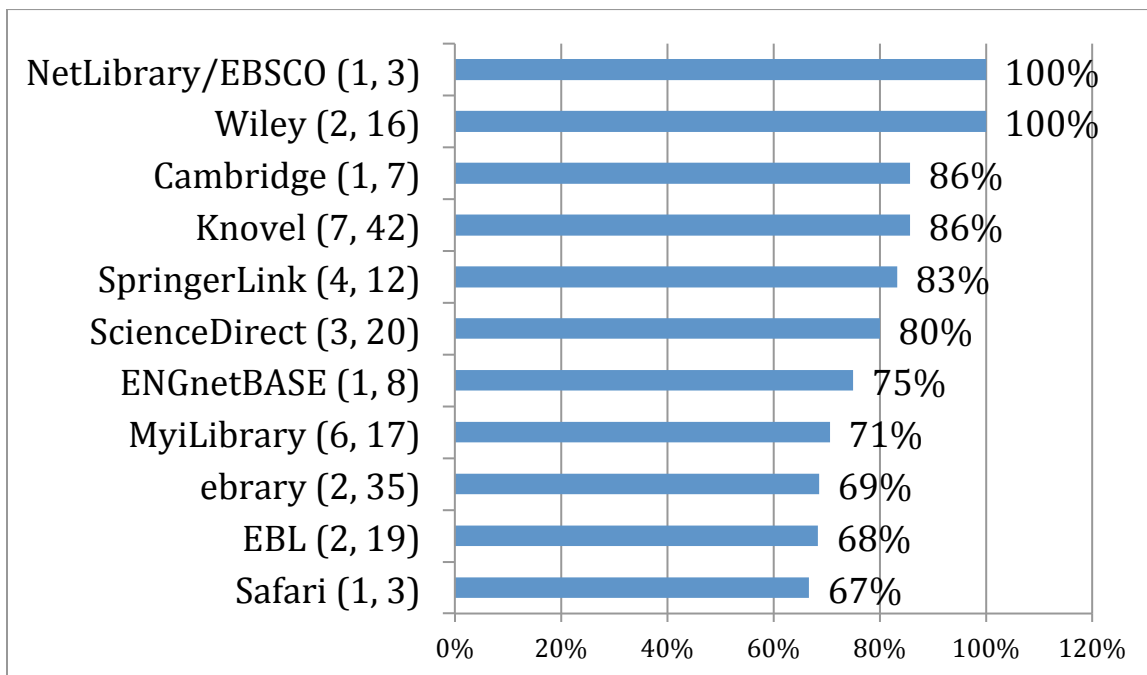
### Ease of Sharing

Percentage of respondents who agree or strongly agree that e-textbooks are easy to share.

2011



2012



Note: Numbers in parentheses are numbers of books surveyed and numbers of respondents, respectively.

We decided from this comparison by vendor that we do not have data to support any conclusions of student preferences for one vendor over another. In too many cases, we surveyed either too few books or had too few respondents, and in all cases we must acknowledge that different users are responding about different books. With so many uncontrolled variables, we are therefore not prepared to draw any conclusions from these data.

