Library Resources & Technical Services

Association for Library Collections and Technical Services Annual Report 2008–9
M. Dina Giambi

Training Successful Paraprofessional Copy Catalogers
Colleen Valente

Literature of Acquisitions in Review, 2004–7
Barbara S. Dunham and Trisha L. Davis

Author-Assigned Keywords versus Library of Congress Subject Headings
C. Rockelle Strader
Cataloguer’s Desktop
An integrated, online documentation system with the most important cataloging and metadata resources—available 24-7.

- Look up the AACR2 rule and quickly link to the rule’s LC Rule Interpretation (LCRI).
- Cataloging rules link to the right MARC 21 format instructions.
- Consult more than 250 cataloging and metadata resources.
- NEW—OCLC Bibliographic Formats and Standards now integrated into Cataloguer’s Desktop.
- Find the rule quickly with Cataloguer’s Desktop’s simple interface.

Free trial accounts & annual subscription prices:
Visit www.loc.gov/cds/desktop

For free trial, complete the order form at
www.loc.gov/cds/desktop/OrderForm.html

CLASSIFICATION WEB
Full-text display of all LC classification schedule & subject headings. Updated daily.

- Find LC/Dewey correlations—Match LC classification and subject headings to Dewey classification numbers as found in LC cataloging records. Use in conjunction with OCLC’s WebDewey service.
- Search and navigate across all LC classes or the complete LC subject headings.

Free trial accounts & annual subscription prices:
Visit www.loc.gov/cds/classweb

For free trial, complete the order form at
www.loc.gov/cds/classweb/application.html

Dewey and WebDewey are registered trademarks of OCLC, Inc.

Free 30-Day Trials for Both Products!
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, $85 per year in U.S., Canada, and Mexico, and $95 per year in other foreign countries. Single copies, $25. 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, Executive Director, Association for Library Collections & Technical Services, a division of the American Library Association. Send manuscripts to the Editorial Office: Peggy Johnson, Editor, Library Resources & Technical Services, University of Minnesota Libraries, 490 Wilson Library, 300 19th Ave. So., Minneapolis, MN 55455; (612) 624-2312; fax: (612) 626-9353; e-mail: m-john@umn.edu. Advertising: ALCTS, 50 E. Huron St., Chicago, IL 60611; 312-280-5038; fax: 312-280-5032. ALA Production Services: Troy D. Linker, Chris Keech, Tim Clifford, and Justine Wells. 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, Subscription Department, American Library Association, 50 E. Huron St., Chicago, IL 60611. 1-800-545-2433; fax: (312) 944-2641; subscription@ala.org.

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 the Library Resources & Technical Services webpage at www.ala.org/alcts/lrts. Copies of books for review should be addressed to Edward Swanson, Book Review Editor, Library Resources & Technical Services, 1055 Portland Ave., Saint Paul, MN 55104; e-mail: swans152@umn.edu.

©2009 American Library Association

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.


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.

Library Resources & Technical Services
October 2009
Volume 53, No. 4

Editorial 214

Association for Library Collections and Technical Services Annual Report 2008–9 216

M. Dina Giambi

ARTICLES

Training Successful Paraprofessional Copy Catalogers 219

Colleen Valente

Literature of Acquisitions in Review, 2004–7 231

Barbara S. Dunham and Trisha L. Davis

Author-Assigned Keywords versus Library of Congress Subject Headings 243

C. Rockelle Strader

NOTES ON OPERATIONS

Can Blogging Help Cataloging? 251

Using a Blog and Other Web 2.0 Tools to Enhance Cataloging Section Activities

Sherab Chen

Better, Faster, Stronger 261

Integrating Archives Processing and Technical Services

Gregory C. Colati, Katherine M. Crowe, and Elizabeth S. Meagher

Book Reviews 271

Index to Advertisers 272

Annual Index 273

Reprinted with permission from Modino dei Luzzi, Anatomia (Leipzig: Martin Landsberg, ca. 1493), held in the John Martin Rare Book Room, Hardin Library for the Health Sciences, University of Iowa.

Association for Library Collections & Technical Services
Visit LRTS online at www.ala.org/alcts/lrts.
For current news and reports on ALCTS activities, see the ALCTS Newsletter Online at www.ala.org/alcts/alcts_news.
Editorial

Peggy Johnson

I am delighted to announce that “Approaches to Selection, Access, and Collection Development in the Web World: A Case Study with Fugitive Literature,” by Karen Schmidt, Wendy Allen Shelburne, and David Steven Vess, received both the Best of LRTS Award and the Blackwell's Scholarship Award at the 2009 American Library Association Annual Conference in Chicago.1

This last issue in volume 53 marks a transition in the membership of the LRTS editorial board. I want to thank those members who are leaving the board after Annual Conference for their service:

- Yvonne C. Carignan (Historical Society of Washington, D.C., Library): Preservation and Reformatting Section representative
- Magda A. El-Sherbini (Ohio State University Libraries): Member at large
- Shirley J. Lincicum (Western Oregon University Hamersly Library): Member at large

Four new members will be joining the board:

- Elise Calvi: Preservation and Reformatting Section representative
- Leslie Czechowski (University of Pittsburg Health Sciences Library): Intern
- Birdie McLennan (University of Vermont Libraries): Member at large
- Elaine L. Westbrooks (University of Nebraska–Lincoln Libraries): Member at large

The following members will continue to serve on the board:

- Kristin A. Antelman (North Carolina State University Libraries): Cataloging and Classification Section representative
- Stephen J. Bosch (University of Arizona Library): Acquisitions Section representative
- Allyson Carlyle (University of Washington Information School): Serials Section representative
- Mary F. Casserly (State University of New York–Albany): Collection Management and Development Section representative
- Elisa F. Coghlan, University of Washington Libraries): Member at large
- Lew Brian Day (Harvard University Houghton Library): Member at large
- Dawn L. Hale (Johns Hopkins University Milton S. Eisenhower Library): Council of Regional Groups representative
- October R. Ivins (Ivins eContent Solutions): Member at large
- Edgar A. Jones (National University Library): Member at large
- Randy Roedr (University of Iowa Libraries): Member at large
- Carlen Ruschoff (University of Maryland Libraries): member at large
- Sarah Simpson (Tulsa City-County Library System): Virtual member
• Edward Swanson (University of Minnesota MINITEX)—Book Reviews editor
• Mary Beth Weber (Rutgers University Libraries)—Ex-Officio member

In addition, I wish to recognize those who are essential to producing the issues that arrive in your mailboxes every month: Tim Clifford, our production editor, and the rest of the staff at ALA Production Services, and Christine Taylor, our ALCTS staff liaison. Of course, we would not have a journal without contributing authors or book reviewers. If a paper or review engages you, send the author or authors a note. Their e-mail addresses are published with their papers. Letters to the editor are always welcome. I hope you will have an opportunity to thank your colleagues listed here for their important contributions to the continuing success of Library Resources and Technical Services.

Reference

ARCHIVAL.COM
INNOVATIVE SOLUTIONS FOR PRESERVATION

Call for a complete catalog
- Pamphlet Binders
- Music Binders
- Archival Folders
- Manuscript Folders
- Hinge Board Covers
- Academy Folders
- Newspaper/Map Folders
- Bound Four Flap Envelopes
- Archival Binders
- Polypropylene Sheet & Photo Protectors
- Archival Boards
- Adhesives
- Bookkeeper
- Century Boxes
- Conservation Cloths
- Non-Glare Polypropylene Book Covers
- Colibri Book Cover System

ARCHIVAL PRODUCTS
P.O. Box 1413
Des Moines, Iowa 50306-1413

Phone: 800.526.5640
Fax: 888.220.2397
E-mail: custserv@archival.com
Web: archival.com
Association for Library Collections and Technical Services
Annual Report 2008–9

By M. Dina Giambi, 2008–9 ALCTS President

This year was full of accomplishments, new initiatives, and the start of a thorough review of the Association for Library Collections and Technical Services (ALCTS) organizational structure. The effect of the current global economy has been far-reaching and has affected ALCTS members, their libraries and organizations, membership renewals, division participation, conference attendance, and the operation and financial management of the division.

Data Gathering

The survey of the ALCTS membership conducted in 2007–8, based on The 7 Measures of Success: What Remarkable Associations Do That Others Don’t, continued to provide valuable insight into member needs, concerns, perceptions, and expectations. Additional analysis, including the Preservation and Reformatting Section (PARS) study titled “Changing PARS Discussion/Interest Group Structure” and the Membership Committee review of ALCTS members in public libraries provided additional useful information. The “Membership Research Study,” conducted by the American Library Association (ALA) Office for Research and Statistics also revealed demographic and employment data.

Communication

Increasing and improving communication with and between the membership and implementing new modes of communication were accomplished. The ALCTS Newsletter Online and a rejuvenated ALCTS@aGlance featured conference and meeting previews as well as reports, news, and announcements of education opportunities. An assortment of discussion lists enabled members to examine topics ranging from digital preservation to the future of subject headings. The ALCTS E-forum, which debuted in May 2008, has attracted more than nine hundred subscribers for lively discussions on subjects including disaster preparedness, coping with shrinking resources, and national cataloging standards versus local policies. The ALA Connect introduction, in spring 2009, offers another communication tool that ALCTS members will find very useful for sharing documents and information.
2009 ALA Midwinter Meeting and Annual Conference

Forums during the 2009 ALA Midwinter Meeting in Denver attracted large audiences listening to experts discuss a variety of hot topics. Particularly noteworthy were “RDA [Resource Description and Access] Update Forum” and “Who’s at the Wheel? What We’ve Learned About Patron-Driven Collection Development.” “Creating and Sustaining Communities around Shared Library Data,” a forum that focused on OCLC’s proposed change to its record use policy, drew more than 150 attendees. The 2009 Annual Conference in Chicago featured an excellent schedule of events. “ALCTS 101 Primer: Who We Are, What We Do, and How You Fit” provided new members with an overview of the opportunities the division offers. Programs included “Leadership Development in Transition: Steering the Ship from the Helm and Deck,” “Swingin’ with the Pendulum: Facing Cancellations in the Age of E-Journal Packages,” and the ALCTS President’s program, “Who Owns Antiquity? Museums and the Battle over Our Ancient Heritage,” featuring James Cuno, president and Eloise W. Martin director, from the Art Institute of Chicago. The recipient of the 2009 Ross Atkinson Lifetime Achievement Award, Cindy Hepfer, was recognized at the awards ceremony for her exceptional service to ALCTS and to the library profession at-large, as a library leader, educator, author, scholar, and mentor.

Library Resources and Technical Services

The division’s highly respected peer-reviewed journal, Library Resources and Technical Services (LRTS), adds to its deserved reputation for quality articles under the leadership of Editor Peggy Johnson. The LRTS article “Approaches to Selection, Access, and Collection Development in the Web World: A Case Study with Fugitive Literature,” by Karen Schmidt, Wendy Allen Shelburne, and David Steven Vess, won the 2009 Blackwell’s Scholarship Award and the 2009 Best of LRTS Award. LRTS has seen slowly declining subscriptions over the last several years. A new marketing effort will be launched in the next year along with an electronic version.

New Initiatives

In July 2009, PARS implemented a streamlined organization structure with fewer committees and interest groups. A comprehensive review of the bylaws by the ALCTS Organization and Bylaws Committee resulted in a bylaws document with greater consistency. The newly established Public Libraries Technical Services Interest Group held its first meeting at Annual Conference. The Institute of Museum and Library Services awarded ALA and the Western Council of State Libraries a Laura Bush 21st Century Librarian grant to maintain the Library Support Staff Certification Program. ALCTS was awarded $2,500 to serve as a field test site for the program. A proposal by PARS to establish a Preservation Awareness Week to raise public and professional awareness of the importance of preservation to libraries and their users received $15,000 in start-up funding from ALA for fiscal year 2010. Look for more information on this project prior to a limited launch in March 2010.

Fiscal Strategy

Close review and analysis of ALCTS revenue and expenses were vital to the division’s successful management of fiscal operations during the year. Division expenses were carefully monitored and cost savings were implemented wherever possible. The three main revenue sources for the division are membership dues; registration fees for education offerings, including midwinter symposia, Annual Conference preconferences, Web courses, and webinars; and publications. Through the third quarter of the fiscal year, membership numbers showed a decrease of 7.5 percent. Education offerings have been well attended. Two one-day symposia presented during the Midwinter Meeting in Denver, “Implementing an Institutional Repository: Benefits and Challenges” and “Breaking Down the Silos: Planning for Discovery Tools for Library 2.0,” had the two highest registration numbers of all the divisions. However, two spring regional workshops were cancelled because of low registration numbers, and three programs scheduled for the Annual Conference in Chicago were cancelled because the speakers could not attend.

Much energy was devoted to increasing revenue from all education offerings, particularly Web courses and webinars. The Web-based “Fundamentals Series” offered courses focused on acquisitions, electronic resources acquisitions, and collection development and management. ALCTS ventured into webinars for the first time this year. Three webinars on institutional repositories were developed to follow up on the success of the Denver symposium and meet an expressed need for more detailed coverage on this topic. Additional sessions are planned through the end of 2009. A series of free webinars for ALCTS members was offered in March to train potential Web instructors. The development of an expanded continuing education curriculum with increased revenue will enable ALCTS to support the many services and activities that do not generate revenue.

The ALCTS Fundraising Committee, led skillfully by Susan Davis, was successful in securing repeat support from
many of our continuing sponsors. However, because of the troubled economy, ALCTS saw lower levels of support. Several new sponsors were identified.

**Creating the Future of ALCTS**

A significant new initiative to review the ALCTS organizational structure began with a facilitated discussion by the board of directors at the Midwinter Meeting in Denver. Follow-up meetings with section and Council of Regional Groups executive committees and division committees were also held. E-forums and a forum at the Annual Conference solicited additional member input. More discussion on a new structure for ALCTS is anticipated during 2009–10, with possible implementation in 2010–11.

**Summary**

The year proved to be a challenge, with the overall economic condition of the country affecting ALCTS at many levels. During the process of offering committee appointments for 2008–9, several individuals declined reappointments or new appointments because their libraries had significantly reduced support for travel funding or had abolished it completely. Efforts were made to offer alternate appointments, such as virtual member. Unfortunately, some of our members experienced layoffs, furloughs, and frozen salaries or salary reductions. A furlough week also was mandated for all ALA staff.

ALCTS members and the ALCTS staff made possible the successes of the past year with creativity, flexibility, and perseverance. In the coming year, ALCTS will continue to serve as an advocate and expert for the areas of specialization that it represents, offer opportunities for service in appointed and elected positions, and develop and present education offerings to meet the ever-changing needs of members and nonmembers. The prospect of a new organizational structure will bring new energy to the members and the division.

**Reference**

Training Successful Paraprofessional Copy Catalogers

By Colleen Valente

This paper argues for an incremental, progressive approach to teaching an inexperienced paraprofessional cataloger the basic skills required for copy cataloging. It demonstrates how to devise a training plan that is logical and progressive and argues that the plan should be based on a thorough analysis of the skills and knowledge required by the job. It then describes a specific approach to teaching the terminology of cataloging, Machine-Readable Cataloging (MARC), and International Standard Bibliographic Description (ISBD) punctuation. These three are the basic skills most copy catalogers will need first, and their mastery should precede training for more complex skills.

How do we teach anyone to catalog? Whether it is the professional librarian-in-training or the displaced bank teller who takes a job on the lowest rung of the paraprofessional ladder, at some point everyone who has ever created or reviewed a bibliographic record needed training. In the case of paraprofessional staff, the challenge is daunting. How do we help the new employee successfully negotiate the training required to develop the necessary skills? Today we take for granted that paraprofessionals in technical services will do work that once was done only by librarians. While librarians were then freed to do more professional work, staff jobs were made much more complex and the training for them a lengthy process. Bednar and Stanley addressed this fifteen years ago when they noted that “even the entry level support staff positions in cataloging and acquisitions have become quite technical in nature and often require training periods of six months to one year.”

This paper describes an approach to training that begins with the development of a logical, progressive training plan for paraprofessional staff in their first days and weeks on the job. It then describes specific ways to teach the basic skills, Machine-Readable Cataloging (MARC) and International Standard Bibliographic Description (ISBD) punctuation that virtually all copy catalogers need before they are trained to apply Anglo-American Cataloguing Rules (AACR) or any other complex skills that their position might require. This approach grew out of experience I gained originally from teaching German, which I subsequently employed in the training of new paraprofessional catalogers. While this paper discusses only very basic skills, the principles of logical progression and practice described here are applicable to learning any other cataloging skills that are needed in a given position. The techniques described here can also be easily adapted for use with new professional catalogers. However, professionals start with a decided advantage because they bring theoretical knowledge with them that a staff member with no exposure to library work must acquire on the job.

Thus this paper is concerned with the true neophyte to the world of libraries and cataloging. It suggests that the initial training of a new copy cataloger be approached in much the way a teacher instructs beginners in a foreign language.
Students proceed from the most basic concepts to more complex concepts in a logical manner. The foreign language teacher puts together a syllabus for each course; the trainer needs to design a progressive training plan that lays out what the employee needs to learn to move from one step to the next.

The planning that precedes training determines how quickly and successfully new copy catalogers can master the necessary skills. A careful approach to laying a solid foundation of skills and theoretical understanding of why we do what we do is critical. Training copy catalogers on the job from the very first day is common and often involves having them sit with someone and watch how the job is done. Such an approach has limitations if it is the only mode of training. If the items are not preselected to teach concepts in a logical manner, training that proceeds logically from simpler to progressively more complex concepts is difficult. Building in the repetition that is so important to learning also is challenging.

From the outset, the trainer must look at the job, determine what skills it entails, and then determine the order in which those skills need to be mastered. A systematic approach to teaching basic skills and proceeding logically from the easier to the more complex skills helps ensure that nothing is omitted or taken for granted. The trainer will also want to make sure that the new employee learns the value of the work catalogers do and how cataloging fits into the library's mission. Because attitudes toward the job and the organization are shaped in the first days and weeks on the job, the orientation new employees receive should be seen as an integral part of their training. The investment of planning time that the trainer must make is considerable, but the effort will be repaid.

While the cliché that great teachers are born (not made) may be true, training is a skill that can be learned. The following literature review will describe resources in the education and management literature as well as in the library literature that can point trainers to helpful resources and give them tools for planning or revising a course of training. In addition, techniques for analyzing the specific aspects of how to train.

