

Library Resources & Technical Services

ISSN 0024-2527

April 2001

Volume 45, No. 2

From the Editor 71

Letter to the Editor 71

ARTICLES

Using the Web for Name Authority Work 73
Beth M. Russell and Jodi Lynn Spillane

Library-Subsidized Unmediated Document Delivery 80
Michaelyn Haslam and Eva Stowers

**Monitoring Book Reshelving in Libraries
Using Statistical Sampling and Control Charts** 90
Jeffrey Edwardy and Jeffrey Pontius

Preservation Workshop Evaluation 95
Christine S. Wiseman and Sharla Darby

It's Academic 104
Shelf-Ready Standing Orders at the
University of Florida's Smathers Library
Michele Crump and Steven Carrico

FEATURE

Book Reviews 110
Margaret Rohdy, Editor
Handbook for Digital Projects: A Management Tool for
Preservation and Access, *reviewed by Steven Carrico*
Copyright Essentials for Librarians and Educators,
reviewed by Vicki L. Gregory

Index to Advertisers 109

American Library
Association
Association for Library
Collections & Technical
Services

Visit *LRTS* online at
www.ala.org/alcts/lrts.

For current news and
reports on ALCTS activi-
ties, see the ALCTS
Newsletter Online at
[www.ala.org/
alcts/alcts_news](http://www.ala.org/alcts/alcts_news).

EDITORIAL BOARD

Editor and Chair of the Editorial Board

John Budd
University of Missouri

Assistant Editors

Elizabeth E. Cramer, *Appalachian State University*
 Prudence W. Dalrymple, *Dominican University*
 Jeanne M. Drewes, *Michigan State University*
 Martin M. Kurth, *Cornell University*
 Margaret A. Rohdy, *University of Pennsylvania*
 Jane Treadwell, *Emory University*
 Barbara A. Winters, *University of Georgia*

Ex-Officio Members

Elaine Yontz, *University of Southern Florida*
 Delegate of the Chair, Council of Regional Groups
 Charles Wilt
 Acting Executive Director, ALCTS
 Miriam Palm, *Stanford University, emerita*
 Editor, ALCTS Newsletter Online

Library Resources & Technical Services (ISSN 0024-2527) is published quarterly by the American Library Association, 50 E. Huron St., Chicago, IL 60611. It is the official publication of the Association for Library Collections & Technical Services, a division of the American Library Association. Subscription Price: to members of the Association for Library Collections & Technical Services, \$27.50 per year, included in the membership dues; to nonmembers, \$55 per year in U.S., Canada, and Mexico, and \$65 per year in other foreign countries. Single copies, \$15. Periodical postage paid at Chicago, IL, and at additional mailing offices. **POSTMASTER:** Send address changes to *Library Resources & Technical Services*, 50 E. Huron St., Chicago, IL 60611. Business Manager: Charles Wilt, Acting Executive Director, Association for Library Collections & Technical Services, a division of the American Library Association. Send manuscripts to the Editorial Office: John Budd, Editor, *Library Resources & Technical Services*, University of Missouri, 221M Townsend Hall, Columbia, MO 65211; (573) 882-3258; fax: (573) 884-4944; e-mail: buddj@missouri.edu. Advertising: Bill Coffee, c/o Benson, Coffee & Associates, 1411 Peterson Ave., Park Ridge, IL 60068; (847) 692-4695; fax: (847) 692-3877. ALA Production Services: Troy D. Linker, Kevin Heubusch; Ellie Barta-Moran, Angela Hanshaw, and Karen Sheets. Members: Address changes and inquiries should be sent to Membership Department—*Library Resources & Technical Services*, 50 E. Huron St., Chicago, IL 60611. Nonmember subscribers: Subscriptions, orders, changes of address, and inquiries should be sent to *Library Resources & Technical Services*, S & S Computer Services, Inc., 434 W. Downer, Aurora, IL 60506.

Library Resources & Technical Services is indexed in *Library Literature*, *Library & Information Science Abstracts*, *Current Index to Journals in Education*, *Science Citation Index*, and *Information Science Abstracts*. Contents are listed in CALL (Current American—Library Literature). Its reviews are included in *Book Review Digest*, *Book Review Index*, and *Review of Reviews*.

Instructions for authors appear on p. 65–68 of the January 2001 issue and on the LRTS Web page at www.ala.org/alcts/lrts. Copies of books for review should be addressed to Margaret Rohdy, Book Review Editor, *Library Resources & Technical Services*, Van Pelt-Dietrich Library Center, University of Pennsylvania Libraries, 3420 Walnut St., Philadelphia, PA 19104-6206 (e-mail: rohdy@pobox.upenn.edu).

© American Library Association 2001

All materials in this journal subject to copyright by the American Library Association may be photocopied for the noncommercial purpose of scientific or educational advancement granted by Sections 107 and 108 of the Copyright Revision Act of 1976. For other reprinting, photocopying, or translating, address requests to the ALA Office of Rights and Permissions, 50 E. Huron St., Chicago, IL 60611.

The paper used in this publication meets the minimum requirements of American National Standard for Information Sciences—Permanence of Paper for Printed Library Materials, ANSI Z39.48-1992. ∞

Publication in *Library Resources & Technical Services* does not imply official endorsement by the Association for Library Collections & Technical Services nor by ALA, and the assumption of editorial responsibility is not to be construed as endorsement of the opinions expressed by the editor or individual contributors.

From the Editor

Greetings to all readers of *Library Resources & Technical Services*. This is actually the second issue of the journal produced under my editorship, and it now seems appropriate to make a statement about its direction. First of all, the journal is in fine shape, due in large part to my predecessor, Jennifer Younger, under whose direction *LRTS* has maintained the high quality and high standards for which it is known. She deserves my thanks and the thanks of all members of the association for her excellent leadership. Thanks also to all who have served on the editorial board and have contributed to the journal's success.

The primary goal for the coming years is for the journal to continue to be a vital part of the professional lives of all members of ALCTS and, indeed,

of all practicing professionals. *LRTS* must remain at the heart of the intellectual and practical challenges that we all will face in the future. Towards that end, I see some particular goals the journal should strive to achieve. *LRTS* has a history of publishing empirical research into the operations and functions of libraries; these kinds of studies have been—and should continue to be—an integral part of the journal's contents. I invite all who are inquiring into operations to consider communicating the fruits of their work through *LRTS*. That said, I do not think we should define "research" too narrowly. I would also invite contributions of a critical, thoughtful, and interpretive nature. There is great potential for *LRTS* to be a major source of critical scholarship on questions related to

information resources, access, and organization. Thus the journal will be open to many forms of inquiry and many questions; each form will be assessed according to the criteria applicable to it and the highest standards of evaluation will continue to be applied.

I also offer to work with potential contributors to the journal. A goal we all share is the communication of the highest quality work possible; it is the job of the editor and the editorial board to help realize that goal. I invite contributions and inquiries that advance our profession. I also invite comments from readers. Feel free to share your views of *LRTS* and its contents with me. I can be reached at buddj@missouri.edu. This is the ALCTS journal. Together we can continue to maintain its excellence.

Letter to the Editor

To the Editor:

The special issue of *LRTS* titled "What in the World . . . Cataloging on an International Scale" was both interesting and informative. I am writing to correct an imprecise statement in one of the papers (Aliprand 2000). On page 165 the author states: "LC practice is to always transcribe Hebrew unvocalized, even when vowels and marks of pronunciation (which are positioned on consonantal [sic] letters) appear on the source of information." (My reason for writing this letter is not to point out the split infinitive or the misspelling of consonantal in the quoted sentence.) The sentence describes current LC [Library of Congress] practice accurately, but the conclusion of the para-

graph—"So we've never been 100% faithful"—suggests that omitting Hebrew vowel points and diacritics has always been LC practice. As I pointed out in a survey of Anglo-American Hebraica cataloging practices that was originally presented at an international conference, LC used to faithfully transcribe (split infinitives sound good sometimes) vowel points from the title pages of Hebrew books (see figure 1) (Weinberg 1992).

The authors of a recent book on Hebrew cataloging discuss this issue in the context of the interpretation of AACR2R rule 1.1B1 (1988, 18), which states, "Give accentuation and other diacritical marks that are present in the chief source of information"

(Lazinger and Adler 1998, 102–5). In two chapters, Lazinger and Adler (1998, 103, 162) quote a relevant point from the introduction to the proposed Hebraic character set for RLIN (Weinberg 1985): "[T]his proposal features a full set of vowel points and diacritics. . . . These special characters, are included . . . to enable the cataloger to record them when they occur in the work being cataloged." Since Ms. Aliprand is the staff member of the Research Libraries Group (RLG) who worked on implementing a complete Hebrew character set in RLIN, I am confident that she would want the historical record set straight. The relevant principle from RLG's work on non-Roman scripts is: "The character

set must allow a cataloger to transcribe bibliographic data as fully and accurately as possible" (Aliprand 1987, 6). Ms. Aliprand modestly did not cite any of her prior papers on RLIN character sets or Unicode.

The inclusion of vowel points and diacritics for languages such as Hebrew and Arabic is important to confirm the accuracy of Romanization, which may still be required in cataloging after Unicode becomes widely available. As veteran catalogers know, we often return to cataloging principles and practices that have been abandoned. One of the recommendations made at the Library of Congress's Bicentennial Conference on Bibliographic Control, held in November 2000, was: "Explore steps to make AACR2 more truly international in scope and application." Perhaps in light of this recommendation, the Library of Congress will return to its policy of being faithful to the title page in regard to the transcription of vowel points and diacritics for consonantal scripts.—*Bella Hass Weinberg, Professor, Division of Library and Information Science, St. John's University, Jamaica, N.Y.*

Works Cited

- Anglo-American cataloguing rules*. 1988. 2d ed., 1988 rev. Ottawa: Canadian Library Assn.; London: Library Assn. Publ.; Chicago, ALA.
- Aliprand, Joan. 1987. Hebrew on RLIN. *Judaica Librarianship* 3 (1-2): 5-16.
- . 2000. The Unicode standard: Its scope, design principles, and prospects for international cataloging. *Library Resources & Technical Services* 44 (3): 160-67.
- Lazinger, Susan S., and Elhanan Adler, eds. 1998. *Cataloging Hebrew materials in the online environment: A comparative study of American and Israeli approaches*. Englewood, Colo.: Libraries Unlimited.
- Weinberg, Bella Hass. 1985. *Proposed Hebraic character set for the Research Libraries Information Network*. Typescript.

Rabinowitz, Shalom, 1859–1916.

... פונ'ם יאָריד. לעבענסבעשרייבונגען. ניו יאָרק.
פערלאַג „וואַרהייט“, 1916

v. front. (port.) 204^{cm}.

At head of title author's pseudonym שלום עליכם
Title transliterated: Fun'm jarid.

1. Yiddish language—Texts.

Library of Congress PJ5165.R3
Copyright A 434393

16-14359

Rabinowitz, Shalom, 1859–1916.

... תּײַ אָדָם. הרגום י.ד. ברקוביץ ... ניר-יורק, הוצאת
א. י. שטיבל, תר"פ.

[New York, The Stybel publishing house, 1920]

3 v. front. (ports.) 194^{cm}.

Author's pseud. שלום-עליכם at head of title.
Title transliterated: Hayye adam.

1. Berkowitz, Isaac Dob, 1885— tr.

Library of Congress
Copyright A 604972-604974 (2)

21-776

Rabinowitz, Shalom, 1859–1916.

... אין אַמעריקא. מאַטעל פייסי דעם חונ'ם און
אַנדערע מעשיות. ניו יאָרק, פערלאַג „וואַרהייט“, 1918.

246 p. front. (port.) 204^{cm}. \$1.00

Author's pseudonym שלום עליכם at head of title.
Title transliterated: In America.

Library of Congress
Copyright A 494175

18-7527

Figure 1. Library of Congress Catalog Card Featuring Vowel Points and Diacritics Transcribed from Hebrew and Yiddish Title Pages

Source: A catalog of books represented by Library of Congress printed cards issued to July 31, 1942. Paterson, N.J.: Rowman and Littlefield, 1963. Vol. 122, 317.

Weinberg, Bella Hass. 1992. Judaica and Hebraica cataloging: Anglo-American traditions. *Judaica Librarianship* 6 (1-2): 13-23. Originally presented at

the First International Conference of Judaica and Israeli Librarians, Jerusalem, July 3, 1990.

Using the Web for Name Authority Work

Beth M. Russell and Jodi Lynn Spillane

While many catalogers are using the Web to find the information they need to perform authority work quickly and accurately, the full potential of the Web to assist catalogers in name authority work has yet to be realized. The ever-growing nature of the Web means that available information for creating personal name, corporate name, and other types of headings will increase. In this article, we examine ways in which simple and effective Web searching can save catalogers time and money in the process of authority work. In addition, questions involving evaluating authority information found on the Web are explored.

It would be an understatement to say that the technology of the Web has affected all library operations. Name authority work is no exception. The vast resources accessible on the Web allow catalogers to verify the identity of authors, clarify corporate body relationships, and contact people for further information much more quickly and accurately than ever before possible. It would be foolish for catalogers not to exploit this resource in the time-consuming process of authority work.

No doubt many catalogers are already using some of these techniques in their daily work, but the full potential of the Web to assist catalogers in authority work has yet to be realized. Businesses and organizations create Web pages that provide valuable information about their identity that can be referred to when cataloging the publications of these bodies. Personal Web pages, directories, and other types of information are also becoming much more common, allowing catalogers access to vast stores of information. As search engines become more sophisticated, and as catalogers become more sophisticated searchers, the time spent locating information needed to perform authority work will hopefully decrease even further. However, with the ease and convenience of Web searching comes the possibility for further confusion and a need to redefine acceptable sources for authority information.

Definitions

What do we mean when we talk about “using the Web for authority work?” A conservative definition for authority control is “the process of ensuring that every entry—name, uniform title, series, or subject—that is selected as an access point for the public catalog is unique and does not conflict, by being identical, with any other entry that is already in the catalog or that may be included at a later date” (Clack 1990, 2). Typically, authority control is thought of as a process related to cataloging, performed either at the point of cataloging, when headings are constructed for use in a bibliographic record, or afterward, when headings already in the catalog are checked against an authority file. The process of authority control, however constructed, enhances the finding and collocation functions of the catalog (Talmacs 1990). Recent debates about the importance of authority control in

Beth M. Russell (russell.363@osu.edu) is Assistant Professor and Head, Special Collections Cataloging at the Ohio State University Libraries in Columbus.

Jodi Lynn Spillane (j-spillane@tamu.edu) is Assistant Professor and Monographs Cataloger at Sterling C. Evans Library, Texas A&M University.

Manuscript received September 25, 2000; accepted for publication December 19, 2000.

**Talmacs given date of 1998 in refs.
Which is correct?**

an automated environment notwithstanding, most libraries still face the reality of relying on an authorized catalog in order to provide access to all their materials (Talmacs 1998).

In order to create or edit existing name authority records that are accurate, complete, and useful, several types of information are needed. First, the identity of the person or corporate body must be verified. For example, if a piece being cataloged states the author is named "John Smith," the cataloger would need not only to figure out who *this* particular John Smith is, but to discover enough information to create a distinct heading that will set this author apart from other John Smiths. For this reason, it is often necessary to find other sources of information in order to resolve conflicts, such as birth and death years, middle initials or names, etc. Name changes and pseudonyms are another problem area in which catalogers often have to track down more information than is presented on the piece being cataloged. For corporate body names, it is sometimes necessary to determine what the heading should be by finding additional information. For example, a piece to be cataloged may present several forms of the name, and only through additional investigation can the cataloger determine "the name by which it is commonly identified" as required by current cataloging codes (AACR2R 1988, 441). Finally, while some types of information might not be necessary in a heading, they might be useful in supplementary fields in the authority record, such as 670 field (Source Data Found) or 678 (Biographical or Historical Data). For example, the place of business for a corporate body might not be necessary to resolve a conflict, but by including this in a note, future conflicts can be avoided.

In this article, we focus on authority work for the cooperative NACO project (the name authority program component of the Program for Cooperative Cataloging), although the same techniques could be used to locate information for local authority files or other types of files. Certainly information gleaned from any number of Web pages might be used to clarify subject-heading proposals as well. Finally, although the phrase "establishing a heading" is usually used to indicate the process of determining a heading for a specific authority file, it should be remembered that every time a cataloger constructs a new heading for a bibliographic record, a heading has, in some sense, been "established."

Role of Authority Control

It can be argued that authority work, and controlled vocabulary in general, has no place in the world of keyword retrieval and Web search engines. Even proponents of a modified concept of authority control state that keyword searches can lead to retrieval of relevant and useful records without complete recall and that some names, such as those

used as subjects, might be more important than others to have under authority control (Younger 1995).

However, the promise of the Web as a searching tool offers many examples of how misleading completely uncontrolled vocabulary can be. For example, entering the name "Beth Russell" in the popular Internet search engine Altavista.com retrieves several different Beth Russells. Most common by far is a creator of needlepoint designs, but countless other Beth Russells also appear, ranging from several affiliated with various universities to an "S. Beth Russell" of the Licensed Professional Counselors Association of Georgia. The problem is even further complicated when database searches related to cataloging, such as the keyword search in the OCLC database, regard "Beth" and "Russell" as separate entities, and search for the words individually, rather than together. For most people doing basic searches on the Web, this strategy might be employed by default, often without the user knowing how their search is being conducted. People searching any database by keyword may be unaware of the way in which their results are selected and organized.

This means, in real terms, that even if someone is looking for a particular work, rather than works by a given author, results can be so numerous as to be confusing. Authority control (or controlled vocabulary in general) allows for the results of a search to be narrowed down to a relevant set. This is particularly useful in the case of pseudonyms and name changes.

NACO and USMARC

NACO participation has always been rather high-tech; the program depends on technology to allow submission and review of records, as well as searching of various databases to verify usage, headings, etc. It allows a certain degree of flexibility, however, in using other sources, such as in-house files and nonbibliographic sources.

The NACO Participants Manual (NPM) explicitly mentions citing Web home pages in the 670 field (Source Data Found):

Give the name of the home page, gopher, etc. and the date it was consulted. In subfield lb, give a location, if appropriate, and the information found. Generally, don't include the URL (Uniform Resource Locator) since the address often changes (NPM 1996, 61).

One objective of the NACO project is "to increase the timeliness of cataloging copy" (NPM 1996, 1). This is certainly a major strength of the Web; compared to earlier means of verifying names or resolving conflicts, the Web

offers unprecedented speed. Since authority work has been proven to be one of the most costly parts of cataloging, greater speed translates into greater cost-effectiveness.

The USMARC format for authority records is also itself undergoing changes in response to the growing prominence of Web pages. In 1999, *MARC 21 – Authority* was updated with a definition of the 856 field to allow the inclusion of URLs for corporate body name authority records. This change was designed as “a potential means of improving access to information about the entity covered by the authority record” (MARBI Proposal No. 98-13). The basis for this decision is to allow easy access to more substantive information than can realistically be included in the authority record. The potential exists to expand the use of the field to other types of authority records, such as those for personal names, conferences, or even uniform titles. Certainly this new definition of the 856 points to greater acceptance of the role of Web pages in authority work, as well as signals new possibilities in integrating access to Web pages within library catalogs.