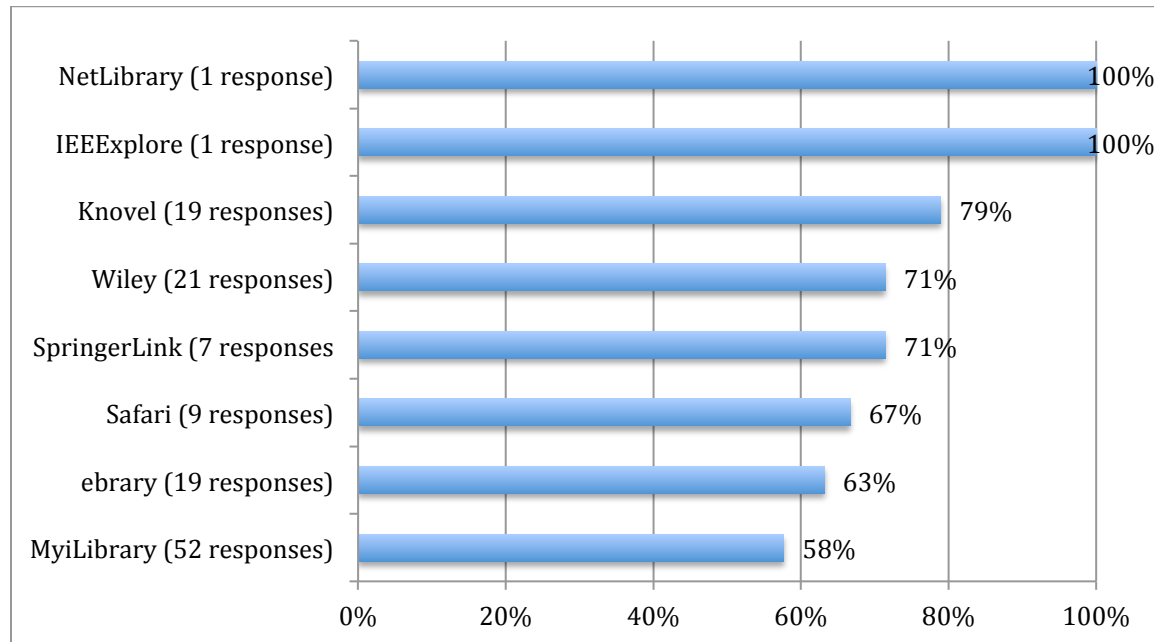
Still, we find that these data give us at least a glimpse into student perception of vendors. Aggregator platforms, MyiLibrary and ebrary, consistently perform worse than publisher platforms. Of the other platforms with significant numbers of respondents, Knovel and Wiley consistently perform strongly among our users.

### ***Satisfaction***

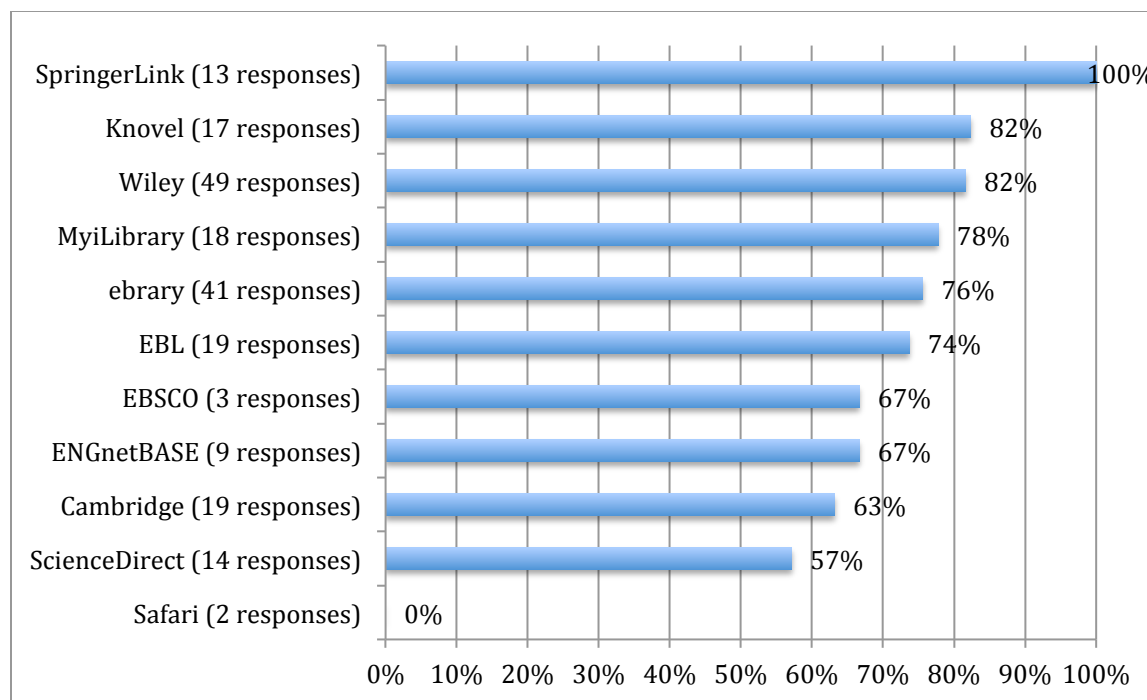
We also asked users to rate their overall satisfaction with their e-textbooks on the scale Very Dissatisfied, Dissatisfied, Neutral, Satisfied, and Very Satisfied. The following charts show the percentage of respondents who selected either Satisfied or Very Satisfied (please note that not all vendors had books included in both surveys; numbers after vendor names are the numbers of responses in 2011 and 2012, respectively).