**Literature Review**

The use of paraprofessionals in roles that were once performed by professional catalogers is well documented and has long since ceased to be controversial. A significant share of the library literature concerned with staffing issues in libraries in the 1990s describes their growing use. The use of paraprofessional copy catalogers for everything from reviewing simple Library of Congress cataloging to creating original records spurred concern that their status, training, continuing development, and pay needed to be reconsidered. While the need to train was acknowledged by virtually all writers, the emphasis was on what paraprofessional catalogers needed to know to take on increasing responsibilities, not on how to teach them.

Bénard, writing in 1992, noted that while smaller libraries made less use of paraprofessionals, they were doing much more of the work that used to be done by professionals in larger libraries. Various reasons for this were being offered in the literature. Some believed that it had become necessary because professional catalogers were increasingly taking on managerial roles. Others suggested that librarians were finding that the requirements of faculty status (committee work, publication, and teaching) eroded the time available to them for cataloging. Bénard argued forcefully that paraprofessionals would be able to master all cataloging skills if allowed to do so, and she expressed the belief that “on-the-job training is by far the most effective way to learn to catalog.” Beyond writing that training both professional and paraprofessional catalogers proceeds by progressing from simpler material to more complex material, she did not address the specifics of how to train.

In 1996, Younger offered a historical overview of the use of paraprofessionals in libraries. She discussed obstacles, including training, associated with redistributing cataloging responsibilities, but did not explore the details of how these obstacles might be overcome.

In 1992, Oberg, Mentges, and McDermott conducted a survey of 467 libraries to examine the status and working conditions of paraprofessionals and to determine the skills and competencies paraprofessionals needed. The authors discovered that 92 percent of large research libraries used paraprofessionals to perform copy cataloging while more than 30 percent used them to do original cataloging. In a later article, Oberg observed that the use of paraprofessionals had grown considerably since his 1992 survey and that their new roles and responsibilities made staff training and continuing education even more important. Rider examined the duties of copy catalogers in 1996 and came to the same conclusion—paraprofessionals were revising copy and creating original records. She found that the pressure to streamline cataloging and reduce backlogs had led to outsourcing, cataloging at the point of receipt, and pressure in-house for catalogers to accept copy from other sources without the scrutiny such records traditionally received. Because copy catalogers already possess relevant skills upon which to build, they could be trained to handle more complex records. She also assumed that they would be trained on the job and observed, “While librarians still debate the value of experience vs. education (in the form of the M.L.S.
degree), LC’s Robert Hiatt has noted that on-the-job training is one-on-one and progresses from simpler to more complex cataloging as additional rules, practices, and procedures are introduced.10

Bordeleau and Seiser surveyed fifty-eight ARL libraries to see if they could identify what minimum education and experience levels were required for paraprofessional catalogers.10 They discovered that only 19 percent of the responding institutions required a postsecondary degree. The rest looked for either no postsecondary training or some combination of education and experience. The authors concluded from this that “the fact that a relatively low number of libraries require postsecondary degrees implies that the workplace is still the preferred place to learn cataloging.”11

The literature reveals virtually unanimous agreement on the skills paraprofessionals need to acquire. Depending on the specific level of cataloging that they have been hired to do, they must learn to use the local integrated library system and the library’s bibliographic utility, they must learn the AACR and how to apply them, and they must learn MARC and ISBD punctuation. Paraprofessionals who do original cataloging need to learn subject heading assignment and how to do authority work and classification as well. Yet one finds little reflection on how best to teach these skills beyond general agreement that progressing from simpler to more complex cataloging is necessary and that this will usually be accomplished one-on-one. A recent, informal request for information about training copy catalogers on Autocat lends support to the conclusion that a learn-by-doing apprenticeship model is still the usual mode of training, though the number of responses received (eight; six from college and public library trainers, one from a vendor, and a copy cataloger) was far too low to be statistically significant.12 Nevertheless, the tenor of the responses is consistent with the literature and with my own observations during the last two decades.

Library literature offers little advice about how to train. It is more often concerned with the competencies training should inculcate in professional catalogers. The Association for Library Collections and Technical Services has published a detailed description of the competencies professional catalogers need.13 In one of the few articles that does offer specific advice, Hudson restates the need to revise the new cataloger’s work promptly so that errors can be pointed out and corrected.14 In her estimation, the need to revise the new cataloger’s work promptly so that move from simpler to more complex copy and emphasizes that does offer specific advice, Hudson restates the need to workplace is still the preferred place to learn cataloging.”11

Kriegsman described the training that staff and volunteers underwent during an early stage of the Colorado Digitization project.15 The project required staff and volunteers in a number of different venues (libraries, museums, historical societies, and archives) to learn to create catalog records for the materials being digitized. Trainers learned that they needed to ensure that participants understood why standards are necessary, use terminology that all could understand, and use a variety of training approaches to accommodate different learning styles. Ward and Dowski described a project to train library school students without cataloging experience to assist with the cataloging of electronic resources at the library of the State University of New York at Buffalo in 2001 and 2002.16 They made heavy use of the technology available to them to make the cataloging process more efficient by creating templates, constant data records, and macros to speed up cataloging. They gave the students MARC cheat sheets to help prevent coding errors and assigned collections of resources with a high probability of having bibliographic records in the OCLC database for print equivalents from which the students could derive records, instead of having to create a completely original record. Their success demonstrates how careful tailoring of the training plan facilitates learning.

Two articles addressing training for changes in automation also yield helpful insights. Reflecting on training staff for changes and upgrades to systems and software, Balas observed that the staff with whom she had worked had a variety of training preferences.17

Some want a formal, hands-on training session; others prefer to be given the opportunity to work with the technology on their own and will even read the documentation; and still others are not happy until someone sits down with them one-on-one and walks them through the procedures. And while it seems that everyone wants the security of printed instructions, once again there is no agreement—some want brief instructions while others want them to be more detailed and to anticipate the mistakes they might make.18

Puffer-Rothenberg offered additional useful training advice in a discussion of preparing staff for a system migration.19 Odum Library at Valdosta State moved from a DOS–based cataloging module to an integrated library system using a Windows interface in 2001. The staff were concerned about their ability to adapt to the new system and to the changes in workflow it would cause. By taking an incremental, small-steps approach to training and by providing documentation to allow further practice after each session, trainers enabled the staff to make a smooth, low-stress transition to the new system.
New employee orientation is not usually viewed as part of training, but the first days and weeks new employees spend in the workplace will permanently influence their attitudes toward the job and the organization. Far from being an initial task that new hires must take care of before they can start doing their real work, it should be considered part of the job. The welcome that new employees receive will play a very important role in their adjustment to the organization and the likelihood that they will stay. Craig, writing in Personnel Today, cited one retention expert who said “that between 20% and 25% of employees leave their new job within a year, to a large extent due to not feeling part of the organization.”

Too often, orientation consists of little more than a lot of paperwork. Orientation has a much more important role than assuring that the new employee has an ID, a parking permit, and a W-4 on file. Orientation may be described as “the process by which newcomers make the transition from being organizational outsiders to being insiders.” Not only does orientation help the new employee become an integral part of the workplace, it demonstrates his or her importance to it. Mossman pointed out that “from the beginning, an orientation program sends a clear signal that the organization is committed to an employee’s success.”

In describing the orientation developed at North Carolina State University Libraries, Ballard and Blessing were emphatic about the benefits of a well-thought-out program, which they saw as part of the socialization process that all employees undergo when they join an organization. Socialization, which has long been a topic of interest in the management literature, has been defined in various ways. Ballard and Blessing wrote that socialization is “the process by which employees learn about and adapt to new jobs, roles, and the culture of the workplace.” DiMarco also recognized how important orienting new employees to their environment is, noting that “every institution has its own culture, policies, and procedures. An orientation plan that takes this into account will make a new employee’s transition to your organization much less stressful for all involved.”

A formal orientation may only last a couple of hours on an employee’s first or second day. Sometimes, the amount of information packed into it is so overwhelming that newcomers are actually disoriented, which can only increase the anxiety most new employees feel as they learn their new jobs, meet new people, and try to find their place in the organization. The management literature, which is very concerned with recruiting and retention issues, is starting to take a much longer view of orientation. “Orientation in its most ideal form is on-going. It starts with recruitment and selection, and continues throughout the new employee’s first year on the job,” noted Hacker, who then outlined a number of strategies to make new staff feel welcome.

The management literature is an excellent source of concrete guidance in preparing formal and systematic training programs based on a thorough analysis of a given job and the tasks that make up that job. The education literature provides insight into how adults learn, which must be taken into account in developing a training plan. Both literatures share a deep interest in how and why adults learn. While education and training have much in common, they are not the same thing. The design of a new employee’s training will be driven by the outcome desired: “Training aims to provide knowledge and skills . . . which are needed to perform specific tasks,” while “education usually provides more theoretical and conceptual frameworks designed to stimulate an individual’s analytic and critical abilities.”

Understanding some of the underlying theoretical principles of how learning takes place is helpful. Many theories that have been developed and refined over the last century tend to cluster around certain core ideas. Laird, Naquin, and Holton identified five metatheories in their very helpful book, Approaches to Training and Development: New Perspectives in Organizational Learning, Performance and Change. They called them metatheories “because they apply to learning in all settings, for all age groups and to all types of learning events.” Two of the metatheories they identified are particularly relevant to cataloging: behaviorism and andragogy. Training grounded in behaviorism will be familiar to everyone who has taken a beginning foreign language class. Certain outcomes are expected (e.g., the correct application of rules), reinforced, and rewarded. Any rule-based activity or any task that must be performed in a certain way is behavioristic. The desired outcome of the training is competency in the skill to be learned.

Andragogy is a theory of how adults learn that has had a profound effect on training theory. The term, coined in 1833 by the German educator Alexander Kapp, was popularized in the United States and Britain by Malcolm Knowles in his books The Modern Practice of Adult Education and The Adult Learner. Andragogy, as conceived by Knowles and reported by Laird, Naquin, and Holton, has six principles:

1. Adults need to know why they need to learn something before they learn it.
2. The self-concept of adults is heavily dependent upon a move toward self-direction.
3. Prior experiences of the learner provide a rich resource for learning.
4. Adults typically become ready to learn when they experience a need to cope with a life situation or perform a task.
5. Adults’ orientation to learning is life-centered, and they see education as a process of developing increased competency levels to achieve their full potential.
6. The motivation for adult learners is internal rather than external.
Cataloging does not offer the trainee much opportunity to direct his or her own learning. Although self-directed learning has been a popular training strategy for years—particularly for employees who need to acquire new skills in a job they are already doing—finding ways that a new employee can take charge of learning new skills that depend on the accurate application of rules is difficult. However, a trainer can help the new copy cataloger understand why the rules exist and what their value is. Integrating new employees into a cataloging department should include making sure that they understand how cataloging fits into the mission of the library and why the work is important.

**Analyzing the Job**

The development of a successful training plan first requires an analysis of the job. The trainer must thoroughly understand the job that needs to be done. Even when experienced catalogers do the training, they may not fully understand all aspects of the job that copy catalogers do, particularly in large libraries where they may have less opportunity to work directly with all levels of employees. During the planning of the new staff member’s training, the trainer should speak to other staff who do the same job to ensure that all the tasks that they routinely undertake are reflected in the training plan.

An analysis of the job and the various tasks that make up the job are critical to developing a successful training plan. The management literature is particularly helpful in describing this process, even though much of it has been written from the perspective of trainers concerned with jobs in business and industry. For example, the *Journal of European Industrial Training* published an issue devoted to the subject, and it is an excellent source of information. 31 One section describes the questions the job analysis should answer:

1. What duties does the job include?
2. What tasks make up the job?
3. How is each task accomplished?
4. Why is each task performed?
5. In what order are the tasks performed?
6. What elements make up the tasks?
7. What equipment, materials, and supplies are used? 32

An example drawn from practice will be useful in illustrating what such an analysis will reveal. In my library, the library assistant in the acquisitions unit is also a monographic copy cataloger. An analysis of the job will reflect that it is made up of two duties: acquisitions and cataloging. In turn, cataloging and acquisitions also must be analyzed to see what tasks are done and what skills or knowledge are required to do them. For example, the assistant is responsible for the acquisition of all firm-ordered books. Thus she places orders after determining availability and price from the vendor, creates purchase orders, receives those orders, and approves their payment. She then catalogs the books she has ordered if they have acceptable copy. The skills required to carry out each task make up its elements. In this case, the elements are the ability to use a computer and the ability to understand and follow written procedures for both cataloging and acquisitions, as well as use the MARC manual.

Task analysis determines what skills are required to complete the task successfully. It can reveal that even simple tasks are not always easy. For example, the first task that the acquisitions library assistant undertakes is preorder searching, that is, checking the catalog to see if a requested book is already in the collection prior to placing an order. This seems easy and is usually the first task assigned to a new employee in that position. However, an analysis reveals that the assistant needs to know:

- how to search the local catalog to see if the library already owns the book;
- how to understand MARC coding well enough to find the needed information, that is, identify the important match points (beyond title and author), such as date of publication and edition statement;
- how to distinguish between editions; and
- how to recognize an electronic version and apply the library’s policy regarding the purchase of books that are available electronically.

Thus this simple task comprises four elements, and all require specific training that the assistant must receive before being expected to do preorder searching successfully.

Once the assistant has determined that the library does not own the book, the order can be placed, which is the second task associated with acquisitions. Ordering requires another set of skills that must be analyzed. When the books ordered have been received and the invoices approved (yet another task with associated skills that must be mastered), the assistant is ready to carry out copy cataloging. The trainer must be clear about all the tasks and the skills required to develop a comprehensive training plan.

**What Does a Copy Cataloger Do?**

While the degree of editing a copy cataloger may do can vary markedly in different libraries or between different levels of staff working with more complex records or multiple formats, the commonalities are such that the task analysis that reflects what the library assistant in my department does will be familiar to most catalogers. An examination
of the skills needed to complete each task reveals that the cataloger must perform the following tasks:

- Compare the book that has been received with the WorldCat record that was downloaded and used to create the purchase order. Does the record match the book in hand? (Skills needed: ability to search the local database; ability to determine whether the book and record match)
- Search for a WorldCat record that does match if the one originally downloaded does not. (Skills needed: ability to search in WorldCat; ability to identify the appropriate record if multiple records are found)
- Download and overlay the inappropriate record in the local database with the appropriate one if found. (Skill needed: ability to overlay the bibliographic record in the local database to preserve the link between it and the purchase order)
- Determine that the title, other title information, and statement of responsibility have been transcribed from the title page of the book correctly. Make any corrections needed. (Skills needed: ability to proofread; understanding of the significant bibliographic elements on the title page; ability to edit in the local database)
- Look at all access points to see if they are spelled correctly. Correct any errors noted. (Skills needed: knowledge of what access points are; knowledge of how to edit the record in the local database)
- Check the MARC coding of all access points and correct as necessary. (Skills needed: knowledge of the MARC codes, indicators, and subfields involved; ability to edit in local database)
- Add bibliography note if missing. (Skills needed: knowledge of the MARC codes required in both the fixed and variable fields; ability to edit in the local database; ability to formulate the note)
- Add tables of contents to books in certain series that we have identified as being of particular value to our students. (Skills needed: knowledge of the policy regarding tables of contents; knowledge of the MARC codes and ISBD punctuation required; ability to edit in the local database)
- Add any bibliographically significant names or corporate bodies found on the chief source to the record. (Skills needed: ability to understand which elements on the title page are significant; knowledge of the MARC codes required; ability to edit in the local database)
- Create the holdings record. (Skills needed: ability to create a holdings record in the local database and edit it; knowledge of the MARC codes used in the holdings record; knowledge of the notes required in the holdings record)
- Write the local bibliographic record number in the book in the upper right hand corner of the first leaf. (Skills needed: understand what to do if the page cannot be written on; know where to find the system supplied record number)
- Send the book to end processing

Most of the elements of this task are more complex than they might seem at first glance. For instance, the first element of the task requires the copy cataloger to determine whether the record downloaded when the order was placed and the book that was received match. That, however, requires the copy cataloger to know what constitutes a match. If we look at this through the eyes of someone new to cataloging, we will see that much of this is not self-evident and must be learned. The cataloger must know how to do the following:

- Identify the title without being confused by the layout or typography
- Decide if variations between the title proper on the title page and on the bibliographic record are cataloger transcription errors or if they indicate that the record and the book do not match
- Compare the ISBN on the record and in the book
- Check that edition statements match
- Check date of publication and distinguish dates of publication or copyright from printing dates
- Determine when differences in pagination are significant and when they are not
- Check the spine height and understand when a difference is significant

When tasks are considered element by element, it becomes much clearer what the new staff member must know to carry out the job. This enables the trainer to ensure that the plan takes no necessary skill or knowledge for granted and covers everything the trainee needs to know.

Once the job has been analyzed, some decisions have to be made about the overall training sequence. The task analysis has identified the skills that must be acquired, and the trainer needs to decide which elements of the task logically come first, second, and so on. The trainee needs to master each step from the simplest to the increasingly difficult. Although various sequences are possible, some steps obviously must precede others. In the case of a paraprofessional cataloger with no previous relevant experience, the trainer should make sure that the basics are covered thoroughly and that each is mastered before going on to more complex steps.
**Orientation**

New employees usually begin their jobs with whatever orientation to the workplace the library or university provides. The first days and weeks in a new job are a critical period for new employees because their attitudes toward the job will be formed early. Orientation typically fills the new employee’s day (or days) with a number of activities, such as touring the library and perhaps the campus, meeting with other staff, and attending to myriad administrative matters. In fact, it can be overwhelming. Thus some quiet time to sit down, ask questions, and talk about the library one-on-one with a librarian or an experienced staff member will be very useful. The sorts of matters covered by a formal orientation do not usually include such mundane questions as Where are the restrooms? Where can I buy a soft drink? Where is the cafeteria? As simple as these questions are, they are often overlooked. Anticipating them and offering the information before being asked can help make the first week much easier for the newcomer. A checklist that prompts new employees to ask questions that they might think are too silly to ask can be very useful. Figure 1 is a condensed version of the checklist I give to newly hired employees.

Time should also be found during the first week for an experienced cataloger or the department head to discuss the library and its mission with the new employee. Such a discussion should cover the department’s role in helping the library achieve that mission. It should be the first discussion, though not the last, of the value of cataloging and the important role that copy catalogers play in helping to organize the materials that the library acquires. With some theoretical understanding of what the job entails and why it is important, the trainee will be better able to start learning.

