



Article

Addressing the Challenge: Cataloguing Electronic Books in Academic Libraries

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Abstract

Objective - This paper explores the various issues and challenges arising from e-book cataloguing experienced at the University of Windsor's Leddy Library and the Ontario Council of University Libraries (OCUL). This discussion uses an evidence based approach to identify and resolve issues relevant to academic libraries as well as to consortia. With the ever rising popularity of e-books within academic libraries, cataloguing librarians are actively seeking more effective methods of managing this new electronic medium, including the development of new cataloguing policies and procedures. This paper will explore the various issues and challenges surrounding e-book cataloguing and processing within academic libraries, and will identify new policies and procedures that may be used to effectively assist in e-book management.

Methods - This paper presents a case study of e-book cataloguing practices undertaken by a Canadian academic library and the consortium with which it is affiliated. Towards this end, the University of Windsor's Leddy Library will be the prime focus of this study, with its establishment of a new e-book MARC records database. The research is based on the results of the e-book MARC project undertaken by the Leddy Library and the Ontario Council of University Libraries (OCUL).

Through analysis of various suppliers' MARC records and the actual implementation of the e-book MARC project, the authors developed and evaluated a new approach to e-book cataloguing for use in academic libraries.

Results - This practice-based approach towards the development of a new method of e-book cataloguing required continual modification and examination of e-book MARC records within the target library. The Leddy Library's e-book MARC project provided an excellent opportunity to test the library's existing cataloguing standards and procedures for print format, while at the same time, identifying related e-books issues. The new policies and procedures for e-book cataloguing that followed were developed as a direct result of the authors' cataloguing experiences and the information gained by examination of other academic libraries' e-book cataloguing processes. This paper also provides an evaluation regarding the quality of suppliers' MARC records. Results of this study should serve to increase the efficiency and effectiveness of cataloguing in academic libraries.

Conclusions - This paper identifies key issues regarding the cataloguing of e-books in academic libraries. Throughout, the authors have provided an evidence based approach. The hope is that the results will provide a useful framework for other academic libraries to build upon when developing their respective e-book cataloguing databases. E-books are effective resources, and academic libraries need to adapt to this new electronic medium in order to assist patrons in their discovery and usage.

Introduction

Academic libraries have experienced a dramatic increase in electronic book (e-book) purchases since the beginning of the new millennium. In Canada, this was due in large part to the formation of consortia, such as the Canadian Research Knowledge Network (CRKN) and the Ontario Council of University Libraries (OCUL). In addition, the direct availability of e-books through book vendors such as NetLibrary, ebrary, and Coutts now makes e-book purchase possible in the form of "packages."

An electronic book, or "e-book," is the presentation of electronic files via digital displays. Although the term "e-book" implies "book-oriented" information, other types of formats are also displayed on these devices. E-book files can come in the form of recorded units (disks), or they can be downloaded from digital repositories (including Web sites) to computers, portable digital assistants (PDAs), smartphones, and other handheld computers (Romano, 2009, p. 2). Most libraries today use remote access to retrieve the content of e-

books. "Remote access involves a connection to the Internet and an Internet browser to access the content of an e-book from a local area network (LAN) or a remote server" (Bothmann, 2004, p. 13). Many publishers and vendors offer this type of e-book access using platforms such as ebrary, MyiLibrary and Knovel.

The traditional focus of library collections has been on the acquisition and processing of print materials, so the transition to e-books has led to a new set of challenges for academic libraries. This includes issues relating to licensing, purchasing and ownership, downloading of records, as well as cataloguing policies and procedures. Furthermore, e-book collections are challenging long-established library practices of collecting, organizing, and preserving information in print format. Worldwide, large print collections and storage facilities have been a source of great pride for libraries, and the size of a library's collection has been a mark of a library's status. As a result, cataloguing standards and procedures have focused primarily on print collections.

These long-established standards and procedures do not conform to the unique characteristics of e-books, and academic libraries need to adapt to the new format. During the past twenty years, digital formats, such as DVDs and CD-ROMs have made the greatest impact on library collections. "The reverberations of this impact are still being felt, and the long-term consequences for traditional print book collections are not yet determined" (Lavoie, 2007, p. 106). The e-book is in its early stages of integration into academic libraries. With its advantages of lower costs, remote access, and ease of use, the e-book now plays a more prominent role within academic environments as a whole.