Locating Information on the Web

It is no secret that authority control is an expensive process, incorporating time spent in the operations necessary to achieve it (Clack 1990). The cost of authority control can be reduced through using the Web by decreasing reliance on expensive and out-of-date print. In addition, the use of macros and cut-and-paste functions, common across numerous software applications, can greatly reduce the time spent searching and manually entering data, as well as the possibility for error.

Perhaps the simplest and most traditional way of using the Web for authority work is to provide an easy way to contact individuals directly. Online directories often list e-mail addresses or phone numbers, and locating the person for further information can be just a click away. The NACO manual offers examples of how a citation to a phone call or e-mail can be constructed in an authority record.

At least one cataloging department has embraced this concept in its documentation. The Princeton University

Cataloging Department Web page on resolving personal name conflicts explicitly suggests trying to locate authors on the Internet and e-mailing them (or their publishers) to resolve conflicts (Princeton University Library 2000a).

Figure 1 illustrates how easily contact information can be located. A report originating from Great Britain’s Transport Research Laboratory lists the author as “C. Corbett” and lists an institutional affiliation with Brunel University. From the Web site of the university, it was easy to locate the author’s e-mail address and send an e-mail asking for verification that “C. Corbett” was the “Claire Corbett” represented in the authority file. Also, since this piece had usage of “C. Corbett,” a cross-reference for that name was added, in addition to changes requested by the author.

Figure 2 illustrates this process further. In this case, the author had published a work under an earlier form of her name, which appeared in the OCLC database. A new publication with a different form of name prompted the cataloger to contact the author, whose e-mail was located through the Web site of her institution. In this case, the communication with the author not only allowed the preferred form of the name to be constructed as the authorized heading, but also assured the accuracy of the very useful cross-reference.

In establishing headings for personal names found in works published in Canada, or for corporate and geographic names within Canada, a cooperative agreement between the Library of Congress and the National Library of Canada requires verification of headings in the National Library of Canada’s catalog.

Catalogs for other national libraries, while not strictly required to be consulted before establishing a name heading, can prove very useful, and Web interfaces for these catalogs make the process even easier. In Figure 3, for example, an authority record was constructed based on information found on the Web site interface of the National Library of Australia. Although this site lacks the “authority” inherent in headings from the National Library of Canada, it can prove very useful for providing corroborative information, such as verifying and distinguishing names. Catalogers working with materials from foreign countries ought to familiarize themselves with national library catalogs within their realm of

```
010 n 86100083
040 DLC $c DLC $d TxCM $d DLC
005 19980504143231.5
100 1 Corbett, Claire
400 1 Corbett, C. $q (Claire)
670 Maguire, M. The effects of crime and the work ... c1987: $b CIP t.p. (Claire Corbett; research fellow, Centre for Criminological Research, Univ. of Oxford)
670 Deterrence of high speed driving ... 1998: $b t.p. (C. Corbett, Brunel University)
670 Email from author, April 29, 1998 $b (Full name is Claire Louise Corbett, criminologist; does not wish her birthdate used)
```

Figure 1. Authority Record for Claire Corbett

1 010 no 00053569
 2 040 OU \$b eng \$c OU
 3 005 20000728064040.0
 4 100 1 Conklin, Nikki Lynn Schafer, \$d 1951-
 5 400 1 Schafer, Nikki L., \$q (Nikki Lynn, \$d 1951-)
 6 670 Perspectives on issues programming in the Ohio Cooperative Extension Service, 1989: \$b cover (Nikki Lynn Schafer Conklin)
 7 670 OU files \$b (Conklin, Nikki L.; Assoc. Prof., Agricultural Education, Ohio State University)
 8 670 Email from author, Aug. 12, 1999 \$b (b. 1951; maiden name is Schafer, used as undergraduate)
 9 670 OCLC database, July 27, 2000 \$b (hdg.: Conklin, Nikki Lynn Schafer, 1961- ; usages: Nikki L. Conklin; Nikki Lynn Schafer Conklin)

Figure 2. Authority Record for Nikki Lynn Schafer Conklin

expertise; these catalogs can be cited just like any other Web site.

The proliferation of Web pages for companies, organizations, and other corporate bodies makes it quite easy to consult these sources in doing authority work. First of all, corporate body Web pages often have clear contact information, including addresses or phone numbers, that can either be used to identify corporate bodies and resolve conflicts, or to contact the body for more information. Also, businesses frequently have histories or other public relations information on their pages that can be useful in constructing the 670 field.

An example of the usefulness of consulting corporate body Web pages can be found in figure 4 (Educational Human Resource Development). The piece in hand did not provide enough information to create a meaningful heading. The name on the piece, “Department of Educational Human Resource Development,” contains “a term that by definition implies that the body is part of another” and clearly needs more information (AACR 1988, 24.13A Type 1). By consulting the home page for the body, its relationship to the College of Education and Texas A&M University is clarified. The banner along the side of the page indicates that Educational Human Resource Development is one department within Texas A&M University’s College of Education.

A more abstract way in which Web pages can present their identities involves the use of clickable links to other bodies often found at the bottom of Web pages, sometimes even in graphics or banners. For example, it is common practice in many environments to provide a standard set of links to the larger organization at the bottom of each page on the university’s server page, or, as was the case with the Educational Human Resource Department, in frames along the side. This format makes it easier for users to navigate among sites and prevents them from “getting lost” while clicking further and further into a complex hierarchy of pages. While the NACO manual does not expressly allow for citing this kind of information as proof of relationship among corporate bodies, it can be used to clarify what might be suspected from the piece in hand or from some other source. Corroborative evidence can also be gleaned from

1 010 no 98074197
 2 040 TxCM \$c TxCM
 3 005 19980326051225.4
 4 100 1 Phillips, Marc, \$d 1969-
 5 670 International mixed drinks, 1995: \$b t.p. verso (Marc Phillips)
 6 670 Natl. Lib. of Australia web catalogue, Mar. 13, 1998 \$b (hdg.: Phillips, Marc, 1969- ; usage: Marc Phillips)

Figure 3. Authority Record for Marc Phillips

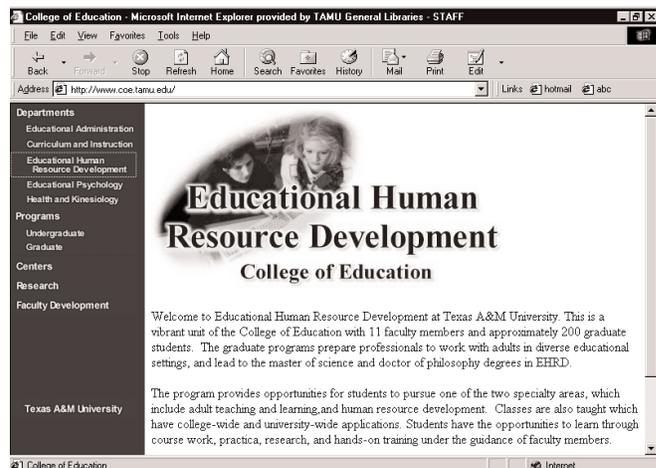


Figure 4. The Texas A&M University, Educational Human Resource Development Home Page

URLs, since the naming structure of servers will often indicate a subordinate relationship.

Just as Web pages can be used to clarify information about individual and corporate bodies, series information can often be located and verified on the Web. Figures 5 and 6 illustrate a site with a huge amount of information about the publications of the company, and pieces within the Luftwaffe Profile Series are clearly indicated. While these lists would not take precedence over the actual piece as published, they do allow a quick way to verify the existence of a series and its component parts.

Even more interesting are figures 7 and 8. Here the series name appears to vary even among pages from the same university. “Qedem, Monographs of the Institute of Archaeology of the Hebrew University of Jerusalem” on the Web page of the Israel Exploration Society is cited as “Qedem Monographs” on the Web page of the Publications of the Institute of Archaeology, Hebrew University of Jerusalem. In this case, further information does not necessarily resolve a conflict, but provides catalogers with more information to use in constructing a logical and useful heading, using their own judgment. Interestingly, both sites were easily located simply by searching the phrase “Qedem monograph” in a major Internet search engine. With more common names, such retrieval may be more difficult.

In addition to personal and institutional Web pages, other Web-based sources can be used to provide information useful to authority work. For example, major commercial databases such as Amazon.com can verify an author's publishing history by quickly linking to other published works. This is most often necessary with common names; it is often difficult to tell if the author of a work in hand is the same as the author in a catalog, until it is discovered that the person has written several works in the same subject area or genre. Especially if a cataloger is already working in a Web browser, going to a site such as Amazon might be quicker, and certainly cheaper, than searching OCLC for preliminary research.

The *NACO Participants Manual* requires that the national authority file be searched, either through OCLC, RLIN, or the Library of Congress database. If no heading is found in the NAF, bibliographic records in OCLC or RLIN are searched to determine the predominant form. The LC records must also be identified to determine if bibliographic file maintenance is required (NPM 1996). The judicious use of other resources in conjunction with OCLC or RLIN can speed up the process immensely for certain types of searches.

A final category of Web-based sites that can be useful for authority work includes those that duplicate or update paper reference sources. Most catalogers will have their own set of sources that are used most frequently based on the type of material being cataloged. For example, The Handbook of Texas Online (www.tsha.utexas.edu/handbook/online/) incorporates the complete text of the first edition of this comprehensive work, changes from the second edition, and articles that were not included because of space limitations in the print editions. Corrections, updates, illustrations, and additions will be added, and the site includes both browsing and searching functions.

Figure 9 illustrates how a general-interest, Web-based fee site can provide useful information in constructing authority records. Here, Gale Group's Contemporary Authors database provided the biographical information

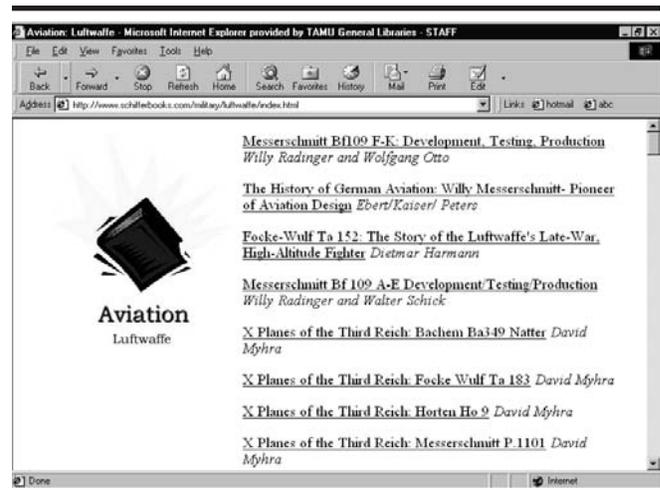


Figure 5. Schiffer Military History Aviation Web Site

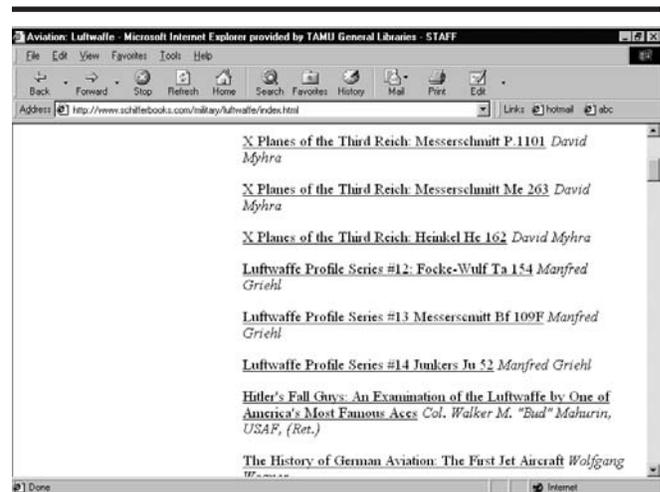


Figure 6. Pieces within the Luftwaffe Profile Series in the Schiffer Military History Aviation Web Site

needed to correctly identify Joseph Foster and O'Kane Foster as the same person. While this information could have been found in other sources, or in older (print) editions of the title, a cataloger frequently working with modern fiction would benefit from using online sources such as Contemporary Authors.

For people with fast and reliable Internet access and free access to a wide variety of online sources, using Web-based versions of reference sources can be much quicker and easier than relying on often out-of-date paper versions that may be located in other areas or even other buildings. The sources used will vary based on the subject matter, geographic area, or language focus of the work in hand, but increasingly, catalogers can find electronic versions of their

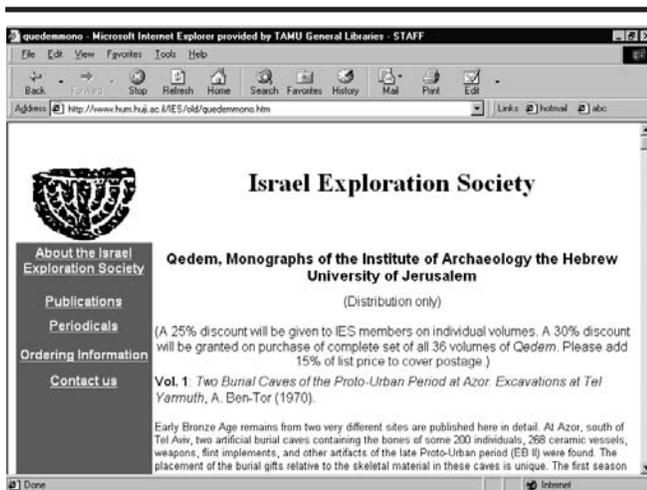


Figure 7. Israel Exploration Society, Qedem Home Page

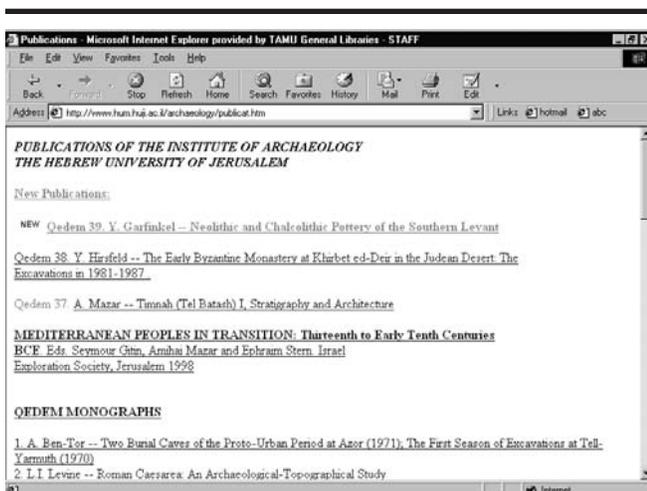


Figure 8. The Hebrew University of Jerusalem, Institute of Archaeology's Publication Home Page

standard favorite tools, as well as other, “born digital” sources of the same information.

Of course, catalogers will consult some Web pages only once, to resolve a question about a piece in hand. Others may prove more useful and catalogers will wish to consult them frequently, especially if dealing with similar material. In this case, bookmarking Web pages is probably the best way to have these sites easily accessible (Wisniewski 1998).

Evaluating Authority Information Found on the Web

As suggested by some of the above examples, finding forms of names on the Web is not necessarily the end of the process in performing authority work. Two major issues emerge. First of all, are Web sources reference sources, and are they equivalent to print reference sources?

Princeton University's Cataloging Department has answered “yes” to the first question, stating that Web sites other than a corporate body's own home page should be treated “as a reference source, with respect to the form of name of a corporate body found there” (Princeton University Library 2000b). This is consistent with the NACO Participant's Manual and with common practice for a wide range of Web sites.

The breadth of sources that could be consulted by a working cataloger precludes a definitive statement of what is and is not a reliable reference source on the Web, but analogies to print publications continue to be useful. Works clearly presented as reference sources, whether free or fee-based, would correspond most closely to traditional references sources, while pages created by a fan of an author, for example, should be treated with a healthy degree of skepticism.

The second question regarding validity of information stems from the fact that Web sites can function as publications by themselves. Princeton University's Cataloging

1 010 nr 89017413
 2 040 NjP \$c NjP \$d OU
 3 005 20000804064840.0
 4 100 1 Foster, Joseph
 5 400 1 Foster, Joseph O'Kane
 6 400 1 Foster, O'Kane
 7 670 His D.H. Lawrence in Taos, c1972: \$b t.p. (Joseph Foster)
 8 670 In the night did I sing, 1942: \$b t.p. (O'Kane Foster)
 9 670 OCLC database, July 27, 2000 \$b (hdg.: Foster, Joseph; usages: Joseph Foster; O'Kane Foster) (hdg.: Foster, Joseph, b. 1898; usage not given) (hdg.: Foster, Joseph O'Kane; usage: Joseph O'Kane Foster) (hdg.: Foster, Joseph O'Kane, 1898- ; usage not given)
 10 670 Contemp. authors, July 27, 2000 \$b Galenet: contemp. authors (Foster, Joseph O'Kane, 1898- ; also known as O'Kane Foster; b. June 27, 1898 in Chicago, IL.; reporter, author)

Figure 9. Authority record for Joseph Foster

Department asserts in its internal documentation, "The formal presentation of the name of a corporate body on the body's own home page (i.e., at a Web site created or sponsored by that body), is tantamount to formal presentation on the chief source of one of the body's own publications. That is, it has special status as a source for the AACR2 heading" (Princeton University Library 2000). Not all catalogers may be comfortable with the idea of "special status," given the long history of privileging the chief source of information of print publications in questions of authority work.

The validity of information on the Web is certainly part of a much larger debate than can be explored in the current discussion. Nonetheless, in the authors' experience, common sense and cataloger judgment resolve most conflicts, with the benefits of locating name information on the Web far outweighing the intellectual issues such a practice sometimes raises.

Conclusion

Anyone who has turned to the Web for more information about a person or corporate body has, at some time or another, been frustrated. Search engines often return false hits, even when relatively sophisticated searches are constructed. Since corporate body names often change, and Web pages often change servers, matching up the name found on the piece in hand with a particular Web site can be difficult, especially when cataloging noncurrent material. For much older cataloging, the Web might not be as useful, although the increasing conversion of "classic" reference sources to Web interfaces can offset this shortcoming.

The authors' experience has shown that authors affiliated with educational institutions are the easiest to locate and corporate bodies that are governmental in nature tend to have the most helpful and reliable sites. Also, commercial sites, once located, can be very useful in providing more information about businesses.

Often the Web provides no help beyond a contact, but when it is easy to search for the contact information, this can be quicker than sorting through out-of-date directories or phone books. When the site provides more information, a great deal of time can be saved by simply citing the Web page itself, and not having to contact a "real" person in order to get the necessary information.

While this survey cannot be comprehensive, we hope that it has provided food for thought for catalogers, whether they are simply establishing a heading for use in a bibliographic record or contributing a heading to the NACO file.

The Web is no doubt changing the way we do authority work, and by keeping our minds open to new strategies, we can use this to our advantage to be more productive and more efficient, without sacrificing the quality of our online catalogs and other bibliographic resources.