**Terminology**

The first step must be to learn cataloging terminology. I learned early in my career as a German teacher that a well-thought-out lesson on, for example, the subjunctive, was incomprehensible to a class that did not know what the subjunctive is and only barely understood what a verb is. Verbs? Voice? Mood? These terms, the vocabulary of grammar, are as foreign to many students as the language they are studying is.

Misunderstanding the language or terminology of any field or subject will undercut a student’s ability to make progress learning it. This is not unique to cataloging. An article in the journal *Mathematics Teacher* describes how many students perceive the terminology of mathematics as a foreign language. Not only must they learn unique words like “hypotenuse,” but they must learn to differentiate the specialized meaning of words such as “table” and “limit” from the ordinary meaning of those words. The author made the point that “students who are unable to negotiate discourse are unable to move forward in their learning.” Experienced catalogers sometimes forget that terms such as “series,” “title proper,” “access point,” “collation,” and so on, are equally foreign to most nonlibrarians. Making sure that new employees understand these terms is necessary if their training is going to make sense to them.

**Training Sequence**

The next steps will depend on the trainer’s analysis of the job and the tasks associated with it. Training without reference to the actual sequence in which the job is performed may seem counterintuitive, but the latter is unlikely to be the most logical order for learning. If, for example, the trained copy cataloger’s first step is to find a record in WorldCat that matches the book in hand, a number of skills will need to have been mastered prior to performing such a search and successfully locating a record. Teaching skills as discrete units allows the learner to concentrate on one skill at a time and master it.

**Training Activities**

Because overwhelming a beginner is easy, the amount of formal training should be limited. A training session should not last much more than an hour. Trainees should then practice what they have just learned. Ideally, feedback should follow practice as soon as possible with more practice assigned, as needed. Depending on how quickly the employee learns and whether or not other learning activities are being used (such

---

Figure 1. First Week Checklist (Condensed Version)

Please check off these items as you learn them. If you are unsure, please leave them unchecked. We will go over anything that has not been covered for you adequately on Friday.

- I know how to fill out a time card and where to find the time clock.
- I know where the cafeteria is.
- I know where to find a list of official university holidays.
- I know where the staff lounge and vending machines are.
- I know where to find a rest room.
- I have keys to the department and building.
- I understand the mission of the Technical Services Dept.
- I know who does what in Technical Services.
as the interactive tutorials OCLC makes available), formal
sessions might be limited to three or four times a week.

The reason for this is two fold. First, teaching a complex
skill that involves many rules without making the inexperi-
enced staff member feel incompetent is difficult. Students
learning a foreign language for the first time in college are
often surprised to discover how frustrated they are by their
inability to express themselves in anything but the most ele-
mental way. Similarly, many new catalogers are surprised
by the frustration they feel learning an entirely new skill
with its own rules and its own language. The rules are rigid
and catalogs are unforgiving of mistakes. Unfortunately, too
often the trainer appears to be rigid and unforgiving as well.
New staff will ask why we do things the way we do them
and why even (seemingly) minor errors must be caught and
corrected. Trainers need to understand that adults will usu-
ally want to know why and should take the time to explain,
even if the question goes beyond what the staff member
needs to know.

Once the new staff member understands bibliographic
terminology and has had an introduction to the local cata-
log, MARC, and ISBD punctuation, “shadowing”—sitting
with an experienced staff member and seeing and hear-
ing about the task being done—comes into its own as a
helpful training strategy. After the trainee has learned the
most important terms and has become familiar with what
a catalog record looks like, watching what the experienced
staff member is doing makes more sense and puts the skills
in context. Second, the trainee will necessarily be learning
other aspects of the job and doing some portion of the work.
The mix of theory, observation, and practice will reinforce
what the trainee is learning while providing needed variety.

**From Theory to Practice**

Students in foreign language classes are very familiar with
fill-in-the-blank exercises. Such exercises are used because
they allow the instructor to focus on one very specific learn-
ing objective. For instance, German has prepositions
that take the accusative case. An exercise might be designed to
allow students to practice using accusative pronouns in pre-
positional phrases correctly. Such a technique can be readily
adapted to many of the skills a cataloger needs to learn.

Because learning to speak the language of cataloging is
so important, the trainer should begin with terminology. I sit
down with each trainee and a cart of books. We go through
them and identify title proper, other title information,
author(s), and so forth. After this session is over, I ensure
that this terminology has been mastered by giving the
trainee ten to fifteen books and a stack of fill-in-the-blank
worksheets on which to identify the bibliographic elements
that are found on the title page and verso (see appendix A).

Only at the point that the essential terminology has been
mastered do I move on to MARC and ISBD punctuation.

Fill-in-the-blank exercises are very effective in teaching
both MARC and ISBD punctuation in manageable portions.
I usually compare learning to catalog with learning a foreign
language. Most trainees relate to this analogy because most
of them have had at least a little high school or college for-
eign language experience and remember how challenging
those first days and weeks were. The utility of drawing such
an analogy has a solid basis in learning theory as a strategy to
help adults acquire new knowledge. Maresh called this sort
of analogy a metaphor and says that such metaphors facil-
itate learning because they link the known to the unknown.35
She noted that “Metaphors are intrinsic to the construction
of new knowledge and lie at the heart of the creation of
meaning... When we forge a connection between a new
concept and a past experience, the concept is clarified and
the mind is encouraged to explore it further.”36 Anyone who
has been initially overwhelmed by the strange sight and
sounds of foreign words that slowly became meaningful will
find the analogy helpful.

Because most new copy catalogers find the MARC
format visually daunting, I normally start with it. I teach
MARC tagging by introducing exercises that are limited to
one or two MARC fields at a time, which I complete with
the trainees. They are then given fifteen or twenty exercises
drawn from the catalog to complete on their own by sup-
plying the correct indicators and subfields. A simple MARC
tagging exercise dealing with only one or two fields at a time
would ask the trainee to supply the indicators and subfields
in the following:

```
260  ___  ___ London :  ___ Ox ford University
Press,  ____ c1976 .
24 5  ___  ___ The right shoes for me! :  ___ a
tie, buckle & zip shoe book /  ____ written
by Margaret Wang :  illustrated by Rosalinda
Kightley .
```

A follow-up session would include more complex exer-
cises. They might include more fields or subfields that are
seen less frequently. For example:

```
300  ___  ___ 1 v. (unpaged) :  ____ col. ill ;
____ 21 cm. +  ____ 1 computer disk
26 0  ___  ____ New York :  ____ Boston :  ____
Heinemann ,  ____ c1992 .
```

New copy catalogers receive a cheat sheet that lists
the MARC fields and subfields that they need to know (see
appendix B). Trainees use it to complete the exercises they
are given. Normally, I allow a day for their completion and
then review the work with them to provide feedback as
quickly as possible. If the exercise was not successful, the trainee is given ten (or more) additional exercises. When they have been successfully completed, the trainee is ready to try more complex exercises in the following session.

ISBD punctuation is next, and it is taught and practiced in exactly the same way. I use many of the same records that were used in the MARC exercises; this time, the punctuation has been left out and the MARC tags remain. For example, a basic exercise would ask the trainee to supply the proper punctuation between subfields, indicating the necessary space(s) between subfields by drawing a delta (△), in the following:


After the basic exercises are completed, the trainee moves onto more complex exercises. At this point, the trainee can be given two or more fields to punctuate, as in the following example:

245 14 $a The right shoes for me! $b a tie, buckle & zip shoe book! $c written by Margaret Want illustrated by Rosalinda Kightley.

MARC coding and ISBD punctuation are skills that are learned by practice, and the trainee should be given as much of it as needed to demonstrate mastery over the course of the first couple weeks of training.

Helping the new staff member feel like a contributing part of the department as soon as possible is important. Formal training should be mixed with guided practice as soon as the basics have been mastered. After learning how to search the local catalog and make changes to the bibliographic record, I give the trainee several books that have been preselected because the bibliographic record contains some error. The cataloger is told where or what they are, for example, a transcription error in the title field or a MARC error in the collation. Even though this is time-consuming, I find that going over the errors that have been corrected (or not) and explaining to the trainee why the original cataloger made the notes and the added entries that he or she made to be helpful. This will seem self-evident to an experienced cataloger, but it is all new to the trainee. It is also the easiest way I know to convey some sense of why we do what we do and how that work affects our catalog users.

After the basic skills have been taught, the new copy cataloger will be given a number of new books with which to work. The bibliographic records are then reviewed and mistakes the trainee made or failed to catch are reviewed. Because this revision can be stressful, initially I limit the amount of copy cataloging the trainee is given. Other work that needs to be done can be given to the trainee to enhance his or her learning. For instance, during slow periods staff may go into the stacks with experienced staff members, pull books with labels that are faded or coming loose, and bring them back to be relabeled. Experienced staff also will read the shelf from which they pull the books and can teach this skill to the new staff member. This is one useful way to involve others with the training. They help the new employee learn his or her way around the library and become familiar with call numbers at the same time.

While many training materials can be developed in-house, resources on the Internet, most of them free, can be brought into the mix of learning activities (see appendix C). They are very helpful in bringing the newly hired employee up to speed. While materials created in-house and externally may have some overlap, both the repetition and the differences of approach to the subject matter are advantageous because they accommodate different learning styles. Some people prefer to work at their own pace. For them, interactive tutorials are particularly helpful. Others appreciate being able to read and study descriptions. Others will benefit from the frequent opportunity to test themselves along the way that many of these resources provide. All of them complement the training that goes on in-house.

I also try to send all staff at least once a year to the courses that our regional OCLC services provider offers. This is beneficial for two reasons. Such classes are an excellent way to give staff an opportunity to develop new skills, and they also are a way to refresh skills or provide retraining if necessary. In the latter case, staff members may find admitting confusion to an instructor outside the library easier than to their supervisor or peers. For new staff members, classes seem to be most valuable after at least three or four months of actual cataloging experience, since the classes usually presuppose some experience and tend to move along briskly.

Once a new cataloger is familiar with the language of cataloging, knows MARC and ISBD well enough to either use them correctly or consult the appropriate manuals, and knows what to add and what to correct on the bibliographic record, he or she is ready to work independently. Each cataloging supervisor needs to decide how long trainees must have their work checked. This decision is normally linked to the number of errors the cataloger makes. Frequent errors, particularly of the same sort, indicate a need for additional training. The evaluation of the training plan and any subsequent revision of it will depend on identifying any weaknesses and understanding where the training has been inadequate so that other strategies can be devised.

Assessing this approach to training is difficult. Since we cannot train the same person twice and compare the outcomes, determining which training method or combination of methods works best is difficult. However, one can
reasonably assume that an incremental, progressive approach that looks for mastery of each skill before proceeding to more complex matters will provide a solid foundation for learning. Experience suggests that the more carefully planned and sequenced the training is, the better the results will be.

Conclusion

Training copy catalogers effectively requires advance planning. Trainers must think through the requirements of the particular job for which the new employee is to be trained. They must determine the skills that are required for successfully carrying out the job duties. The development of a training plan entails understanding how one skill builds upon another and ensuring that nothing the new staff member needs to learn is omitted or shortchanged. Saying that our employees are our most valuable resource is cliché, but it is nevertheless true. Training them carefully both with regard for the complexity of the skills that they must learn and with respect for the way adults learn makes sense. We must train with the person in mind as well as the work. The unit, the library, and the library’s patrons are all served by a well-organized, accessible collection. Our staff play a vital role in helping the library achieve its mission and deserves to be trained with that role always in mind.

References

4. Ibid., 87.
9. Ibid., 29.
11. Ibid., 540.
18. Ibid., 43.
28. Ibid., 126.


34. Ibid., 302.


36. Ibid., 24.

### Appendix A. Bibliographic Terminology

Please fill in this worksheet by identifying the information you find on the title page and/or verso of the books provided for this exercise. Not every book will have all of these bibliographic elements.

1. What is the title proper? ____________________________

2. Is there other title information? If so, what is it? _______________________________________________________

3. Is there a statement of responsibility? If so, what is it? ____________________________________________________

4. Is there an edition statement? If so, what is it? Is there more than one on the book? (Check covers, title page, and the verso) __________________________________________________________

5. Where was the book published? Is there more than one place of publication? (List it/them) _______________________

6. Who is the publisher? Is there more than one? (List it/them) _________________________________________________

7. Is there a date of publication? Is it a true date of publication, a copyright date, or a printing date? (If there is one or more, list them and indicate what kind of date it is/they are) ______________________________________________________

8. Is there a series statement? (Check the book covers, half-title page, verso, etc.) If so, what is it? ________________

### Appendix B. MARC Guide

Here is an overview of the MARC record. It contains the fields and subfields you will likely see every day.

<table>
<thead>
<tr>
<th>MARC Field</th>
<th>MARC Subfield</th>
</tr>
</thead>
<tbody>
<tr>
<td>010</td>
<td>$a Library of Congress control number</td>
</tr>
<tr>
<td>040</td>
<td>$a Who cataloged the record $c Who put the record in the database $d Any library that has made changes to the record</td>
</tr>
<tr>
<td>041</td>
<td>$a Coded information about foreign languages involved in the text</td>
</tr>
<tr>
<td>043</td>
<td>$a Coded information about the geographic area described in the text</td>
</tr>
<tr>
<td>050 00*</td>
<td>$a LC call number supplied by the Library of Congress $b Cutter and year</td>
</tr>
<tr>
<td>050 14**</td>
<td>$a LC call number supplied by another library $b Cutter and year</td>
</tr>
<tr>
<td>100 1</td>
<td>$a Author last name, First name, $q (first and middle name spelled out), $d date of birth and/or death.</td>
</tr>
<tr>
<td>245 10*</td>
<td>$a Title proper : $b other title information/$c Author's name (all 3 transcribed exactly from the title page)</td>
</tr>
<tr>
<td>246 1*</td>
<td>$i (explanatory phrase, if needed) : $a Titles found on the cover, spine, etc. (no period at the end)</td>
</tr>
<tr>
<td>250</td>
<td>Edition statement</td>
</tr>
<tr>
<td>260</td>
<td>$a Place of publication : $b Publisher, $c date of publication</td>
</tr>
<tr>
<td>300</td>
<td>$a number of pages : $b illustrations ; $c size + $e accompanying material (e.g., teacher's guide)</td>
</tr>
<tr>
<td>440 0</td>
<td>$a Series title ; $v v. 75 OR</td>
</tr>
<tr>
<td>490 0</td>
<td>$a Series title ; $v no. 15 OR</td>
</tr>
</tbody>
</table>
Appendix B. MARC Guide (cont.)

<table>
<thead>
<tr>
<th>MARC Field</th>
<th>MARC Subfield</th>
</tr>
</thead>
<tbody>
<tr>
<td>490 1</td>
<td>$a Series title ; $v Bd. 4 (This requires a field $30 in the record)</td>
</tr>
<tr>
<td>500</td>
<td>General notes</td>
</tr>
<tr>
<td>504</td>
<td>Bibliography (and index) note</td>
</tr>
<tr>
<td>505</td>
<td>Contents note</td>
</tr>
<tr>
<td>600 10**</td>
<td>Name of person (subject of the book)</td>
</tr>
<tr>
<td>650 0</td>
<td>Topic heading $x general subdivision $z Geographic subdivision $y Time period $v Genre (e.g. Bibliography, Periodical and so on)</td>
</tr>
<tr>
<td>651 0</td>
<td>Geographic Subject</td>
</tr>
<tr>
<td>7xx ***</td>
<td>Additional access points—authors (may be persons, corporate bodies, conferences) and uniform titles</td>
</tr>
<tr>
<td>830 #0</td>
<td>Series name as LC has decided it should be formulated ; $v no. 16</td>
</tr>
</tbody>
</table>

* The second indicator varies
** The first indicator varies
*** Both indicators vary

Appendix C. Selected Online Resources for Trainers

OCLC Tutorials

OCLC is an excellent source of online tutorials. Connexion Client tutorials are found at www.oclc.org/support/training/connexion/client/tutorial/default.htm. They include “Introduction to MARC Tagging” (www.oclc.org/support/training/connexion/marc/default.htm) and “OCLC Connexion Client: Searching WorldCat” (www5.oclc.org/downloads/tutorials/connexion/client/elsearch.html). Similar tutorials for OCLC Connexion Browser are found at www.oclc.org/support/training/connexion/browser/tutorial.

The Library of Congress

LC has an introduction to MARC available called “Understanding MARC: Bibliographic Machine Readable Cataloging” (www.loc.gov/marc/umb). This is an excellent introduction that ends with a brief self-test that the trainee can do. The answers are provided. If the new cataloger will eventually be doing any authority work, LC’s “Understanding MARC: Authority Records: Machine Readable Cataloging” (www.loc.gov/marc/uma) will be equally useful.

Miscellaneous Resources on the Web

Ann Branton and Aiping Chen-Gaffey at the University of Southern Mississippi have created an interactive MARC 21 tutorial based on LC’s “Understanding MARC” guide (www.lib.usm.edu/legacy/techserv/marc21_tutorial_ie).

Kathleen Wells and Nashaat Sayed, also at the University of Southern Mississippi, have created an interactive tutorial based on LC’s “Understanding MARC Authority Records” (www.lib.usm.edu/legacy/techserv/auth_tutorial). Infohio (Information Network for Ohio Schools) has made a series of very short, filmed Tag Tutors (www.infohio.org/UC/TagTutors). While the tutorials assume some very basic knowledge of cataloging on the part of the viewer, they are a nice supplement to the new cataloger’s training. Unfortunately, only a few tags are covered and the division of the material is sometimes quirky. The script is available for each tag in either Word or PDF format.

The Idaho Commission for Libraries has also developed online training for nonprofessional library staff. While the “courses” cover much more than cataloging, Alternative Basic Library Education (ABLE) (http://libraries.idaho.gov/page/alternative-basic-library-education-able) offers a unit on technical services that is aimed primarily at public and school libraries. While too basic to stand alone, it is a useful supplement that the trainee can consult any time. Each section within the unit is followed by a self-test that provides immediate feedback. Supplemental Basic Library Education (SABLE) (http://libraries.idaho.gov/page/supplemental-alternative-basic-library-education-sable-program) offers a unit on cataloging music sound recordings.
This review covers the literature of acquisitions from 2004 through 2007. The purchase of electronic resources continued to grow, especially for e-journals. E-books gained more attention with a variety of pricing models emerging, many of which were similar to print purchase plans or a modification of e-serial plans. The electronic resource management (ERM) of subscriptions and licensing became a major concern as the acquisition of these items continued to grow. Many libraries developed local ERM applications while vendors began developing commercial ERM systems. The Digital Library Federation (DLF) Electronic Resources Management Initiative (ERMI) emerged as a major step in the development for ERM system standards. Many libraries expressed dissatisfaction with some of the new pricing models for e-journals, especially the Big Deal packages, as libraries were caught between budget reductions, price increases, and complex license agreement terms. Budget and the allocation of funds remained a frequent topic in the literature. With the transition from print to electronic versions, acquisitions staff required more support and new resources. Workflows changed as acquisition units and technical services departments reorganized to accommodate the growth of electronic resources.