### **User Satisfaction**

#### **2011**



#### **2012**



*Reminder: Books available on multiple platforms are not considered in these results.*

We recognize that our survey is limited and we are not prepared to draw any conclusions as regards comparisons between vendors. Content varies, availability varies, some vendors are aggregators while others are publishers, and in most cases, we don't even know why or why not students are satisfied.

One open-ended comment illustrates this last point: *“Although it is somewhat dissatisfactory, it was free and I have no complaints. You get what you ‘pay’ for.”* (2012 respondent) Although this user found the e-textbook “somewhat dissatisfactory,” he or she chose to respond “satisfied” to the question above.

So, we understand that we cannot decide where to purchase resources based on the results of the survey. We offer these data simply as a glimpse into students' satisfaction with the e-textbooks that we are able to supply.

These data give us a glimpse into students' usability experiences and satisfaction with e-textbooks. Open-ended questions can give us a better look into students' perceptions. We asked students to “Please describe why/why not satisfied” with their e-textbooks. In this section, survey respondents were able to point to specific concerns or complaints about the access, format, quality or other points relevant to their e-textbooks.

We received 50 responses to this question in 2011 and 90 responses in 2012. Many of these responses, 17 in 2011 and 32 in 2012, were positive responses, such as, “*Using the e-textbook was easy*” (MyiLibrary book, 2012) and “*free and convenient*” (Safari book, 2011)

Of the remaining open-ended responses to the question about satisfaction, a majority in both surveys were focused on platform issues or quality problems.

In regard to quality issues, one of our MyiLibrary users in 2011 told us: “*...the quality available online at the e-library copy was poor in a lot of cases, sometimes where an important word or number was illegible.*” An ebrary user from 2012 responded, “*Downloaded pages have low resolution.*” An ebrary user from 2011 “*...attempted to print out a diagram from the textbook. The diagram was impossible to read...*”

Many respondents spoke about more general issues regarding the choices made by platform vendors in regard to display and online reading.

For instance, an ebrary user from 2011 said, “*The textbook is presented page-by-page...a scrolling version would make it much easier to read/skim/cut down a lot of time while using it.*” Another ebrary user from 2011 said, “*Its [sic] not easy to look at two pages at once. For example, end of chapter problems and different sections in that chapter.*” A Knovel user from 2012 said, “*I could only pull up 1 chapter at a time. If i [sic] pulled up another, it automatically closed the window...*” And an EBL user from 2012 said, “*Not as convinent [sic] to ‘flip’ through pages on the computer, especially when referencing charts or tables.*”

An ENGnetBASE user from 2012 said, “*I did not like that I had to download a chapter of the book in order to search for a phrase within that chapter. More specifically, I did not like that I had to click through to the next page. I would have preferred a full document, accessible from one page, in either HTML or PDF. Failing that, another solution could be to make it possible to search only in the current chapter.*”