Works Cited

- Anglo-American cataloguing rules*. 1988. 2d ed., 1988 rev. Ottawa: Canadian Library Assn.; London: Library Assn. Publ.; Chicago, ALA.
- Clack, Doris Hargrett. 1990. *Authority control: principles, applications, and instructions*. Chicago: ALA.
- Institute of Archaeology. The Hebrew University of Jerusalem. 2000. Publications of the Institute of Archaeology, the Hebrew University of Jerusalem. Accessed June 6, 2000, www.hum.huji.ac.il/archaeology/publicat.htm.
- Israel Exploration Society. 2000. Qedem, Monographs of the Institute of Archaeology, the Hebrew University of Jerusalem. Accessed June 6, 2000, www.hum.huji.ac.il/IES/old/quedem-mono.htm.
- Library of Congress. 2000. MARC 21 concise authority for authority data: Other variable fields (8XX). 856 Electronic location and access. Accessed May 30, 2000, www.loc.gov/marc/authority/ecadothr.html#mrca856.
- Library of Congress Network Development and MARC Standards Office. 2000. MARC Standards, Proposal no.: 98-13. Accessed May 30, 2000, <http://lcWeb.loc.gov/marc/marbi/1998/98-13.html>.
- NACO *participant's manual*. 1996. 2d ed. Washington, D.C.: Library of Congress, Cataloging Distribution Service.
- Princeton University Library. 2000a. Princeton University Library's Cataloging Documentation. Name Authorities: Conflict Resolution. Accessed May 30, 2000, <http://libweb.princeton.edu/katmandu/cp20/confperl.html>.
- Princeton University Library. 2000b. Princeton University Library's Cataloging Documentation. Name Authorities: NACO Information, Types of Reference Services: Internet Resources. Accessed May 30, 2000, <http://libweb.princeton.edu/katmandu/cp20/refinternet.html>.
- Schifferbooks.com. Military History. 2000. Aviation, Luftwaffe. Accessed May 30, 2000, www.schifferbooks.com/military/luftwaffe/index.html.
- Talma, Kerrie. 1998. Authority control. In *Technical services today and tomorrow*. Englewood, Colo.: Libraries Unlimited.
- Texas A&M University, College of Education, Educational Human Resource Development. 2000. Educational Human Resources Development home page. Accessed May 30, 2000, www.coe.tamu.edu.
- Wisniewski, Julia. 1998. Authority work, Internet resources, and a cataloger's home pages. *Art Documentation* 17 (1): 45-46.
- Younger, Jennifer A. 1995. After Cutter: Authority control in the twenty-first century. *Library Resources & Technical Services* 39: 133-41.

Library-Subsidized Unmediated Document Delivery

Michaelyn Haslam and Eva Stowers

Throughout the 1990s, libraries experimented with subsidizing end-user unmediated document delivery as a means of expanding collections, offering faster service, and lessening demands on interlibrary loan. An ongoing project at the University of Nevada, Las Vegas, is presented here to evaluate whether or not providing the service met expectations. For the most part, unmediated document delivery served to enhance collections and users appreciated the service. Since those who preferred to order articles themselves were not necessarily interlibrary loan users, workloads and costs associated with interlibrary loan were not diminished.

Throughout the 1990s, libraries experimented with allowing their users to order articles directly from commercial document suppliers and subsidizing the resulting costs. Permitting the user autonomy in obtaining articles can potentially affect three major areas of library operations: collections, services, and staffing. To a large extent, timely access to nonsubscribed journals expands the collection and does so faster than interlibrary loan. In an era of highly inflationary serials, another benefit of unmediated document delivery is that it can soften the blow of journal cancellations by streamlining the process for obtaining articles. The need for specialized information can be met rapidly and economically through document delivery rather than subscribing to journals desired by a limited population. From a service aspect, unmediated document delivery provides for speedier access to information than traditional interlibrary loan because it eliminates the "middleman" and thus decreases processing and delivery time. Ordering articles for themselves offers a convenience to those users who prefer to take charge of their own document delivery needs or are under severe time constraints. Unmediated document delivery appears to offer a means to reduce interlibrary loan operational expenses, salaries, and staff workloads by transferring the ordering and receiving processes to the requestor.

The constant changes in services and delivery methods that are provided by document suppliers call for a re-evaluation of methods and effectiveness of unmediated document delivery. In this article, we identify reasons for trying unmediated document delivery, evaluate its success or failure in meeting expectations, and present considerations for deciding when using unmediated document delivery is advantageous.

Procedures

We will describe a recent unmediated document delivery project at the University of Nevada, Las Vegas (UNLV), from the planning of a pilot project to the implementation of a new service. Information gathered regarding usage and

Michaelyn Haslam (mhaslam@ccmail.nevada.edu) is Science Coordinator, Collection Development, and Eva Stowers (estowers@ccmail.nevada.edu) is Science/Reference Librarian at the Lied Library, University of Nevada, Las Vegas.

Manuscript received September 26, 2000; accepted for publication December 19, 2000.

patron satisfaction will be presented. We will examine the reasons given for trying the service, selection of those who would be allowed to use the service, choice of document supplier(s), training of users, and results of use. The reasons for use can be compared to the results to see whether or not the service worked as expected. Selection of users will be examined to determine whether or not those who used unmediated document delivery were appropriate for achieving the desired outcomes. The quality of service was a function of the choice of document supplier impacting willingness and success in using the service. Training gave users the opportunity to learn to employ the service according to parameters set by the library. Effectiveness of training may determine whether or not the service is cost effective. By examining these elements it is expected that the success of the service in meeting stated needs can be assessed and considerations for implementing unmediated document delivery service can be developed.

Unmediated Document Delivery Projects

UNLV recently attained Doctoral/Research Universities-Intensive status under the 2000 edition of the Carnegie Classification and is actively seeking Doctoral/Research Universities-Extensive status. The university offers degrees in 148 subjects, mostly at the undergraduate and master's degree level and more programs are being developed. Additionally, UNLV conferred 97 doctoral degrees in 14 disciplines over the last five years. The university's goal of building a research-extensive institution means that the faculty of approximately 750 members is expected to achieve high levels of research, scholarship, and publication. Enrollment has been growing at an average rate of 10% per year over the last ten years and is currently at 15,879 full-time equivalent (FTE). This rather unusual growth rate is due in large part to the rapid growth of metropolitan Las Vegas, where the population increased 63% in the last decade, from 830,000 in 1990 to an estimated 1.3 million in 1999.

UNLV was founded in 1957, and its relatively brief history has been a barrier to building a substantial research col-

lection. Rapid inflation in serials costs, coupled with a static budget over the last five years, also negatively impacted collection development. This state of affairs is familiar to most academic institutions. The UNLV libraries have been more fortunate than most, as they were not forced to make significant journal cancellations until 1999. Further complicating access to resources, UNLV is geographically isolated from other academic universities. Its sister institution, the University of Nevada, Reno, is 450 miles away and the nearest academic libraries are at least 250 miles away in the states of California, Arizona, and Utah. Nevertheless, some faculty members regularly visit the libraries at those institutions to conduct research.

The UNLV libraries provide access to more than 80 online indexes in addition to the standard print ones. While online indexes have proven to be popular resources, they frequently give rise to user frustration when the list of citations includes many journals not available locally. The availability of full-text indexes has largely satisfied undergraduate needs at UNLV with a few exceptions (e.g., health sciences) but has meant little to research faculty.

One of the prime motivations behind the decision to implement unmediated document delivery service in late 1998 was an anticipated journal cancellation project. The flat budget forced the libraries to drastically reduce the purchase of monographs in order to support the journal collection. To avoid a further decrease in monograph acquisitions, a major serials review and cancellation process was initiated. In addition, the retirement of several long-term interlibrary loan employees, and an accompanying reorganization, had led to a serious backlog in interlibrary loan requests. These factors indicated that the time was right to initiate this new service. Staff planned to have it operational by the beginning of the January 1999 spring semester.

A review of library literature revealed that the issues of expanding collections, offering enhanced service, and reducing interlibrary loan workload and staff triggered the initiation of unmediated document delivery projects at a number of other institutions. The main motivation for trying unmediated document delivery, the institution, document supplier(s), and author(s) are displayed in table 1 to give an overview of the more recent studies.

Table 1. Unmediated Document Delivery Studies

Motivation	Institution	Document Supplier	Study
Expand access to non-owned titles	Aalborg Univ. (Denmark)	Uncover	Arkin (1998)
Expand access, reduce ILL	Texas A&M	British Library, ISI, EbscoDoc, UMI	Crowley (1999)
Expand collections, identify journal needs	Louisiana State Univ.	UnCover	Kleiner and Hamaker (1997)
Enhance collections	Utah State Univ.	EbscoDoc	Kochan and Elsweiler (1998)
Reduce ILL	Texas A&M	ProQuest Direct	Thornton and Jackson (1997)
Expand access	Arizona State Univ.	OCLC's FirstSearch, RLG's Eureka/CitaDel, UnCover	Walters (1996)

Expanding or enhancing collections is the most prominent motivation for implementing unmediated service. Implicit within offering the service is the attempt to meet a growing demand for materials beyond local capabilities in a convenient way that promises a quicker delivery time than interlibrary loan. As stated by Kochan and Elswiler (1998), the Internet and electronic information technologies present new opportunities for satisfying information needs. At Louisiana State University, unmediated document delivery was one prong of an aggressive plan to manage serials expenditures (Kleiner and Hamaker 1997). Two of the studies offered more than one document supplier. Appropriate coverage, billing centralized at the library, and delivery options other than faxing were reasons cited for offering more than one supplier (Walters 1996). Crowley (1999) noted that data on usage patterns for different delivery methods and suppliers was gathered.

Selection of Users

Due to requests for new journals, UNLV faculty members were targeted as those who would benefit most from unmediated document delivery. In the face of impending serials cancellations, starting new subscriptions was not possible. Concurrently, the growth of new programs and the hiring of new faculty emphasized the need for access to more journals, especially in emerging areas of research. Providing wider access through unmediated document delivery appeared the most likely solution to the need for more resources. However, from the beginning, some faculty members were adamant that unmediated document delivery was no substitute for subscriptions. Taking this into account when talking with faculty members, librarians emphasized that document delivery was not perceived to be better than local availability, but was designed to provide access to material that for one reason or another could not be obtained locally.

Choice of Document Supplier

In 1988, the Colorado Alliance of Research Libraries (CARL) began offering a current awareness/document delivery service to subscribers. For a modest fee, CARL e-mailed the tables of contents of selected journals to subscribers who could also request documents for facsimile delivery by responding to the e-mailed message. It was also possible to search the database by author or keyword, and to browse by journal contents. This service, now known as UnCover, has grown to include 18,000 journals. Although the UNLV Libraries facilitated access to the UnCover database since its inception in 1988, use of the document delivery service was

limited to the interlibrary loan department. Access was provided in order to permit students and faculty to search the database in much the same way that access is provided to other electronic indexes, that is, to provide bibliographic references and not necessarily to enable document delivery. UnCover's broad subject coverage, along with local familiarity with this service, were deciding factors in the selection of UnCover as the document supplier for UNLV.

Sellers and Beam (1995) contended that an ideal document delivery service would allow:

- user-initiated electronic ordering from within a bibliographic database;
- ease of use to minimize the need for assistance;
- no use of library staff for processing, i.e., unmediated direct delivery to the user;
- linkage to library holdings to enable an automatic block for articles available locally;
- reasonable charges comparable to interlibrary loan;
- automated reports;
- a collection of journals satisfying most local needs; and
- multiple delivery options.

UnCover more or less meets these eight requirements, although it is weak in the area of multiple delivery options. Its merger with www.ingenta.com may strengthen this substantially, but has not yet impacted the service at UNLV. The UNLV libraries did not seriously consider other vendors for the initial implementation of unmediated document delivery in order to avoid the introduction of more interfaces and the logistics of setting up multiple accounts with different vendors. The \$10,000 cost to purchase the ability to block ordering UNLV-owned articles seemed prohibitive. While the ability to receive articles via Ariel or regular mail would have been welcome, it was not considered critical to the success of the service.

Training

Before extending the option of unmediated document delivery to all UNLV faculty, representatives from the library departments of Instruction, Interlibrary Loan, and Collection Development met to determine content for instruction and to schedule training sessions. Results of a pilot study had indicated that failure to provide adequate training resulted in minimal use of the service. Staff concluded that effective user training was critical to the success of the project. The UNLV Libraries publicized the availability of the service in several ways, sending flyers to every faculty member, e-mailing messages via the campus information electronic discussion list, and placing announcements in sev-

eral campus publications. The service was open to all faculty members and there was no attempt to focus only on new faculty, active researchers, or frequent users of interlibrary loan services.

A series of one-hour classes were scheduled in the library's electronic classroom. Class attendance or individual training was required before a user could obtain an account password for UnCover, which was similar to the project Crowley (1999) described at Texas A&M. During January, February, and March of 1999, eight classes were held to instruct faculty on how to set up a profile, how to search UnCover, and how to order articles. Prior to the sessions, a librarian set up the user's initial profile. The classes were hands-on learning experiences in which attendees worked with their individual profiles and tailored them to their needs. The library established two policies: (1) only articles from journals not owned by UNLV could be ordered and (2) the library would subsidize the cost of articles costing \$35 or less. Instructors heavily emphasized the two rules as part of the instruction. If faculty members wanted to order articles that cost more than \$35, they were told to request them through Interlibrary Loan. It was emphasized that if time was not an issue, documents should continue to be ordered through interlibrary loan. Despite concerns about cost, no limit was placed on the number of articles that could be ordered. Enthusiasm for the service was high among those at the training sessions.

Kleiner and Hamaker (1997) organized training sessions for subject selectors to familiarize them with the larger serials assessment project and the UnCover service. The UNLV project organizers initially anticipated that the subject selectors would serve as liaisons for UnCover services to their departments. However, eventually two librarians, both science subject specialists, became the sole trainers/coordinators. One librarian trains users and maintains the profile database; the other trains users and serves as the coordinator with UnCover. The coordinator also receives and reviews the monthly reports from UnCover, and notifies users when they have violated the library document ordering policies.

Monitoring

The UNLV Provost had allocated \$25,000 to the library for document delivery services; of this, \$10,000 was placed in a deposit account with UnCover. A master rollover account was set up with 48 subaccounts, one for each of 47 departments and a general account for other faculty such as researchers or administrators. While there were separate accounts for each academic department, there was no budget per department. Separate accounts allowed the tracking of expenditures by department. In addition, they provided the library with more control over passwords. If

one department's password was compromised, it could be changed without affecting any of the other departments. In implementing the service at UNLV, it was considered imperative to keep detailed records of usage for both financial and collection development reasons. Access, Microsoft's database application, was chosen to create a database to store departmental account numbers, deposit account passwords, faculty profile numbers, and use statistics. Access was used because it could provide needed functions and was available at each librarian's desktop. The database was created on a shared drive so that the two librarians coordinating the project could both keep it updated, providing a centralized resource where current information could easily be obtained. A record of departmental account numbers and passwords was necessary to efficiently track usage. While UnCover sends a monthly statement of orders broken down by departmental account, these statements come one month after the end of the month being reported; that is, January's report comes at the end of February, and so forth. If faculty members ordered articles from journals subscribed to by the library, the librarians wanted to alert them to the error before two months had passed. By taking advantage of UnCover's online report feature, a listing of the orders placed on an account for a rolling 60 days could be downloaded and reviewed weeks before the print report was received.

A macro was written that would format the order data retrieved from the online UnCover reports so the information could be easily imported into Access. Downloading the information and putting it in the database took about one hour per month. Print reports were used to verify the downloaded data. The use of this database made it possible to analyze aspects of use such as the quantity of articles ordered by department, amount spent per department, the request rate of a specific journal, and the number of requests for articles from journals held by the library.

A record of the profile numbers was kept in case faculty members lost or forgot their numbers. Faculty members chose their own profile passwords and the library did not keep a record of them, according a small amount of privacy to the profile. A user who misplaced or forgot a profile password was able to call UnCover's toll-free telephone number and obtain it by providing the profile number. As a further measure of confidentiality, although the name of the person ordering each article was listed on the monthly report, the library did not have access to the keyword searches or the names of journals from which tables of contents were being e-mailed. Keeping track of e-mail addresses made it easy to contact faculty if they left a question or needed to be notified of problems with their orders. Keeping this data also allowed us to quickly view how well each department had responded to the service.

Findings

Pilot Studies

One pattern that became apparent in analyzing unmediated document delivery projects was the preference for starting the service as an experiment or pilot study. Arkin (1998) termed the service experimental. Crowley (1999) conducted a study that lasted for two semesters. At Louisiana State University, a pilot in the chemistry department expanded to a pilot that included all sciences (Kleiner and Hamaker 1997). Kochan and Elswailer (1998) tested the service on ten active researchers from the two departments that were most insistent on obtaining new journal subscriptions. Thornton and Jackson (1997) conducted a pilot study with a technical writing class for one semester. At Arizona State University, a yearlong pilot project was conducted (Walters 1996). Rather than opening the option of unmediated document delivery to a wide group of users, libraries implemented trials by testing the service on a target group. For the most part, the goals of these studies were to control expenditures and to discover if use patterns would emerge. Testing the service on a small group would serve to indicate if it should be continued or expanded to larger groups.

Recurring discussions had taken place concerning whether or not to implement an unmediated document delivery service for faculty members at UNLV. The main impediment to offering the service was a difference in opinion over the extent to which the library would subsidize the cost. Some librarians were of the opinion that a minimal fee of \$1 or \$2 per article should be charged, arguing that if the service were free to faculty, faculty members would place frivolous orders and not consider the cost. Without knowing how the service would be used, the library administrations were conservative in selecting users in order to minimize costs. They did not wish to start a project that would have to end early because of cost overruns. Despite this perceived risk, the decision was made to begin the pilot project with the library subsidizing all expenses. Two departments were selected and their faculty members were allowed to order journal articles from the UnCover service.

The goal of the project was to explore the financial impact on the library's budget of faculty ordering articles directly from a document provider versus using the standard interlibrary loan process. By testing use in two departments the potential for abuse could be gauged and the final decision about totally or partially subsidizing document delivery could be made at a later date. Furthermore, patterns of ordering might become apparent that would give an indication of whether or not it would be feasible to expand the service to faculty in all departments.

The project began in late fall 1997. The two departments selected to participate were Physics and Civil and Environmental Engineering. The Physics department had

just undergone an external review that stated that document delivery was a valid alternative to subscribing to more journals. A similar review of the Civil and Environmental Engineering program suggested the need for a branch library that would focus on purchasing relevant materials. These reviews made it obvious that these two departments would be prime candidates for the trial. In the case of Civil and Environmental Engineering, unmediated document delivery would be a way to get materials without the overhead of another library. Additionally, both departments were in technical areas where journals are expensive and a preferred source of information.

A memo describing the UnCover service was sent to each faculty member in the two departments. The message explained that the library would subsidize the purchase of articles costing \$35 or less from journals not subscribed to by the library. Individual appointments were scheduled with those who responded; those who had not responded were contacted by e-mail and telephone. The appointments were held in the faculty member's office. At that time an UnCover Reveal profile was created. A profile contains information about the user, such as telephone and fax numbers as well as the preferences for tables of contents and search strategies for weekly e-mail alerts. The participant was given instructions on how to order articles and set up e-mail alerts. The librarian emphasized both the price limit of \$35 per article and the need to check local holdings before ordering. A handout with instructions for ordering and the policies was left with each faculty member for future reference.