This literature of acquisitions review is the continuation of the authors’ review covering the literature published from 1996 through 2003. In the previous review, technology and the Internet were the key themes that brought changes to acquisitions, business practices, and communications. For 2004–7, budgets and budget allocation were a continuing concern, with the literature focusing on the complexity and variability of pricing models. The most significant new topic was the management of electronic resources. As patron demand for these resources grew rapidly, a large portion of library materials budgets was spent acquiring them. The literature revealed that acquiring electronic resources was simpler than managing them effectively.

To identify the significant acquisitions literature published from 2004 through 2007, searches were made through Library Literature and Information Science Full Text and Library, Information Science and Technology Abstracts with Full Text databases for articles and books. In addition, searches using more specific terms related to acquisitions were made of selected library journals. Citations and abstracts were reviewed for possible inclusion in the review. Searches were limited to scholarly journal articles, conference proceedings, reports, and books in English. Every attempt was made to find literature relating to any aspect of acquisitions; however, the authors concede that some works may have been overlooked. For those articles selected, the papers were retrieved and reviewed in detail. The selected articles then were grouped by topics to establish an outline for presentation. For those papers that bridged more than one topic, an effort was made to put them under the topic that was most prominent. Some literature fell outside the major themes identified or was peripheral to the topics; these were excluded from the review.
Budgeting and Allocating Funds

Fund allocation became a critical part of budgeting and acquisitions work as budgets shrank and material costs rose. Most libraries used a local method to allocate the materials budget across subject areas. Many allocation formulas were based on historical variables and annual adjustments that no longer fit the needs of libraries' current acquisitions.

Wu and Shaffer performed a formula fitness study on their library's budget allocation formula to determine its fit. The authors' research indicated that the traditional factors used in building a fund allocation formula were not always consistent because of changes in the source of the data, availability of data, and weights given to the variables. Wu and Shaffer recommended that libraries perform a formula fitness review regularly as a part of their self-study.

At Portland State, the old method no longer provided for a balanced collection and failed to align the materials budget with the university's priorities. Weston revised the formula for a public library based on circulation data. The authors' research indicated that the traditional factors used in building a fund allocation formula were not always consistent because of changes in the source of the data, availability of data, and weights given to the variables. Wu and Shaffer recommended that libraries perform a formula fitness review regularly as a part of their self-study.

At Portland State, the old method no longer provided for a balanced collection and failed to align the materials budget with the university's priorities. Weston revised the formula using a complex set of variables to determine the potential demand on their library's collection for specific subject areas. Because the new formula would result in severe cuts from the previous allocations, 70 percent of the budget was allocated on the basis of the previous formula. Walters, in an article that received the 2008 Best of LRTS Award, presented an allocation method for academic libraries that used current, historical, or hypothetical allocations to generate a formula. In a five-step process, the regression-based method assigned weight to a set of variables to provide results that were systematic and unbiased.

While most discussion of fund allocation focused on specific approaches for allocating funds, Canepi's study focused on determining best practices in academic libraries. Her statistical analysis revealed that enrollment, cost of materials, use, and number of faculty were the most frequently used formula elements. Other often-used elements were course offerings, academic programs, research budget or output, and faculty publication.

Smith and Langenkamp discussed an allocation formula for a public library based on circulation data. The authors calculated a budgeting index by multiplying the circulation percentage for a subject area by the average cost of an item. The index was used to determine the number of items that could be purchased from the budget for each subject area. Their method allowed for changes in allocations for specific subject areas on the basis of current collection management goals, pricing changes in subject areas for collection development, and static budget amounts. At Auburn University at Montgomery (AUM) Library, Bailey, Lessels, and Best tested using Universal Borrowing data as a factor in determining their monographic budget allocations across the University's schools. Universal Borrowing is an interlibrary borrowing feature of the Voyager integrated library system (ILS) that allows patrons to borrow and return materials from any consortial member. The results of the trial revealed that demand could be matched to AUM's monographic collection across the university. The schools with graduate programs showed the most demand. The authors determined that the data supported additional book purchases. The monographic budget was increased to support the schools with the greatest borrowing activities.

Anderson discussed several formulas of varying complexity for allocating the costs of electronic resources to the members of an academic consortium. Size and type of institution, number of students, size of budget, current use, and current subscription price were considered potential factors in cost-allocation methods. He stressed fairness in the cost-allocation methods and the use of equitable formulas that were clearly understandable.

Glendenning, Martin, and McKenzie examined how libraries managed the relationship between fund encumbrances and expenditures. Various strategies specific to monographs, serials, and standing order acquisitions were studied. The authors' discussion also included insights on the use of ILSs for managing funds, descriptions of materials ordered on different types of funds, and three fund case studies.

At the 2006 Charleston Conference, Moore-Jansen, Walker, and Williams explained the development of a fund tree, a computer-based accounting system at Wichita State University Libraries. The tree was designed to meet the reporting needs of the library administration, budget officer, collection development coordinators, and acquisition managers. The fund accounting tree utilized a combination of letter mnemonics and a number to form a fund code. The fund code could be used to track the funds allocated by discipline.


Johnson's book, Fundamentals of Collection Development & Management, is intended for students in librarianship or those new to collection development and management. The chapter “Policy, Planning, and Budgets” covers library budgets, materials budget, funds, and fund allocations. In the chapter “Electronic Resources,” Johnson describes electronic resources and covers budget and legal issues associated with their acquisition.

Evans and Saponaro's text, Developing Library and Information Center Collections, covers collection development for all types of libraries. Separate chapters
address acquisitions, vendors and distributors, and fiscal management.

**Pricing Models**

As electronic resources emerged, pricing models became more complex. Publishers and providers developed many new models for electronic journals and e-books. The Big Deal model for electronic journals was the most often discussed in the literature. A Big Deal is defined by Frazier as “a comprehensive licensing agreement in which a library or library consortium agrees to buy electronic access to all or a large portion of a publisher's journals for a cost based on expenditures for journals already subscribed to by the institution(s) plus an access fee.” Usually the agreement limits the cancellation of subscriptions and includes an annual price increase.

Gerhard described pricing models used for academic electronic journals and other digital formats and examined the variables used in pricing models. She found nine variables that could be combined into a seemingly unending number of pricing options. Gerhard also found that the variety of pricing models provided some formulas that worked in favor of libraries of a certain type and size while other pricing models disadvantaged some libraries. Some formulas also worked better for different types of products depending on content and use.

Hahn took an in-depth look at tiered pricing, in which smaller institutions are assessed a lower subscription price than larger ones. By performing a sensitivity analysis, she found that increases in the subscription price for larger institutions (i.e., those in the top tier) ranged from 7 to 257 percent while institutions in the bottom tiers experienced increases of 9 to 88 percent. Under some models a lower tier could receive a decrease. Hahn believed that the increase in subscriptions costs could be substantial for the largest institutions.

Schaffner, Luther, and Ivins described the collaborative effort Project MUSE made to develop new pricing for their online journals. Project Muse replaced the consortial model based on number of participating institutions with one based on the Carnegie Class and use. The pricing tiers for academic libraries were expanded under the new model.

Commissioned by the Journals Working Group of the United Kingdom’s Joint Information Systems Committee, Look, Sparks, and Henderson researched what librarians and publisher thought about existing pricing models and proposed new models. Librarians and publishers were interviewed to understand current models’ strengths and weakness. Views about the Big Deal packages varied by size or focus of an institution, but some broad patterns emerged. The authors found that Big Deal packages squeezed out other purchases, the bundled titles were not always the right ones for a library, and heavy collection penalties made adjusting collections difficult. Universities founded after 1992 with fewer journals favored Big Deal packages but were concerned about future affordability. None of the proposed new models (e.g., pay-per-view, national license, core plus peripheral, open access models) were universally accepted. The publishers were consistent on needing to maintain current levels of profitability.

At the 2005 North American Serials Interest Group conference, Frazier and Ebert discussed the Big Deals. Frazier focused on issues related to budget. With an annual cost increase each year, he considered Big Deals unsustainable because budgets would be unable to keep pace with the increasing costs of journals. Frazier focused on journal cost-effectiveness for purchases. Ebert looked at the Big Deal from a consortial perspective. Big Deals allowed consortial members to reduce duplication and increase the number of unique titles. Because unused titles could be an issue, she noted that the consortium monitored the use of bundled titles and considered 85 percent of the titles used acceptable.

Gattan and Sanville discussed the merits of the Big Deal from the OhioLINK consortial perspective. They defined Big Deal as “the subscription and purchase of full sets of publisher’s journals in electronic format and the provision of access to member institutions.” Because the financial commitment of a Big Deal could present challenges to institutions when budgets are static or shrinking, an incremental reduction of content and related annual costs were negotiated in the license agreements with vendors. The authors questioned if patterns of use across the members would allow for a title-by-title retreat without disenfranchising one or more members. Their findings supported the concept that a retreat based on the ranking of articles downloaded across members would be a workable approach for reducing content and costs.

Hellriegel and Van Wonterghem examined electronic journal packages and their effect on library budgets and consortia purchases. They discussed the development of package deals, the effect of their increased costs when budgets decrease, issues associated with cancellations when involved in Big Deal license agreements, and the effect on cost by publisher mergers or the acquisition of publishers by other enterprises. They also examined the possibility of using document supply in lieu of renewing a package deal, but found that it would not be practical. Also, Jasper experienced problems with the Big Deal packages and consortial purchasing agreements when he was faced with a large budget cut. He found one publisher that would allow the cancellation of some electronic journals, but, with another publisher, he would lose access to a large number of other titles and exclusion from the consortium. Other publishers...
limited cancellations to a stated percentage each year. Jasper noted that the complexity of online subscriptions combined with print subscriptions and of package deals arranged directly with vendor and through the consortium made cancelling electronic journals difficult.

Edlin and Rubinfeld examined Big Deal agreements from a legal perspective. The authors discussed the growth and make-up of Big Deals, their pricing ties to print subscriptions, the issues surrounding cancellations, the effect on the library budget, and potential antitrust issues. They also examined the economic effects of Big Deals on the publishing world and reflected on issues surrounding exclusion and monopoly.

In 2005 the Association of Research Libraries (ARL) surveyed its members about large publisher bundles. The survey focused on the five largest publishers. The most common reason for purchasing bundles was that the content and access were a good return on investment. One feature of the licensing was a restriction on the cancellation of print titles. Some members reported they could cancel a small percentage while others reported bans on cancellations. "Libraries reported an average satisfaction rating of 3.4 (on a 5-point scale) for the pricing of their first contract with any given publisher" for Big Deals, with a slightly lower average for consecutive contracts.

Hiott and Beasley provided a similar view of the importance of consortia in their study of two public libraries. Houston Public Library relied on access to electronic journals and databases provided through TexShare. Forsyth County Public Library similarly relied on GALILEO, a virtual library of licensed and online research sites offered by the State of Georgia Board of Regents. Both libraries relied on their consortium for license negotiations, access maintenance, and use statistics reporting.

**Acquisitions Work**

From 2004 through 2007, budget challenges, vendor changes, and technological improvements also had a serious effect on many of the basic functions of acquisitions work. Approval plans became important again, not only to assure good selection within a subject area, but to bring efficiencies to the acquisitions work. Consortia began to show interest in shared collection development and acquisitions. With the move from print to online journals, major projects of print journal subscription cancellations were common.

Fenner took a comprehensive look at approval plans. She noted that the efficiency of a plan depended upon the profile specifications and how well it was maintained to meet the library’s needs. A title-by-title selection plan could be used either to supplement approval plans or to replace approval plans. Brush compared the circulation of books purchased on the engineering approval plan to the circulation of books in the engineering collection as a whole to determine the efficiency of a profile or whether the approval plan should be replaced by individual book ordering. Books ordered on the plan were more heavily used, which warranted maintaining the approval plan. The data also revealed that electrical engineering books were not being ordered through the approval plan. The profile was adjusted to include them.

Boudewyns saw the use of approval plans for art as a way to free the art librarian for the significant amount of effort needed to support the acquisition of licensable digital image collection (LDIC). She described LDICs as interactive systems that provided a mechanism for using digital images to create presentations and teaching materials. Lorenzen used her experience in developing an academic library art collection to illustrate the many changes in acquisitions due to new material formats and technological developments. She described changes to the information needs and research practices of art students as they move beyond print to embrace the new digital technologies. Lorenzen also discussed recent changes to academic library acquisitions, such as the shift to digital formats, new approval plans that allow for ordering online, a focus on aggregator databases as an acquisitions source, and the effect of price increases on the budget.

Because of price and unfavorable currency exchange rates, Kamada utilized a slip selection approval plan profiled on Japanese language and linguistics to acquire resources for Japanese studies. This plan allowed Kamada to stay within budget and spread the selection and ordering more evenly throughout the year. The slip selection plan was implemented for Japanese Buddhism and may be viable for small subject collections.

Curl and Zeoli described a consortial shared approval plan that was developed through a partnership with YBP for the Colleges of Ohio Networked System Online for Research and Teaching (CONSORT), which consists of Denison University, Kenyon College, Ohio Wesleyan University, and The College of Wooster. The goal of the project was to develop a broad collection with less duplication while each college maintained its core collection. They were able to make broad use of the geographic and interdisciplinary tags supplied by the vendor for Asian and African material. Responsibility for various subject areas was shared between the CONSORT institutions on the basis of interest expressed. Fund codes were used to map responsibilities and institutions so that a shared YBP account could be established.

As a way to select vendors for the library’s book approval plans, Horava established a concurrent book approval pilot project for analyzing the performance of selected vendors of choice rather than sending a request for a proposal.
The vendors were reviewed on the same criteria applied to different subject disciplines. Mueller used a pilot approval plan as a way to move faculty from title-by-title selection to using approval plans. The goals of the pilot were to free the faculty from selecting mainstream materials and allow more time for selecting unique materials.

Dali and Dilevko examined how Slavic and East European print materials were acquired by North American public and academic libraries. They noted that many libraries used approval plans for Slavic collections, and many also acquired these materials through other means, such as book stores, book fairs, buying trips, exchanges, and gifts. Dali and Dilevko found that 51.4 percent of the surveyed libraries did not use approval plans.

As a way of augmenting traditional subject analysis, Mortimore applied the concept of “just-in-time” to acquisitions. By combining interlibrary loan (ILL) data and circulation data by subject area, he determined which areas needed further development. Books were purchased rather than borrowed for these areas. The author proposed that just-in-time acquisitions often cost less than traditional ILL and contributed valuable items, which circulated frequently, to the collection.

With ongoing budget cuts or the need to fund electronic access, Gallagher, Bane, and Dollar were faced with canceling some of their print titles. Employing an evidence-based librarianship approach, they included data from a current periodical use study, SFX (Ex Libris’ link resolver) statistics, photocopying statistics, bound journal shelving statistics, gate counts, and relevant statistics from several library associations to make the best decisions. Although no two data sets correlated directly, the results of their analyses were quite similar. The authors also noted similarities in the journal titles used most frequently and that a significant portion of the print collection was never used during the study. They concluded with a discussion of the complexities of canceling print subscriptions due to pricing models or contractual obligations to retain print.

Carey, Elfstrand, and Hijleh also used an evidence-based approach on a cancellation project to reduce journal expenditures by 15 percent. Their goals were to minimize the effect on the collection and gain support from faculty by including a bibliographer from each department who determined the journals to be cancelled. The bibliographers were provided with the average cost of use over a two-year period. Accounting reports were generated on the progress made toward reaching the goal. A project management system, CORE Project Management, was used to help manage the project.

Farrell and Truitt addressed a common problem faced by acquisition librarians—the need to build and maintain complex vendor records within the acquisitions module of their ILS. Their article received the 2004 Association for Library Collections and Technical Services Blackwell Scholarship Award. The authors examined the creation and content of the vendor record as an example of the need to standardize vendor-supplied acquisitions records. By analyzing the data needed to support acquisitions activities and tasks, key data elements needed in the vendor record were identified and the difficulty in keeping that data current was noted. The goal of the article was to encourage the development of electronic data interchange (EDI) standards by which vendors would supply information about themselves to their library customers.

Laskowski was concerned about the consequences of new technology and the availability of various media formats on the acquisitions process. She described common problems such as determining the appropriate format to acquire, complex and confusing pricing schemes, the assurance of quality for long-term preservation, and the need to purchase compatible playback equipment.

Chapman’s revised edition, Managing Acquisitions in Library and Information Services, is written primarily for library and information science students but is also a good resource for those new to acquisitions. In this thin volume, Chapman covers the range of acquisition processes and online services.

**Booksellers and Vendors**

The Internet allowed booksellers, serial agents, and publishers to move their work online. Print catalogs disappeared as the online databases were more complete and current. Ordering systems moved online as did much of customer support. New Internet providers became serious competition to traditional library vendors. The inclusion of “Books and the Internet: Buying, Selling, and Libraries” as a theme at the 2004 Charleston Conference was indicative of the importance of the topic.

Because the acquisition of out-of-print materials can be problematic and time consuming, Ansberry trialed outsourcing, which is the the searching, purchasing, and cataloging of out-of-print materials to a vendor. The trial resulted in a high fulfillment rate, and the books received were in good condition, but receipt was slow compared to direct order from an online vendor. The cost per book was higher than if the book was ordered directly from an online vendor, but this increase was offset by savings in staff time. For libraries with small staffs, the results indicated that outsourcing could be a good alternative.

Holley and Ankem performed a comprehensive study on the effect of the Internet on the out-of-print book market. They examined whether Internet use improved the availability of books that booksellers had difficulty finding in prior years and whether Internet use led to price decreases.
The results showed a high availability of items and a significant decline in prices. Holley and Anken found that the distinction between in-print and out-of-print disappeared in terms of availability, out-of-print materials often cost less than when the items were first published, the purchase of monographs might be a viable substitute for ILL, and retrospective collections could be built more easily than in the past.

