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Pamela Grudzien
Central Michigan University

Anne Marie Casey
Central Michigan University, caseya3@erau.edu

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Do Off-Campus Students Use E-Books?

**Pamela Grudzien
Anne Marie Casey
Central Michigan University**

Abstract

The number of electronic books (e-books) that are available is increasing rapidly. Libraries are acquiring them individually, in large groups, and as part of collections. Off-Campus librarians perceive them to be the best solution to the problems and expenses related to loaning and shipping print books to off-campus students. This study looks at the usage of e-books by off-campus students at Central Michigan University to see if usage patterns can assist librarians with e-book collection development to support off-campus programs.

Introduction

Electronic books (e-books) are those that are the equivalent of a print book in a digital format. They are read on a computer or other digital reader. The benefits of e-books are that they can be searched quickly and easily for specific information and that, when owned or leased by a library, can be available 24/7, whether the library is open or not. Some drawbacks to e-books include needing to have an electronic reader and being restricted to certain limitations in printing, downloading, or time available by the publisher.

The growth in the number of books sold electronically has increased dramatically in recent years. Wholesale e-book sales have risen from under \$2 million per quarter in 2002 to nearly \$8 million per quarter in 2007 (International Digital Publishing Forum, n.d.). Libraries have been adding e-books to their collections for a decade or more. Many of the early acquisitions of e-books were as part of a package from a publisher or as part of a consortial shared collection. In recent years, libraries have been able to select e-books on a case-by-case basis; however, the cost of an individual e-book is often more expensive than the cost of the equivalent print book.

Building a strong e-book collection in a library that supports distance learners is very attractive to off-campus librarians. They have long struggled with several issues related to loaning print books to their users. Print books have to be shipped in some way and are subject to the vagaries of postal and other delivery systems. Students in the United States can wait up to a week to receive books and the time may be much longer for students in other countries where shipments may be held up in Customs and delivery systems may not be reliable. In addition, books can be expensive to ship. Also, students may not ship books back when they are due and books may be lost or damaged in transit, necessitating staff time to resolve overdue and lost issues

If a library can provide a comprehensive e-book collection to off-campus users, the challenges associated with shipping, costs, delays and customs regulations when sending to other countries should disappear. Yet how can librarians discover whether off-campus students would use e-books before they spend significant amounts of acquisitions budgets on them? One way may be to investigate current off-campus use of e-books.

Several recent studies have been conducted on usage patterns for e-books in academic libraries. For the most part, they do not specifically investigate usage among off-campus users in a large distance learning program. This study will investigate that usage in light of the following questions. Do students in off-campus programs use e-books more than the general population? Is usage more prominent in some disciplines? How can this data be used to inform future collection development policy for e-books?

Purchasing e-books is generally more costly than acquiring their print counterparts. E-book platforms vary and their use is restricted to the availability of electronic reading devices. Yet, e-books

would seem to be the answer to the perennial challenges faced by off-campus librarians about supplying books to their students at a distance in a timely and cost-effective way. Investigating the usage patterns of a specific group of off-campus users as compared to the on-campus population at the same institution and exploring what disciplines show the strongest use among this population, may help librarians to develop a comprehensive e-book collection development program.

Literature Review

The LIS literature contains several recent studies of usage of e-books by students and faculty at academic institutions in the United States and Canada. Although the studies do not generally distinguish usage among distance learners as opposed to others, there is one that was conducted at Royal Roads University (RRU) in British Columbia, which serves only distance learners. In 2003 (Croft & Bedi, 2004), researchers at RRU investigated the use of e-books among their students and faculty through a survey. They learned that approximately 30% of faculty and students had used e-books. They also discovered that there were mixed feelings about the adequacy of the e-book collections and that business students did not use e-book collections to the degree that had been expected (Croft & Bedi, p. 131).

The Penrose Library staff at the University of Denver conducted a survey in 2005 to discover levels of awareness about e-books and reasons for use. They learned that the majority of the respondents were aware of e-books and used them occasionally to read specific information in a few pages or a chapter (Levine-Clark, 2006). In a further analysis of the same data, they determined that faculty and students in the humanities disciplines tend to use e-books only if there is no print available and far prefer print books (Levine-Clark, 2007). In a study at Simmons college in 2006, the investigators discovered through survey and observation that students browse or scan e-books for specific information, but do not intend to read them in their entirety (Hernon, Hopper, Leach, Saunders, & Zhang, 2007).

Christianson (2005) examined the patterns of use for a shared e-book collection for one year at five academic libraries in the southern United States. She found that use of titles in the sciences was stronger than other disciplines at all of the libraries. In a four-year study of e-book usage at Auburn University Montgomery (Bailey, 2006), researchers noted that print circulation decreased while e-book usage increased. The highest usage appeared to be among e-books in the business, economics, and management areas.