Increasingly, over the past decade, publishers and vendors have made their books available in electronic format. Publishers often encourage libraries to buy e-books by providing only the electronic format. Downloading bibliographic records for e-books, is therefore a matter of great importance for academic libraries. However, issues have been raised regarding the quality and number of records necessary for e-book format, bibliographic levels, inventory control, as well as the stability of the links. These issues need to be addressed before records are downloaded into cataloguing systems, since they affect how academic libraries will manage their e-book collections. Furthermore, as discovered by the author, academic libraries currently have inadequate policies for managing their e-books. This article, therefore, explores these issues while providing an evidence based approach to e-book management.

Literature Review

During the past decade, the information science literature has focused on the quantity of electronic materials, their usage, cataloguing policies, as well as the sharing of these resources. Several studies have shown that the quantity of e-books within their collections is very important to academic libraries. The Primary Research Group's 2008 study of academic libraries noted a sharp rise

in libraries' e-book acquisitions.

Institutions that gave data on e-book spending from 2006 to 2008 showed an increase in spending between 2006 and 2007 from a mean of \$19,340 to \$26,290, a 36% increase, while in 2008 mean spending rose to \$29,861, a 13.6% increase from 2007. (p. 18)

At the University of Texas, once records were added to the online catalogue, usage increased immediately by about 50% over three months' time (Dillon, 2001, p. 116), Green noted that after the University of Surrey began e-book purchases in 2001, "Feedback from students was positive, and they reported that they were keen to use e-books more." (2003, p. 55) Cataloguing policies of academic libraries, therefore, are instrumental in providing access to e-book collections for library users.

Circulation studies of e-books have focused on comparisons of usage with their print counterparts, and also on their usage in various subject areas. Dillon at the University of Texas at Austin, and Ramirez and Gyeszly from Texas A&M University, examined usage reports for e-books at their respective universities as well as those of larger consortia collections; namely, the Amigos netLibrary and the Texas State Library collections. Both studies found that e-books in the subject areas of computer science, economics, and business received higher usage than those of other subject areas. Their research also discovered that these results were consistent across the various collections (Williams & Best, 2006, p. 475).

In 2006, the University of Bedfordshire surveyed the cataloguing of e-books in the U.K.'s higher education libraries. In Belanger's report of that survey she noted that there was "widespread consensus that bibliographic records for e-books should be integrated into library OPACs to assist users in resources discovery and access" (2007, p. 204). "It is essential to include the e-book details and URL links in the library catalogue to make it easy for students to identify which titles are

available as e-books" (Belanger, 2007, p. 204).

As academic libraries spend most of their acquisition budgets on electronic resources, it is understandable that the focus of literature has been on the evaluation of their usage and implementation. Electronic resource management is also important, however, because it impacts on libraries' processing activities and workflow. The resulting new policies affect library services, such as OPAC displays. Librarians currently have insufficient access to bibliographic standards to support e-book cataloguing in comparison with standards and guidelines available for materials in their print collections. The Anglo-American Cataloguing Rules' (<http://www.aacr2.org/>) treatment of e-resources is still in need of revision (JISC, 2003). This is further supported by evidence from OCUL's experience, which suggests e-book cataloguing is still a nascent field. There remain several issues to be considered, such as cataloguing rules, implementation of separate catalogue records, and the quality of suppliers' records. The standards for managing electronic collections appear to be evolving more slowly than the resources themselves. Due to the ever-changing format of e-books, it is not surprising that their bibliographic implications have not yet been fully examined. In lieu of formal standards for cataloguing e-books, it is essential to provide some guidelines.

Aims

This paper investigates current issues regarding vendor-supplied MARC records and the cataloguing of e-books at the University of Windsor's Leddy Library and at OCUL. Through the authors' analysis of these records, they explore various policies and procedures for e-book cataloguing within academic libraries. The purpose of this study is to develop recommendations to improve the cataloguing of e-books in order to assist in their management. It is through improved e-book cataloguing, that librarians can begin to resolve many of the problems arising from this new resource. This paper emphasizes the

importance of e-book cataloguing and its management.