While studies have examined the availability of out-of-print materials, Levine-Clark examined online booksellers for purchasing in-print materials.47 The author found that Amazon had more books available than either Abebooks or Alibris. Abebooks, however, offered the highest average discount, followed by Amazon and Alibris. The time from publication affected pricing or availability very little. Because of the efficiency of acquisition through approval plans, the author did not consider Amazon as a replacement method for that process. However, ordering from online booksellers was feasible for second or replacement copies or titles shipped on approval plans.

Orkiszewski tested Amazon as a possible library vendor.48 He found that not all items were discounted by Amazon and that discounts varied over time. If all the books in the study had been ordered from Amazon, the total cost would have been higher. The study revealed that the library vendors could compete with Amazon’s prices and provided services at a good value.

Lubiana and Gammon examined the European bookselling market and the movement toward electronic commerce.49 They discussed book pricing and costs; availability; services (e.g., databases, online ordering and tracking, and online invoices); standards for payment transactions, such as EDI and Book Industry Standards and Communication; and sources for book acquisition.

The Guide to Out-of Print Materials by Tafuri, Seaberg, and Handman is an excellent resource for acquiring out-of-print materials of different types and serves as a quick reference resource.50 The authors cover traditional methods of obtaining the materials as well as Internet resources.

Because budgets were shrinking, Lam stressed the need for a vendor-assessment system to determine which vendors offer the best quality and pricing.51 She discussed how to establish a system and stressed that it should be comprehensive but user-friendly. The program should interface with the local library system to collect data and create spreadsheets for use in reporting key measurements. Gagnon looked at vendor relationships from a public library perspective.52 He believed the key to successful library projects was a good relationship with vendors. While Gagnon considered the library’s relationship with the vendor as an investment, he noted that vendors must take the time to understand the needs and issues of the library.

Moghaddam and Moballeghi analyzed a variety of digital content aggregators and placed them into three categories: content hosts such as Ovid and Highwire Press, gateways such as SwetsNet and Biosis, and full-text content providers such as ProQuest and EBSCO.53 The authors described important advantages and disadvantages to using aggregator services in acquisitions. They stressed that as new types of aggregators evolve, librarians need to understand their roles in the electronic resources supply chain.

Two important sources focus on vendors and acquisitions. Much of Anderson’s book, Buying and Contracting for Resources and Services: A How-To-Do-It Manual for Librarians, addresses vendor and good customer relationships.54 The book also covers negotiating terms of service, license agreements, and the basics of approval plans. Ball’s book, Managing Suppliers and Partners for the Academic Library, covers vendor relationships and outsourcing, but the examples are limited to British libraries.55

Flowers’ article described the key points to consider in negotiations for different types of library materials.56 She discussed implications for process differences, such as one-time rather than ongoing purchasing, the volume and nature of orders placed, and the type of vendor and how they do business. Flowers provided solid definitions for the different issues to be negotiated depending on the acquisition method.

**Electronic Resources**

The ARL tracked member expenditures on electronic resources between 1994–5 and 2001–2.57 During that timeframe, expenditures for electronic resources grew by nearly 400 percent while total materials expenditures increased by only 61 percent. In another ARL report, Johnson and Luther examined libraries’ moves to electronic-only journals.58 They identified the need to control cost and the growing need for new content as two forces driving libraries to switch to electronic journals, which have resulted in an increase in discontinuing corresponding print editions. In a 2004–5 survey, the average ARL library spent 37 percent of its materials budget on electronic materials; some spent more than 50 percent.59 Prabha analyzed journal subscription and format data for 2002–6.60 She found that 5 percent of the subscriptions were available solely in electronic format in 2002. By 2006, 36 percent of journals were published solely in electronic format. Findings revealed that print subscriptions were canceled to move to online format to avoid a budget shortfall.

Eells studied the possible effects of a library’s decision to eliminate print journals in favor of electronic access.61 She provided a substantial background on the primary methods of electronic journal publication, subscription options, and pricing models. Eells summarized several major publishers’
approach to the relationship between publishing costs and subscription pricing. Wolf described common issues faced when moving from print to electronic-only subscriptions. Using a case study of the acquisition processes at Cardiff University, he described the challenges of dealing with a wide range of different subscription models, including consortium options and publishers’ Big Deals. Wolf outlined the steps needed to investigate these options and described how difficult and time-consuming that can be for acquisitions staff. He also discussed the challenges of managing the subscriptions over time.

Silberer and Bass discussed the effect of e-books on the ordering process. In outlining the various ordering options, purchasing models, and distribution methods, the authors noted “there is no single source, option or strategy that is uniform for e-Books.” An extensive chart compared offerings and services of twelve popular e-book providers. The authors described the role of the serial agent in selling subscriptions to collections of e-books, whether by lease or by access on a permanent basis. Their description of the current digital rights management technology for e-books demonstrated the complexity of acquisition options. Mikkonen also discussed e-book purchase models for consortia. The pricing models for purchasing single e-books were similar to the models for purchasing printed books. However, if the e-book was purchased as part of a collection, the price might have been higher depending on the number of simultaneous users. Other pricing options were based on a one-time purchase or ongoing access. She suggested that consortium acquisitions should be based on the simplest pricing model because complicated negotiations and managing the different pricings could easily nullify the savings. In examining licensing, Mikkonen found that the e-book agreements needed to be adapted to include perpetual access rights.

Conger’s book, Collaborative Electronic Resource Management: From Acquisitions to Assessment, covers key topics associated with electronic resources. Chapters 4 and 6 focus on budgeting, negotiating, and licensing.

Management of Electronic Resources

Electronic resource management (ERM) was a major topic of concern during this review period. With increased acquisitions of electronic resources and the need to license them as part of the purchase process came the need to manage all the details of pricing, licensing, and access. Initially, libraries developed their own local version of an ERM system, and commercial systems followed later.

Stefancu, Bloss, and Lambrecht described the manual methods used for ERM at the University of Illinois at Chicago Library and the development of a sophisticated ERM system called the Database of Library Licensed Electronic Resources (DOLLeR). DOLLeR was designed to provide access to license agreements, a Web e-mail gateway, and reporting capabilities. The use of tables for provider, license, resource, subscription data, and information provided by Serials Solutions were central to the design of the database.

North Carolina State University Libraries also designed their own ERM system, E-Matrix. Raschke and Goldsmith stated that the initial plan was to develop E-Matrix to manage databases, aggregated resources, and electronic journal packages. However, because their ILS could not effectively manage print or electronic subscriptions, the ERM system was expanded to handle them. Kennedy examined the development of locally developed ERM systems at MIT Libraries, Pennsylvania State University Libraries, and UCLA Libraries, and their reasons for developing them.

Grover and Fons described Innovative’s partnership with several academic libraries to develop a system that met their needs and that could be integrated into the local library system or function as a standalone system. Galloway discussed the development, implementation, and features of the Innovative ERM module at Glasgow University. Tull described the conversion from the local management database to the Innovative ERM module at Ohio State University. Tull et al. discussed the integrated features of the ERM module and the use of the three new types of records (resource, license, and contact) for managing electronic resources.

The final report of the Digital Library Federation Electronic Resource Management Initiative (DLF ERMI) was released in August 2004. The document outlined ERM system needs, covering how groups of data elements are related and relating them to functional requirements. The document served as a standard for use by both libraries and vendors. Fons and Jewell summarized the key findings of the 2004 DLF ERMI report as background for proposing an ERMI II. Several key library systems vendors developed electronic resource management systems on the basis of initial DLF ERMI specifications and modular components of their existing ILSs. According to the authors, ERMI II would move the standardization efforts further into the tracking of license data, the development of the license expression specification, the use of Project COUNTER Codes of Practice to standardize use data reports, and finally a standardized method of collecting use statistics from a variety of vendors known as SUSHI (Standardized Usage Statistics Harvesting Initiative). They concluded by recounting the key benefits implementing an original ERM system brought to the acquisitions function and by proposing additional functions needed to effectively manage electronic resources.

Managing Electronic Resources: Contemporary Problems and Emerging Issues, edited by Bluh and Hepfer,
is an important collection of eleven papers from knowledgeable authors on a variety of ERM issues. Many of the papers were presented at the 2003 and 2004 ALCTS Midwinter Meeting symposia.

**Licensing**

Purchasing electronic resources often included a license agreement defining what the library and authorized users may do. The license agreements varied in complexity and often required a negotiation of terms. As libraries switch from print to electronic journals and books, librarians could be faced with more licenses to process.

Algenio and Thompson-Young examined the content of license agreements for e-books with a particular focus on how these contracts should be reviewed, revised, and negotiated to meet libraries’ needs. They noted that while the one e-book, one user model can be easily negotiated to meet library requirements, license agreements for subscriptions to e-books were similar to those for e-journal packages. The authors recommended that libraries insert language into the license as needed to meet library requirements, and they described specific clauses and terms that should be considered important to any e-book license agreement.

The concept of creating and using a model license was thoroughly examined by Bosch in an article that covered the history and development of model licenses. The article addressed the many benefits of using the model license from both the publishers’ and the libraries’ perspective. Bosch also pointed out the potential problems caused during negotiations by the use of the model license. The article provided a summary and explanation of the common elements found in most model licenses.

Chou and Zhou examined licensing from a legal perspective. The article defined the types of legal protection provided to producers of digital content, described the purpose and types of license agreements, and discussed the effect of these agreements on libraries’ core values.

Through the use of a fictitious case study, Shipe discussed the barriers encountered in acquiring access to electronic database products. The license agreement for his fictitious product included typical terms that were unacceptable for a state university: no access for the general public within the library, a clause indemnifying the licensor against any third-party legal action, and legal jurisdiction in another state. Shipe described the process of negotiating the license agreement with members of a society dependent on outside counsel, working with very busy university attorneys, and explaining the delay in access to their patrons.

Stemper and Barribeau identified perpetual access to e-journal content as a key problem for research libraries in an article that received the 2007 Best of LRTS Award. Looking for license terms that provided useful guarantees of ongoing access should the subscription be canceled, the authors found that 36 percent of commercial publishers and 28 percent of society publishers provided perpetual access. If licenses were accepted without a perpetual access clause, libraries risked losing future access if a subscription is canceled. The authors concluded that academic libraries should insist on perpetual access even if it requires an additional fee.

Wiley surveyed thirteen large research libraries in the Midwest regarding ILL clauses in licenses. The author noted that due to budget cuts many print journals were being cancelled without the realization that licenses for the electronic materials may prohibit or limit ILL. She presented specific examples of license terms that authorize and those that deny ILL uses. Wiley also discussed important issues affecting ILL services, such as copyright, the Commission on New Technological Uses guidelines, model licenses, and the power of consortium negotiation.

A key resource on licensing and acquisitions is A Guide to Licensing and Acquiring Electronic Information by Bosch, Promis, and Sugnet, with contributions by Davis. Much of the text is focused on licensing electronic resources. The appendixes provide information on nonnegotiable and negotiable licenses and licensing terms. Another important resource is Licensing in Libraries: Practical and Ethical Aspects by Rupp-Serrano. This book offers basic information on licensing, gives examples, and provides a history of licensing. Durrant’s book, Negotiating Licenses for Digital Resources, focuses on the process of negotiating with publishers and suppliers for better license terms and prices and walks readers through the preparation process. Another publication of interest is the report on licensing by Primary Research Group (PRG). PRG surveyed libraries across the United States, Canada, the United Kingdom, and other countries about database licensing practices. Their report covers licensing terms and provides historical information on licensing.

**Reorganization and Workflow Changes**

Reorganization and workflow changes continued to be a major topic during the period of the literature review. Between the years 2000 and 2003, articles focused mainly on changes within work groups. However, some articles examined the workflow between work groups and the need to realign staff to provide more support for the acquisition of electronic resources.

Grahame and McAdam reported on an ARL survey in which 87 percent of the respondents indicated they were making organizational changes to support the processing and managing of electronic resources. Workload (staffing
levels) and the need for an ERM module were identified as future challenges.

Higa et al. undertook a major reorganization to address staffing needs for a digital environment, a problematic team approach, and the lack of a clear vision. A taskforce collected data on which to base the restructuring. As a result of that data, new or modified departments were established. One of the new departments, Digital Infrastructure Research and Development, handled long-range planning and research. A second new department, Digital Access, had responsibility for the access to the collections. The third new department, Print Resource Management and Optimization, addressed print resource purchasing and manage the journal collection development.

Fenner outlined key issues affecting technical services staff at Wichita State University. The focus of the workshop was to reduce the processing time for monographic acquisitions. The results of the workshop were immediately beneficial—processing time for books from receipt to shelf was reduced by ten days. The authors suggested that other acquisitions workflows, such as approval book plans, vendor relations, and special projects, also could be improved by this method.

Kulp and Rupp-Serrano surveyed twenty-four academic library members of the Greater Western Library Alliance regarding the selection, funding, and workflow coordination of electronic resources acquisition. While the authors found broad common categorizations of patterns for selecting and funding electronic resources, coordinating the acquisition and processing tasks revealed a much less clear scenario. Perhaps because of a lack of standards and technology to support managing electronic resources, many of these libraries indicated that their workflows were expertise-based, relying on one or two individuals to manage the acquisitions process.

Fenner outlined key issues affecting technical services operations. Increased user expectations for electronic resources; the complexity of acquiring and managing the emerging new electronic formats; training in the many systems required to acquire, process, and catalog these resources; limited budgets; and hiring freezes forced technical services librarians to reconsider their basic assumptions and alter their traditional workflows. Fenner discussed organizational restructuring as a solution for streamlining procedures and using staff more efficiently.

Youngman, through a process-flow analysis, found a more effective way of handling the increased ordering and processing of monographs late in the fiscal year with limited staff. The process eliminated duplicated effort and other steps, resulting in a better workflow and more efficient use of staff time.

Fowler and Arcand performed a serial acquisitions time and cost study to determine if there were standard data elements that could be used for making management decisions, such as the reassignment of staff time to other tasks. During the study, an increase in electronic resources resulted in the need to hire an electronic resources coordinator because of the complexity of licenses and time required to negotiate them. The study revealed the difficulty in controlling time and cost. It verified the need for standard data elements in acquisition records down to a granular level to reduce the time and effort needed to produce management reports.

Alexander and Williams described the results of using an accelerated improvement workshop for their technical services staff at Wichita State University. The focus of the workshop was to reduce the processing time for monographic acquisitions. The results of the workshop were immediately beneficial—processing time for books from receipt to shelf was reduced by ten days. The authors suggested that other acquisitions workflows, such as approval book plans, vendor relations, and special projects, also could be improved by this method.

Heapfer, Davis, and Waters’ chapter in Perspectives on Serials in the Hybrid Environment addressed the effect of acquiring electronic resources on technical services units. The authors studied the State University of New York to identify the need for additional support, training of staff, and implementing an ERM system.

**Conclusion**

Libraries are steadily shifting from print to electronic resources. User demand, new technology, and financial savings will continue to drive this change. New pricing models for e-journals and e-books will continue to emerge. As print resources diminish, workflows will continue to be changed and technical services departments will continue to restructure to support the new demands of the digital environment. As new forms of electronic resources appear, ERM systems and standards will continue to evolve to handle the growth and effect of electronic resources.
References


22. Ibid.


27. Ibid., 6.


64. Ibid., 24.


68. Gregory K. Raschke and David G. Goldsmith, “Making the


Author-Assigned Keywords versus Library of Congress Subject Headings

Implications for the Cataloging of Electronic Theses and Dissertations

By C. Rockelle Strader

This study is an examination of the overlap between author-assigned keywords and cataloger-assigned Library of Congress Subject Headings (LCSH) for a set of electronic theses and dissertations in Ohio State University’s online catalog. The project is intended to contribute to the literature on the issue of keywords versus controlled vocabularies in the use of online catalogs and databases. Findings support previous studies’ conclusions that both keywords and controlled vocabularies complement one another. Further, even in the presence of bibliographic record enhancements, such as abstracts or summaries, keywords and subject headings provided a significant number of unique terms that could affect the success of keyword searches. Implications for the maintenance of controlled vocabularies such as LCSH also are discussed in light of the patterns of matches and nonmatches found between the keywords and their corresponding subject headings.

The usefulness of controlled vocabulary has been debated for a number of years. The question has come even more to the forefront with the popularity of online tools such as Google and the use of keywords as users’ primary search strategy. For libraries, the debate also centers on whether controlled vocabularies, such as Library of Congress Subject Headings (LCSH), are worth the time (and associated expense) of assigning and adding to bibliographic records in catalogs and databases. Studies on the issue focus primarily on users as seekers of information and examine keyword terms as used in searches. Few studies exist that examine the use of keywords assigned by authors of online documents. The present study is intended to contribute to the literature on this issue of keywords versus controlled vocabularies in online catalogs and databases.

Literature Review

Several studies have addressed the uses of controlled vocabulary versus keywords in users’ catalog searches. A representative selection will be reviewed here to
provide context for the current project. Carlyle conducted a study matching catalog users’ search terms with LCSH in which 47 percent of the search terms matched exactly.\(^1\) When including partial matches, word order variations, and spelling variations, the figure rose to 74 percent. Only 5 percent of users’ search terms could not be matched at all. The remaining 21 percent were matches that required two or more LCSH terms to cover the search term. In this study, users’ searches were done through subject search fields, not general keyword searches, which were not available at the time of the study. Carlyle concluded that a maximum 74 percent match rate was not an acceptable performance for LCSH and that further analysis of LCSH vis-à-vis user language was needed. The study is important because it defined levels of matching and called both for better matching against cross-references and for making LCSH semantically more flexible.

Frost investigated the utility of keywords taken from titles as “entry vocabulary” to subject searches by examining the degree of match between title keywords and controlled vocabulary.\(^2\) Matches could be exact over the entire heading in direct order (11 percent of Frost’s sample), in any order (30 percent), exact main heading only (12 percent), exact in subdivision (5 percent), truncated variant in main heading (14 percent) or subdivision (1 percent), or no match at all (27 percent). Thus matches of some type occurred in 73 percent of the titles in her sample, leaving the remaining 27 percent with no matches at all. Frost concluded that keywords and subject headings are complementary.

Ansari replicated Frost’s study using medical dissertations written in Farsi.\(^3\) Her findings were very close to Frost’s: 70.3 percent of Ansari’s terms were matches of some type and 29.7 percent did not match at all, compared to Frost’s 73 percent and 27 percent, respectively. Ansari also concluded that keywords and descriptors are complementary and that keywords for which there is no matching descriptor should be considered for addition to indexing lists.

