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Comparing Electronic vs. Print Book Preferences Between Students in the Social Sciences, the Arts and STEM

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Notes: Need to use Harvard style for references.

See

also:

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INTRODUCTION

As publishers continue to increase electronic book availability, subject librarians must assess whether these resources will appropriately serve the needs of their departments. To examine this trend their librarians at Binghamton University surveyed students within areas of the social sciences, the visual arts, and the technical fields. The data for this research was collected at Binghamton University. Binghamton University is a public research university offering interdisciplinary and professional degree programs. The Binghamton University Libraries serve a student population of approximately 13,000 undergraduates and 3,000 graduate students. .

. The Libraries collect a range of materials to adhere to the needs university community with diverse research needs. There are nearly 2.5 million texts in the collection, and over 340,000 are provided electronically. As the electronic collection continues to grow, librarians must make a conscious effort to understand how students are responding to these electronic formats. While several research studies have compiled data on the student usage of e-books, few have compared e-book usage and/or preferences between different disciplines.

PURPOSE and HYPOTHESIS

The purpose of this comparative e-book study was to find out whether a distinct difference exists between the social sciences, technical fields, and the visual arts. To allow for continuity, the same questions were asked to students enrolled in the College of Community and Public Affairs (CCPA), students from art and art history program (Art), and students from the Watson School of Engineering and Applied Science (Watson). The College of Community and Public Affairs consists of one social science PhD program, three masters programs in social work, public administration, and one undergraduate program in human development. The Watson School of Engineering includes programs in engineering design, bioengineering, computer science, electrical and computer engineering, materials sciences and engineering, mechanical engineering, and systems and industrial engineering.

The hypothesis of this study was that the data obtained would reveal preferences in print versus electronic book usage among students, and would in turn lead to more informed decision making in collection development activities. It was also understood

that the data - both qualitative and quantitative - could reveal important characteristics about the unique student groups being studied, which could then be compared to draw conclusions about student book preferences between disciplines and also within disciplines.

LITERATURE REVIEW

The reception of ebooks within the social sciences has had mixed reviews. While social scientists can acknowledge the common advantages of availability, convenience, and ease of use, there are also those who just honestly prefer print (Hoseth and McLure, 2012). Hoseth and McLure (2012) found that faculty and students in the social sciences only used books of any kind for certain in-depth purposes such as prepping for a course, gaining a historical or foundational overview, adding to a comprehensive literature review, or gaining enough research to form a fully developed research question. Those studying social science tend to favor journal articles for a bulk of their research. When there is a need for books, access can be a major challenge. Some students recommend that libraries carry both print and electronic texts for the sake of access (Wu and Chen, 2011) but most social science library budgets are much too tight for this kind of expenditure. In Shepherd and Arteaga's (2014) study of social work students they found that while several students do not prefer ebooks, they were willing to adapt to what is available. When users are seeking out information their time and attention are scarce, Connaway et al (2011) found that content is often sacrificed for convenience. In their paper they state, "Most people do not have time to spend time searching for information or learning how to use a new information source" (Connaway et al., 2011, p. 188). Thus if e-books are too unfamiliar and difficult to use, users will find other resources in which to retrieve similar data for their research.

In the fine arts, there has been much discussion about the quality of an art book when it is translated into a digital platform. In a 2013 panel at the New York Public Library, titled *The Future of Art Book Publishing*, many important issues surrounding quality and usability were discussed. Panelists touched upon matters unique to an art book such as spatial organization and layout, as well as concerns symptomatic to all books, among them the serendipity of browsing lost with the digital. (<http://www.nypl.org/audiovideo/future-art-book-publishing-margaret-chace-paul-chan-sharon-gallagher-chul-r-kim-arezoo-mo>). Additionally, in comparison to other fields, there are simply not that many art e-books available. A recent study by Jennifer O. Yao entitled *Art E-Books for Academic Libraries: A Snapshot*, found that less than 2 % of the total titles in academic subscription packages, such as EBSCO and Ebrary, were art books.

Studies of e-book use among students in science, technology, engineering and math (STEM) fields provided a firm basis for development during this study. Prior to the start of this research study, decisions on what questions to include and exclude, as well as when in the academic year to distribute surveys, were based partly on studies completed at York University in Toronto (Nariani, 2009) and the University of Denver (Levine-Clark, 2006). Additionally, a study at Universiti Putra Malaysia (Letchumanan & Tarmizi, 2011) provided motivation for further research into e-book use among STEM students.