Context

OCUL is a consortium comprised of 21 university libraries within the province of Ontario, Canada. As a consortium, OCUL is a recognized leader provincially, nationally, and internationally, in the collaborative development and delivery of outstanding and innovative library services. The member libraries cooperate to enhance information services through resource sharing, collective purchasing, and document delivery, as well as many other related activities (OCUL, 2010). OCUL has recently developed its own e-book platform for use by member libraries in order to provide more efficient access to e-books. Since 2007 OCUL has licensed e-books for uploading to the e-book project platform. The objective of this project is to implement a locally installed, managed, and operated e-book system. On January 9, 2008, OCUL announced the selection of ebrary as the official platform for e-books, available for use by all Ontario universities and colleges. Later that same year, on September 18, 2008, OCUL announced the "preview release" of this new e-book service. This platform includes over 130,000 digitized books from various publishers, including: Elsevier, Cambridge, Oxford, Taylor and Francis, Gibson, and the Internet Archive Collection.

The University of Windsor's Leddy Library is one of OCUL's 21 member libraries that actively participate in OCUL's licensing of e-books. The Leddy Library uses OCUL's platform, in conjunction with its own local e-book database, to access e-book content from such publishers as Cambridge University Press, Oxford University Press, and Taylor and Francis. In the future, the Leddy Library will use OCUL's wiki to retrieve these MARC records, eliminating duplication in its cataloguing database. Furthermore, the Leddy Library hopes to use OCUL's e-book records, along with those of other publishers, in its local cataloguing database on a permanent basis. This would eliminate the need for

cataloguing e-books individually and provide a more efficient method of e-book processing.

The Leddy Library also participates in OCUL's e-book forum where staff members discuss issues regarding e-book cataloguing, metadata standards, policies, and procedures. The library created a link on its Web site for OCUL's e-book packages, and the OCUL Scholars Portal Web site added a link in October, 2009.

Methods

This paper presents a case study of e-book cataloguing practices undertaken by one Canadian academic library in conjunction with the consortium with which it is affiliated. Towards this end, the University of Windsor's Leddy Library is the prime focus of this study, with a project to establish an e-book MARC records database. This paper is based on the results of the e-book MARC projects undertaken by the Leddy Library and OCUL respectively. Through their analysis of various suppliers' MARC records and their involvement with the actual implementation of the e-book MARC project, the authors attempted to discover a more effective method of e-book cataloguing. Because creating e-book MARC records within academic libraries is a relatively new practice, and in order to assist them in building up their e-book cataloguing database, the authors used an interpretive, participative approach so as to provide evidence for e-book cataloguing. Due to the lack of e-book cataloguing guidelines, the project utilized a comparative approach when analyzing the unique fields in e-book MARC records. The method selected for cataloguing e-books directly impacts library patrons' ability to discover and access e-books. Therefore, the authors relied on their knowledge, as well as the unique characteristics of e-books, to identify issues surrounding the cataloguing of e-books, and to develop policies and procedures for future practice.

E-Book Cataloging Practices at the University of Windsor's Leddy Library

The University of Windsor's Leddy Library began purchasing e-books at the beginning of the new millennium. The library has since expanded its collection, utilizing platforms such as ebrary and MyiLibrary, while also acquiring packages from Springer, Oxford University Press, Cambridge University Press, Taylor and Francis, and EEBO (Early English Books Online). Currently, the Leddy Library provides access to over 110,000 e-books that patrons can readily access through the library's catalogue. Future plans involve purchasing more e-books through consortia arrangements. According to a survey conducted in 2007 (Zhao), increasing numbers of students and faculty members prefer using e-books over their print counterparts. In spite of the increase in e-book collections and usage, there are no current guidelines regarding the management of e-book collections in academic libraries.

E-books are available through a variety of packages that can be purchased or licensed from various suppliers using different platforms. Each package has different standards for its MARC records, affecting the quality of overall cataloguing. In 2007, the Leddy Library initially downloaded individual title records into its Voyager catalogue database for every e-book title within the various packages. Prior to downloading these records, there had been considerable discussion regarding the "establishment" of e-book MARC records in the local catalogue database. Questions arose regarding whether to use single or multiple records when a print record for the electronic title already existed, and whether to download records in batches or individually. There were also questions about which unique MARC fields should be used for e-books. All of these issues have a direct impact on the establishment of an e-book database and are discussed below.