Voorbij conducted a study of title keywords and subject descriptors using somewhat different criteria for comparison.\(^4\) His focus was on comparing the descriptors to the keywords rather than comparing keywords to descriptors. His aim was to determine how well subject descriptors enhanced bibliographic records. The comparison defined matches in thesaural or semantic terms instead of using Frost’s more literal use of LCSH construction (i.e., main headings and subdivisions) and spelling. Voorbij categorized the results as exact match, synonym, broader term, narrower term, related term, some relation but difficult to determine, and no match. The first three categories, constituting 59.6 percent of the results (629 of 1055 descriptors), were not considered enhancements to the record. The remaining 426 descriptors (40.4 percent) were examined for the degree to which they enhanced the bibliographic record. Initially all 426 were considered as “possibly enhancing” the bibliographic record; this included 24.4 percent in the “no match” category. Further subjective examination determined that within the remaining 426 descriptors, 342 (33.0 percent of the sample) could be said to “slightly enhance” the bibliographic record, and 241 (23.2 percent) could be regarded as “considerably enhancing” it. Like Frost, Voorbij concluded that title keywords and descriptors are complementary, noting that descriptors help to reduce irrelevant hits and boost precision as well as to group synonymous terms.\(^5\) He further acknowledged that adding descriptors is an expensive activity that must be subjectively weighed against the value of precision and collocation.

Gross and Taylor examined transaction logs of users’ searches to see if controlled vocabulary provides additional keywords and consequently enhances both recall and precision in keyword searches of a catalog.\(^6\) Findings indicated an increase of up to 30 percent in the recall of relevant documents by the use of controlled vocabulary; about one-third of the keyword searches examined would have failed if the controlled terms had not been present. This percentage is similar to that of the “no match” category in Frost’s and Voorbij’s studies of title keywords and controlled vocabularies.\(^7\)

Garrett studied the impact of adding subject headings to records in the Eighteenth Century Collections Online database of full-text documents.\(^8\) Preliminary results indicated that some 60 percent of searches would have failed if subject headings had not been present in the record. Terms, such as “sanitation,” that are common now were not used in the original documents and would not be retrieved without the cross-reference structure provided by controlled vocabularies.

Little has been written about author-assigned keywords. Two studies touch on them: one by Kipp and one by Gil-Leiva and Alonso-Arroyo.\(^9\) Kipp compared user tags with author-assigned keywords and indexer-assigned descriptors for 165 journal articles. Matching was done on a hierarchical scale (similar to Voorbij’s) of thesaural relationships, including same, synonym, broader term, narrower term, related but not in thesaurus, and not related. The focus of the study was on user tags and did not break out statistics specifically related to author-assigned keyword matches. In this study, 44.5 percent of all terms fell into the category of “related but with some ambiguity in the relationship . . . as well as relationships that were not formally in the thesaurus.”\(^10\) Kipp concluded that tags, as well as keywords and descriptors, can be valuable as additional access points.

Gil-Leiva and Alonso-Arroyo performed a matching study of author-assigned keywords and indexer-assigned descriptors for journal articles in four databases.\(^11\) This study found an average of 24.59 percent for exact matches of keywords with descriptors and up to 45.66 percent when adding “normalized” matches (terms similar in meaning).
By inference, some 54 percent of the keywords did not match, a far greater rate of nonmatch than that found in the studies related above. The authors concluded that keywords are valuable sources of information for indexers.

The debate between controlled vocabularies and keywords may be framed in terms of the issues involved with the formation (and subsequent maintenance) of new controlled terms for use by catalogers and the use of uncontrolled terms by users. As noted above, keywords may be used as guides for the creation of controlled terms, which could affect the maintenance of controlled vocabularies such as LCSH. LCSH is maintained on the principles of “literary warrant.” Historically, literary warrant for LCSH meant that terms were derived from the materials held by the Library of Congress and has since been expanded to include contributions by Subject Authority Cooperative (SACO) member libraries. The standard for controlled vocabularies, ANSI/NISO Z39.19-2005, states that “the word or phrases chosen should match as closely as possible the prevailing usage in the domain’s literature.” Contrasting literary warrant is “user warrant,” which is defined by the ANSI/NISO standard as “generally reflected by the use of terms in requests for information on the concept or from searches on the term by users of an information storage and retrieval system.” The ANSI/NISO standard presents literary warrant and user warrant as complementary guiding principles for turning keywords into controlled terms on the basis of current literature as well as the use of terms by users who may or may not be familiar with the discipline in which they are seeking information.

### Research Method

This study investigated the following questions:

- How well do author-assigned keywords match LCSH (either the established heading or a “see from” reference)?
- Conversely, how well do LCSH match keywords used by authors of electronic theses and dissertations (ETDs)?
- How many keywords are unique to their respective bibliographic records? Do these keywords add significantly more relevant terms that may increase the likelihood of their respective ETDs being found?
- Likewise, how many LCSH are unique within their respective bibliographic records; that is, how many LCSH are assigned for which there are no corresponding author-assigned keywords? Do LCSH add significantly more unique terms that may aid in the retrieval of the ETDs to which they are assigned?
- What are the implications for the way LCSH is used? What conclusions may be drawn regarding the construction or maintenance of LCSH?

Answers to these questions may corroborate the results of the studies related above and may further be used to draw conclusions regarding the use of both cataloger-assigned terms and author-assigned keywords for enhancing catalog searches.

The current project’s data set consisted of 285 eligible ETDs submitted by Ohio State University (OSU) doctoral candidates to the OhioLINK ETD Center and their associated bibliographic records in OSU Libraries’ online catalog. Eligible titles were those for which automatic e-mail notification of availability was received by catalogers in OSU Libraries’ Cataloging Department between June 1 and October 31, 2005, had author-assigned keywords, and had full text available at the time of cataloging. The cataloging of these titles was finished in 2006. Following interruptions due to a major building renovation, data collection and analysis were conducted in late 2007 through mid-2008.

The data were collected by visual inspection of the metadata page for each eligible ETD in the OhioLINK ETD Center and its bibliographic record in OSU Libraries’ online catalog, as well as the authority record for each LCSH as found through OCLC’s Connexion Client. These data included the author-assigned keywords in the ETDs,

<table>
<thead>
<tr>
<th>Table 1. Categories of Match</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Exact Match</strong></td>
</tr>
<tr>
<td>Exact match</td>
</tr>
<tr>
<td>Exact match of cross-reference</td>
</tr>
<tr>
<td><strong>All Present</strong></td>
</tr>
<tr>
<td>All present, but not in exact order</td>
</tr>
<tr>
<td>All present, but not in exact order, in cross-reference</td>
</tr>
<tr>
<td><strong>Partial Match</strong></td>
</tr>
<tr>
<td>Partial match</td>
</tr>
<tr>
<td>Partial match of cross-reference</td>
</tr>
<tr>
<td><strong>Needs 2 LCSH</strong></td>
</tr>
<tr>
<td>KW covered by 2 LCSH, but if either LCSH were missing there would be only partial match</td>
</tr>
<tr>
<td>Part of KW in main LCSH, while remainder is covered by cross-reference of another LCSH</td>
</tr>
<tr>
<td>KW covered by cross-references of 2 LCSH</td>
</tr>
<tr>
<td><strong>Variant</strong></td>
</tr>
<tr>
<td>Variant, separated from “n” to accommodate possibility of truncation, etc.</td>
</tr>
<tr>
<td>Variant of cross-reference</td>
</tr>
<tr>
<td>Variant is abbreviation (e.g., chemical symbol such as CO2 for carbon dioxide)</td>
</tr>
<tr>
<td><strong>No Match</strong></td>
</tr>
<tr>
<td>No match/not present</td>
</tr>
</tbody>
</table>
LCSH supplied in the bibliographic records, and “see from” references as indicated in the authority files. The data were recorded in Excel spreadsheets for collocation, counting, and comparisons. A total of 1,681 author-assigned keywords and 1,181 LCSH terms were collected.

To address the research questions presented earlier, the collected keywords and associated LCSH terms were assessed to answer the following working questions:

- How many keywords exactly matched LCSH, that is, could be placed in the 600, 610, 611, 650, or 651 MARC fields (fields for controlled vocabulary)?
- How many keywords were LCSH “see from” references?
- How many keywords could or could not be converted to LCSH, that is, could be placed only in a 653 field (field for uncontrolled terms)?
- How many LCSH terms had or did not have corresponding author-assigned keywords?
- How many keywords and LCSH terms could or could not be matched to corresponding words in titles and abstracts?

To categorize and codify the data, the categories of match in table 1 were used. Where more than one interpretation existed of how a keyword could be matched with a corresponding LCSH and vice versa, a rule was established to prefer the category of match in the order (top to bottom) shown in table 1.

### Results and Discussion

The results of the comparisons of keywords and LCSH with each other and the matching of both in titles and abstracts yielded some patterns as well as several differences. As noted in the previous section, the

**Table 2. Average, Mode, Maximum, and Total Keywords and LCSH Per Title**

<table>
<thead>
<tr>
<th></th>
<th>Average</th>
<th>Mode</th>
<th>Max</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>KW/title</td>
<td>5.9</td>
<td>5</td>
<td>57</td>
<td>1681</td>
</tr>
<tr>
<td>LCSH/title</td>
<td>4.1</td>
<td>4</td>
<td>13</td>
<td>1181</td>
</tr>
</tbody>
</table>

**Table 3. Raw Counts of Keywords and LCSH Matches**

**Raw Counts of Keywords**

<table>
<thead>
<tr>
<th>Category</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Keyword exactly matched by LCSH</td>
<td>333</td>
</tr>
<tr>
<td>Keyword exactly matched only in LCSH cross-references (4xx in authority</td>
<td>90</td>
</tr>
<tr>
<td>record)</td>
<td></td>
</tr>
<tr>
<td>All keywords in LCSH but not exact word order</td>
<td>50</td>
</tr>
<tr>
<td>All keywords only in LCSH cross-references but not in exact order</td>
<td>7</td>
</tr>
<tr>
<td>Keyword partially matched by LCSH</td>
<td>365</td>
</tr>
<tr>
<td>Keyword partially matched only in LCSH cross-references</td>
<td>50</td>
</tr>
<tr>
<td>All keywords covered by 2 LCSH</td>
<td>26</td>
</tr>
<tr>
<td>All keywords covered by 2 LCSH including cross-references</td>
<td>10</td>
</tr>
<tr>
<td>All keywords covered only in cross-references of 2 LCSH</td>
<td>2</td>
</tr>
<tr>
<td>Variant form/spelling of keywords found in LCSH</td>
<td>145</td>
</tr>
<tr>
<td>Variant form/spelling of keywords found in LCSH cross-references</td>
<td>8</td>
</tr>
<tr>
<td>Variant is an abbreviation (e.g., chemical symbol)</td>
<td>14</td>
</tr>
<tr>
<td>Keyword not matched or covered in any form</td>
<td>581</td>
</tr>
<tr>
<td>Total</td>
<td>1,681</td>
</tr>
</tbody>
</table>

**Raw Counts of LCSH**

<table>
<thead>
<tr>
<th>Category</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>LCSH exactly matched keyword</td>
<td>347</td>
</tr>
<tr>
<td>Cross-reference exactly matched keyword</td>
<td>84</td>
</tr>
<tr>
<td>LCSH completely covered keyword but not in exact order</td>
<td>47</td>
</tr>
<tr>
<td>Cross-reference completely covered keyword but not in exact order</td>
<td>6</td>
</tr>
<tr>
<td>LCSH partially matched keyword</td>
<td>324</td>
</tr>
<tr>
<td>Cross-reference partially matched keyword</td>
<td>43</td>
</tr>
<tr>
<td>LCSH is/contained variant of keyword</td>
<td>119</td>
</tr>
<tr>
<td>LCSH is/contained abbreviation of keyword</td>
<td>9</td>
</tr>
<tr>
<td>Cross-reference is/contained variant of keyword</td>
<td>6</td>
</tr>
<tr>
<td>LCSH did not match any keyword</td>
<td>196</td>
</tr>
<tr>
<td>Total</td>
<td>1,181</td>
</tr>
</tbody>
</table>
The total number of keywords was 1,681 and the total number of LCSH was 1,181. The average number of keywords per title was 5.9 (mode, 5), while the average number of LCSH per title was 4.1 (mode, 4). However, there was a stark contrast between the maximum number of keywords (57) that were assigned to a title and the maximum number of LCSH (13); see table 2.

Table 3 shows the raw counts of keyword and LCSH matches. The percentages of the six broad categories—exact match, all present (in a single heading), all present (needing two LCSH), partial match, variants, and no match—of keyword matches to LCSH are presented in table 4 and include the matches to cross-references, to more than one LCSH, and to abbreviations. Tables 3 and 4 summarize the data that address the issue of how well author-assigned keywords match LCSH and serve to answer the first three working questions, that is, how many keywords matched LCSH, how many keywords matched only cross-references, and how many keywords did not match LCSH. A total of 44.49 percent of the author-assigned keywords did not match cataloger-assigned LCSH (34.56 percent had no matches; 9.93 percent were variant forms); see table 4.

One explanation for the large percentage of terms not covered by cataloger-assigned LCSH is that LCSH has not kept up with current research. This issue of maintenance has been a recurring criticism of LCSH over the years. LCSH typically are established from evidence of a new topic found in the piece in hand, that is, from literary warrant. This is usually a monograph in hand, since articles and chapters are generally not cataloged. However, in some disciplines, such as the physical sciences and medicine, the journal literature is the primary publication environment for new research, and dissertations in those fields could be among the first comprehensive monographic treatments of a topic that has been otherwise extensively discussed.

Further, the distinction is becoming blurred as articles and chapters are added to bibliographic databases such as WorldCat. Although these resources are placed in research databases to aid discovery, they usually are not formally cataloged and thus are not considered as sources for new controlled terms. Yet they typically contain current terms of the disciplines in which they are written and which may or may not be familiar to users who need those resources. These terms are

<table>
<thead>
<tr>
<th>Table 4. General Categories of Keyword Matches to LCSH</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Keywords Matched to LCSH (including cross-references)</strong></td>
</tr>
<tr>
<td>Category</td>
</tr>
<tr>
<td>Keyword matched exactly by LCSH</td>
</tr>
<tr>
<td>Keyword matched, but not in order (single heading)</td>
</tr>
<tr>
<td>Keyword matched, but not in order (needing two LCSH)</td>
</tr>
<tr>
<td>Keyword partially matched</td>
</tr>
<tr>
<td>Keyword were variant forms</td>
</tr>
<tr>
<td>Keyword not found in LCSH at all</td>
</tr>
<tr>
<td>Total</td>
</tr>
<tr>
<td><strong>Keywords Matched to LCSH Cross-References Only (4xx)</strong></td>
</tr>
<tr>
<td>Category</td>
</tr>
<tr>
<td>Keyword matched cross-reference exactly</td>
</tr>
<tr>
<td>Keyword matched cross-reference in any order</td>
</tr>
<tr>
<td>Keyword partially matched cross-reference</td>
</tr>
<tr>
<td>Variant of keyword matched cross-reference</td>
</tr>
<tr>
<td>Keyword covered by 2 LCSH, in one or both cross-reference</td>
</tr>
<tr>
<td>Total % of keyword matches in any form to LCSH cross-references</td>
</tr>
</tbody>
</table>

* Does not equal 100% because of rounding.

<table>
<thead>
<tr>
<th>Table 5. General Categories of LCSH Matches to Keywords</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>LCSH Heading Matched to Keywords</strong></td>
</tr>
<tr>
<td>Category</td>
</tr>
<tr>
<td>LCSH matched keyword exactly</td>
</tr>
<tr>
<td>LCSH matched keyword, not in order</td>
</tr>
<tr>
<td>LCSH partially matched keyword</td>
</tr>
<tr>
<td>LCSH was variant form</td>
</tr>
<tr>
<td>LCSH did not match any keywords</td>
</tr>
<tr>
<td>Total</td>
</tr>
</tbody>
</table>

| **LCSH Cross-References Matched to Keywords** |
| Category | % |
| LCSH cross-reference matched keyword exactly | 7.11 |
| LCSH cross-reference matched keyword, not in order | 0.51 |
| LCSH cross-reference partially matched keyword | 3.64 |
| LCSH cross-reference was variant | 0.51 |
| Total % of LCSH cross-references matched to keywords | 11.77 |
uncontrolled keywords that users may be likely to search on first. This use of terms for the purpose of searching is the essence of user warrant.\(^\text{17}\) As full-text access to articles and chapters becomes increasingly easier and ubiquitous, should these resources be considered as valid sources for controlled terms?

Another explanation for the unmatched keywords could be the use of different terminology for similar concepts, an issue not examined in this study. In other words, a match may not have occurred because of a lack of cross-reference in a related or semantically equivalent term, implying a different need for the maintenance of LCSH. This implication corroborates Carlyle’s conclusion about the need for the maintenance of cross-references to reflect changing user language.\(^\text{18}\)

The large nonoverlap also could imply that some keywords may be spurious or not topical in nature. For example, one keyword that was used, “MD/PhD,” does not describe the topic of the document, but rather the type of degree program in which the author was enrolled.

Other keywords, such as “grounded theory,” may not have been matched because of the cataloger’s judgment of the relevance of the term to the topic of the given ETD. The cataloger may have considered such terms to be methodological and not topical. However, in some cases discussion related to such terms in the document was significant, and the terms in question could be seen to warrant inclusion in the bibliographic record.

The question of how well LCSH terms match keywords used by ETD authors was also addressed by the first three working questions as well as the specific working question of how many LCSH did or did not have corresponding author-assigned keywords. The data to address these questions are presented in table 5, which shows the broad categories of LCSH matches to keyword. The bottom half of the table shows the LCSH cross-reference matches to keyword.

The question of how well LCSH terms match keywords used by ETD authors was also addressed by the first three working questions as well as the specific working question of how many LCSH did or did not have corresponding author-assigned keywords. The data to address these questions are presented in table 5, which shows the broad categories of LCSH matches to keyword. The bottom half of the table shows the LCSH cross-reference matches to keyword.