Finally in regard to this question, several respondents gave us some rather insightful comments about e-textbooks in general:

*Its [sic] hard to access it from home, and whatever e-read made it difficult to navigate. It also did not resize well to a laptop screen size and so you had to scroll up and down and then have to change the page. Just too much work. I love the nook/kindle form but this was not close. (2012 respondent)*

*All electronic textbooks have the inherent problem of preventing the readers from forming spatial memory about the text, which is a positive aspect of physical books. Also,*

*fast seeking through the pages is not possible. These are technical issues of all electronic textbooks, not this particular one. (2011 respondent)*

*I loved the electronic version of the book. It was very nice when paired with my tablet. The only request I would make is please change the page limit when downloading the book in a PDF format. 10 pages at a time for an 800 page book is ridiculous. If you could separate it by chapter, or just make it 30-40 pages, that'd be helpful. (2012 respondent)*

*Just make the entire thing a pdf already. (2012 respondent)*

Our survey also asked, “Do you have any suggestions for improving the usability of electronic textbooks and their related library services?” on both the 2011 and 2012 surveys. We received 67 responses to this question in 2011 and 142 in 2012.

Some of the more common suggestions involved:

|   | <b>2011</b> | <b>2012</b> |
|---|-------------|-------------|
| <b>Awareness/Publicity</b>                  | 31%         | 18%         |
| <b>Need for a better platform</b>           | 25%         | 25%         |
| <b>Need for use with other devices</b>      | 12%         | 8%          |
| <b>Statement about preference for print</b> | 6%          | 3%          |

In 2011, the most frequent suggestion was in regard to students’ need for us to better publicize the e-textbook availability. For example, “*Please let us know that the electronic version of the textbook is available online at the beginning of the term, not at the end.*” (2011 respondent)

To that end, we expanded notification of availability for fall term 2012. Even so, one 2012 respondent said, “*We should be notified earlier about the availability of electronic books probably a week or two before classes start so that we won’t purchase the print book for class.*”

Although there were still many suggestions about publicizing the e-textbooks in response to our 2012 survey, most of the suggestions were comments on the need for better ebook platforms.

Students often offered suggestions for e-textbooks that were beyond the library’s control. We were unsure if they were confused about who was offering the e-textbooks or if they wanted us to pass their suggestions along to vendors.

*Let students download the books and let us use whatever client software we want to read it. (2012 respondent)*

*Improve the ability to download specific sections of set length. (2011 respondent)*

*...I completely understand why we can only download a portion, and why it is perhaps more financially lucrative to force the library to use their crappy browser plugin, but at the end of the day I won't be able to go paperless until these issues are resolved in some form, so that I am completely comfortable with reading and taking notes in an electronic form that is convenient. (2012 respondent)*

Many students were unimpressed with the e-textbook formats provided by vendors. While we in the library understood that the e-textbooks platforms were not designed as textbook platforms, student suggestions asked for features that would allow them to use the e-textbooks similarly to how they use print textbooks:

*It should be distributed in any ereader format, not just .pdf, this enhances the use of word search and dictionaries to define words or even translate them. (2011 respondent)*

*Highlighting and taking notes on electronic books have always been a [sic] issue when comparing to textbooks. (2012 respondent)*

Students commented on a need for guaranteed access to e-textbooks. In a few cases, students ignored the download violation warnings from vendors and all of campus lost access to an individual e-textbook until a vendor reset. Also, there is a perception that the e-textbooks are available only as online resources, even though many of the platforms have options to download individual chapters or sections. Limits placed on the number of simultaneous users could limit access, especially if multiple students are trying to use an e-textbook during a class session. Students expressed concerns about these issues in suggestions:

*Make sure electronic textbooks are reliable. As a student, I need to be able to trust that my textbook will be available whenever I need it. (2011 respondent)*

*Allow downloads for use on smartphones and without internet connection. (2012 respondent)*