UNLV's pilot study lasted one year, ending in the fall of 1998. During that time about one-third of the Physics faculty set up accounts; one-third said they were not interested; and one-third never responded. Every member of Civil and Environmental Engineering but one started accounts. Faculty members ordered a minimal quantity of articles during the pilot project, amounting to less than \$200. At least for the two departments that participated, the fear of frivolous ordering had proved groundless. Review of the trial indicated that there was no increase over normal document delivery costs during that time. When the decision was made to expand unmediated document delivery to all UNLV faculty, no modifications to the policies used during the trial were made.

Success of the Service in Meeting Stated Needs

Unmediated document delivery was tried for the following reasons: (1) to supplement collections; (2) to provide service to users; (3) to cut interlibrary loan workload or costs. The impact of using the service will be examined to determine whether the service was successful in answering the needs in these areas.

Supplement to Collections

At UNLV the first year of service was 1999, before 717 journal cancellations for 2000 took effect. By the end of June 2000, after 18 months of service, UNLV faculty obtained 719 articles at a cost of \$17,215.19, averaging \$23.94 per article. Articles from 425 different journal titles were ordered. The library did not own 309 or 72% of the titles; the remaining 116 were in the collection. Unmediated document delivery served to supplement the collection without subscription and processing costs. The journals ordered ten or more times are listed in table 2.

As illustrated by table 2, the subscription price is greater than the amount paid for individual articles in most cases. Faculty members have expressed interest in subscribing to *Water Science and Technology*. However, purchasing articles over an 18-month period cost less than one-seventh of a one-year subscription. For example, the *Journal of Clinical Geropsychology* appears to be less expensive to subscribe; at first glance it seems that subscribing for \$223 would be more cost effective than paying to order 12 articles for \$312. Upon further investigation, it turns out that the articles were ordered from issues ranging over a period equivalent to three subscription years, i.e., orders were for articles from 1997, 1998, and 1999. Subscribing for three years would cost at least \$670, more than twice the amount paid by purchasing individual articles. Kleiner and Hamaker (1997) concluded that it was more cost-effective to purchase by the article rather than to subscribe to high-cost journals, even for titles ordered ten or more times.

Though the collection was supplemented by unmediated document delivery, many orders duplicated library holdings. Of the articles ordered, 23% were from journals owned by the library. Orders in violation of the not-owned policy totaled \$3,365, 19% of the cost of all articles delivered. In most cases, the issue requested had been checked in at the time of the order and receipt would have been reflected in the catalog; in a handful of cases the article was ordered before the issue had arrived. The subscription to *Physical Therapy* includes both print and online access. A quick check of the catalog would have allowed the requestor to print articles immediately rather than wait for faxes. The library does not have a print subscription for *Aids and Behavior* but electronic-only access is available through a package deal with Kluwer. Availability of electronic formats provides the convenience users seek but they have to be willing to search the catalog to find and use online journals.

Users were notified when they ordered articles held by the libraries and when electronic access was available. One responded that the issue was not on the shelf when she looked. Most said they would be more careful. Table 3 shows the distribution by department of the number of owned articles ordered and their cost. The Psychology and Biological Sciences departments ordered the most articles and the most duplicates. Even library faculty requested owned articles, making it difficult to expect that faculty in other departments would not do the same.

The ordering pattern suggested that the convenience of submitting orders from search results facilitated requesting articles owned by the libraries. Individuals tended to order a group of articles then not order again for a few months, if at all. Up to five to ten articles would be selected and then ordered all at one time. Once the ordering momentum started, the users requested all the articles they selected rather than checking the library's holdings. The highest number of articles ordered in one session was 34, five of which were duplicated in the collection.

Table 2. Most Frequently Ordered Titles, January 1999–June 2000

Journal	Articles Ordered	UNLV Subscription	Articles for 2000	Cost for Subscription
<i>Psychiatry Research</i>	23	No	\$690	\$1,756
<i>Water Science and Technology</i>	16	No	480	3,514
<i>Aids and Behavior</i>	14	No	364	260
<i>Physical Therapy</i>	14	Yes	223	180
<i>Psychoneuroendocrinology</i>	14	No	420	1,052
<i>Journal of Intelligent and Robotic Systems</i>	13	No	338	850
<i>Journal of Clinical Geropsychology</i>	12	No	312	223
<i>Library Acquisitions: Practice and Theory</i>	11	No	330	215
<i>Current Biology</i>	11	No	220	845
<i>Journal of Nervous and Mental Disease</i>	10	No	303	315
<i>Hydrobiological Journal</i>	10	Yes	150	1,323

Table 3. UNLV Orders Duplicating Collection by Department, January 1999–June 2000

Department	Duplicate Articles	Cost
Biology	54	\$1,117.05
Psychology	46	991.00
Mechanical Engineering	19	463.10
Physical therapy	14	223.30
Social work	12	202.50
Accounting	9	157.50
Marketing	5	86.45
Nursing	2	42.00
Library	2	26.25
English	2	24.25
Hotel Mgt.	1	13.25
Chemistry	1	18.50
Total	167	\$3,365.15

As stated earlier, supplementing the existing collection was a key reason for trying unmediated document delivery in most studies. Expanded access to nonowned titles was achieved either by browsing tables of contents or ordering individual articles from titles not held. Walters (1996) observed that the requests from a given journal frequently came from one or two regular users. Thus there was not enough combined interest in the particular journal to make purchase a priority. Studies that had not blocked ordering on holdings reported that, from 10% to 80% percent of the articles ordered existed in their collections, which meant that to varying extents collections were being duplicated rather than supplemented.

Service to Users

At UNLV, 133 of approximately 750 faculty members from 41 departments signed up for the service. Of that number, 56, representing 21 departments, ordered a total of 840 articles in the first 18 months. Biology ordered the most at 252 articles, 30% of the total number ordered for that period. Psychology was second with 226 orders or 26.9% of the total ordered. Table 4 illustrates the number of orders by department and their cost. The current awareness service has proven at least as popular among UNLV faculty as document delivery.

Fill rate is an important measure of service. UNLV faculty ordered 840 articles, of which 83 were cancelled, for a fill rate of 85%. In about 30 cases, UnCover was unable to supply the request, other reasons for cancellation included inability to connect to the fax number supplied by the user, duplication of an existing order or cancellation by the requestor. When an article could not be supplied, notification was within the expected time of receipt. There were few complaints of unreliable delivery from the faculty. Crowley (1999), whose study used multiple document suppliers, also reported satisfaction with the fill rate at her institution.

The speed of delivery was another measure of service. UNLV experienced an average turnaround time of 1.07 days from the time of ordering to the time of delivery, almost exactly the 24 hours advertised by UnCover. A large percentage of the articles, 49.6% or 357, were delivered on the same day. The longest delivery time was nine days for one article, a rate faster than the average interlibrary loan transaction.

Several factors entered into assessing the quality of the delivery service. UnCover is somewhat limited in its search capabilities and has no abstracts. Furthermore, since UnCover is basically a journal table of contents database, it does not provide citations to conferences or proceedings. These limitations have not been a major concern to most users, who are more concerned that the database only goes back to 1988 and lacks abstracts. The unsophisticated search

Table 4. UNLV Orders by Department, January 1999–June 2000

Department	Articles Delivered	Cost
Biology	252	\$6,015.57
Psychology	226	5,730.50
Mechanical Engineering	62	1,566.60
Social Work	48	1,100.25
Accounting	48	922.50
Library	29	800.97
Marketing	17	287.45
Nursing	9	186.00
English	5	65.25
Math	5	144.00
History	3	57.35
Electrical Engineering	2	60.00
Curriculum	2	41.25
Civil Engineering	2	40.50
Chemistry	2	56.50
Anthropology	2	30.00
Other*	5	110.50
Total	719	\$17,215.19

* The following departments ordered one article each: Criminal Justice, Hotel Management, Kinesiology, Philosophy, and Sociology.

capabilities seem to be of more concern to librarians than other faculty. Members of the UNLV faculty were pleased to learn of the Reveal e-mail alerting service. Indeed, some faculty members set up profiles just to get the e-mail alerts while preferring to get photocopied articles from interlibrary loan rather than faxed copies from UnCover.

The major complaint about the service was the quality of reproduction in the faxes that were received. At least one professor stated that the faxes were not usable and he would make no more orders from Uncover. These complaints were most often heard from the scientific disciplines, in part due to the preponderance of formulas, charts, and photographs in their articles, which do not fax well. This problem is not unique to UnCover; Utah State University had the same complaint in their experiment with EBSCOdoc (Kochan and Elswiler 1998). While few people at UNLV tried out UnCover's desktop delivery option allowing scanned images to be printed, those that did complained about its effectiveness. A special viewer (CarlView) had to be downloaded and in several cases the person's session timed out during the download resulting in the loss of the document. Other limitations in service included lack of coverage comprehensive enough for in-depth research.

Effect of Unmediated Document Delivery on Interlibrary Loan Staff or Workload

A list of faculty who ordered articles from interlibrary loan during 1999 was compared to the names of those using unmediated document delivery for the same time period. Orders for interlibrary loans are submitted electronically and

do not require that a person visit the library. Half of the 36 who used unmediated document delivery made no requests from interlibrary loan, preferring to order the documents themselves. Five faculty members used both but ordered more from UnCover than interlibrary loan. It could not be confirmed that they ordered through interlibrary loan because the articles were not available from UnCover. Thirteen of the participants used both but ordered more from interlibrary loan than the unmediated service. Interlibrary loan did not experience a decrease in article orders after unmediated document delivery was implemented. Indeed, the number of interlibrary loan requests has grown over the last two years. For fiscal year 1998–99, faculty requested 3,154 articles from interlibrary loan. The 1999–2000 fiscal year saw an increase to 3,731. During 1999–2000, faculty ordered another 629 articles via UnCover. Demand for interlibrary loans has steadily increased during the time unmediated document delivery has been an option. Arkin (1998) also reported constant increases in interlibrary loan concurrent with the availability of unmediated service, explaining it as expanding into a new service market rather than transferring an activity from staff to users. Two studies targeted active interlibrary loan users for their pilots; one selected a class of 23 students and the other used ten active researchers, but the populations were too small to have an impact on overall interlibrary loan activity (Thornton and Jackson 1997; Kochan and Elswiler 1998).

Appropriateness of Selected Users in Meeting the Stated Need

UNLV opened the service to faculty in all departments. Though reduction in interlibrary loan costs and workload were motivating factors in using unmediated document delivery, no attempt was made to target those making numerous journal requests from interlibrary loan or those conducting high levels of research. Rather than offering the service directly to heavy interlibrary loan users, it was assumed that they would switch to unmediated document delivery along with the rest of faculty. In practice, interlibrary loan users did not switch. Some faculty used both, but unmediated document delivery did not substitute for interlibrary loan. Many faculty stated a preference for photocopies rather than faxed material. The Web form for interlibrary loan requests is a selection on the main menu of the catalog that can be filled out between searches for holdings. To do a search in one database, checking the catalog for holdings and then switching to UnCover to order adds a step that interlibrary loan avoids. If UnCover is unable to supply the desired article, an interlibrary loan request has to be made anyway. So far, unmediated document delivery has not converted interlibrary loan users but has attracted a different segment of the university community.

All of the articles ordered appeared to pertain to academic activity and were not ordered for personal interest. Biology, one of the departments whose faculty were substantially involved in active research, requested the most articles. Art, Dance, Film, Environmental Studies, Health Education, Health Physics, Theater, and Educational Leadership had no participants. That the fine arts departments of Art and Dance do not use the service is not surprising since the scholarly activities of the UNLV fine arts faculty are generally performance oriented. The library had the largest number of registered users, 18. Librarians ordered 29 articles and appeared to use the service more for current awareness.

Choice of Document Supplier

Overall the UnCover service was well-received and appreciated by UNLV faculty. In addition, the library is implementing additional document delivery services that will be able to provide conference papers and journal articles in high-resolution formats. The two services that have been selected to supplement UnCover are the Canada Institute for Scientific and Technical Information (CISTI) and Ei Electronic Text Services.

CISTI supplies scientific, technical, and medical documents to North America. Its 24-hour database contains citations to journal articles, conference proceedings, and technical reports. The documents can be delivered electronically, requiring Ariel software on the receiving end to read the file and produce high-resolution printouts. A pilot project using CISTI is being coordinated with the Biology department. The library has purchased a copy of Ariel software (receive only) that has been installed on a computer in the Biology department. If the trial is successful, the service will be extended to other departments within the Colleges of Science and Engineering.

The other service being implemented, Ei Electronic Text Services, is used from within COMPENDEX, an engineering bibliographic database. As is the case with CISTI, journal articles and conference papers can be ordered directly from citations in the database. The requestor has the option of receiving the document by e-mail in .pdf file format. This format offers the ability to print documents at a high resolution so that graphics are clearly legible. The documents can be viewed with readily available Adobe Acrobat software.

The library has set up a deposit account and supplied Ei Electronic Text Services with the ISSNs of library journal holdings, thus permitting citations in COMPENDEX to link to UNLV's subscribed titles. If the citation a searcher retrieves is for an article or paper that the library owns, a message to that effect is displayed. The faculty members that have tried it are pleased with the quality of .pdf images.

Effectiveness of User Training

Analysis of the orders placed indicated that UNLV faculty members needed reinforcement in learning to check the library catalog for subscriptions. In addition, they would benefit from being able to determine quickly which full-text journals are available. They could print articles from those resources rather than ordering duplicates from UnCover. Faculty members were encouraged to order their own articles only if they were in a hurry to get them. This point appears to have been lost since many do seem to order on impulse. As mentioned earlier, the pattern of ordering several articles at the same time seems to contribute to these impulse orders. Even with instruction, ordering of owned items was still frequent. It is quite possible that it would have been yet more frequent without instruction. Crowley's (1999) user survey found that users did not want to take the additional step of consulting the catalog but wanted holdings linked in the index they searched.

Necessity of Monitoring Use

At UNLV, reports were checked to identify orders from journals owned by the library. E-mail was sent to the person who had requested those items. The e-mail message contained the title, call number, and cost of the orders, accompanied by instructions on how to check holdings in the library catalog. Patrons were informed that if duplicate orders continued, their account could be terminated though none have been so far. If the order had been placed within a few days of receipt of an issue, an e-mail was not sent. As mentioned earlier, although orders for owned articles were frequent, paying for the service to block orders based on holdings was many times more expensive. However, it may be more cost effective to pay the fee than to monitor use so closely. Sending e-mail warnings is time consuming, as each owned article has to be checked against that issue's receipt date, and the titles, call numbers, and cost of articles sent to the users who may or may not remember to check the catalog when they order again in a few months. Crowley (1999) asked users to log orders but they failed to do so and the time-consuming task of tracking invoices fell to the library staff. It cannot be assumed that faculty will take the same care in making orders as library staff. Unless tracking use can be automated to a large extent, having the library staff track orders can be time consuming and should be weighed against the time needed for interlibrary loan to process orders.

Continuation of Unmediated Document Delivery

After starting unmediated document delivery as a pilot project or temporary service, several institutions continued to

allow users to order articles for themselves on a permanent basis. In some cases modifications to make better use of local collections were made. At Aalborg University, it was determined that blocking orders of holdings was considered to be financially advantageous to continuing the service as long as a free copy ordering service could be instituted to deliver articles held in the collection (Arkin 1998). Walters (1996) reported continued service with modifications including links to holdings in UnCover with a block on ordering items in the collection. A service called Library Express delivered owned articles directly to faculty members. At the time it was yet to be determined if Library Express was more cost effective than unmediated document delivery. Louisiana State University implemented links to holdings in UnCover and blocked orders of owned items (Kleiner and Hamaker 1997). They found that purchasing on a per-article basis cost less than one-fifth the amount saved by journal cancellations. At Utah State University, Kochan and Elweiler (1998) stated that faculty expressed an interest in continuing the service after the pilot. Modifications were not suggested for the service itself but for who would pay. Rather than having the library fully subsidize the service, the library, vice-president for research, and departments that wanted to participate would each contribute one-third of the cost. Unmediated document delivery is going into a third year at UNLV. At this time, the cost to link holdings and block orders on UnCover is still many times more expensive than paying for duplicate orders.

Considerations in Using Unmediated Document Delivery

As a result of experience in using unmediated document delivery, it was hoped to develop some criteria that would help determine when the service could be employed most effectively. Uncertainty about offering the service could be tempered by having specific criteria to aid in decision-making. Collections of any size benefit from expanded access to materials much as with interlibrary loan. Paying per article is less expensive than subscribing to costly titles or to titles with few users. Some questions to consider before offering unmediated document delivery include:

- How will the ordering of duplicate articles be handled?
- Is it cost effective to block orders on holdings?
- How will use be monitored?
- Who will monitor use?
- Does the service provide materials that meet the needs of the users?
- Can orders be made directly from search results?
- Are documents delivered directly to user desktops or offices?

- How will users be instructed in using the service?
- How will realistic expectations of turnaround time and quality be imparted to the user?
- Is the cost to train users, monitor use, and block orders from holdings less than interlibrary loan?
- Are heavy interlibrary loan users being targeted to use the service if the intent is to reduce interlibrary staff or workload?

Conclusion

Unmediated document delivery has the potential to affect library collections, services, and staffing. Collections are expanded by facilitating access to nonsubscribed journals. However, frequent ordering of articles contained in the on-site collection is counter to this purpose. Measures may have to be taken to prevent spending on duplicates. This leads to paying to link holdings and blocking duplicate orders or to having library staff check holdings before orders are placed. The cost of paying to link holdings has to be weighed against subscription costs, the amount of money lost through duplication, and the cost of processing by library staff. Having library staff check orders defeats the purpose of eliminating the “middleman” to expedite ordering and delivery. Unmediated document delivery added a new service for library users. Users appreciated the service often preferring it to interlibrary loan. Since for the most part the users were not regular interlibrary loan customers, they did not decrease the workload or costs associated with interlibrary loan. Unmediated document delivery users did not effec-

tively replace library staff labor. Unmediated document delivery offers libraries another service option but tradeoffs may mean that staff time or money saved in one area is costing time or money in another. Awareness and consideration of the tradeoffs can be applied to determine whether or not unmediated document delivery serves the needs both of users and the library.

Works Cited

- Arkin, Elizabeth. 1998. User initiated interlibrary loan. *Interlending and Document Supply* 26 (3): 119–22.
- Crowley, Gwyneth H. 1999. Unmediated document delivery: A project using FirstSearch and EBSCOdoc. *Interlending and Document Supply* 27 (3): 122–27.
- Kleiner, Jane P., and Charles A. Hamaker. 1997. Libraries 2000: Transforming libraries using document delivery, needs assessment, and networked resources. *College and Research Libraries* 58 (July): 355–74.
- Kochan, Carol A., and John A. Elswailer. 1998. Testing the feasibility of unmediated document delivery services with EBSCOdoc: The Utah State University experience. *Journal of Interlibrary Loan, Document Delivery and Information* 9 (1): 67–77.
- Sellers, Minna, and Joan Beam. 1995. Subsidizing unmediated document delivery: Current models and a case study. *Journal of Academic Librarianship* 21: 459–66.
- Thornton, Joyce K., and Kathy M. Jackson. 1997. Using ProQuest Direct for do-it-yourself document delivery: A case study. *Online* 57 (March/Apr.): 57–63.
- Walters, Sheila A. 1996. End-user document delivery service: To mediate or not to mediate. *Colorado Libraries* 22 (fall): 11–13.