As shown in table 6, 36.49 percent of the cataloger-assigned LCSH matched author-assigned keywords exactly and only 16.60 percent did not match any keywords while 31.08 percent were partial matches and 11.34 percent were variant forms of the keywords. The low total of variant matches and nonmatches could imply that keywords are used to guide the catalogers’ assignment of LCSH, consistent with the findings of Ansari, and Gil-Leiva and Alonso-Arroyo.\(^\text{19}\) Keywords, as assigned by the authors, could be seen to reflect the current use of

---

### Table 6. Keyword and LCSH Matches in Title and Abstract

<table>
<thead>
<tr>
<th>Category</th>
<th>% in Title</th>
<th>% in Abstract</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Keyword Matches in Title and Abstract</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Keyword exactly matched</td>
<td>26.23</td>
<td>54.61</td>
</tr>
<tr>
<td>Keyword matched, but not in order</td>
<td>2.8</td>
<td>10.11</td>
</tr>
<tr>
<td>Keyword partially matched</td>
<td>16.06</td>
<td>15.94</td>
</tr>
<tr>
<td>Variant of keyword</td>
<td>11.12</td>
<td>8.74</td>
</tr>
<tr>
<td>Keyword not present at all</td>
<td>43.78</td>
<td>10.59</td>
</tr>
<tr>
<td>Total(^\text{a})</td>
<td>99.99</td>
<td>99.99</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>LCSH Base Matches in Title and Abstract</strong></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>LCSH exactly matched</td>
<td>14.14</td>
<td>26.84</td>
</tr>
<tr>
<td>LCSH matched, but not in order</td>
<td>2.12</td>
<td>10.75</td>
</tr>
<tr>
<td>LCSH partially matched</td>
<td>21.42</td>
<td>16.93</td>
</tr>
<tr>
<td>Variant of LCSH</td>
<td>12.36</td>
<td>14.39</td>
</tr>
<tr>
<td>LCSH not present at all</td>
<td>49.96</td>
<td>31.08</td>
</tr>
<tr>
<td>Total(^\text{a})</td>
<td>100.00</td>
<td>99.99</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>LCSH Subdivision Matches in Title and Abstract</strong></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>LCSH subdivision exactly matched</td>
<td>15.14</td>
<td>31.13</td>
</tr>
<tr>
<td>LCSH subdivision matched, but not in order</td>
<td>0</td>
<td>3.62</td>
</tr>
<tr>
<td>LCSH subdivision partially matched</td>
<td>10.66</td>
<td>17.06</td>
</tr>
<tr>
<td>Variant of LCSH subdivision</td>
<td>6.4</td>
<td>8.96</td>
</tr>
<tr>
<td>LCSH subdivision not present at all</td>
<td>67.8</td>
<td>39.23</td>
</tr>
<tr>
<td>Total</td>
<td>100.00</td>
<td>100.00</td>
</tr>
</tbody>
</table>

\(^\text{a}\) Some totals do not equal 100% because of rounding.
terms in a field and can be used as points of entry for both users and catalogers. Where keywords can be translated into existing LCSH, the controlled vocabulary and cross-reference structure can then allow for meaningful sorting and organization (or “triage,” as Sclafani describes it) of search results.20

In light of the professed advantages of cross-references, however, the effect of cross-references in this study was not as great as expected, although still noticeable. The total percentage of keyword matches in any form to LCSH cross-references was 9.93 percent (table 4), while the total percentage of matches of LCSH cross-references to corresponding keywords was 11.77 percent (table 5).

To answer the final working question (regarding uniqueness of terms within the bibliographic record), data were collected on the presence of the keywords and subject headings in their respective titles and abstracts. As with the keyword to LCSH matching procedure, exact and partial matches were counted as well as singular and plural differences and other variants that could affect user-search results. However, the LCSH matching procedure was varied for this portion of the study. In the previous parts of the study, base terms and subdivision strings were kept together, but for this part of the study the base terms and subdivisions were treated separately. This was done for two reasons. First, subdivided LCSH are not natural language phrases as keyword phrases were in this population of documents; exact matches over entire subdivided LCSH did not occur. Second, most of the assigned LCSH (712, or 60.29 percent) were not subdivided; that is, they were base terms only, and consequently the subdivisions were separated out to allow for the collocation of the data across all collected base terms. The percentages for the subdivisions are derived from the remaining 469 LCSH (39.71 percent) that contained them. Table 6 shows the percentages of matches that were found in titles or abstracts.

While conducting this study, the investigator learned that ETD authors were discouraged from using or relying on the titles of their works when selecting keywords. The degree to which this practice affected the results is unknown. The fact that 43.78 percent of the keywords had no match in the title and another 11.12 percent had only a variant match may reflect this instruction. Conversely, no correlation may exist. This possibility is consistent with the finding that 49.96 percent of assigned LCSH were not matched in the title and 12.36 percent were present as a variant. Further, titles are inherently limited in wording, and consequently contain a restricted number of words that could be repeated in keywords and LCSH assigned to the work.

A notable result occurred when keywords and LCSH were matched against abstracts, which are included in the bibliographic records for OSU ETDs. Author-assigned keywords exactly matched words in the abstract 54.61 percent of the time, while cataloger-assigned LCSH exactly matched only 26.84 percent of abstract words. Keyword nonmatches occurred 10.99 percent of the time, and cataloger-assigned LCSH nonmatches occurred 31.08 percent of the time. Put another way, only about one-tenth of the keywords and roughly one-third of the assigned LCSH are unique to the bibliographic records. This result corroborates Gross and Taylor’s findings in which more than one-third of the user searches that they examined would have failed if LCSH were not present in the records found.21 In terms of the discoverability of bibliographic records, the use of LCSH significantly complements keywords by providing further unique terms for searching and matching, even in the presence of enhancements such as abstracts.

The data gathered in this study suggest that authors performed rather effectively (when compared to assigned LCSH) in providing relevant keywords. A total of 65.44 percent of author-assigned keywords matched exactly, partially matched, or were variant forms of LCSH. Indeed, as noted above in relation to table 5, only 16.60 percent of the cataloger-assigned LCSH did not have corresponding author-assigned keywords. Authors, however, were not always concise about assigning keywords. One author assigned 57 keywords (the maximum noted in table 2), many of which are redundancies to capture variants. Table 7 shows a sample of these redundancies found in that record. One could consider this as an exemplar to demonstrate the value of controlled vocabulary.

### Conclusion

In this study, LCSH demonstrated their potential to provide unique access points for approximately one-third of searches,
even in the presence of bibliographic enhancements such as abstracts. Keywords provide a similar benefit, although not as strong, since they more often duplicate terms that appear in abstracts. Abstracts in the bibliographic records for ETDs are the norm for the OSU online catalog, but elsewhere this is likely not the case. Consequently, both LCSH and keywords provide significant numbers of unique terms that may increase the discoverability of ETDs in a catalog where abstracts are not present. Evidence of this can be seen by the number of nonmatches (i.e., unique terms) in the title-only comparisons of LCSH (49.96 percent) and keywords (43.78 percent). LCSH has the added benefit of collocating ETDs with like materials in other formats in the catalog.

The currency of research as found in dissertations represents a challenge to controlled vocabularies such as LCSH. Literary warrant, as it is currently practiced, makes it difficult for such systems to keep up with the pace of new research. Keywords may compensate for this lagging behind, which is inherent in the maintenance of controlled vocabularies, by serving as entry points into the catalog and as guides for the assignment of controlled terms that have already been established. This study corroborates the findings of much of the research on controlled vocabulary and uncontrolled keywords, showing that they are complementary tools for helping users find the materials that they need.

References and Notes
2. Carolyn O. Frost, “Title Words as Entry Vocabulary to LCSH: Correlation between Assigned LCSH Terms and Derived Terms from Titles in Bibliographic Records with Implications for Subject Access in Online Catalogs,” Cataloging & Classification Quarterly 10, no. 1/2 (1989): 165–79.
5. Frost, “Title Words as Entry Vocabulary to LCSH.”
7. Frost, “Title Words as Entry Vocabulary to LCSH”; Voorbij, “Title Keywords and Subject Descriptors.”
11. Gil-Leiva and Alonso-Arroyo, “Keywords Given by Authors of Scientific Articles in Database Descriptors,” 1176.
14. Ibid.
15. In addition to Carlyle, “Matching LCSH and User Vocabulary in the Library Catalog,” see, for example, Hope O. Olson and John J. Boll, Subject Analysis in Online Catalogs, 2nd ed. (Englewood, Colo.: Libraries Unlimited, 2001): 40; Library of Congress Subject Headings.
17. NISO, Guidelines for the Construction, Format, and Management of Monolingual Controlled Vocabularies, 16.
19. Ansari, “Matching Between Assigned Descriptors and Title Keywords in Medical Theses,” 414; Gil-Leiva and Alonso-Arroyo, “Keywords Given by Authors of Scientific Articles in Database Descriptors,” 1179.
In response to the ongoing conversation about Library 2.0, which has focused on user participation and emphasizes efficiency in delivering library services to users, this paper draws attention to a practical application in technical services: using Web 2.0 tools to enhance performance in the cataloging department. From his position as the coordinator for non-Roman cataloging in a large academic library, the author shares his experience using a blog and other Web 2.0 tools to improve section management and professional activities.

“More important than what we do is how we do it.” —Anonymous

“If a craftsman wants to do good work, he must first sharpen his tools.” —Confucius

The concept of Web 2.0 has attracted wide attention from librarians, whose primary focus has been on instruction and user services. The evolution of the technology of social networking has transformed the operation of information services and resource sharing. Library 2.0, part of the larger 2.0 movement, focuses on user participation and stresses efficiency in the delivery of library services to users. Numerous scholarly discussions about using Web 2.0 applications to improve the library’s public services have been published, and representative examples are described below. Libraries’ open public access catalogs (OPACs) have been targeted for change in order to better match users’ expectations about finding information. While several important articles merit further discussion, the participation of technical services librarians in the Library 2.0 conversation, especially in terms of how technical services librarians are taking advantage of Web 2.0 tools to solve their daily challenges, has received little attention. To address this absence, the author will explore the use of Web 2.0 tools in a technical services setting.

Literature Review

To illustrate the concept of the Web as a platform, O’Reilly diagramed a Web 2.0 “meme map” in which he construed Web 2.0 with several strong advocates, such as “services, not packaged software,” “participation, not publishing,” “tagging, not taxonomy,” and “an attitude, not a technology.” Miller set forth the concept of Library 2.0 in a timely article titled “Web 2.0: Building the New Library” by applying Web 2.0 principles “Web 2.0 + Library = Library 2.0?” He saw Web 2.0 as “a convenient label upon which to hang a range of concepts,” and claimed “there is much of value with which libraries should be seeking to engage.” Though
Similarly, being new is not enough to make a service Library 2.0 if criteria are met. She discovered “very little consistency among the 10 libraries that have Web pages dedicated to online services.”8 She pointed out, however, that “while authors focus significantly on the public services aspect of online tools, such as databases and Web sites, few articles exist concerning the new methods technical services librarians are employing to complete their tasks.”8 She discovered “very little consistency among the 10 libraries that have Web pages dedicated to online tools.”8

Surprisingly, although much has been published recently on Library 2.0, little has been written on how Library 2.0 principles are being adopted in technical services operations.9 Some articles have addressed library technical services websites, but the examples studied had few or none of the interactive features that define Library 2.0. In her investigation of twenty academic libraries’ technical services webpages, Groves observed that “the 21st century technical services librarian has access to a plethora of electronic and online work tools from which to choose to complete daily tasks.” She pointed out, however, that “while authors focus significantly on the public services aspect of online tools, such as databases and Web sites, few articles exist concerning the new methods technical services librarians are employing to complete their tasks.” She discovered “very little consistency among the 10 libraries that have Web pages dedicated to online tools.”

Mundle, Zhao, and Bangalore, on the other hand, dedicated a study to evaluating cataloging department websites within the consortium of the Committee on Institutional Cooperation (CIC) libraries.10 Following up that study, Mundle, Huie, and Bangalore made further efforts by selecting a larger group of research libraries (eighty-seven member libraries of the Association of Research Libraries, including CIC) as subjects to validate their four study parameters for evaluating cataloging department websites, namely, accessibility, design and structure, internal documentation, and external resources.11 Perceiving that “cataloging is a dynamic and constantly evolving field,” and “thus, cataloging department Web sites must undergo periodic assessments or evaluations to determine if updates or revisions are necessary,” the authors emphasized that “the efficiency, effectiveness, and user-friendliness of any Web site are the key factors that determine its success or performance.”12 Their findings indicate that “considerable effort is required to maintain and update [library technical services] Web sites (57.5 percent of the subject Web sites updated within the last three month of study).”13

The 2008 Ohio Library Council Technical Services Retreat, “Choosing Our Tools for Tomorrow,” is one of only a few venues in which participants have explored Web 2.0 in the technical services environment, and it included several presentations on using Web 2.0 tools. Among these presentations, Gray shared his experiences of using Web 2.0 tools to increase effectiveness in staff training and pointed out the key concepts in Web 2.0, that is, the focus on the “behavior rather than the actual tools.”14

A Field in Transition

Responsibilities in today’s library technical services operations, especially cataloging, are undergoing tremendous changes in both theory and practice. The new cataloging code, Resource Description and Access (RDA), is part of an ongoing effort to improve cataloging standards to address the rapidly evolving digital environment. To speed up the process of bringing meaningful library content out of the hidden Web, researchers such as Gradmann have recommended an integration of Functional Requirements for Bibliographic Records (FRBR) with the semantic Web technology.15 At the same time, “the role of cataloger is still in transition,” as El-Sherbini summarized in a review of recent scholarly works on cataloging and classification, “and research in this area demonstrated a definite shift from performing cataloging to a greater focus on management and creating metadata.”16

At the section management level, a supervising librarian needs to adjust the section’s workflow so it can continue to be productive in this time of change. The process of hiring and training new staff becomes constant and more challenging, since an increasing number of staff have become temporary or nontraditional. The technical services librarian also participates in committee service and may conduct research if in the tenure-track position. Ways to ease management are necessary, as are alternative approaches to better manage multiple responsibilities. Simultaneously, empowering staff and promoting leadership are significant parts of accomplishing the library’s mission. To be proactive is to be more adaptable for success. Equipping oneself with innovative tools, including Web 2.0 and associated social-networking tools applications, can be beneficial.

Diversification is a reality in today’s fast-changing cataloging taskforce. The accessibility and usability of cataloging documentation need to be reconsidered in the context of the emergence of more non-traditional type of employment in cataloging. Documentation made for professional staff may not be easy to use for less experienced or paraprofessional employees. Therefore, documentation needs to be more practical and allow more fluidity. Compiling guidelines that are targeted to specific users and bringing supporting documentation to where people really need it provide a fundamental rationale for taking a Web 2.0 approach.
Why Employ Web 2.0 Tools in Technical Services?

The point of engaging Web 2.0 tools is simple: to maximize efficiency and improve quality in a collaborative environment. To demonstrate this point, consider the idea of Web 2.0 itself as expressed by people working in collaboration. Two revisions of the opening statement on the Web 2.0 article from Wikipedia were captured in February 2009:

The term “Web 2.0” describes the changing trends in the use of World Wide Web technology and web design that aim to enhance creativity, communications, secure information sharing, collaboration and functionality of the web.17

The term “Web 2.0” refers to a perceived second generation of web development and design, that aims to facilitate communication, secure information sharing, interoperability, and collaboration on the World Wide Web. Web 2.0 concepts have led to the development and evolution of web-based communities, hosted services, and applications; such as social-networking sites, video-sharing sites, wikis, blogs, and folksonomies.18

This language resonates with librarians, since the goals enumerated parallel the goals of libraries. Lankes, Silverstein, and Nicholson, in their essay on libraries as conversation and the participatory role in librarianship, acknowledged that “the Internet and newer tools that empower the users seem to be aligned with the library mission.”19 They suggested that librarians should “focus on the phenomena made possible by the technology,” among which the most important is that “the library invites participation.”20

As Dye pointed out, “collaboration in the office isn’t anything new, but a number of digital content tool developers have realized that corporate communication is content in its own right. This means that, like effective intranets, the work process needs to be easy for workers to initiate and manage on their own in order to encourage participation and interaction.”21 This is why “static corporate intranets, crowded with indexes, files, and folders, are being infiltrated by a host of web-based applications designed to make them more dynamic and interactive.”22

The rapidly evolving nature of libraries and the work of technical services suggest that Web 2.0 tools are exceedingly appropriate to exploit.

The Ohio State University Library Environment

The Non-Roman Cataloging Section in the Ohio State University Libraries' (OSUL) Cataloging Department is responsible for cataloging materials in all formats that are published in non-Roman scripts, including East Asian (Chinese, Japanese, and Korean), Middle Eastern (Arabic and Turkish), and Slavic (Russian and Ukrainian). The section works closely with subject specialists and librarians in branch libraries possessing non-Roman collections. The workflow is maintained by one coordinator librarian (referred to as the “section coordinator” hereafter), two full-time cataloging staff, and ten to fifteen student employees. The student employees include a graduate administrative assistant (GAA, a twelve-month 50 percent appointment with a stipend and tuition waiver), hourly paid students, and work-study students. Student employees are considered an important group of the workforce, supplementing full-time staff at OSUL. In the Non-Roman Cataloging Section,
Web 2.0 Use in the OSUL Non-Roman Cataloging Section

As the section coordinator, the author has used a number of Web 2.0 tools to address the challenges of a varied and complex workflow, a large number of nontraditional employees, and the many demands on a manager working in a demanding environment with competing responsibilities. These tools include a blog, Google Docs and Google Calendar, Delicious (http://delicious.com, a social bookmarking tool), Flickr (www.flickr.com, an online photo sharing tool), and a wiki. Each of these tools will be discussed along with problems, limitations, and suggestions for their use.

OSUL Non-Roman Cataloging Blog

As an active cataloging section that has a great diversity of employees performing various tasks on different schedules, the Non-Roman Cataloging Section needs a workspace that can be easily managed and updated in a timely manner. A virtual online workspace like a website is necessary, but not sufficient. OSUL websites rely on Web maintenance staff, positioned in different library units, to finalize any changes on the section homepage. Plus, as anyone who has experience knows, maintaining a traditional static website itself is tedious and time-consuming. Seeking alternatives, the first step was to set up a free blog account on the Google-owned Blogger (www.blogger.com). A blog is an online journal or website on which articles are posted and displayed in chronological order.23 “Blog” can also be used as a verb, meaning to add content to a blog. A blog was chosen because changes made to templates or entries are reflected immediately on the site, with no need for regenerating static (HTML) pages. This greatly simplifies content management. When OSUL implemented blogs and began to allocate space for individual operating units at the end of November 2006, the section blog (http://library.osu.edu/blogs/nonromancat) was officially moved to the library’s weblog site.