And, as with the comments on satisfaction, we received some responses that gave us some insights we were not expecting:

*For [my class], we have open-book exams. This means that we can take our book into the exam with us. We cannot have electronic devices, thus eliminating the possibility of using an electronic textbook during an exam. (2011 respondent)*



*They are a great supplement to hard copies. (2012 respondent)*

Finally, the 2012 survey asked a question not included in 2011, whether students would choose to use e-textbooks in the future. Students were invited to follow up with open-ended comments on why they would or would not use e-textbooks in the future. Two hundred ninety-nine students replied. The most common themes expressed in these comments were cost (43%); preference for print format (27%); and portability of e-textbooks (14%). One other recurring topic was that students were looking ahead to their future careers, and many preferred print format for the reason of ensuring permanent access to books that they believed they would need in the future.

The most common response to the question about future use talked about cost, and students expressed their choice of the library e-textbook in terms of saving money:

*It is very convenient and it is also a great economical option for me. Textbooks, even used books, are very expensive. I do not want to purchase textbooks that are for courses that are not directly relevant to my future career. (2012 respondent)*

*I would use them because they save me hundreds of dollars each semester. (2012 respondent)*

Some students also commented on the ease of access to e-textbooks:

*They're easy to access from multiple devices (Tablet, [school network] computer, desktop, laptop) and easier to search using ctrl+f. (2012 respondent)*

*They are accessible from any computer, which means I can study/do readings even if I am unable to carry around the book. (2012 respondent)*

Even considering cost savings and ease of access, five percent of users expressed that they would not consider using the library e-textbooks in the future. (An additional 28% answered “maybe”.) Some of these users told us that they simply prefer the print format:

*I personally prefer to have a hard copy of a textbook versus an electronic copy. I like to make notes and highlight in the book, two things you cannot do with library copies of electronic books/textbooks. (2012 respondent)*

*Hardcopies are better than electronic copies. This is because its much easier on the eyes than constantly staring at your computer screen. In addition, there are many distractions, such as social networks, that distracts [sic] me when I try to use electronic books... (2012 respondent)*

In our 2011 survey, 52% of respondents told us that they had bought or rented a print copy of the textbook. In 2012, 40% of respondents bought or rented print.

Finally, as with the other two open-ended questions, we got some surprises in the form of insightful comments:

*... ebooks must be searchable [sic]. the speed of browsing (slow) and the association with a battery-limited device make them not good replacements for books. the ability to flip back and forth between a few locations is also not always [sic] easy in e-books. (2012 respondent)*

*“The cost saving is a HUGE factor, I'm just concerned about the availability of the source, and being able to have an offline copy, so I can read it places where I don't have internet access.” (2012 respondent)*

*I'm taking 16 grad credits and each class has its own 600-1500 page book. I'd be in the hospital if some of them weren't digital. (2012 respondent)*

### **Additional Findings: Awareness**

Between the two surveys, the number of students who were aware of the e-textbooks went up from 56% to 78%. This is a 22% jump from 2011 when some students said they learned about the e-book when they took the survey. What did we do to achieve this increase? In the fall of 2012 we increased publicity beyond just informing the faculty. We created a webpage with links to the books, organized by class, and we sent two notification emails to all engineering students: one in the second week of August and a reminder during the first week of the semester. We also linked to the e-textbooks from our course management system so they would appear if the professor activated the “Library Reserves” tool.

Of the 2012 respondents who knew about the e-textbook option, 73% used it, which is a slight increase from 71% in 2011. We believe we can improve awareness more, and we will try to do more publicity in the future. Now that more students are using the e-books we are hoping that word of mouth will also help increase awareness. As noted above, many respondents to both surveys told us that they had either bought or rented print copies of their textbooks. We would like to monitor this number in the future to see if it falls as awareness of the library access to e-textbooks increases.