Examining the use of e-books does give some indication of subject areas preferred and reasons for choosing books in that particular format but does not rule out the obvious fact that some users use an e-book simply because it is the only option available in that library. In order to learn whether this is the case, two studies looked at usage of e-books compared to the use of print books of the same title available in the same library. In a study conducted at Duke University, researchers found that e-books received 11% more use than comparable print books during the study period (Littman & Connaway, 2004, p. 260). In a study conducted at Louisiana State University (Christianson & Aucoin, 2005), researchers discovered that while print usage was higher than e-book usage, the concentration of use among e-books was higher. In other words, more print books were used, but the e-books that were used saw higher rates of usage.

Location of the Study

Central Michigan University (CMU) is a publicly funded institution with a Carnegie classification of Doctoral/Research-Intensive. The university began delivering off-campus programs in 1971 and continues to offer courses online globally and face-to-face at CMU program centers located throughout North America. In 1976, CMU established a separate department in the library for the support of students and faculty in the off-campus programs. Off-Campus Library Services (OCLS) provides library instruction, reference assistance, and document delivery to all CMU distance learners. OCLS librarians participate with on-campus bibliographers on the Libraries' Collection Development Team. This group works to build collections that support instruction to diverse off-campus and on-campus constituencies. The University Library has an annual acquisitions budget allocated by the university. OCLS contributes an additional sum to the Libraries' acquisitions budget and allocates smaller amounts of funding to each of the OCLS librarians to purchase books that specifically support the off-campus curriculum.

The Document Delivery Office of OCLS supplies copies of articles and loans books to off-campus students. Each student is allowed to request up to 50 items per week. Within 24 hours, the Document Delivery Office normally can process a request and send it to a student's home or work address. The majority of article and book chapter requests are scanned and made available on the Internet to the students through ILLIAD, the request management software the office uses. Books are loaned normally for four weeks and are sent to students via UPS. There is no direct cost for any of these services; however, students are required to pay to ship the books back and are encouraged to insure the package against loss or damage. Since all off-campus courses are taught in a compressed format, students need materials quickly. Those in Canada, Mexico, and other areas at a distance from the CMU campus in Mount Pleasant, Michigan, have often had to wait a week or more to receive books. In the last ten years, loans of print books to off-campus students have dropped by 72.7% (see Table 1). The sharpest drop-offs occurred between 2000 and 2002, which is the time period when the library acquired some e-book collections.

Table 1

OCLS Books Loaned by Fiscal Year

Fiscal Year	Books Loaned		% Change Per Year
1997-1998	8203		0
1998-1999	7204		-12%
1999-2000	6257		-13%
2000-2001	5577		-11%
2001-2002	3405		-39%
2002-2003	2647		-22%
2003-2004	2710		2%
2004-2005	2531		-7%
2005-2006	2263		-11%
2006-2007	2233		-1%
		Total % Change	-73%

The CMU Libraries has been adding e-books to its collections for nearly ten years. The Libraries participated in a group purchase of NetLibrary e-book titles in the late 1990's. At the time, feedback from patrons, on- and off-campus, was not particularly positive. Off-Campus students, who were interested in the e-books for ease of accessibility, found the process to access them very cumbersome. The Libraries continued to investigate other e-book vendors and did add collections, such as the Knovel Library of engineering and science e-books to support on-campus undergraduate programs and the Early English Books collection. However, CMU decided against purchases of large e-book collections for the most part, because many of the titles in these collections did not fit the curriculum. Pricing per title is generally lower in collections, but one must purchase the entire collection to realize the lower prices. The Collection Development team had been discussing ways to increase the e-book collection with titles that were easy-to-access off-campus and supported the curriculum for several years and had been adding electronic reference books to the collections each year. Bibliographers were adding individual e-books to the general collection as appropriate, but there was no comprehensive e-book collection development plan through the end of 2006.

In early 2007, OCLS decided to invest more assertively in e-books for the CMU Libraries' collection. Anecdotal feedback from off-campus students indicated that they wanted access to more e-books. In a survey of off-campus students conducted in fall 2007, 41.9% responded that increased access to e-books would be the one item that would most improve their experience with OCLS (T. J. Peters, personal communication, December 13, 2007). OCLS librarians began a marketing campaign to highlight e-books in their library instruction presentations. They also developed a plan to increase CMU e-book holdings.

The plan involved investing a sum in a large purchase of e-books and allocating money for ongoing collection development efforts. In January of 2007, OCLS librarians chose 118 individual titles from the MyiLibrary collection that supported the primary areas of instruction in the off-campus programs for business and administration, education, and health services administration. In addition, they allocated funds for collecting e-book titles in these areas and began a systematic process of identifying likely titles to purchase.