METHODOLOGY & SURVEY DESIGN

The approach for this study was to compare three subject areas within three different colleges: all disciplines in Watson, the Art and Art History disciplines in the Harpur College of Arts and Sciences, and Social Sciences within the CCPA. To collect the data three survey were used with the same nine questions (7 multiple choice and 2 open-ended), with response options for some questions being modified to match the discipline. The surveys were created using SurveyMonkey, and were distributed in October and November of 2013. Data was collected in December of 2013.

In CCPA the department chairs and secretaries provided assistance by electronically distributing the survey via student listservs. The Social Work chair also recommended sending the survey out through their graduate student organization (GSO), and the Social Work Graduate Student Organization students promoted it in their classes and sent it out through their listserv, which helped increase the percentage of participants amongst Social Work students. A total of 30 social work students responded, compared to 8 from student affairs, 21 from public administration, and 22 from human development. For surveying students in Watson, the proposed study was first sent to the dean of the school. With his approval the final survey was distributed by professional staff in Watson to graduate and undergraduate listservs. For surveying Art students, the chairs of the departments were contacted for approval, and upon receiving the final survey, emailed it to Art students via their listserv.

Prior to final department approval and survey distribution, all three studies were approved by Binghamton University's Institutional Review Board (IRB).

RESULTS

The survey results include an overview and comparison of. The beginning section includes a summary of the surveyed student populations.

There were a total of 81 respondents from the CCPA, which was about 10.7% of the total population of 755 students. There were a total of 27 respondents from Art. This equaled about 17.3% of the total population of 156 students. From Watson there were a total of 146 respondents, about 5.3% of the total population of 2,745 students.

In terms of class / academic rank, for each discipline the greatest numbers of respondents were graduate students. 73.8% of CCPA respondents were graduate students, and 55.6% of Art respondents were graduate students. In comparison, only

32.9% of Watson respondents were graduate students, but this still made up the largest group of respondents when compared to all four classes of undergrads. Additionally, data from Watson also showed a gradual increase in participation with each successive academic year, indicating, as with CCPA and Art, that there is more of a concern for research materials among more experienced students.

In response to the question of whether, in the course of their studies, they had used books from the Libraries, most students responded yes. Art students had the highest positive book use response at 93%, compared to 65% of students in the CCPA and only 48% of students in Watson.

For those students who responded that they had indeed used books from the Libraries, the question of format preference was presented. Overall, most students preferred print (49.1% for CCPA, 54.2% for Art, and 43.1% for Watson). For both CCPA and Watson respondents, the preference for e-books was about 35%, with the remaining respondents indicating no preference. Among Art students only about 25% showed a preference for e-books. This may provide some evidence of the importance of tactile objects in the arts. However, what is more likely is that there are translation issues when art texts are provided electronically.

With regards to frequency of e-book use, students from Watson showed the least usage, with less than 10% indicating they used e-books more than five times per semester, and nearly 38% indicating that they never used e-books. CCPA students were more evenly distributed, with the same percentage (17.6%) indicating that e-books were used either more than five times per semester, or never. Between these two extremes the values for the CCPA were also fairly equal. Most surprising was that Art students indicated the highest frequency of usage, with 37.5% of respondents saying they used e-books more than five times per semester. 16.7% of Art students indicated that they never used e-books. Overall, among all disciplines, most respondents indicated that they used e-books either less than once per semester or between one and five times per semester.

In terms of platform features, students generally indicated that the availability of a PDF version was most important when compared to navigation, constant accessibility, printing and downloading. PDF availability was by far the most important feature among the CCPA and Art students. For students from Watson, however, the most important platform feature was being able to download the e-book, with PDF availability being a close second. The preference for both of these features indicates the importance of convenience and familiarity when using e-books. Downloading and PDF versions often go hand-in-hand, and PDF is a format that is not only used by multiple e-book vendors, but is also versatile, allowing printing, saving, and e-mailing.

The open-ended feedback about preferred ebook platform (EBSCO, Ebrary, etc) showed that ebook platform was not a primary concern. Although example platform names were provided, many students skipped this question and a few students said the "PDF" was the preferred platform. This response seemed to show that students paid little attention to ebook providers. , When asked what device was used most often to

access e-books from the Libraries, respondents overwhelmingly chose laptops (48.7% for the CCPA, 68.4% for Art, and 76.9% for Watson). Surprisingly, desktops ranked second, above e-readers, tablets and mobile phones. This may be due to the many desktop computers that are accessible in the Libraries' information commons. It may also be an indication that the most capable devices are needed during study, as tablets and phones have yet to match the power and versatility of laptops and desktops.