Monitoring Book Reshelving in Libraries Using Statistical Sampling and Control Charts

Jeffrey M. Edwardy and Jeffrey S. Pontius

Maintaining library books in their proper locations is resource intensive. Typically shelf reading, where library personnel inspect every book on the shelves, is used to identify and relocate improperly shelved books. We propose a statistical approach to determine when shelf reading of books is necessary. We use sampling to obtain data on misshelved books over time. A control chart is used to assess when shelf reading is necessary. These statistical tools will provide library managers with cost-effective approaches to monitoring and implementing reshelving activities.

Libraries are keystone knowledge repositories for our communities, universities, and global society. To maximize the availability of library resources to patrons, the resources they contain must be organized in a logical system and maintained according to that system. Library managers attempt to use personnel in a way that provides the highest possible standard of resource maintenance at the lowest possible cost. One component of this effort involves the management of those books not shelved in proper sequence relative to other books. As indicated by Flexner, “the ultimate usefulness of any library depends on the ability of the staff and the public to find books on the shelves with ease and assurance” (1927, 233). Thus a low number of misshelved books is advantageous for a high standard of resource maintenance and provides “ease and assurance” for patrons. We consider the term “books” to include all usual books, bound and unbound periodicals, government documents, abstracts, indexes, and similar items that are accessible to patrons.

A common method of monitoring and reshelving misshelved books is called shelf reading (Lowenberg 1989). Employees look at books in specified sections of the library and determine whether the books are in correct call number order. If a book is not in sequence, the employee is supposed to reshelve the book in proper sequence. This procedure is costly in terms of employees’ working times, especially if there are few books to reshelve. Several methods have been proposed to assess misshelving rates (Cooper and Wolthausen 1977, SPRouTs). However these methods are not easy to implement and they do not focus on misshelving. Hence, an efficient method to ascertain misshelving rates would be useful to library managers in order to implement shelf-reading programs only when necessary.

We propose using a statistical sampling strategy to estimate the magnitude of misshelving within the library collection. Then based on these estimates, we

Jeffrey M. Edwardy (JEwardy@carlson.com) is a Marketing Analyst, Carlson Marketing Group, Measurement and Analysis, Plymouth, Minn.

Jeffrey S. Pontius (pontius@stat.ksu.edu) is Associate Professor, Department of Statistics, Kansas State University, Manhattan, Kans.

Acknowledgement: We thank the referees for their useful comments. In particular, one referee’s comments encouraged us to clarify several parts of the manuscript.

Manuscript received October 3, 2000; accepted for publication November 14, 2000.

propose using control charts to indicate when shelf reading is necessary. Performance measures that can be used to determine shelving accuracy have been proposed (Kendrick 1991) but performance measures alone do not contain the historical information and decision criteria contained in a control chart. The practical motivation for this study was to provide library managers with efficient, accurate, and easy-to-use methods for maintaining books in proper call number sequence within a collection.

The goals of our study were:

- to construct a practical sampling strategy to obtain estimates of the accuracy rates of (non)misshelved books; and
- to provide a statistical assessment tool (control chart) to indicate when shelf reading should be implemented.

Statistical sampling will enable library managers to use personnel more efficiently (especially as compared to randomly implementing shelf reading). Control charts will enable library managers to set objective criteria for shelving accuracy, to monitor shelving accuracy rates over time, and to use these criteria to implement shelf reading only when necessary. In conjunction with the statistical methods, the procedures used in the implementation of the sampling and control charts need to be easily understood by the library managers if they are to be of value. As a result, decisions on sampling strategy protocols and control chart construction were made in cooperation with Kansas State University's Hale Library stacks managers and staff. Although some of the criteria developed herein are specific to Hale Library, the general ideas are applicable to other libraries. The essential result of using the sampling and control chart approach for library managers will be efficient use of the resources that are involved in properly maintaining shelved books.

Sampling Strategy

Strategies for sampling books in a library have been proposed using the individual book as the sampling unit. To estimate the percentage of lost books in a collection (not specifically misshelved books), Miller and Sorum (1977) used a two-stage sampling design for collecting data on which to compute a confidence interval. Miller and Sorum noted that misshelved books would inflate the estimate of lost books. DiCarlo (1988) used sequential sampling to determine if an inventory of a collection was necessary to retrospectively update the library's catalog system. A sampling method based on selecting individual cards (books) in a card file was originally proposed by Fussler (see Fussler and Simon 1969), and further refined by Bookstein (1983).

Bookstein noted that estimation in Fussler's method should use unequal probabilities of selection, where the probabilities are based on the thicknesses of the cards.

These computations are not easy without the aid of an appropriate computer program. The books in the sample would then be located and classified as misshelved if not located in proper sequence. But locating individual books is time consuming.

Sampling Strategies and Protocols

We decided to use a shelf of books as the sample unit rather than an individual book. A shelf is a natural, easily identifiable and locatable physical unit. Also one does not have to account for borrowed, circulating, or lost books when selecting a sample of nonempty shelves, as one does with selecting a sample of individual books. At Hale Library, diagrams of shelves that contain books are maintained and updated frequently, so a list of shelves of books is readily available to use as a sampling frame.

To recommend a sampling strategy, we needed some preliminary information on misshelving rates. Because different collections have different frequencies of use and some collections require a very low number of misshelved books (e.g., reference collections), we selected four collections on which to evaluate three candidate sampling strategies. Treating different collections as separate populations allows sampling specifications (e.g., sample size, frequency of inspection) to be tailored to the different collections' characteristics (e.g., frequency of use). The collections (populations) chosen for this study and the misshelving priorities assigned to them by the Hale Library managers were science reference (requires a very low misshelving rate), juvenile literature (a low misshelving rate is not critical), mathematics (high frequency of use), and anthropology (low frequency of use).

We selected three sampling strategies based on their implementation and estimation characteristics (see Thompson 1992, Tryfos 1996, Lohr 1999). We selected simple random sampling without replacement (*SRSWOR*) of shelves with estimation of the mean number of misshelved books per shelf as our first strategy. This strategy is the simplest and is typically used as the basic strategy with which to compare other strategies. The second strategy was *SRSWOR* with an estimator of the ratio of the number of misshelved books on a shelf to the number of books on that same shelf. If the number of misshelved books increases as the number of books per shelf increases, the ratio estimator would potentially provide estimates with smaller standard errors than using only the mean number of misshelved books per shelf.

Our third strategy was adaptive cluster sampling (Thompson 1992). In using this strategy, an *SRSWOR* of

shelves is selected. If the number of misshelved books on a sampled shelf is two or more, the shelves immediately above and below the sampled shelf are inspected. This process continues on adjacent shelves above or below the shelf last inspected until the above and below shelves contain fewer than two misshelved books. We selected adaptive cluster sampling for two reasons. First, we assumed that once misshelving has begun, subsequent reshelving episodes will likely result in an increasing number of misshelved books that could spill over onto adjacent shelves. Second, we assumed that if a patron cannot find a book because it has been misshelved, he or she is likely to inspect neighboring shelves in an attempt to locate the book.

Our goal was to select the sampling strategy that produced the smallest standard errors across the four collections while keeping the number of shelves to be inspected under the adaptive cluster strategy to a reasonable number. Having one sampling strategy would be easiest for implementation by library personnel. However, different strategies could be used for different collections. To compare the sampling strategies, we took a census of each of the four collections. This entailed inspecting every shelf (that contained at least one book) in each collection and recording both the number of books per shelf and the number of misshelved books per shelf. We defined a misshelved book to be one whose call number was greater than the call number of the adjacent book on its right or less than the call number of the adjacent book on its left. Our definition included identifiers such as volume numbers in a series of bound volumes of a periodical.

Evaluation of Sampling Strategies

After the census of each collection, we evaluated the sampling strategies based on the data. Thompson (1992) suggests that for adaptive cluster sampling to be more efficient (with smaller standard errors) than *SRSWOR* with the sample mean, the clusters of shelves with two or more misshelved books should be relatively rare. We did not observe this, so we did not consider adaptive cluster sampling further.

For the ratio estimator to be efficient, it is advantageous to have an approximately linear relationship between the number of misshelved books per shelf and the number of books per shelf. We did not observe a linear relationship in any of the populations (the data appeared as a random scatter in each plot). These observations indicate that the numbers of misshelved books do not necessarily increase as the numbers of shelved books increase. In fact, we did not observe any trends in the ratios of the numbers of misshelved books to the numbers of books per shelf. Apparently misshelving books is not related to the density of books on a shelf, at least for the collections we studied. Perhaps mis-

shelving is a result of inexperienced personnel, inattention or fatigue by personnel, or the complexity of some book indexes. Based on these conclusions and on our observations that the relative efficiencies (standard errors of the ratio estimates to the standard errors of the respective sample means) were close to one (see table 1), we recommended *SRSWOR* with the sample mean as the preferred sampling strategy.

Control Chart

A control chart is a plot of the values of a statistic (e.g., sample mean) over time (Aczel 1995, Brase and Brase 1998). It is used to track the progress of a process over time. We use a control chart to monitor the estimated accuracy ratings of (non)misshelved books relative to an accuracy rating target value; that is, to monitor the proportion of properly shelved books relative to a target accuracy rating set by the library manager (see figure 1). If the accuracy rating estimates fall below a specified minimum acceptable accuracy rating (lower control limit), the library manager can implement shelf reading to bring the reshelving process back into control. Hence, the control chart, based on sampling for misshelved books, provides the library manager with a quantitative method to assess the status of shelved books without the intensive work of shelf reading.

Control Chart to Monitor Reshelving

We constructed a control chart to monitor the accuracy of properly shelved books using an accuracy rating computed from misshelving data collected by *SRSWOR*. The accuracy rating (\hat{AR}) estimator is

$$(\hat{AR}) = 1 - \frac{\bar{y}}{\mu_x}$$

where \bar{y} is the mean number of misshelved books from the *SRSWOR* of n shelves and μ_x is the known mean number of books per shelf in the collection (the total number of books in the collection divided by the total number of nonempty shelves housing the collection). An \hat{AR} near one indicates that there are relatively few misshelved books in the collection. The data necessary to compute μ_x may appear to be difficult to obtain but should be computable when book

Table 1. Relative Efficiencies from Censuses

Anthropology	Juvenile	Mathematics	Science
1.21	1.09	1.14	1.07

indexes are stored in computer databases. Note that a close approximation to μ_x will still yield reasonable \hat{AR} estimates, for example, when some books are circulating. The standard error of \hat{AR} is

$$SE(\hat{AR}) = \frac{s}{\sqrt{n\mu_x}}$$

where s is the standard deviation of the number of misshelved books from the *SRSWOR* of n shelves. The lower \hat{AR} control limit, below which misshelving is unacceptable (see figure 1), can be set by the library manager or computed using two or three standard errors of the \hat{AR} from the \hat{AR} target value. A library manager would probably prefer to set the lower control limit based on management criteria. The \hat{AR} target value and the lower \hat{AR} control limit can be set at the discretion of the library manager as long as the reshelving process is capable of meeting the \hat{AR} target value. Note that an upper control limit is not included because one can never have \hat{AR} estimates greater than one, that is, greater than 100% accurately shelved books.

Accuracy Ratings from Censused Collections

From accuracy ratings computed on the four collections we studied (table 2), the Hale Library managers suggested setting the \hat{AR} target values at 0.97 (97% accuracy) and setting the lower \hat{AR} control limits (LRL) at 0.935 for all collections. These values appear to be reasonable criteria, except possibly for Juvenile Literature. However, Juvenile Literature is a low-priority collection, as its misshelving rate is not as important as the rates of most of the other collections. This is because management efforts are primarily directed at maintaining research-oriented collections.

Example of the Monitoring Approach

We illustrate our monitoring approach using the anthropology collection at Hale Library (figure 1). The anthropology collection was sampled ten times at three-day intervals (an actual monitoring schedule would use longer interval times). Twenty shelves ($n=20$) constituting about 14% of the shelves in the anthropology collection were selected for inspection using *SRSWOR*. The randomly selected shelves were inspected for misshelved books, using the same misshelving criteria utilized in each of the censuses of the four collec-

tions. From each of the ten sets of twenty observed shelves, an \hat{AR} estimate was computed and plotted on the control chart above the appropriate inspection day (figure 1).

No \hat{AR} estimates fell below the lower \hat{AR} control limit, so the process remained in control. In fact, the \hat{AR} estimates remained close to 0.97 as would be expected for a shelving process that is in control and for one that was sampled over a small time interval in a collection that has low usage. The patterns of the \hat{AR} estimates illustrate their inherent variability over the different samples.

The samples of shelf identifiers and the \hat{AR} control chart (figure 1) were generated using a Microsoft Excel 95 spreadsheet program. This program selects a sample of shelves from a list of shelves containing a collection of books. Once the shelves have been inspected, the number of misshelved books (for each shelf inspected) are entered into the spreadsheet. Then the program computes \hat{AR} based on the current inspected sample and generates the \hat{AR} control chart based on all samples. Detailed instructions on constructing and using the program are in Edwardy (1998). The first author should be contacted regarding the program. The main purpose of the spreadsheet program is to “automate” some of the statistical aspects of the sampling and control chart processes.

Recommendations

We encourage library managers to consider statistical sampling to collect information on the accuracy of reshelving

Table 2. \hat{AR} and LRL from Censuses

	Anthropology	Juvenile	Mathematics	Science
AR	.97	.93	.97	.98
LRL	.93	.86	.92	.96

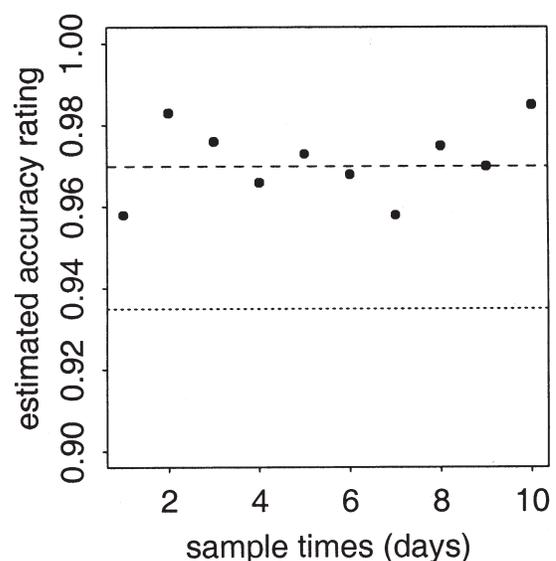


Figure 1. Control Chart of Anthropology Collection

books. Sampling is more resource-efficient than shelf reading, which is essentially a census, and can provide reliable information given a reasonable sample size. We also encourage library managers to use control charts to decide on acceptable shelving accuracy ratings for their collections and to monitor accuracy ratings over time. Tracking accuracy ratings will provide managers with a “time perspective” on the status of their collections and will provide a signal on when to implement shelf reading based on current and objective information.

An advantage of our sampling and control-chart approach is flexibility. Library managers can tailor our general approach to their specific situations. For example, in a small library, the entire inventory could be considered as one population. Alternatively, stratified random sampling could be used, with one stratum being a collection. Then one control chart could be used for the entire library. A two-stage sampling strategy could be used, with cases containing shelves as primary sampling units, and individual shelves within a case as secondary sampling units.

A “collection” may be defined in ways other than subject matter. A collection could be the books overseen by a particular employee, or the collection could be the books in one physical section of the building that houses the library. The definition of a book used here is also somewhat arbitrary and could be defined differently. For example, in bound periodical series on a shelf, the volumes are less likely to be misshelved (or are easier to find than many other books, if on the shelf), and so these could be excluded from the definition of book.

From our evaluations of the four collections in Hale Library, and using several sample sizes (n) proportional to the collections’ population sizes, we suggest that a minimum of 10% of the shelves in a population of shelves be included in a sample. We arrived at this recommendation by considering both the rates of decrease of the standard errors over the four censused collections for various sample sizes and the amount of time that Hale Library employees could devote to inspections for misshelved books. Sample sizes may need to be larger than 10% or different for different collections depending on the collections’ characteristics and the goals of the library managers.

As in shelf reading, the library manager must take care not to specify too large of a sample size to avoid “shelf reading burnout.” Reading burnout would introduce measurement errors and likely inflate the variability of the \hat{AR}

estimates. The reader can consult Schabo and Breuer Baculis (1989) for some suggestions on avoiding shelf reading burnout.

Personnel performing the sampling inspection should not reshelv misshelved books. Reshelving would increase the amount of time required to complete the inspections, interrupt the focus on inspecting shelves, and subsequently alter the \hat{AR} control chart trend from its natural course. Reshelving should commence after at least one \hat{AR} estimate has fallen below the control chart’s lower \hat{AR} limit (e.g., here, 0.935, figure 1).

Works Cited

- Aczel, Amir. 1995. *Statistics: Concepts and applications*. Chicago: Irwin.
- Brase, Charles, and Corrinne Brase. 1998. *Understandable statistics: Concepts and methods*. Lexington, Mass.: Heath.
- Bookstein, A. 1983. Sampling from card files. *Library Quarterly* 53 (3): 307–312.
- Cooper, Michael D., and John Wolthausen. 1977. Misplacement on library shelves: A mathematical model. *Library Quarterly* 47 (1): 43–57.
- DiCarlo, Michael. 1988. Sequential analysis as a sampling test for inventory need. *Journal of Academic Librarianship* 13 (6): 345–348.
- Edwardy, Jeffrey M. 1998. Improving the accuracy of reshelving in libraries through the use of sampling and control charts. M.S. thesis, Kansas State University.
- Flexner, J. M. 1927. *Circulation work in public libraries*. Chicago: ALA.
- Fussler, Herman, and Julian Simon. 1969. Patterns in the use of books in large research libraries. Chicago: Univ. of Chicago Pr.
- Kendrick, Curtis L. 1991. Performance measures of shelving accuracy. *Journal of Academic Librarianship* 17 (1): 16–18.
- Lohr, Sharon L. 1999. *Sampling: Design and analysis*. Pacific Grove, Calif.: Duxbury.
- Lowenberg, Susan. 1989. A comprehensive shelf reading program. *Journal of Academic Librarianship* 15 (1): 24–27.
- Miller, Bruce, and Marilyn Sorum. 1977. A two stage sampling procedure for estimating the proportion of lost books in a library. *Journal of Academic Librarianship* 3 (2): 74–80.
- Schabo, Pat, and Diana Breuer Baculis. 1989. Speed and accuracy of shelving. *Library Journal* 114 (16): 67–68.
- SPRouTS (Virginia Polytechnic Institute and State University). Available: <http://shelving.lib.vt.edu>. Accessed Feb. 23, 2001.
- Thompson, Steven. 1992. *Sampling*. New York: Wiley.
- Tryfos, Peter. 1996. *Sampling methods for applied research*. New York: Wiley.

Preservation Workshop Evaluation

Christine Wiseman and Sharla Darby

Preservation education programs are increasingly focused on the impact of training on improving and implementing preservation practices in cultural institutions. In spring 1996, the Southeastern Library Network's (SOLINET) Preservation Services launched a Workshop Follow-Up program designed to measure the effects of training, provide ongoing support, and develop a long-term ongoing mechanism for evaluating workshop effectiveness. After collecting more than three years of qualitative and quantitative data, the study found that 94% of the follow-up program participants performed some type of action to improve the care of their institution's collections in the months following the workshop. In addition, the program created an atmosphere that encouraged participants to use workshop information to effect change in their institution and to contact SOLINET for further assistance. In fact, information and referral queries received by Preservation Services increased during this period due to questions generated from the follow-up contacts. Participants continually express appreciation about being contacted after the workshop, which serves as a reminder of the importance of preservation activities.