Problems and Issues

Quality of Suppliers' MARC Records

The quality of suppliers' MARC records is the most important issue to consider when establishing a cataloguing database. To obtain MARC records, there are two sources: the publishers and the vendors. Every e-book package is unique, and each comes with its own licensing terms and viewing restrictions. For example, MyiLibrary restricts the number of simultaneous users for e-books, while ebrary does not. The quality, format, and functionality of MARC records also varies from package to package. There are a number of issues that need to be addressed regarding suppliers' e-book MARC records including LC subjects, URL stability, added entry fields, and punctuation. Listed below are the various suppliers of MARC records and the issues affecting the quality of their records.

Springer:

The Springer MARC21 records of today are basic records that are generated using Springer metadata. As a result, the tags or fields within each record can be populated with accurate information directly from the publisher. . . . Field 650 contains internal Springer subject classifications, the same exact classifications used by SpringerLink.com . . . We have also included the Library of Congress subject headings in our 650 Field. (Springer Link)

Between the years 2005 and 2008, Springer made "brief" MARC records available for their e-books through their Web site. The Leddy Library decided to download the brief e-book records as a cost saving measure to avoid record usage fees. However, librarians discovered those brief records contained URLs pointing to SpringerLink (dx.doi.org), and that those MARC records were not updated regularly. Therefore, while it was beneficial for their patrons to have linked access to these

e-books, these brief records were inadequate for Leddy Library's cataloguing database. Appendix 1 provides an example of a SpringerLink e-book MARC record. One major problem encountered was the lack of authorized subject headings, the essential finding aids for users searching an OPAC. Below is a summary of problems discovered while analyzing a sample of ten random MARC records from SpringerLink's Web site.

- The 008 tag was incomplete (e.g., missing publication location or bibliographic reference).
- All nouns were capitalized in the 245, 440, and 490 fields of all 10 records.
- Punctuation did not conform to the International Standard Bibliographic Description (ISBD).
- Name authorities were in German for 4 of the 10 records.
- The 300 fields were incomplete.
- Subject headings were general, with variations in spelling. Sometimes the headings used illegal terms as subject headings (when compared to OCLC records which had more complete subject headings).
- Springer MARC records used UTF-8 as their character coding scheme.

MyiLibrary: MyiLibrary is the platform used by Coutts Library Services. As a vendor, Coutts provides e-books with their MARC records to subscribing libraries. The authors' analysis of Coutts' MARC records revealed that the quality of these records is superior to that of other publishers. This is because MyiLibrary contains comprehensive bibliographic information for every e-book available on its platform. Data elements include: access fields, publication information, description, subject, and call number. The University of Windsor's Leddy Library purchases e-books from MyiLibrary as individual orders without extra charges for the MARC records. These records contain URLs pointing to MyiLibrary (<http://www.myilibrary.com/>). The records require only minor adjustments to the subfields to reflect Leddy's local information.

Appendix 2 provides an example of a MyiLibrary e-book MARC record.

ebrary: On January 6, 2009, ebrary announced, "Customers can now immediately upload free MARC records for individual titles they purchase as well as e-books." (Wagner, 2009) ebrary offers an "on-demand" feature which allows its subscribers to download MARC records from all packages purchased. Subscribers can make additions to their e-book collections from previously purchased packages, with no restrictions at any time, by providing their MARC records in both increments and complete record sets. Furthermore, to simplify downloading, complete MARC records are now available from ebrary's extranet site in batches of 5,000 in a single ZIP file. These new MARC features make it easier for subscribers to manage their MARC records, while enabling them to download large batches at the same time. As a result of these enhanced features, OCU selected the ebrary platform to host over 100,000 e-books locally. Complete academic packages, such as those offered by Taylor and Francis or Oxford University Press will soon become available on ebrary's platform, allowing the Leddy Library's patrons to access these ebrary full-text e-books via OCU.