We also asked when the students learned about the e-textbooks: 32% learned about the e-textbook on the first day of class and 26% found out after classes started. Many students

commented that they found out about the e-textbook on the first day of class, after they had already bought the book. We also asked when students would prefer to learn about the availability of an e-textbook. 32% want to be informed 1-2 months before class, 26% less than one month before class starts, 22% a week before the start of class. These numbers are similar to the responses in 2011. Unfortunately, we generally do not find out what the assigned textbooks are until about 2-3 weeks before class starts.

In response to the question “Would you use an e-textbook in the future?” 66% said yes, 28% said maybe and 6% said no.

## **Conclusion**

Wanting to learn more about students’ experiences with e-textbooks, we conducted two surveys over the past two academic years to gather students’ input. We recognize the limitations of our survey. While we asked students to rate their satisfaction, in most cases we do not know why they are or are not satisfied with the e-textbooks. Considering this, we are not prepared to draw any conclusions in regard to comparisons between e-book vendors. Still, we believe that we gained some valuable insights. The clearest conclusion may be the simple realization that awareness matters. Students who know about the availability of the e-textbooks use them. Our additional efforts at promoting the e-textbooks for the 2012 fall term seem to have resulted in more awareness and more use of them. Even so, a non-trivial number of students still report that their preference is print format, and so we understand that students will want the option to choose between formats for at least the immediate future. Lastly, a high percentage of students who reported that they had used the e-textbooks also reported that they were satisfied with them. We believe that our survey results demonstrate that our efforts in providing and promoting e-textbooks as an option to students have been worthwhile and a good investment, and we will continue these efforts in the future.

## **Future work**

We will continue improving our efforts to help students become aware of the e-textbooks available through the library. We will continue advertising the e-textbooks via email, website announcements, and we will expand into social media. Our next step will be to talk to faculty members to gather their thoughts about using an e-textbook for class. We may also conduct this survey again in a year or two to see if our additional advertising efforts have made a difference, and we will consider organizing focus groups with students to better understand why they are or are not satisfied with the e-textbooks.

We also want to compare usage statistics from the physical course reserves books to the usage statistics of the electronic version of those books. Over time we can see if usage is decreasing for

physical books or staying the same, or if usage of electronic books is increasing without much change to the usage of physical books. We have had the same courses over a few semesters now and most of these classes have used the same book; we can compare how the usage and perception has changed for these books. We can also monitor if vendors make changes to the functionality in their platforms and see if they have added additional features for e-book use on mobile devices.

As Nariani so aptly puts it, “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.”<sup>11</sup> Therefore, we will make an effort to share our findings with vendors so they can continue to improve the e-book experience for students.

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## Appendix 1: E-textbook Survey Questions 2012

*Please note that not all students saw all questions. Respondents were routed to questions based on how they answered question #6.*

1. Please indicate your year in school.

|               | 1st | 2nd | 3rd | 4th | Other |
|---------------|-----|-----|-----|-----|-------|
| Undergraduate |     |     |     |     |       |
| Graduate      |     |     |     |     |       |

2. What is your gender?

- Male
- Female
- Prefer not to answer

3. In general, which of the following textbook formats would you consider using?

- New print textbook only
- Used print textbook only
- E-textbook only
- Both an e-textbook and print copy

4. For your engineering course, AERO 347, how did you obtain a copy of your textbook *Orbital Mechanics for Engineering Students*? Please select all that apply.

- Purchased a print book
- Purchased an electronic book
- Rented a print book
- Rented an electronic book
- Used a library copy (print or electronic)
- Borrowed from a friend/classmate (print or electronic)
- Did not obtain a copy
- Other (please specify) \_\_\_\_\_

5. Please choose THREE primary reasons that influenced your choice of which textbook format to use.

- Textbook cost
- Personal preference for print or electronic textbook
- Required readings (not optional)
- Readings in your major

- ◇ Ease of use
- ◇ Portability
- ◇ Functionality
- ◇ Other \_\_\_\_\_

6. Did you know your textbook for AERO 347, *Orbital Mechanics for Engineering Students* was available in electronic format from the library, and did you use the electronic book?