Continuing education in library and archives preservation is essential. It strengthens staff's knowledge base, improves on and teaches new skills, and provides up-to-date information about new developments in the profession. The high demand for preservation training is apparent from the many listings for single and multiday workshops, intensive institutes, coordinated workshop series, conferences, seminars, and distance education courses advertised in the preservation literature. With the proliferation of new technologies and the additional demands for scarce resources, the need for training is unlikely to diminish. Continuing education for preservation professionals is offered by a wide variety of organizations including regional conservation centers, bibliographic networks, library and information science schools, and state, local, and regional associations.

Training is costly both from the perspective of the provider and the learner. Attending a workshop often requires travel, time off from work, and a registration fee. The effectiveness of preservation training in conveying new skills and improving preservation practices at the institutional level has not been thoroughly examined in the preservation literature. It is equally important for training providers to ascertain the value of their training, as it is for consumers of training to justify the time and expense required.

Preservation education programs are recently being required by funding sources to determine their impact on improving and implementing institutional preservation practices. There is no existing model for measuring the effectiveness of continuing education in the library preservation field. The need for more systematic evaluation programs, however, is recognized in the field of adult education (Garavaglia 1993; Smith and Delahaye 1983). Although there is a great deal of information on evaluation, including program models, in-depth evaluation programs are rarely implemented due to time and financial constraints (Brookfield 1976; Campbell and Cheek 1989). Furthermore, many of the exist-

Christine Wiseman (christine_wiseman@solinet.net) is Preservation Education Officer at the Southeastern Library Network (SOLINET) in Atlanta.

Sharla Darby (sharla_richards@hotmail.com) is Senior Librarian at Tucson-Pima Public Library in Arizona, and was Preservation Field Service Officer at SOLINET from 1995 to 1998 during the research and implementation of this project.

Manuscript received March 22, 2000; accepted for publication August 28, 2000.

ing models are derived from secondary school settings and are not necessarily applicable to adult learning environments or specifically to preservation continuing education (Brookfield 1976).

A 1991 survey in England rated the value of short courses for the continuing professional development of librarians. Respondents gave low ratings for immediate application of skills taught at the workshop (Okey et al. 1992). Respondents were not successful in applying what they learned during the months following the workshop. They set work objectives, but there was no continued support provided to aid in meeting those objectives.

Project Background

In spring 1996, the Preservation Services program at SOLINET launched a Workshop Follow-Up program (funded in part by a grant from the National Endowment for the Humanities) designed to measure the effects of training at the institutional level. The three goals of the Workshop Follow-Up are:

- to provide ongoing support and information to workshop participants as they try to modify institutional behavior to effect change;
- to provide Field Services staff with a long-term, ongoing mechanism for evaluating workshop effectiveness and to make modifications as necessary; and
- to promote and strengthen the network of competent preservation practitioners in the Southeast.

SOLINET Preservation Services regards the provision of ongoing assistance to individual workshop participants as a crucial component of preservation education. It facilitates the integration of preservation practices into ongoing routines in order to promote institutional change.

As suggested above, the adult learning literature recognizes the importance and also the challenges of providing follow-up after training. Well-organized training programs include appropriate content that is professionally presented. However, post-training follow-up activities, while necessary, are seldom undertaken (Campbell and Cheek 1989). The primary challenge is to provide training that results in increased job performance. A central goal of SOLINET's follow-up program is to devise a means for gauging the impact of training programs at the institutional level. Requiring learners to establish specific objectives is emphasized in the adult education literature as effective criteria for evaluation (Brookfield 1976). Another key element is to involve the support of the learner's supervisor. Without this support, it is very difficult to transfer newly acquired skills to the workplace (Campbell and Cheek

1989). Supervisory input is necessary to ensure that participants choose realistic, attainable objectives. For these reasons, SOLINET's Workshop Follow-Up program requires participants to set objectives (related to the workshop content) for the months following the session. They are also asked to involve their supervisors when choosing appropriate objectives.

Building a network of preservation contacts in the Southeast is another goal of Preservation Services training and outreach program. The follow-up program aids in building this network. Participants are urged to contact Preservation Services with questions and comments. Taking interest in participants' progress and serving as a reminder of the importance of preservation issues are added benefits to follow-up. "Follow-up is a reminder that counters the 'attend and forget' syndrome. In addition, it can generate a 'Hawthorne effect'—the phenomenon whereby a desired behavior increases simply because an individual knows that somebody cares and is paying attention" (Campbell and Cheek 1989, 23).

Methodology

Prior to initiating the follow-up program, Preservation Services staff had numerous discussions about data collection and reporting. During the design phase, staff established that the primary purpose of the follow-up is to provide ongoing support to workshop participants. The collection of quantitative data is secondary. Limiting the data collection to the quantitative would limit measurement of the transfer of training, which is the capacity of a training program to transfer new skills and knowledge to the learner. The degree to which a workshop and subsequent follow-up achieves transfer of training is evident through the rate of goal achievement and through anecdotal comments gathered during telephone conversations. Given the complexity and variety of SOLINET workshops and the diversity of the level of preservation programming at participating institutions, both qualitative and quantitative data were necessary to obtain a complete picture and measure the transfer of training in a meaningful way.

Examples of the value of the qualitative data collected are illustrated by anecdotal comments from a Fundamentals of Book Repair Workshop Follow-Up. The following changes occurred as a direct result of workshop attendance: budget increases for supplies, improvements in book repair techniques, provision of additional space for book repair operations, increased awareness among upper level staff about the importance of book repair, and increased support for further training. This data, gathered during e-mail and telephone communications, represents significant progress in a variety of institutions. Data collection and reporting

techniques continue to be modified throughout the course of the follow-up.

The Pilot Project

Designing a pilot project required Preservation Services staff to search the relevant literature for similar programs. At that time no sufficient models were identified for measuring transfer of training in library continuing education, or specifically in preservation training. Input was gathered from colleagues about both informal and formal follow-up activities for similar training programs, as well as from the adult education literature.

Since the research phase of the pilot project was conducted, a project began in Africa to examine the effects of conservation education in museums seven years after the training was held (Antomarchi 1999). Results are not yet available.

The primary challenge to follow-up evaluation of training is to determine methods for measuring and defining indicators of change, then to connect that change in some way to the training program provided, i.e. transfer of training. Methods for evaluating transfer of training commonly include interviewing supervisors, conducting surveys and questionnaires, developing action plans based on goal setting and achievement, interviewing trainees, and direct observation (Garavaglia 1993; Smith and Delahaye 1983). Considering the size of the SOLINET region and the membership (as of January 2000, membership numbered 803 libraries in 10 states and the Caribbean), direct observation is not practical. Consequently, the program was designed to utilize a combination of the following elements: questionnaires, interviews with participants, and tracking goal setting and achievement. Based on the information gathered, Preservation Services staff designed a framework for the follow-up program that could be modified on an ongoing basis as needed.

A pilot project was conducted from May 1996 to April 1997. It included six workshops led by SOLINET Preservation Services staff. Forms and procedures were pre-tested and a tracking database developed. Preservation Services staff initiated all follow-up communication. To aid in tracking communications, compiling data, and generating form letters and reports, all information collected was entered into a Paradox database.

All follow-up program participants were contacted four times over a period of one year following their registration for a workshop. Contacts were made by telephone, e-mail, and U.S. mail. The initial contact was the Pre-Workshop Form (appendix A), which was mailed to workshop registrants several weeks prior to workshop attendance. In addition to answering standard institutional profile questions about collection size and staffing levels, registrants established objectives to work on following workshop attendance.

To ensure that realistic objectives were chosen and to strengthen administrative support, registrants were encouraged to discuss their objectives with their supervisors.

Participation in the follow-up program was, and continues to be, voluntary. Only those workshop attendees who turned in a completed pre-workshop form at the workshop were considered to be "participating" in the program. Two subsequent follow-up calls were conducted at three and six months after the workshop to provide an opportunity for participants to request further information and to discuss obstacles and successes with Preservation Services staff. A summary of the conversation was entered into the database. For certain workshops, participants had the option to send examples of their work, such as repaired books, for feedback from Preservation Service staff. One year following the workshop, each participant was mailed the Final Evaluation Form (appendix B) to complete and return to SOLINET.

Preliminary findings during the pilot project were positive, with a 62.7% rate of goal achievement. The rate of goal achievement and comments gathered from telephone calls with participants indicated that the program had proven effective in improving preservation practices at the workshop participants' home institutions. Several participants noted that institutional changes or new practices were implemented as a direct result of workshop attendance. For these reasons, Preservation Services staff decided to implement a few revisions in the follow-up program and expand it to encompass all preservation workshops advertised on SOLINET's Web site and in the "Quarterly Workshop Schedule" (a print publication mailed to member libraries).

Program Revisions

Building on the framework and experience of the pilot, modifications were made to streamline the process so that the follow-up is useful but not burdensome to either SOLINET staff or the participants. Major changes implemented following the pilot project include form revision, reducing the time span for final follow-up from one year to three months, and reducing the total number of contacts.

The program time span was reduced since experience revealed that a significant number of staff change jobs or leave an institution within a one-year period. Also, institutional demands and priorities fluctuate, causing participation rates to drop off after six months. In addition, it is common for one staff member to take multiple preservation workshops in the period of a year, and it proved burdensome to be involved in follow-up for several workshops at once. To avoid these problems and to streamline the process, three months was determined as a sufficient period of time to measure progress on objectives, and for Preservation Services staff to establish an ongoing, supportive relationship with workshop participants. After the three-month period, participants are

1. Prior to attending workshop:

Pre-workshop evaluation form and cover letter are sent to workshop participants. Participants are expected to complete the form with their supervisors and to bring it to the workshop.

2. Three weeks following workshop:

Field Services staff call participants to see if they need any additional information or assistance to help in achieving their objectives. Calls are scheduled via e-mail if possible.

3. Three months following workshop:

Participants are mailed the "Final Evaluation Form," to complete and return to SOLINET.

Figure 1. Summary of Contacts

encouraged to continue contacting Preservation Services for additional assistance. A summary of follow-up contacts, after revisions, is presented in figure 1.

Results

The most recent results, compiled in June 1999, provide more than three years' worth of data. Between May 1996 and June 1999, 21 workshops were included in the follow-up program with a total of 335 participants. Participation in the program, indicated by submitting the pre-workshop form at the workshop, was 60% (204) of total workshop attendees. Completion of the follow-up program requires at least one contact with Preservation Services staff subsequent to the training session and completion of the final evaluation form. Of the 204 participants, 31% (68) completed the program.

The 31% rate does not adequately reflect the impact of the program. It is evident upon closer examination that 25% of participants merely neglected to return the final evaluation form. A participant may have had contact with SOLINET staff during a follow-up call, met the objective, and requested additional information subsequent to a workshop, yet was excluded from the final statistics because the final form was not returned. Looking at participation rates, whether or not the final form was submitted, revealed that 84% of the 204 total participants benefited from follow-up at some point in the program. Submitting an incomplete pre-workshop form or failing to submit a final evaluation form were the primary reasons for exclusion from the program. See table 1 for a complete breakdown of reasons for exclusion.

Demographic Data

The pre-workshop form consists of eight demographic questions that serve to gauge the size and nature of the participants' institutions and the level of preservation activity. The

final question asks the participant to set objectives related to the workshop topic that are reasonably attainable within the three-month period following the workshop. Sample objectives include: update library binding contract, purchase better book repair supplies, develop resource list for disaster plan, update disaster plan, and hold fire safety training for staff.

The majority of the 204 participants who submitted the initial pre-workshop form were from non-ARL (Association of Research Libraries) university libraries (21%), public libraries (20%), and college libraries (18%) (table 2). In other words, smaller institutions (non-ARL university, college, and public libraries) that are less likely to have a well-developed preservation program are the largest groups taking advantage of the follow-up program.

The preservation activities question (Pre-Workshop Form Q-4) was included to provide an overview of the most

Table 1. Reasons for Not Participating in the Program

Reason	%
Incomplete pre-workshop form	33.9
No final evaluation form	25.5
Multiple attendees from same institution	12.7
No response to both contacts	10.5
Left position	5.0
Graduate LIS student	4.0

Table 2. Pre-workshop Form, Q-1, Institutional Breakdown

Institution Type	No.	%
University (non-ARL) library	43	21
Public library	42	20
College library	38	18
Special library	20	9
Other	19	9
Archives	17	8
ARL library	13	6
State library	12	5

Table 3. Pre-Workshop Form, Q-4 Involvement in Preservation Activities

Activity	No.	%
Book repair	165	80
Library binding	141	66
User/staff education and training	112	54
Disaster planning	105	51
Preservation photocopying	104	50
Environmental monitoring	97	47
Pamphlet binding	91	44
Conservation Treatment	84	41
Microfilming	68	33
Digitization	54	26

common activities in which institutions are involved. This information aids in modifying existing curriculums and leads to the development of other needed training topics. The responses are listed in table 3. Of the 204 respondents, 80% perform some type of book repair. The fact that a large percentage of libraries perform some type of book repair reinforces the need for proper training. The next three most common preservation activities reported are library binding (66%), staff and user education (54%), and disaster planning (51%). Accordingly, Preservation Services' workshops on book repair, library binding, and disaster preparedness are some of the most often requested and among the most well attended.

Responses to Pre-Workshop Form Q-5 reveal that 78% of the institutions represented by follow-up participants do not have a department solely responsible for preservation activities. This is quite common in small and mid-sized libraries where preservation activities are often decentralized and occur in different departments. Only 13% reported having a full-time staff person responsible for preservation activities. For the heaviest users of the follow-up, small to mid-sized, it is much more common to have no one directly responsible for preservation (44%) or someone with part-time preservation responsibilities (40%) (Pre-Workshop Form, Q-6).

Final Evaluation Form Results

The final evaluation form provides an opportunity for participants to record changes in the level of preservation activity since the workshop and evaluate the usefulness of the program. Responses to the final evaluation form were positive: 26% saw an increase in the level of support for preservation since the workshop; 17% noticed an increase in their institution's annual budget allocated for preservation; and 79% of respondents achieved their workshop objective. Primary reasons for not meeting objectives were not surprising. Lack of time (50%), lack of staff (38%), and lack of funding (25%) were the most common responses (table 4). An unexpected obstacle mentioned during phone contacts was the frequency of building renovations and collection moves taking priority, thus interfering in completion of objectives.

Of those who completed the final evaluation form, 85% agreed that the continued support offered by SOLINET Preservation Services assisted in meeting their objectives. Figures 2 through 4 show selected comments from the form's three open-ended questions.

Conclusions and Trends

Information gathered from the follow-up helps in evaluating workshop effectiveness and has resulted in workshop con-

tent revisions and identification of additional topics of interest. Qualitative data collected from the open-ended questions and from comments during the phone calls were some of the most valuable information gathered. An interesting trend identified during the follow-up contacts was the large number of building projects, renovations, and collection moves occurring in participants' institutions. Nearly 18% of those unable to meet their objective pointed to building projects as the reason. These large-scale projects take priority and hinder the completion of workshop objectives. Renovation or building projects can have a tremendous impact on the care of collections since materials can be damaged during a move and emergencies are more likely to occur. Consequently, SOLINET Preservation Services has targeted this topic for development of training and print informational resources.

During the follow-up, participants also discussed progress on their objectives and informed SOLINET staff about the status of preservation activities in general, which was extremely useful in the development of regional preservation contacts. For example, Preservation Services has expanded its roster of contacts in the event of a regional disaster, and identified new contacts for future workshop host

Table 4. Final Evaluation Form, Q-6 Obstacles Encountered in Meeting Objectives

Obstacle	No.	%
Lack of time	34	50
Lack of staffing	26	38
Lack of funding	17	25
Lack of admin. support	4	5
Other	4	5
Lack of training	4	5
Resistance to change	3	4
Lack of information	1	1
None	10	14

Did following up with you after the workshop aid in implementing preservation practices?

- [The Follow-Up program] answered some questions I had when we actually started doing repairs.
- [The Follow-Up program] served as a good reminder of stated goals.
- [The Follow-Up program] prompted action toward a written policy.
- If I had problems or questions they were able to help.
- Continual reminders of the need for preservation help us to stay motivated and reminded [me] of the importance and necessity for good preservation practices.
- I very much appreciated receiving more literature on particular areas of concern. [The Follow-Up program] has helped refine my plans in several ways.

Figure 2. Final Evaluation Form, Q-9, Sample Responses

What aspects of the follow-up program were the most useful?

- If I had forgotten procedures or had questions about repairs I had performed, I was able to telephone [SOLINET] and get clarification and more information.
- Continued contact with workshop instructors helps to keep lines of communication open in case there are questions.
- The contact, support, and the ability to verify techniques. I doubt I would have taken the trouble to set and meet objectives.
- The continued support from [SOLINET] Field Service Officers. I know that I can call on them at anytime...[for an] accurate and thoughtful response.
- [The Follow-Up program] allowed me to do a self-evaluation of our program, and we have been able to use suggestions. I felt someone was interested in what we were able to accomplish.
- Materials sent to me as result of question I raised.
- A timely reminder to get busy.
- Because of the continuous support contact with the workshop instructor, accomplishing this goal stayed on my list of things to do.
- Being able to ask instructors questions that have arisen since the workshop.
- Having a resource person I can contact when I have questions, this I really appreciate.

Figure 3. Final Evaluation Form, Q-10, Sample Responses**What was least useful about SOLINET contacting you after the workshop?**

- Specific skills follow-up is not relevant to my job as preservation administrator.
- Nothing, all aspects were useful.
- Follow-up really not necessary to complete objectives.
- The evaluations, they are helpful to SOLINET but not to me.
- I felt I had wasted the contact person's time. I had not implemented any of the information that I had gained from the workshop.
- You weren't able to give us a lot of help because we were very behind in implementing our goals!

Figure 4. Final Evaluation Form, Q-11, Sample Responses

sites. Future training can be targeted to meet needs identified through follow-up contacts.

Many participants posed questions during follow-up conversations. Preservation Services staff answered about 60 additional questions generated from the follow-up that otherwise may have gone unanswered. Some questions were related to the workshop topic specifically; others were about associated preservation issues. Phone contact was found to be an effective way to keep in touch with workshop participants and to become familiar with the preservation activities at a wide range of institutions.

One of the key questions this project hoped to answer was whether SOLINET's preservation training was having an impact on the preservation of cultural resources in the Southeast. Were participants leaving SOLINET workshops with the tools and knowledge needed to improve the care of their collections? According to comments collected during the calls and data about objectives, 94% of follow-up program participants performed some action to improve the care of their institution's collections in the months following the workshop. Even small improvements measured cumulatively represent significant advances in the care of collections in the Southeast. Having participants identify objectives before the workshop helps instructors focus attention on individual

needs and helps participants relate the information provided in a workshop to a specific problem or need at their library.