Alexander Street Press and Adam Matthew Press Digital: Alexander Street Press is one of the leading publishers of scholarly databases in the arts, humanities, and social sciences. The Adam Matthew Digital Collections offer rare sources for the humanities and social sciences. The records of Alexander Street Press and Adam Matthew Press Digital contain URLs pointing to their own respective Web sites. Due to electronic reproduction, the MARC records from these two publishers are very general, especially for description fields, although the URLs of both are quite stable. The University of Windsor's Leddy Library has had access to both of these publishers' e-books since 2008.

Implementation of Separate Catalogue Records

The initial problem encountered when

cataloguing e-books is to decide whether to create separate records for each format of the same title. For example, when the library already has the print copy of the electronic title, should it simply add the URL for the electronic version to their existing record for the print title? The guidelines of both OCLC and the Library of Congress suggest the use of separate records, but stress that their recommendations are not binding (Weitz, 2009). "Practice for this has not yet been widely established by academic libraries and the situation at the time was that libraries made their own local choices in this matter" (Gravett, 2006, p. 203). There are a number of factors to consider when making the choice between single and separate records.

Single records

- Have the advantage of reducing the number of places in the OPAC where users have to look when a book exists in various formats
- Can be more cost-effective, by adding detailed information for e-books to existing records when no vendor-supplied records are available
- Are a disadvantage if changes need to be made to the records (e.g., the library's subscription to an electronic title is cancelled). It can be more time consuming to delete the relevant fields from a single record rather than removing an entire record from cataloguing.
- Are a disadvantage if users wish to limit their search by format

Separate records

- Enable users to retrieve only e-books, if they wish
- Can save libraries a great deal of time when dealing with large collections from packages such as EEBO, ebrary, and other products, because they can do "batch" downloading of MARC records to their

catalogues without consideration as to whether there is duplication of titles within the existing database

- Can ensure more timely access to various collections
- Are easier to maintain when updating information

After careful examination and discussion of all of these issues, as well as reviewing the procedures used by other academic libraries, the Leddy Library chose to use the “separate record” rule for its e-books.

Bibliographic Level

The Leddy Library purchases e-book packages through consortia such as the Canadian Research Knowledge Network (CRKN) and OCUL, or directly from publishers and book vendors. During the cataloguing process, the authors discovered that many suppliers’ records did not use the same bibliographic level as the Leddy Library. For example, MyiLibrary records included a higher level of detail, as compared to those of SpringerLink, whose records contained only “basic level” bibliographic information. The bibliographic level used in MARC records is important, as the type of information contained within these records directs patrons to the resources they need when researching and referencing their research papers. Therefore, the higher the level of bibliographic detail, the easier it is for patrons to utilize the cataloguing database as a research tool. The bibliographic level used in the catalog must be standardized and based on cataloguing standards and policies. If different bibliographic levels are used within the same cataloguing database, the results will be confusing for both patrons as well as library staff.

In light of the backlog of e-books, and after exploring the cataloguing practices used by other universities, the Leddy Library decided to use suppliers’ records for their e-book database, which they then adjusted by adding the necessary fields. In conclusion, if suppliers offered records with higher levels of bibliographic information, it would enable

libraries to maintain consistency in their cataloguing more efficiently and effectively. This would not only be beneficial to the library’s users, but also to the publishers and vendors with regards to the sale of their packages.

Individual Purchases vs. Package Purchases

While most of their e-books were purchased as “packages,” the Leddy Library often found it necessary to order e-books individually, as certain titles were not available within these packages. However, this often caused duplication of electronic records when individual titles already held at the Leddy Library were found within these package purchases. As a result of this duplication of electronic records, it was necessary to delete many titles of the same format.

The Leddy Library had originally chosen to use “single records” as its policy for individual purchases of e-books, by simply updating the existing print record and adding the necessary information to allow for electronic format. After discovering that this single record rule was not the norm among other libraries, and because this decision violated the “separate record” rule established later in their library, Leddy decided to limit the use of “separate records” for their future individual purchases of e-books.