Methodology

To see if CMU's off-campus clientele was using the Libraries' e-book collection, three sets of data were gathered. First, the comparative size of the off-campus to on-campus population was collected for the last three years. Second, the e-book collection itself was evaluated by LC call number to get a picture of the relative strengths and weaknesses of the subject coverage in relation to CMU's off-campus degree programs. Third, usage statistics by user category for the last three years were reviewed to provide a general picture of who was actually accessing the e-books.

One of the standard statistics in the academic world is the full-time equivalent student number (FTE). This number is used consistently in comparisons between institutions of higher learning and is the basis of many library vendor pricing models. CMU's FTE number for on- and off-campus students were collected from the Office of Institutional Research. The data are shown in Table 2.

Table 2

Full Time Equivalent (FTE) Students for CMU Off-Campus and On-Campus

	Off Campus	On Campus	Total	Off-Campus %
Fall 2004	4021	18108	22129	18
Fall 2005	3705	18331	22036	17
Fall 2006	3584	18337	21921	16
Total	11310	54776	66086	17

Average off-campus FTE= 17 % of total CMU FTE

A review of the electronic books available to all CMU students was done to get an understanding of the subject areas covered and the general support provided for the off-campus curriculum. A list of the e-books in the CMU Libraries' collection was extracted from the Libraries' bibliographic database. Sorted by call number, this list illustrates the subject areas covered by the e-book collection. Table 3 shows the call number breakdown of the e-book collection.

Usage data for the CMU e-book collections was gathered from the Libraries' Innovative Interfaces Millennium management system. Statistics organized by user category were extracted from the Web Access Management (WAM) module. CMU's WAM module is set up to differentiate between various categories of on-campus and off-campus user groups. For example, on-campus categories include undergraduates, graduate students, current faculty/staff, and emeriti. Off-campus categories include similar categories, but reflect use from specific CMU off-campus sites such as Canada, Puerto Rico, and Mexico as well. Usage data for the last three years is shown in Table 4. The numbers indicate off-campus e-book use by e-book collections or providers that are specifically identified in the WAM module. The off-campus totals are then compared to the total usage recorded for each collection or provider.

Table 3

Breakdown of E-books in CENTRA

	# of Titles	% of Total	Ranking
B Philosophy and Religion	725	7.8	5
BF Psychology	133	1.4	
C, D, E, F History (heavy American hist.)	873	9.4	4
G Customs, folklore, sport, recreation	84	0.9	
H (total)	1564	16.8	1
HD Management	470	5.0	8
HF Marketing	313	3.4	10
HG & HJ Finance/Accounting	101	1.1	
HM Sociology	470	5.0	8
J Political Science	205	2.2	
K Law	445	4.8	9
L Education	295	3.2	10
M Music	26	0.0	
N Art	42	0.4	
P Language & Literature	885	9.5	3
Q Sciences	618	6.6	6
QA 76/77 Computers	261	2.8	
R Medicine	533	5.7	7
S Agriculture	137	1.5	
T Technology	1092	11.7	2
U & V Military Sciences	26	0.3	
Z Bibliography/Library Science/Internet	37	0.4	
Total titles	9335		

Analysis

It is important to note the population of off-campus students during the three years investigated for this study. The fall 2004 full-time equivalent student (FTE) population was 18,108 for on-campus students and 4,021 for off-campus. The fall 2005 FTE was 18,331 on-campus and 3,705 off-campus. The fall 2006 FTE was 18,337 on-campus and 3,584 off-campus. Over these three years though decreasing slightly each year, the average percentage of off-campus student to the total FTE for CMU was about 17%. This shows that a relatively small percentage of the total student population was responsible for an increasingly larger percentage of the e-book use.

The main off-campus degrees offered through CMU's distance learning program are the Master of Science in Administration (MSA) and Master of Arts in Education (MAE). The MSA degree offers the option to concentrate study in various areas of business administration, health services administration, and software engineering administration. A Master of Arts in Humanities is also offered on a limited basis. The subject coverage of CMU's electronic book collection is wide-ranging as shown in Table 3, but provides significant support for the off-campus degree programs. The largest section of the collection is the H classification which covers business, economics, and sociology topics. The technology section, ranked number two, is extensive also. These are mainly the books made available through the Knovel collection. This was purchased to support a new on-campus undergraduate program in engineering and it is interesting

to note the amount of use the off-campus students make of this collection. The health services administration concentration and the education degree are also well-served by the e-book collection. These sections are among the top ten. The Masters in Humanities degree is well supported by the collection in philosophy, religion, history, and literature. Areas that are not strongly represented such as political science, agriculture, library science and military science are not strong in the off-campus curriculum.