The follow-up provides important information about the progress of preservation activity in participating libraries. However, it is difficult to solely attribute this progress to the SOLINET training. Determining whether a training program resulted in new on-the-job practices on the part of the participants is one of the most difficult and time-consuming aspects of evaluation to measure. It requires a scientific approach and an objective means of measuring before and after job performance (Kirkpatrick 1979). The follow-up project was designed foremost to provide continued support to as many workshop attendees as practically possible; the collection of scientific data was a secondary objective. Perhaps a more in-depth study of a smaller population of participants would yield more quantitative results connecting the training to a change in behavior. In addition, certain topics were found to be more appropriate for measured evaluation than others. Workshops that teach specific skills, such as Fundamentals of Book Repair, tend to be more appropriate for follow-up than conceptual workshops such as Preservation Management. It is easier to choose attainable goals and measure change through training that teaches a specific skill.

Participation in follow-up activities requires a level of commitment on the part of the participant. Time is required to complete the forms, which includes devising appropriate objectives and answering multiple choice and open-ended questions. Also, participants have to allocate time to achieve their objectives and to discuss matters with Preservation Services staff. However, the time investment is relatively small in terms of making progress toward implementing preservation practices. Participation in follow-up focuses the participants' attention on the benefits derived from the workshop that can be applied to job performance. Follow-up activities also require a great deal of SOLINET staff time. A staff member spends an average of two hours per participant to collect information, provide assistance, and track data.

Preservation Services recently implemented additional revisions to the program. Quantitative data and comments collected by the open-ended questions on the final evaluation form clearly demonstrate the value of continuing a basic level of follow-up for all open-schedule one- and two-day workshops. The major obstacle to program completion remains the low percentage of final forms returned. For this reason, and to reduce the burden on the participant, the final evaluation form has been discontinued. Preservation Services staff continue to conduct telephone interviews of follow-up participants that follow a standard format for data entry purposes. The original goals of strengthening the network of preservation practitioners in the Southeast and providing continued support to workshop participants will continue to be supported by the revised follow-up program. Since this change was implemented in September 1999, participants continue to express appreciation about being contacted after the workshop. The contact serves as a reminder of the importance of preservation activities, and there has not been a decrease in the rate of goal achievement.

The Workshop Follow-Up is now an integral component of Preservation Services training and outreach program. Conducting follow-up creates an atmosphere that encourages participants to use workshop information to effect change in their institution, and to contact SOLINET for further assistance. In addition, the program provides preservation information and support to a wide range of institutions, including small and mid-sized libraries that are less likely to have a well-developed preservation program. The program fulfills the three original goals: to provide ongoing support and information to workshop participants; to create an ongoing mechanism for evaluating workshop effectiveness; and to promote and strengthen the network of preservation practitioners in Southeast.

Works Cited

- Antomarchi, Catherine, and Terry Little. 1999. 2007: Exploring the impact of the Prema training program on the conservation of cultural heritage. In *Defining and measuring effectiveness in education and training*. Proceedings of the interim meeting of the ICOM-CC working group on training and education in conservation and restoration, April 16–18, 1998. Edited by Kathleen Dardes. Vantaa, Finland: Evtek Institute of Art and Design.
- Brinkerhoff, Robert O. 1987. *Achieving results from training*. San Francisco: Jossey-Bass.
- Brookfield, Stephen D. 1976. *Understanding and facilitating adult learning*. San Francisco: Jossey-Bass.
- Campbell, Clifton P., and Gerald D. Cheek. 1989. Putting training to work. *Journal of European Industrial Training* 13: 32–36.
- Conway, Paul. 1989. Archival preservation: Definitions for improving education and training. *Restaurator* 10: 47–60.
- Garavaglia, Paul L. 1993. How to ensure transfer of training. *Training and Development Journal* (Oct.): 62–68.
- Kirkpatrick, Donald L. 1979. Techniques for evaluating training programs. *Training and Development Journal* (June): 78–92.
- Library Association, Sub-Committee on Training. 1986. The evaluation of staff training. In *Guidelines for training in libraries*. London: Library Association.
- Okey, Andrew, Frances Wood, and Anne Lawes. 1992. Surveying the effectiveness of short course-provision in the professional development of library information specialists. *Journal of Education for Library and Information Science* 33 (summer): 249–53.
- Smith, Barry J., and B. L. Delahaye. 1983. Designing follow-up activities. In *How to be an effective trainer: Skills for managers and new trainers*. New York: Wiley.
- Walters, Tyler O. 1995. Breaking new ground in fostering preservation: The Society of American Archivists' preservation management training program. *Library Resources & Technical Services* 39: 417–26.

Appendix A. SOLINET Preservation Services

Follow-Up—Pre-Workshop Form

Title of Workshop: Preservation of Photographic Materials Date: May 28, 1999
 Name _____
 Job Title _____
 Institution _____ OCLC Code _____
 Address _____
 Phone Number _____ Fax _____
 E-mail Address _____

Please complete the following questionnaire with your supervisor and bring it to the SOLINET workshop listed above. Circle appropriate responses.

Q-1. Please classify your institution into one of these categories:

- | | | |
|---------------------------------|--------------------|-------------------|
| 1. ARL Library | 4. College Library | 7. Public Library |
| 2. University Library (Non-ARL) | 5. Archives | 8. Other |
| 3. State Library | 6. Special Library | |

Q-2. Approximately, what is the size of your institution's collection in bound volumes?

- | | | |
|---------------------|------------------------|---------------|
| 1. Less than 25,000 | 3. 150,001–1,000,000 | 5. None |
| 2. 25,001–150,000 | 4. More than 1,000,000 | 6. Don't Know |

Q-3. What is the size of your manuscript/archival collection?

- | | | |
|-------------------------------|-------------------------------|----------------------------|
| 1. Less than 1,000 Linear Ft. | 3. More than 5,000 Linear Ft. | 5. No Archival Collections |
| 2. 1,001–5,000 Linear Ft. | 4. Don't Know | |

Q-4. Here is a list of common preservation activities. Which, if any, of these is your institution likely to engage in during a typical year? (Circle all that apply)

- | | |
|---------------------------|--------------------------------------|
| 1. Conservation Treatment | 6. Preservation Photocopying |
| 2. Book Repair | 7. Digitization |
| 3. Library Binding | 8. Pamphlet Binding |
| 4. Microfilming | 9. User/Staff Education and Training |
| 5. Disaster Planning | 10. Environmental Monitoring |

Q-5. Does your institution have a department solely responsible for preservation activities?

- | | |
|--------|-------|
| 1. Yes | 2. No |
|--------|-------|

Q-6. Does your institution have a staff member who is responsible for managing preservation activities? (as defined in Q-4)

1. Yes, the staff member has full-time responsibilities for preservation
2. Yes, the staff member has part-time responsibilities for preservation
3. No

Q-7. In your opinion, what level of support does preservation receive from your institution's administration?

- | | | |
|---------|------------|--------|
| 1. High | 2. Average | 3. Low |
|---------|------------|--------|

Q-8. Approximately what percentage of your institution's annual budget is allocated for preservation activities? (as defined in Q-4)

- | | | |
|------------------------------|----------|------------------|
| 1. No Funds Allocated | 3. 1%–5% | 5. More than 10% |
| 2. 1% or Less (but not zero) | 4. 5–10% | |

Q-9. Please indicate below, an objective that you plan to work on during the next three months. Please consult with your supervisor in selecting an appropriate objective; examples are provided.

Objective (attainable within 3 months)

Examples: Conduct a collection survey, identify problematic materials, improve storage environment, improve collection housing, develop handling policy, incorporate photographic materials into disaster plan.

It's Academic

Shelf-Ready Standing Orders at the University of Florida's Smathers Library

Michele Crump and Steven Carrico

The University of Florida Smathers Library receives many of its domestic serial standing orders from the Academic Book Center of Portland, Oregon. In February 1998, the two organizations agreed to begin an outsourcing project in which the Academic Book Center would supply the library with a large percentage of these standing orders with complete physical processing. After three years of receiving shelf-ready standing orders and monitoring a low error-rate and overall improvement in workflow efficiency, library administration declared the outsourcing project a success.

In fall 1995, the University of Florida Smathers Library underwent a full-scale restoration without moving staff and materials out of the building. This environmental situation forced library staff to deal with the many inconveniences associated with a multimillion-dollar building renovation. The largest department in the building is the Resource Services department, which was created by merging the former Acquisitions and Cataloging Departments. Since large amounts of materials are routinely routed through the Resource Services department, the renovation project adversely affected established workflow. The approval review shelves were situated on the third floor of the Smathers Library and the building's elevator was out of operation for several months, which resulted in a major inconvenience for the Resource Services department staff handling domestic-approval monographs. To keep the incoming material on the ground floor and restrict the handling of that material, Resource Services and Collection Management agreed to receive domestic-approval monographs shelf-ready for the duration of the renovation project.

In addition to accepting domestic approvals shelf-ready, Smathers Library implemented an outsourcing project with Yankee Book Peddler (YBP) to receive all domestic monograph firm orders with both catalog records and shelf-ready processing. Although the decision to temporarily outsource physical processing for both the domestic-approval monographs and firm orders was made more or less out of necessity, the unforeseen benefits that surfaced with the implementation of the shelf-ready operation became obvious to the library. Outsourcing the physical processing for domestic-approval monographs and firm orders increased the speed and efficiency of entering domestic monographs into the collections, and it saved valuable staff time that could be used for other cataloging activities. Pleased with this success after only a few months of the project, library administration elected to retain the physical processing service from YBP on a permanent basis for the firm-order monographs.

The shelf-ready processing contract with YBP included applying call number labels, 3M tattle-tape, property and location stamps, and barcodes. In addition, as

Michele Crump (mcrump@mail.uflib.ufl.edu) is Associate Librarian and **Steven Carrico** (stecarr@mail.uflib.ufl.edu) is Assistant Librarian in the Resource Services Department at the University of Florida Smathers Library in Gainesville.

Manuscript received September 15, 2000; accepted for publication November 10, 2000.

part of the contract, when Library of Congress catalog records were available through LC MARC tapes, YBP supplied MARC records for file transfer into NOTIS. For these processing services, YBP charged the Smathers Library \$2.08 per monograph piece to reimburse YBP for the costs encumbered in supplying the physical processing and catalog records. Each piece in a multivolume set cost \$2.08 to process regardless of the fact that a set would require only one catalog record. Library administration considered this cost reasonable even though a 1995 study by the library's preservation department (at the time the department responsible for processing) showed that physical processing cost the library only \$1.58 per monograph. Paying YBP an additional \$.50 per item was deemed cost efficient when viewed in the "big picture" of library processing workflow. With processing time cut by more than 50%, domestic monographs were now on the shelf and ready for patron use within one week of receipt. In the study's conclusion, the researchers stated that "the overall decrease in physical processing is significant enough for staff in the processing area to contribute more time to preservation, scanning and digitizing projects" (Crump 1996).

The increased cost was not a deterrent because the Resource Services department valued the savings in staff time more after weighing price against benefits to the library and its patrons. For that reason, the library seized the opportunity to redirect workloads and offer staff opportunities that would enhance job skills; the advantages to staff and patrons and the reduction of workloads was well worth the extra \$.50 cost per processed item. Concurrently, the library performed a cost analysis comparing OCLC PromptCat program and LC MARC tape loading procedures, and decided that it would be more cost effective to import LC MARC tape monograph records supplied from the vendor rather than to receive cataloging records through the OCLC PromptCat program. The YBP project set the stage for instituting similar outsourcing projects in the library and the cost assessment established a price benchmark for evaluating the value of comparable projects.

Throughout the development of the YBP shelf-ready programs, library staff reviewed the acquisitions and cataloging systems in place and made organizational and business changes to promote further efficiency in the workflow. During this evaluation and adjustment of workflow time, Resource Services staff noted similarities in the monograph firm order workflow and that of the serials standing order workflow. If this workflow model was successful for monographs receipt, could it be applied to serials standing orders operations with the same success and benefits to staff, the library, and its patrons? Late in the fiscal year of 1996, Smathers Library decided to pursue this question and began discussing the idea with Academic Book Center (ABC), now a Blackwell Company, of starting a shelf-ready project for the domestic standing orders supplied by the vendor.

Several meetings and e-mail discussions took place, and the operations at each business were examined to identify the potential benefits a shelf-ready project could provide to both ABC and the Smathers Library.

Literature Search

In the process of this project, a number of studies and reports from librarians and vendors on standing orders and outsourcing of both cataloging and physical processing tasks were consulted. Buell and Bueter, in a report from a workshop given at the 1993 NASIG Conference, define standing orders as "non-periodical serials" and cite examples: "annuals, yearbooks, almanacs, multi-volume sets, non-monographic serials with volume numbers, numbered and unnumbered monographic series with individual titles, supplements, and conference proceedings" (Buell and Bueter 1994, 203). They discuss the difficulties inherent in handling standing orders, list the pros and cons of consolidating standing orders with a vendor, and review the vendor's responsibilities in providing standing orders to a library.

Hogan observed that the majority of standing orders correspond to one of five categories—annuals, analyzed serials, sets, analyzed sets, and series—but admitted that some standing orders do not fall under any of these categories; he referred to these as "Exotic Fauna." He noted that standing orders are difficult to manage and track because "the handling of standing orders combines both book and serial processing routines, sometimes simultaneously" (Hogan 1994, 96–97).

Winters and Hirshon (1996), using their experiences from developing requests for purchases (RFPs) and vendor contracts in two academic libraries, analyzed the steps a library should take during the outsourcing process. Their guide, "Outsourcing Library Technical Services: A How-To-Do-It Manual for Librarians," covers how to determine whether a library should outsource its technical services, the development of requests for purchases (RFPs), and the outsourcing of books, serials, and cataloging. It also offers methods to evaluate outsourcing and the effect outsourcing has on library staff.

In a similar spirit of offering aid in developing an outsourcing plan, Joy and Lugg (1998) presented "The Books are Shelf-Ready; Are You?" They addressed both the library and vendor viewpoints on establishing a shelf-ready plan and outsourcing the physical processing functions of library materials. Joy, a collection manager at the University of Vermont, and Lugg, a vice president at YBP, collaborated to establish a shelf-ready service for approval books at the University of Vermont. The authors presented the library and vendor perspectives on developing and using shelf-ready service by putting together a series of commonly

asked questions on the issue of outsourcing cataloging and physical processing. These questions open a valuable dialogue for libraries planning to institute shelf-ready vendor services, and urge libraries to examine their current workflow and carefully review the potential benefits and possible obstacles they will face during the process of starting and fine-tuning a shelf-ready program. The authors particularly stress the need for good communications between the library and the vendor and between the various departments within the library. Finally, they offer a checklist of "sage advice" libraries can use as they consider and begin outsourcing.

Bénaud and Bordeianu (1998) submitted a thorough and comprehensive review of outsourcing in *Outsourcing Library Operations in Academic Libraries: An Overview of Issues and Outcomes*. They review the reasons for the popularity of outsourcing in libraries and examine the debate surrounding the operation. The authors also study outsourcing in collection development, acquisitions, serials, cataloging, and preservation. Throughout the work Bénaud and Bordeianu focus their attention on academic libraries and even include survey results compiled from the responses of 109 Association of Research Libraries (ARL) and 110 medium-sized academic libraries.

Propas and Johnson (1998) described how Stanford University libraries instituted quality control programs for approval-plan books arriving with vendor-supplied cataloging. They also illustrated how the staff of the Serials and Acquisitions department assisted in developing the collection development profiles used by the vendor. The quality control programs they included offer helpful guidelines for monitoring both the cataloging records and the physical processing of the books.

Setting up the Profile

As the literature on the subject reveals, working through an implementation plan for extended service such as shelf-ready processing builds the partnership between library and vendor. The meetings and discussions offer an opportunity for understanding the workflow of each operation and provide venues for negotiating services the library desires and the products the vendor can supply. Serials staff of the Resource Services department decided that only annual publications and series classed together/analyzed would receive physical processing, as the call numbers remain constant for these categories of serials. The serials staff performs all serials ordering, receiving, binding, and cataloging activities for almost all the serial standing orders. Monographic series that are either classed together or classed separately/analyzed receive copy cataloging by the serials staff when catalog records are available. If original cataloging, subject analysis,

or call number assignment is needed, the material is distributed to the cataloging sections.

ABC has been the Smathers Library's primary domestic standing order vendor since 1993, supplying 18% of the total number of standing orders the library receives (figure 1). After preliminary discussions, ABC agreed to work through the project with the library although it would have to manually produce each customized call number label. At the time, ABC's computer system did not have the capability to store all the call number variations that various library customers could assign to the same serial title. The profile set up was labor intensive for both organizations (figure 2). ABC provided a report of the library's account, listing all the titles Smathers Library received from them on standing order. The acquisitions and cataloging record for each title was found in the library's integrated system, NOTIS, to determine the cataloging treatment. When the title was identified as a serial annual or a classed together/analyzed series, the title list was annotated with the call number and indicated the correct line format for the established classification number and the volume enumeration. Titles with classed separately/analyzed treatment were eliminated from the project at this time because of call number variation that is not easily predictable for handling in that workflow. As noted earlier, the Resource Services department had established specifications for the physical processing with YBP.

Serials budget:	
\$3,359,457	53% of total materials budget
Standing orders budget (domestic and foreign):	
\$350,400	10% of total serials budget
Standing orders with Academic Book Center:	
\$61,384	18% of total standing order budget

Figure 1. Serials and Standing Orders Budgets, 1999–2000

-
1. The vendor will supply and affix one 3M tattle-tape to each piece.
 2. The vendor will attach a barcode label to the back cover of each piece.
 3. The vendor will apply a property stamp on either the top book edge or bottom of title page.
 4. The vendor will apply library location stamps to each piece.
 5. The vendor will apply call numbers and proper enumeration to each piece.
 6. The library will supply the vendor barcodes and stamps; the library will also provide the vendor with the call numbers and sample enumeration sequences to use.
 7. The vendor will charge \$2.00 per piece for processing.
-

Figure 2. Profile and Set-up Agreement

Following the YBP model, the physical processing received from ABC includes affixing the barcodes, inserting the tat-tle-tape, stamping the property and location, and attaching the call number spine label. As part of the agreement, the library supplies ABC with library property and location stamps and barcode labels.

At the beginning of the project, Smathers Library was receiving 671 domestic standing order serial titles from ABC. Of these standing orders, 593 fell under the categories of annuals, directories, handbooks, proceedings, almanacs, yearbooks, or classed together/analyzed serials. Since the call numbers and holdings locations remain constant for these standing orders, electing to outsource the physical processing for these serials was an easy choice. The remaining 78 standing orders did not receive physical processing at ABC, as series that are classed separately/analyzed and processing can not occur until the items receive subject classification analysis. As a result of this outsourcing project with ABC, more than 88% of the domestic serials standing orders received by the Smathers Library arrive shelf-ready.

ABC receives standing order titles from publishers throughout the week. Each title receives physical processing according to the specifications based on whether it is an annual or a classed together/analyzed series. ABC performs physical processing on the determined serials, then boxes, invoices, and ships the serials to Smathers Library according to their shipping schedule. At the request of Smathers Library, ABC issues separate invoices for the standing order items and physical processing because the library maintains unique fund accounts for each service to ensure accurate audit trails for the State of Florida.