Inventory Control for E-books

In January, 2009, the Canadian Research Knowledge Network (CRKN) announced to its subscribers, that Taylor and Francis was eliminating 279 of the e-books from CRKN’s licensed collection, because the authors of those works had withdrawn electronic rights. To compensate for this, Taylor and Francis replaced these titles with 349 new e-books; representing 25% more content than was originally lost. In addition, the Canadian Reference Centre removed 679 e-books from its cataloguing database, and other suppliers disconnected their e-books from their subscribers’ OPACs without explanation. Adding to the problem was that many of the

libraries' licensed collections had to be withdrawn due to budget constraints and cutbacks. All of these issues directly impacted e-book inventory, their stability, and ultimately, their usage.

Inventory control for e-books remains a critical issue for both libraries and publishers alike. Other inventory related issues such as duplication, withdrawing of records, URL status, and holdings, also need to be addressed. However, since many activities associated with acquiring and activating e-books are substantially different from those for print materials, inventory of e-books is difficult to manage.

Cataloguing Policy and Procedures

Policy

The Leddy Library has established several new policies to assist patrons in using the library's e-book collections, while at the same time improving its cataloguing, processing, and management. Initially, the standard fields used for monographs were utilized for e-book MARC records. Special fields were added to reflect the unique characteristics of e-books, such as searchable fields 099 (value=online), 710 (value=name of platform or publisher), 538 (System Details Note), and 856 (Electronic Location and Access) <http://ezproxy.uwindsor.ca/login?url=...> These changes made it possible for e-book titles, with their respective publishers, to be retrieved automatically by users and library staff alike.

After the integration of e-books into the Voyager cataloguing system, many similarities were discovered within the electronic packages and the traditional collections. For example, some of the packages, such as ECO (Early Canadiana Online) and EEBO were simply electronic reproductions of titles that already existed in the cataloguing database in other formats. When establishing new policies and procedures for the cataloguing of e-books, consideration was given regarding the decision to create single or separate records for

these diverse formats. After much consideration given to the issues already discussed above, as well as those issues relating to time, cost and stability of the e-book records, the Leddy Library decided to use separate records for each format, as noted earlier. Due to the nature of e-books, the library staff decided that no item records were necessary, and that only bibliographic and holdings records were needed for the cataloguing database.

Procedures

The knowledge gained by the e-book project and observations of other libraries' practices resulted in the development of these procedures for importing e-books:

1. Before importing

- a. Batch edit the MARC record using MarcEdit software.
- b. Batch process records using the MARC functions mnemonic format and MARC.
- c. Check MARC fields and their character sets using cataloguing standards.
- d. Split files, if they are too large (more than 10,000 records in a file).
- e. Add and delete fields as necessary.

2. Importing

- a. Check all MARC fields, especially 1XX, 650, 7XX, as well as punctuation and indicators.
- b. Create authority records, if necessary.
- c. Always test the URL link field.
- d. Establish holdings records.
- e. Do not create item records

3. After importing

- a. Check these records for accessibility.

- b. Contact platforms or publishers, if the record has problems with the URL.

As mentioned earlier, many suppliers provide MARC records for their e-book packages. This is beneficial for libraries, as it saves them time when editing and upgrading records, rather than cataloguing these records manually. However the provision of "basic level" records from a number of suppliers leads to a range of problems that these new policies and procedures mitigate.

Conclusions and Recommendations

Academic libraries have been purchasing more electronic material than traditional print resources. As a result, electronic resources have received priority within academic libraries during the past decade. However, the move to electronic collections has raised a number of issues for those involved in cataloguing and importing e-books. By tackling the challenges discussed in this paper, academic libraries can assist in the promotion of e-books within the academic environment as tools for teaching and learning. They can also facilitate their discovery and delivery within library systems and services. Hence, establishing standard practices for e-book cataloguing is essential for academic libraries in order to direct patrons to their electronic collections.

Establishing e-book cataloguing policies and procedures is an important aspect of providing better services to patrons. Libraries need to create e-book cataloguing standards in order to keep records consistent, as their adherence ensures uniform description of resources. This will assist their patrons in using e-books, while at the same time helping academic libraries manage their cataloguing databases.

E-books within academic libraries still pose many challenges, such as availability, quality, downloading, and cataloguing. As a result of the e-book projects undertaken by the University of Windsor's Leddy Library and

OCUL, each institution established its own set of e-book cataloguing policies and procedures. Together they have established the foundation for other academic libraries to build upon when developing their own e-book cataloguing databases, and increasing the usefulness of e-books within these academic libraries.

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