- o Yes, I knew and I used it.
- o Yes, I knew but I **didn't** use it.
- o No, I didn't know.

7. How did you learn about the library copy of this electronic textbook? Please choose all that apply.

- ◇ Email announcement from the Library or College administration
- ◇ CTools or email announcement from instructor
- ◇ In class announcement from instructor
- ◇ Course syllabus
- ◇ Library website announcement
- ◇ Library reference service
- ◇ Searched for book on the Library website or Mirlyn catalog
- ◇ Communication with classmates
- ◇ Social media (Facebook, Twitter, etc.)
- ◇ Other (please specify) \_\_\_\_\_

8. When did you learn about the library copy of an electronic textbook?

- o More than 2 months before the start of class
- o Between 1-2 months before the start of class
- o Less than 1 month before the start of class
- o A week before the start of class
- o First day of class
- o After class began

9. In the future, when would you like to be informed of the availability of an electronic copy of your textbook?

- o More than 2 months before the start of class
- o Between 1-2 months before the start of class
- o Less than 1 month before the start of class
- o A week before the start of class
- o First day of class
- o After class begins

o I don't want to be informed.

10. How many times did you access the library copy of this e-textbook during this semester?

- o 1 – 2 times
- o 3 – 5 times
- o 6 – 10 times
- o More than 10 times

11. Please indicate if you used this e-textbook in the following ways.

|   | Yes | No |
|---|-----|----|
| I printed all or part of it   |     |    |
| I downloaded all or part of it                                      |     |    |
| I used it on a tablet device  |     |    |
| I used it on a smartphone   |     |    |
| I used it during class  |     |    |
| I used it while doing homework                                      |     |    |
| I used it until I purchased a print copy                            |     |    |
| I used only 1 or 2 chapters (or less)                               |     |    |
| I used it only at the beginning of the semester (before fall break) |     |    |
| I used it at least once a week throughout the semester              |     |    |
| I used it during a test or exam                                     |     |    |

12. Please indicate the level of your agreement/disagreement with the following e-textbook features.

“In using this electronic copy of my engineering textbook, I found it to be...”

|                | Strongly Disagree | Disagree | Agree | Strongly Agree | Don't know |
|----------------|-------------------|----------|-------|----------------|------------|
| Easy to use    |                   |          |       |                |            |
| Easy to access |                   |          |       |                |            |



|   |  |  |  |  |  |
|---|--|--|--|--|--|
| Easy to read                                |  |  |  |  |  |
| Easy to print                               |  |  |  |  |  |
| Easy to copy and paste content from e-books |  |  |  |  |  |
| Easy to highlight and take notes            |  |  |  |  |  |
| Portable                                    |  |  |  |  |  |
| Environmentally friendly                    |  |  |  |  |  |
| A positive benefit to student learning      |  |  |  |  |  |

13. How often have you had difficulty using this electronic textbook?

- Never
- Rarely
- Sometimes
- Quite Often

14. When having technical difficulty, what did you do to solve the problem? Please choose all that apply.

- Contacted the library or a librarian
- Asked professor/instructor
- Asked friend/classmate
- Did nothing
- Other (please specify) \_\_\_\_\_

15. Please rate your overall satisfaction with this electronic textbook.

- Very Dissatisfied
- Dissatisfied
- Neutral
- Satisfied
- Very Satisfied

16. Please describe why/why not satisfied.

*(Open ended response)*

17. Would you choose to use library copies of electronic books/textbooks in the future?

- Yes
- Maybe

o No

18. Please describe why you would or would not choose to use library copies of electronic books/textbooks in the future.

*(Open ended response)*

19. Do you have any suggestions for improving the usability of electronic textbooks and their related library services?

*(Open ended response)*