Monitoring the Standing Orders and Physical Processing Costs

In February 1998, the library received its first shipment of processed serials from ABC. To monitor the quality of physical processing, one serials staff member is assigned to receive and review the ABC shipments. That staff member opens the boxes and compares the contents of each box against the enclosed invoice. The processed material, identifiable because of the call number affixed on the spine, is separated from the serials received without processing. Once the material in a shipment has had this initial inspection, a serials staff member distributes the material received without physical processing to staff for receipt and payment in NOTIS and for cataloging when appropriate. The processed material is inspected to ensure that the call number labels, barcodes, and location and property stamps are placed

correctly on the book. Serials received with physical processing are received and paid for in NOTIS and then copy cataloged when appropriate. Statistics are kept on the number of titles received with processing and reported on a monthly basis for cost analysis.

Problems Encountered and Reducing the Error Rate

Twice serials staff conducted three-month-long quality control studies. The first study was undertaken on June 1, 1998, four months after the shelf-ready project had begun. The second study was launched on December 1, 1999, almost two years from the beginning of the project. Examining the statistics kept during the two studies shows a steady decline in the percentage of errors found by the serials staff handling the standing order materials supplied by ABC (table 1).

The majority of problems encountered by the serials staff were for the most part small and easily corrected. The early errors detected were either in the call number enumeration—for example, omitting the volume number or year of publication—in the holdings locations, or with serial title changes. At the end of the first study, the serials staff calculated ABC's error rate at approximately 13.5% for all processed standing orders. Errors were listed with title, NOTIS record number, and a short description of the problem; after several errors had been detected and batched together, serials staff e-mailed ABC personnel in charge of handling the standing orders. Based on back-and-forth e-mail communications throughout this time, ABC staff became more familiar with Smathers Library's call-number format and the location stamps, so not surprisingly the error rate steadily declined. By the end of the second study, almost a year and a half after the first study, the error rate had dropped to a little more than 8.5%.

The staff at Smathers Library and ABC experienced a learning process on both ends: the library serials staff had to effectively communicate the particular processing needs for each standing order and to monitor the incoming materials for mislabeled items; for the staff at ABC, the challenge was to organize and manage physical processing for hundreds of standing orders. The staff at ABC certainly met this challenge and is now contracting with at least four other academic libraries for shelf-ready standing order services.

Table 1 Vendor Performance Studies

Period Monitored	No. Vols. Rec'd	No. Errors	% Errors	Type of Errors		
				Call No.	T/C	Loc.
June 1–Aug. 31, 1998	119	16	.1345	11	3	2
Dec. 1, 1999–Feb. 29, 2000	140	12	.0857	6	4	2

Serial title changes are an ongoing obstacle when receiving shelf-ready continuations, as they often involve complications and always require communication between ABC standing order department and serials staff. Serial title changes can be messy, convoluted, and create receipt problems. For example, a serial title change can require a call number change, which necessitates that both ABC and serials staff be aware of the change and alter their records accordingly. Serial titles can combine, split into two distinct titles, or cease publication altogether; in each of these cases, library and vendor staff must act to upgrade their records. Indeed, even a simple title change requires prompt and accurate communication between ABC and Smathers Library. When NOTIS records are updated with new title information, the new title and its NOTIS record number must be reported to ABC so that the same information appears in both systems correctly. Fortunately, serial title changes do not seem to occur frequently with standing orders so this has not become a big problem for either organization.

Adding Monographic Classed Separately Series and MARCIVE Records

After a year of receiving series titles with physical processing from ABC, the library decided to follow the YBP approval and firm order shelf-ready example and extend the ABC project to include the receipt of catalog records for classed separately/analyzed serial standing orders. The specifications were broadened to implement a workflow similar to that of the YBP approval program. ABC searches and orders monographic catalog records for the classed separately/analyzed titles through the MARCIVE service (only monograph records, no serials, are to be selected or sent from MARCIVE). If a record cannot be found, ABC supplies the title unprocessed. If the appropriate catalog record is found, ABC applies the call number as it appears in the catalog record and completes the processing. ABC then orders the catalog record from MARCIVE, and MARCIVE creates a file of the selected records, which is downloaded into Smathers Library's NOTIS system.

Serials staff pick up the FTP file from MARCIVE once they are notified via e-mail that the file is ready. They run the file through MARCon, a file converter program created by Smathers Library's Systems Office, which converts MARC records by adding indexing fields that will load into NOTIS. The MARCon program batches records in a load file and, at the same time, identifies problem records and moves them into a separate file. Upper-level staff trained in resolving loading-type questions analyze the problem file, resolve the errors, and either rerun the titles through the program or complete the record load by manually adding the titles to NOTIS.

In order to load the MARCon output file into NOTIS, serials staff use FULoad, a software program developed by Gary Strawn at Northwestern University for Smathers Library. FULoad downloads the MARCIVE records to NOTIS and writes a problem titles file that can be reviewed and handled separately similar to the error file MARCon creates. At this point, staff scan and remove duplicate records. Currently, 35 standing order titles have been received in the Resource Services department in this fashion since June 1999. It is expected that the number will increase over time as we add other categories of standing-order material.

The library is now considering adding classed together/analyzed monographic series to the MARCIVE record receiving process. Because the call number for this category of material is fixed, the physical processing workflow would remain unchanged. Library staff would receive the monographic records for titles ABC located in MARCIVE, but ABC staff would know not to apply the MARCIVE record call number to any titles identified as classed together/analyzed; rather, the class number Smathers Library supplied the vendor would be applied to the book. At present, the library receives only 14 classed together/analyzed monographic series on standing order from ABC, and within those 14 series approximately 25 items are received per year. Although the number of items and their corresponding catalog records is few when compared to everyday workflow, any reduction in processing time that results in making materials available to patrons sooner is viewed as a plus. Staff also benefit from this time saving as they apply their talents to other library projects and develop new skills in the process.

Conclusion

Since the beginning of the contract with ABC, Smathers Library has received more than 1,120 serials with physical processing. During the fiscal year 1997-98, in five months the library received 293 standing orders with physical processing at a total cost of \$586. In 1998-99, the library received 601 shelf-ready serials at a total cost of \$1,202; in fiscal year 1999-2000, the library received 650 shelf-ready serials at a cost of \$1,300. Overall, in the two and one-half

Table 2. Volumes Received/Processing Costs of the ABC Shelf-Ready Project

Fiscal Year	Volumes Received	Processing Costs
1997-98	293	\$ 586
1998-99	601	1,202
1999-2000	650	1,300
Total	1,544	\$3,088

years of the project, 1,544 items have been received, processed, and more efficiently added to the library's holdings as a result of the contract with ABC (table 2). To ensure the effectiveness of the project, serials staff will continue to monitor the account by annually taking inventory of the titles and updating the library and ABC's records to reflect current order status and accurate processing instructions.

When the library administration first thought about adopting the shelf-ready workflow for domestic standing orders, the benefits of getting the materials on the library's shelves in record time was already being realized with the YBP project. This was the first priority we wanted to achieve in the outsourcing project, but the library administration also recognized that another benefit of the project might be that it would open development opportunities for staff. To a significant degree, both goals have been achieved. The standing-order materials are getting through the system and on the shelves faster, which pleases the patrons; meanwhile, receiving materials shelf-ready has dramatically cut staff time devoted to physical processing, allowing staff to redirect their expertise and concentrate on assignments important to the library's future.

In the article "Approval Plans and Approval Vendor Selection in an Outsourcing Environment," Schatz and Baldwin (1998) said this about the outsourcing process in general and approval plans specifically: "Today's era of selling in an outsourcing environment is what I'd like to call the era of collaborative selling. In the library world of today, the approval plan decision likely involves associated decisions about cataloging, book processing, and OPAC enhancement. The approval plan not only represents a means of obtaining important new works but is also viewed as a means of improving internal staffing and workflows." Successful outsourcing in this "era of collaboration" requires clear communication between vendor and library, particularly if a shelf-ready program is large and ongoing. It builds a part-

nership environment in which development of outsourcing services becomes a mutual endeavor. Both organizations gain advantages as they re-examine their internal operations and establish innovative programs and workflows that other libraries can use. Like the project described in this article, the process of improving workflow and efficiency should remain a constant practice. The library should examine continually the way it acquires and processes materials, always keeping in mind that the key motive for instituting changes is to make information in all its forms more readily accessible to library patrons.

Works Cited

- Bénaud, Claire-Lise, and Sever Bordeianu. 1998. *Outsourcing library operations in academic libraries: An overview of issues and outcomes*. Englewood, Colo.: Libraries Unlimited.
- Buell, Vivian, and Rita VanAssche Bueter. 1994. Standing orders: The serialist's stepchild. *The Serials Librarian* 24 (3-4): 203.
- Crump, Michele. 1996. Shelf ready summary report. *University of Florida, George A. Smathers Libraries, Resource Services Department*. Accessed Nov. 10, 2000, <http://web.uflib.ufl.edu/rs/rsd/shelfrpt.html>.
- Hirshon, Arnold, and Barbara Winters. 1996. *Outsourcing library technical services: A how-to-do-it manual for librarians*. New York: Neal-Schuman.
- Hogan, Walter P. 1994. Standing order matrices; or, only a mother could love a non-periodical continuation. In *Management and organization of the acquisitions department*, ed. Twyla Racz and Rosina Tammany. New York: Haworth.
- Joy, Albert, and Rick Lugg. 1998. The books are shelf-ready; are you? *Library Acquisitions: Practice & Theory* 22 (1): 71-89.
- Propas, Sharon W., and Sue-Ellen Johnson. 1998. Outsourcing, quality control, and the acquisitions professional. *Library Acquisitions: Practice & Theory* 22 (3): 279-85.
- Schatz, Bob, and James A. Baldwin. 1998. Approval plans and approval vendor selection in an outsourcing environment. *Library Acquisitions: Practice & Theory* 22 (4): 423-29.

Book Reviews

Margaret Rohdy, Editor

Copyright Essentials for Librarians and Educators. Kenneth D.

Crews. Chicago: ALA, 2000. 143p.

\$45 (ISBN 0-8389-0797-0). LC

00-059421.

The complex and arcane law of copyright presents librarians and educators with a number of often vexing issues. In this work, Crews succinctly explains the major principles that librarians and educators must grasp in order to do their jobs properly. The author does not attempt the daunting task of answering all copyright questions, but he provides an excellent outline of important points and a good beginning for further study. As Crews states, "A central purpose of this work is to help readers grasp the meaning of copyright law in the context of a professional commitment to advancing and disseminating knowledge"(1). The focus of the work is on U.S. copyright law, but as indicated in the first chapter, the growth of the Web is making an understanding of international copyright laws more essential today for librarians, particularly those involved in any kind of digitization project. Many of the topics covered in this work are complex; Crews provides brief two- to four-page explanations for each topic or issue, along with a short list of references, often available on the Web, which will give the reader more detailed information.

The approach of this work is similar to that of *The Copyright Primer for Librarians and Educators* by Janis H. Bruwelheide, published by the American Library Association (ALA) in 1995, and *Libraries and Copyright Law* by Arlene Bielefield and Lawrence Cheeseman, published in 1993. *Libraries and Copyright* by Laura N. Gasaway and Sarah K. Wiant

is perhaps the most thorough work with an emphasis on library issues, but it now suffers from the disadvantage of having been published several years before the 1998 acts of Congress dealing with copyright term extension and with electronic publications, both of which are included in Crews's book. Readers who have a working knowledge of copyright basics or who have an interest in electronic publications after reading Crews may wish to consult Chapter 5, "Intellectual Property," of *Law of the Internet* by George B. Delta and Jeffrey H. Matsura.

Crews indicates that this book evolved from his Online Copyright Tutorial, which was developed in association with the Copyright Management Center at Indiana University—Purdue University Indianapolis and later supported by both ALA and the American Association of Law Librarians. This work both updates and expands the material presented in the tutorial. Crews has previously published *Copyright, Fair Use, and the Challenges for Universities*, which focused on educational fair use of copyrighted materials. Crews has a Ph.D. in library and information science and a law degree. His credentials and demonstrated research interests in copyright and intellectual property issues provide the perfect background for writing *Copyright Essentials*.

The most extensive section of the work covers the fair use doctrine, with a good discussion of what fair use actually is, how copying can be best done in an educational environment, the application of the fair use concept to material appearing on the Internet, and the various fair use guidelines developed by the courts and through statute law over the years. Under the

heading "Special Exceptions," Crews discusses intellectual property issues in distance education, displays and performances, and all manner of library copying. These two portions of this work cover the heart of what librarians need to know about copyright and how it applies to their daily work. Earlier sections of the work cover the basics of eligibility for copyright, copyright registration, duration of copyright, and the rights of the copyright holder. The book's appendixes include important resource documents from the U.S. Copyright Act, a summary of the Digital Millennium Copyright Act, a summary of the U.S. Copyright Office Report on Distance Education, copyright notices for supervised library copying, a useful checklist for determining fair use, a supplemental reading list, and a table of court cases dealing with copyright issues. The compilation of materials in the appendixes alone makes this a valuable reference source.

Librarians and educators are constantly copying or being asked to copy materials of all types either for teaching or research purposes. Generally, the profession has an awareness of the copyright issues that these actions imply and an awareness of the reasonable limits of the fair use concept. As more materials become available on the Web, librarians will need to know at least the basics of the copyright law itself. Crews's work does a good job of covering print materials, computer software, and the Web in terms of giving the readers the basics and a smattering of the more important issues along with important bibliographical references. Crews states that "a little knowledge can help manage the external influences of copyright and often

turn them to one's advantage." (1). But beware the implication concerning the dangers of a little knowledge. While this work will acquaint the readers with the basic issues that librarians and educators need to know about copyright, many of the issues that may seem fairly cut-and-dried from a quick reading of Crews's text can actually be considerably more complex. Readers will see just how much more if they simply follow Crews's links to various documents and cases.

This work is recommended for the novice or for librarians or educators who need to reacquaint themselves with the basics of copyright. Others will find it quite useful for its chapter bibliographies and for the reading list covering publications from the years 1998–2000.—*Vicki L. Gregory (gregory@luna.cas.usf.edu), School of Library and Information Science, University of South Florida, Tampa*

Works Cited

- Bielefield, Arlene, and Lawrence Cheeseman. 1993. *Libraries and copyright law*. New York: Neal-Schuman.
- Bruwelheide, Janis H. 1995. *The copyright primer for librarians and educators*. 2d ed. Chicago: ALA.
- Crews, Kenneth D. 1993. *Copyright, fair use, and the challenges for universities: Promoting the progress of higher education*. Chicago: Univ. of Chicago Pr.
- Delta, George B., and Jeffrey H. Matsura. 1997. *Law of the Internet*. Gaithersburg, Md.: Aspen Law & Business.
- Gasaway, Laura N., and Sarah K. Wiant. 1994. *Libraries and copyright: A guide to copyright law in the 1990s*. Washington, D.C.: Special Libraries Assn.

Handbook for Digital Projects: A Management Tool for Preservation and Access. Ed. Maxine K. Sitts. Andover, Mass.: Northeast Document Conserva-

tion Center, 2000. 179p. \$49.95 (ISBN 0-96334685-4-5).

This publication is a product of the popular School for Scanning conferences that have been held since 1996 at the Northeast Document Conservation Center (NEDCC). According to NEDCC executive director Ann Russell, the intent of the handbook is to provide librarians, archivists, preservationists, and administrators a manual that combines "a tutorial on technical issues with an overview of larger issues, including the need for preservation of digital products"(vii). The handbook is divided into ten chapters that cover practical aspects of digitization and important issues to consider in managing a digital project. The contributors to this book are preservation and digitization professionals; their contributions draw upon the presentations they gave as instructors at the NEDCC's scanning conferences.

Editor Maxine Sitts smoothly connects the larger issues facing digital projects managers with the more specific technical aspects of digital imagery. For example, in the chapter "Overview: Rationale for Digitization and Preservation," Paul Conway summarizes the pros and cons of using digital technologies for preservation. He also reminds project managers and administrators that digitizing resources implies an institutional responsibility to maintain long-term archival access. In the following chapter, "Considerations for Project Management," Steven Chapman clearly defines the budget, staffing, and workflow questions that every project manager confronts during the planning stage. Chapman also makes solid recommendations for setting digital project goals that take into account the intricacies of the collections, the scanning technology employed, and the ultimate benefits derived by the users.

While Conway and Chapman's early chapters are broad overviews of digital technologies and the decision making required of digital project

managers, two of the following chapters, Diane Vogt-O'Connor's "Selection of Materials for Scanning" and Steven Puglia's "Technical Primer" are more practical guides to the materials selection and technical processes involved in digitization projects. Vogt-O'Connor offers a three-stage method consisting of a series of questions for project managers to use as they select and categorize materials for digitization, as well as helpful sample forms that can be used to nominate, evaluate, and rank collections for digitization. Puglia presents a short, well-planned summary of terminology and basic information on the entire digitization process. The chapter is packed with information on digital imagery, as Puglia briefly explains resolution, pixel array, color systems, and image processing. Although this chapter is indeed informative, it is not intended to be a technical manual for digitizing materials and thus may seem inadequate to those looking for more specific information on digitization.

Melissa Smith Levine's "Overview of Copyright Issues" offers an informative summary of the complicated issues and problems arising from copyright laws, along with an excellent section consisting of references available on the Web. Perhaps the most useful section in the handbook is "Developing Best Practices: Guidelines from Case Studies," a composite chapter consisting of six case studies from professionals with extensive digital project experience. This six-part chapter covers the practical aspects of working with manuscripts, photographs, maps, and other materials; while it also offers details on optical character recognition (OCR), discussions of cost considerations, and the benefits of cooperative digital projects. This section's contributors offer both ideas that work, and those that do not work, so that managers and staff can improve their digital products.

The Handbook for Digital Projects: A Management Tool for

Preservation and Access complements another recently published resource, Anne Kenney and Oya Rieger's *Moving Theory into Practice: Digital Imaging for Libraries and Archives*. While there is some overlap—both monographs provide similar insights into the mechanisms and technical details of selecting, integrating, and developing digital collections—these two books offer unique and separate presentations. Digital imaging has become so vital and complex that it would benefit anyone digitizing collections in libraries, archives, museums, or other collection-holding organizations to consult both sources. Both books are related to an earlier publication written as a digital imaging manual and tutorial: Anne Kenney and Stephen Chapman's 1996 benchmark *Digital Imaging for Libraries and*

Archives. This Cornell University publication is a loose-leaf resource, an excellent introduction to digital imaging and terminology that can function as a basic hands-on manual for digitization.

The Handbook for Digital Projects: A Management Tool for Preservation and Access has several other attributes that make it a useful resource, including a detailed index and a list of pertinent sources for each chapter. The handbook is now available full-text with links at the NEDDC Web site (www.nedcc.org), where it will be updated regularly. It is not intended to be a detailed technical guide to digitization, which may be seen as its biggest drawback. However, despite offering only summarized information on the digitization process, the contributing authors pres-

ent valuable information, advice, and examples in a consistent and direct style that make *The Handbook for Digital Projects* a useful source for digital project managers working on any level.—Steven Carrico (stecarr@mail.uflib.ufl.edu), *University of Florida Library, Gainesville*

Works Cited

- Kenney, Anne R., and Stephen Chapman. 1996. *Digital imaging for libraries and archives*. Ithaca, N.Y.: Department of Preservation and Conservation, Cornell University Library.
- Kenney, Anne R., and Oya Y. Rieger. 2000. *Moving theory into practice: digital imaging for libraries and archives*. Mountain View, Calif.: Research Libraries Group.