The final survey question was open-ended, and asked students to share any comments with the Libraries regarding books and e-books. There were 37 comments provided from students in the Watson School, 22 from CCPA, and 3 from Art. Comments echoed the general preference for print, and specified ease of navigation and the ability to take notes as important factors. Comments also indicated a lack of awareness of the Libraries' e-books.

ANALYSIS

With the data available for each survey question as a basis, the researchers wanted to look more deeply into several areas. One issue of importance was the connection between e-book use and preference. That is, do users choose e-books because of convenience, or because of a preexisting preference? Another issue that arose was how preference for print or electronic was connected to e-book platform features. Do students who prefer print also prefer printing and PDF availability when using e-books? And what platform features do students who prefer e-books desire most. Finally, there was the issue of awareness. If users are unaware of e-books from the Libraries, or are aware but choose print instead, what are the reasons?

To address the first two issues, the researchers first looked at the responses of students who preferred e-books over print and compared responses to desired platform features, as well as any comments provided. For the CCPA, all respondents who preferred e-books were graduate students, and they showed a preference (43.75%) for PDF availability. However, comments provided no indication for preference of electronic over print. Among Art students that preferred e-books (25%), most (67%) were graduate students, and there was also a preference for PDF availability. The one comment from this group indicated that e-books were preferred when items were not available on shelves. This commenter also indicated that some graduate students do not check out books, but instead keep them in their study carrels. This shows the advantage e-books have over print in terms of security, but also indicates that convenience and accessibility are important when choosing e-books over print. Finally, for students in Watson, those who preferred e-books were mostly juniors and graduate students. They also showed a preference (42.11%) for PDF availability. When comparing this to the fact that most engineering and applied science students actually ranked downloadability over PDF availability, and comparing to other disciplines, it becomes clearer that students who prefer e-books may prefer them because of the fact that so many are available as PDF's. The students from the engineering group that provided comments also indicated that e-books are preferred due to convenience. When looking at this data for all three student groups, what is most evident is that those who prefer e-books prefer PDF formats over all other features.

The other group to observe with regard to these issues were students who preferred print over electronic books. These students were in the majority, and so understanding the reasons behind their preferences is very important. When comparing the same three questions for the CCPA respondents who preferred print, PDF availability was again the most important platform feature for e-books. Comments from this group showed a preexisting preference for print (prefer to sift through an actual book, "End of print books = End of Civilization"), but one commenter also considered e-books to be difficult to access and download. When looking at the responses for Art students who preferred print, PDF was again the most preferred platform feature. One comment showed a preexisting preference for print (important to art historians looking at images frequently), but another commenter indicated that e-books would be better if they simply had note-taking tools. This shows one advantage that print has over e-books in terms of study habits. Looking at respondents from Watson who preferred print, PDF availability was actually not the most desired feature for e-books. Instead, respondents indicated that navigation and downloadability were equally important. What also stood out from this group was that a much larger portion (63%) in comparison to other disciplines (CCPA - 24%, Art - 23%) indicated that they never used e-books from the Libraries, which shows that although they do use books, they either do not know of, or simply have no need for e-books. Comments were varied for this group, but indicated a lack of awareness, a desire for easy note taking (similar to Art), and print preference due to legibility of figures and diagrams (also similar to Art). Overall it appears that among students with a preference for print over electronic, usability features (PDF's, downloading, navigation) are most important when selecting e-books. However, awareness of e-books in the Libraries' collections is also an important issue.

Connaway et al (2011) find this kind of convenience to be essential to information seeking behavior

CONCLUSION

While print still has an advantage over electronic format in terms of how scholars will use the material (visibility of images, ease of navigation, note taking). Although there is still a large portion of students across disciplines that prefer print, data from this study indicates that many students are willing to adapt to the ebook option.., Change may occur whether it's desired or not, but most learn how to work around these changes. Just as the printing press worked as an agent of change (Eisenstein, 1982) so too will certain elements that can be found in electronic books. Certain ebook features make e-books an inviting option. PDF availability is key, but e-books also need to be easy to access, easy to navigate, and easy to read. As researchers at the Universiti Putra Malaysia found, students are willing to use e-books provided they are easy to access and easy to use (Letchumanan & Tarmizi, 2011). If such features are lacking, or if the user perceives difficulty, the likelihood of the e-book being used is decreased.

Awareness is also an important issue. Libraries need to make every effort to ensure students are aware of e-books and how to access them. The more students are

aware, the more likely they will be to use e-books, making for a more valuable collection.