Table 4

WAM Stats for OCLS E-Book Use 2006-07

Table 4: Off-Campus E-book Usage, 2004-2007																
WAM Stats for OCLS E-Book Use 2006-07																
	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	OCLS Total	Total Uses	OCLS % of Total Use	
Knovel	127	113	642	2824	2209	524	643	92	3	102	193	437	7909	34244	23.1	
NetLibrary	34816	98768	10364	22166	20524	8867	9422	3103	5576	4210	3691	4097	225604	403679	55.9	
MyiLibrary (began 1/07)	0	0	0	0	0	0	123	771	1079	443	862	293	3571	9637	37.1	
Oxford English Dictionary	0	198	0	1	92	0	0	0	0	85	0	0	376	268186	0.1	
Early English Books	0	0	0	0	167	0	0	0	0	0	0	0	167	16211	1.0	
													237627	731957	32.5	
WAM Stats for OCLS E-Book Use 2005-06																
Knovel	40	18	78	231	153	168	1009	514	715	709	425	1097	5157	20077	25.7	
NetLibrary	1692	1389	6413	8604	13426	6771	10290	10892	9315	7656	13188	6507	96143	258895	37.1	
MyiLibrary	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	
Oxford English Dictionary	0	0	11	0	212	0	0	103	59	0	0	0	385	140968	0.3	
Early English Books	0	0	0	0	0	0	0	0	0	46	0	0	46	12215	0.4	
													101731	432155	23.5	
WAM Stats for OCLS E-Book Use 2004-05																
Knovel (began 5/05)	0	0	0	0	0	0	0	0	0	0	5	11	16	208	7.7	
NetLibrary	895	1759	2609	3448	1728	1078	1312	2181	511	1322	167	2245	19255	106843	18.0	
MyiLibrary	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	
Oxford English Dictionary (began 6/05)	0	0	0	0	0	0	0	0	0	0	0	0	0	248	0.0	
Early English Books	0	0	0	0	0	0	0	0	14	0	4	0	18	6069	0.3	
													19289	113368	17.0	

The WAM statistics (Table 4) clearly show increasing e-book usage among both the off-campus student population and the total library user population over the three academic years. In 2004-05 off-campus use was 17% of the total use. This grew in 2005-06 to 23.5% off-campus use of e-books. In 2006-07 off-campus e-book use grew significantly to 32.5%; over one third of the e-book usage was from off-campus students and faculty.

As Table 4 indicates, the collection of electronic books grew over the three years reviewed. In 2004-05 the array of e-books was limited to the NetLibrary collection until May/June. Knovel engineering and technology titles, the Oxford English Dictionary and Early English Books Online were added during the latter part of the year. Knovel and Early English Books are specialized collections, and off-campus use of these titles was not expected. As mentioned above, the use of Knovel to the extent shown in the statistics is serendipity.

In January 2007, bibliographers began selecting e-books via Coutts Information Services' selection tool OASIS. These e-books are accessed through the MyiLibrary platform. Most of the

MyiLibrary titles were selected by OCLS librarians to support off-campus courses and degree programs. As the data show, off-campus students' use began immediately and represented almost 40% of the total usage for these titles. This suggests that the combination of electronic format and relevant subject coverage supporting the MSA and MAE degree programs is very appealing to off-campus students.

Limitations and Further Research

This study was limited to the e-book collections for which there were usage statistics easily available. Investigating all e-book use at CMU may yield different results. In addition, there is no way to determine what constitutes a *use*. Did the student read the book, a chapter or a page? Did the user search for just the section needed or access the book and decide not to use it at all?

Some ideas for further study in this area would be to survey students for their patterns of use, their satisfaction with e-book platforms and their suggestions for new titles. It would also be interesting to investigate what groups of students are using the Knovel collection. The usage in this area was unexpected because the off-campus programs do not contain much science or technology curricula. There may, however, be students coming from science and technology backgrounds in the MSA or MAE programs who would benefit from increased access to materials in those areas.

Conclusion

Off-campus students at CMU have been asking for more access to e-books. The data collected in this study show that these students will use e-books as they are made available. The loans of print books to off-campus students decreased dramatically at the same time that the CMU Libraries began acquiring e-books. In addition, the percentage of e-book use at CMU among off-campus students is much higher than their percentage of the general population. When e-books were chosen specifically to support instruction off-campus, those particular books were used frequently by off-campus students.

The OCLS librarians developed a plan to add e-books to the CMU Libraries' collection based on feedback from students. After examining the data on usage of e-books by this group, it is clear that they do indeed make extensive use of them. The data collected for this study supports the need for more e-books that support off-campus instruction. It is clear that the plan to collect e-books more aggressively, particularly in the areas of business and administration, education, and health services administration, begun in 2007, should continue.

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