The section blog is maintained mainly by the section coordinator, with contributions from other staff and student assistants. It is frequently updated, and new guidelines can easily be added to meet cataloging policy and procedures changes. Finally, the blog is embedded into the section homepage to promote awareness. Switching the center of workspace from a static website to a blog achieved the goal of timely updates and autonomous management. The blog serves to break cataloging instructions into meaningful pieces, highlight unique procedures needed for completing a special task, and point to other resources when necessary.

The journalistic style of a blog is useful for building a document around a single author. On the other hand, a wiki, a collaborative online space in which many users can work together on a shared project, may be more effective in facilitating group projects (especially professional collaboration in which multiple authors are equally active and revisions are required to be archived for review). However, both blogs and wikis can meet needs to collaborate, share documents, and quickly update work. The Non-Roman Cataloging Section at OSUL decided to use a blog mainly because most of the section’s compilation needs are ad hoc—the coordinator librarian serves as the blog’s “author-in-chief.”

WordPress is the blog platform that OSUL has implemented. When choosing Web 2.0 tools for management, one needs to keep in mind other factors that come into play, such as the branding issue. A decision has to be made whether to brand the tool with the choices made by the larger corporate body or the choices for the individual unit, which in some cases becomes a compromise between uniformity and certain functionalities. The section decided to use the same product that OSUL implemented because the implementation of a blog is a great improvement to the library website and the section wanted to maintain harmony with this development. Some key features that the product offers are especially important in designing and making the section blog functional:

• Full user registration and multiple authors. This feature allows more control over the creation and visibility of blog entries and comments. At the same time, it is also beneficial for promoting participation and collaboration.

• Use of sidebar widgets. “A Web widget is a portable chunk of code that can be installed and executed within any separate HTML–based web page [including blog site] by an end user without requiring additional compilation.”24 A good use of widgets enhances organization and navigation of blog content. The version of WordPress the library implemented offers limited options for manipulating widgets, making it much less attractive compared with Blogger, but it is enough for a section blog, which is created mainly for assisting workflow. Important widgets on the section blog include Categories, Blogrolls (Links), Pages, and a Site Search Box. The latter three are treated below.

○ Blogrolls or links. Two types of linking widgets are used on the blog and were renamed Links and Tools respectively. Links include links (URLs) to related webpages within or affiliated with the library’s website. Tools is reserved for links that lead to online tools or
resources mainly outside the library's maintenance.

- **Site Search Box.** This feature is important for a corporate blog and is indispensible when documenting complex contents in supporting cataloging activities.

- **Password protected entries and pages.** If needed, a specific entry or page can be protected by password. This feature is necessary to control access to certain content reserved for internal use, such as a closed survey or a usability test for a program design at the section level.

Making a blog a platform for cataloging section management requires creativity. The chronological nature of blogging is both a benefit for updating and a limitation that makes displaying contents in a systematic order difficult. The blog will always display the latest entries and push older ones into the background, thus making browsing more difficult. This, however, can be remedied by a prudent setup of the Categories widget and adherence to consistency in vocabulary to support a keywords search. To improve navigation and search on the section blog, instructions on cataloging procedures and guidelines are entered into three major categories: General Procedures, Cataloging by Formats, and Cataloging by Languages. If appropriate, cross categorization is allowed for a post to provide maximum relevancy at the time of a search. The section is also building a keywords pool to help locate topics being blogged. Figure 1 is a screenshot of the Categories widget on the section blog’s side panel.

A website in the form of a blog may look less authoritative than a static website. Even a corporate blog looks somewhat more personal and lacks completeness and authority because it reduces a certain rigidity inherited from an institution website. Nevertheless, the incompleteness and personality of a blog can be a feature in terms of accessibility and usability. Documents on the section blog are not necessarily finalized or normalized. Many are made for conditional use, and the blog is intended for people who need to get their work done. The blog is used to document changes, and the blog itself changes very often. The blog’s functionality is evaluated as it is used, its template changes, and if necessary, the section requests global changes to be made on the library blog template, which is maintained by the library’s information technology division.

### Google Docs

Google Docs is ideal for someone who has multiple responsibilities for compiling online documents in various formats (currently Google Docs supports four document types: Document, Spreadsheet, Presentation, and Form). Its features for sharing documents with levels of access control and simultaneous editing encourage user participation. Another advantage of Google Docs is that documents created on it can be easily turned into webpages, which can be integrated later on into another online document. For example, when a quick section-wide survey was needed, an introduction was written on the section blog and then embedded into an online form created on Google Docs. Google Docs' intuitive design and layout also allow users who already know how to use basic office tools to begin using it with minimal training. The section coordinator instructed staff and student employees to create, share, and update files online with Google Docs in various section cataloging activities. From 2007, section staff and student employees have used Google Docs' Spreadsheet to maintain monthly new receipts inventory, monthly production statistics, and contract cataloging files. The section coordinator used Forms to create usability study questionnaires to evaluate the e-learning project.

### Google Calendar

Google Calendar was chosen for its visually appealing functionality in calendar sharing, which is very useful for integrating part-time employees’ work schedules. Each graduate assistant and work-study student sets up a calendar and shares it with their supervisor, posting his or
her work schedule in the cataloging department. Though employee hours are ultimately monitored and processed by the library’s timekeeping system, the section’s shared Google Calendar allows both the supervisor and the employees to have an instant understanding of who is working at what time. This is an improvement, especially when considering the huge irregularity of part-time employees’ working hours. Sharing online schedules can also enhance teamwork between student workers and encourage peer-to-peer supervision. Figure 2 shows how some student employees’ working hours overlapped in a typical weekday, and figure 3 displays a weekly scheme of all their schedules. Both are screenshots from Google Calendar.

**Delicious**

Delicious is popular social bookmark software on which a directory of online resources can be maintained. With a Delicious widget, downloaded for free and installed on the browser, one can easily bookmark the site in a directory while browsing. A social bookmark directory offers three benefits: it is more efficient than making a list on a static webpage because maintenance is integrated on one account rather than on multiple computers or browsers; it supports social networking features such as tagging, which is advantageous for retrieval; and it promotes sharing and collaboration. The Non-Roman Cataloging Section uses Delicious to capture and organize online cataloging resources and tools. All staff can participate in the selection and tagging process, and resource sharing and access can be achieved across separate computer workstations, which means that staff no longer have to look at different lists of bookmarks on different computers. The section’s Delicious account (http://delicious.com/osul_nonroman_cat) is made accessible on the section blog as directly embedded new entries and a link to the account.

**Flickr**

Flickr, a digital image and video hosting website, among others, is widely used by bloggers as an online photo repository. The section uses Flickr for two types of activities: storing images (e.g., illustrations developed for training purposes) and then posting them onto the blog, and sharing surrogate files (e.g., scanned images of title pages) with remote reviewers. The first feature is especially valuable when the larger corporate blog server is set to disallow uploading images from local drives, which is the case on the OSU library blog site, while the second is an economical and efficient option to facilitate activities such as NACO reviewing and contract cataloging projects recently performed at the section.

**Wiki**

“Increasingly, wikis are being put to use within corporate settings,” as Kroski has noted, and “within these private wiki environments, businesses can tap into the collective intelligence of their own pool of resources.” Librarians also found wikis to be a favorite tool, and “they have begun to utilize this new technology to gather the tacit knowledge of library staff, to brainstorm in teams, and to cooperate on local and global projects.” While choosing a blog as the main platform to manage section workflow and training for the features of blogging...
Can Blogging Help Cataloging?

mentioned above, the section coordinator is actively engaging in a wiki for professional collaboration with library colleagues. A wiki is more suitable for department initiatives in collaboration and combined expertise. For example, an e-learning program for the NACO Ohio funnel is currently being developed in collaboration using a wiki between the Authority Control and Database Maintenance Section coordinator, who has more expertise in authority control training, and the Non-Roman Cataloging Section coordinator, who is more experienced in creating e-learning courseware.

**Practical Applications of Web 2.0 Tools**

Facilitating the section activities with new Web 2.0 tools gives staff and student employees a new way to contribute their knowledge and skills. The section coordinator guides staff and student employees in using the blog, Google Docs, and other Web 2.0 applications to find and organize useful cataloging procedures and to select and share resources. He also uses these tools to aid staff training. The following are some specific applications of Web 2.0 tools in the section.

**Providing Guidelines and Instructions for Special Projects**

One of OSUL's strategies to gain greater output from paraprofessional and part-time employees is to create special projects out of both ongoing workflows and new tasks. This approach can foster a greater sense of achievement at the completion of each project. A blog is an ideal tool for this approach to setting priorities, making plans, and providing guidelines and instructions for different projects. One of the special projects being conducted at the section is to catalog nearly thirteen thousand titles in a large Japanese microform reproduction set, *Meiji-ki kankobutsu shusei* or JMSTC (Japan Meiji Short Title Catalog). The project requires research to establish authors' names and solve bibliographic problems posed by conventions of Japanese Meiji-era (1868–1912) publishing as part of the cataloging process. On the section blog, the section coordinator directed a senior GAA, who was assigned to lead this project, to compile special procedures, useful notes and treatments, and selected Web resources and tools in tandem with the progress of this project. The section blog makes project documentation more efficient and helps to keep

![Figure 3. Typical Workweek Schedule for Student Employees](image_url)
moving forward. At times when a student employee leaves the section, a newcomer to the position can be easily guided to the appropriate procedures available on the blog, and workflow slow-down is kept to a minimum.

**Keeping Track of Special Procedures and Preparing for the Unexpected**

Unlike other cataloging sections where cataloging staff are more specialized (e.g., a monograph print cataloger usually will not process nonbook formats), all formats in non-Roman languages are automatically sent to the Non-Roman Cataloging Section for processing. Section staff either have to know how to do the appropriate cataloging tasks or quickly learn how to do them. Sometimes they must be refreshed on a task that has not been done regularly for a while. For example, a staff member who has been regularly cataloging monographs may need to review other procedures to rush catalog foreign language film DVDs requested by a faculty member for use with a class. Irregular cataloging workflow is a normal situation at the section. This becomes more challenging when the work is carried out by a workforce consisting of nontraditional employees. The supervisor always needs to be prepared and ready to provide instructions to solve specific problems. To address this challenge, guidelines and instructions in the form of a categorized and keyword-tagged blog entries are provided. These, in turn, are supported by other forms of online documents (on Google Docs). This approach makes the specific cataloging procedures available in times of need and helpful guidelines and instructions ready at hand the next time a problem arises.

**Facilitating Training**

Because of the special staffing situation in the section, training is a long-term commitment and a major challenge. Since 2007, an innovative program has begun in the section to develop a set of e-learning courseware for cataloging training. The complexity of cataloging procedures, however, makes limiting training to e-learning impractical. The new experiments with blogging and the Google Docs approach suggest that Web 2.0 tools can provide a blended training and learning environment in which both traditional face-to-face training and e-learning can be enhanced with more accessible tools and documentations.

**Outcomes**

The innovative changes implemented in the Non-Roman Cataloging section have brought some obviously supportive results. Specifically, using these Web 2.0 tools has increased the efficiency of section cataloging workflow, reduced the time necessary to train new student employees, allowed staff to take on new responsibilities, and saved time for the librarian to devote to more professional activities. The author finds it difficult to quantify the improvement outcomes, especially if only productivity (number of titles cataloged per month) is taken into account, without considering the transformation in cataloging staff responsibilities in recent years and the irregularity of student employees who contribute significantly to the throughput of materials. The section observed a steady cataloging productivity and a small increase in average monthly productivity (AMP) by student employees during and after implementing the section blog and other Web 2.0 tools. Table 1 shows a 12 percent increase of AMP in 2007, the first year of implementing the section blog, and an 8 percent increase of AMP in 2008, when more Web 2.0 tools were introduced to the section (both increases in percentage...
use the 2006 outcomes as a benchmark). Innovative training methods and important work and professional activities newly assumed in each year are also listed as achievements.

**Further Efforts and Recommendations**

Improvement in staff participation and learning is a continuous aim. Library staff tends to keep up with old technology because of their highly specialized job responsibilities. People need time to feel comfortable and be willing to work with new tools. However, broadening one’s knowledge and sharpening one’s skills have become increasingly important in today’s changing library services. OSUL believes in the long-term benefits of fostering learning skills and insight by creating new options and alternatives.

OSUL encourages its librarians and staff to explore new trends and emerging technologies. Click! Technology and Libraries in Action, which began in 2007, is a series of technology workshops open to all library faculty and staff and covers topics that include blogs, wikis, Second Life, and social networking sites. However, the workshops received a low participation from full-time staff in comparison with librarians. An internal follow-up survey in the Non-Roman Cataloging Section revealed that neither of its two full-time staff have attended one of these workshops (both, however, indicated on the survey that they would like to attend one in the future). Every library management unit should provide time and opportunity for its staff to try out new tools, brainstorm with new concepts, and think about better ways to do the unit’s work. The Non-Roman Cataloging Section blog is currently the only blog maintained by a technical services librarian on the OSUL weblog site. With the successful experiment of using the blog and other Web 2.0 tools to empower student employees, the section as well as the cataloging department will encourage more full-time staff participation in this initiative.

**Conclusion**

Blogging and other Web 2.0 methods have enhanced the OSUL Non-Roman Cataloging Section’s ability to do its work. These tools have enabled greater efficiency and collaboration, improved section management, and improved the accessibility and integration of cataloging resources. The approaches discussed here are based on a unique cataloging section, and many attempt to solve specific problems and local issues. They might represent one model for cataloging management in other libraries that have a similar staff situation and are choosing Web 2.0 tools to enhance their work. These tools are only new in the sense of our making use of them in a cataloging department. Learning and investigation will continue. Although this is a small initiative in a small and busy section, the OSUL approach may serve to stimulate more conversation and collaboration in the library community about how to make technical services more effective in this time of change.

Technical services librarians need to become involved in the Library 2.0 conversation to gain greater understanding of what the opportunities are and to take a more participatory role in making new library policies, decisions, and initiatives.

**References and Notes**

3. Ibid.
5. Ibid.
8. Ibid., 396.
9. Ibid., 400.
12. Ibid., 173, 182.
13. Ibid., 182.
20. Ibid.
22. Ibid.
23. Definitions of Web 2.0 applications in this paper are taken from Ellyssa Kroski, *Web 2.0 for Librarians and Information Professionals* (New York: Neal-Schuman, 2008).
26. Ibid., 45.
Notes on Operations

Better, Faster, Stronger

Integrating Archives Processing and Technical Services

By Gregory C. Colati, Katherine M. Crowe, and Elizabeth S. Meagher

The University of Denver’s Penrose Library implemented a consolidated cataloging and archives processing unit for all materials, taking advantage of the structure, workflow design, and staff resources that were already in place for library-wide materials processing: acquisitions, cataloging, binding, and stacks maintenance. The objective of Penrose Library’s integrated approach was to efficiently create metadata that allow searches based on subject relevance rather than on collection provenance. The library streamlined archives processing by integrating digital content creation and management into the materials processing workflow. The result is a flexible, sustainable, and scalable model for archives processing that utilizes existing staff by enhancing and extending the skills of both experienced monographs catalogers and archivists.

The focus of library technical services is moving away from activities such as processing and binding print journals and print government documents and upgrading copy cataloging records. These shifts are accelerating the channeling of technical services resources toward giving higher priority to providing access to unique materials, including content that increasingly appears in digital form. At the same time, libraries that include special collections are faced with the challenge of improving workflow while describing unique content at a sufficiently high level of granularity to meet demands to provide greater digital access to their collections. In a world of shrinking budgets and reduced staffing, these challenges are an opportunity to integrate archives processing into technical services while making a library-wide commitment to special collections. Concurrently rethinking the approach to managing and creating access to unique collections makes it possible to create a streamlined and sustainable process that combines the item-first culture of monographic cataloging with the context-forming culture of archival processing, resulting in a hybrid approach to archival cataloging. The higher levels of description, collection, and series are performed by professional archivists or highly trained staff members, but many people touch the collection at different stages of processing. This approach stresses both productivity and an item-centric view of archival material and allows the user to discover primary resource content in a deep, flexible way driven by user-centered (versus archivist-centered) means of providing intellectual access to information.

With the growth of the digital environment and the potential for greater online access to archival materials, archives’ potential user base has expanded beyond the serious or expert researcher, who is familiar with archival organization, access tools such as finding aids, and even archival terminology.1 Archival processing must meet the needs of an increasingly diverse community of users by providing access to primary resources without requiring the user to navigate through the top-down organizational collection structure to find primary resources or to physically go to the repository to interact with the individual primary resources.
These imperatives must be met by being more efficient and production-oriented without sacrificing quality or professional standards, which add value for both the experienced and the novice user.

This paper describes an initiative at the University of Denver’s Penrose Library that consolidated cataloging and archives processing units for all materials, taking advantage of new technologies and the structure, workflow design, and staff resources that were already in place for library-wide materials processing—that is, acquisitions, cataloging, binding, and stacks maintenance. The purpose of this consolidation was to streamline archives and create a model for archives processing that uses existing staff and increases the capacity to process these unique materials.

**Literature Review**

Typical archival processing focuses on collections and descriptions that follow a general to specific (or top-down) model, which has influenced the top-down structure of archival format standards, including Encoded Archival Description (EAD), Machine-Readable Cataloging (MARC), Archives and Manuscript Control (AMC), and content standards, including Rules for Archival Description (RAD), Describing Archives: A Content Standard (DACS), and Archives Personal Papers and Manuscripts (APPM). General collection information is provided through a carefully crafted “scope and content” note that provides background context, with even more detail added at a series level.

Much of the recent literature addressing the processing of archival materials describes traditional approaches to processing, resulting in the creation of provenance-based access tools. One of the more frequently cited is Greene and Meissner’s “More Product, Less Process: Revamping Traditional Archival Processing.” The authors emphasized productivity-driven physical processing and minimal, higher-level (collection and series) description as alternatives to traditional artisan approaches to processing archival materials. Greene and Meissner reviewed literature on this topic and surveyed existing professional practices, concluding with a call for archivists to rethink how they do their work in order to process more, avoid creating additional backlogs, and improve user access to collection-level information. This model also was explored in Hackbart-Dean and De Catanzaro’s “The Strongest Link: The Management and Processing of Archival Collections” and other recent articles such as Weideman’s “Accessioning as Processing” and Gorzalski’s “Minimal Processing: Its Context and Influence in the Archival Community.” These articles emphasize curator assessment of the collection to assign processing levels for arrangement and description. The authors maintain that not all collections need to be processed at the item level.

Prom, one of the developers of Archon, an open-source archival management system, stated that until the early twenty-first century, robust, standards-based, integrated library system (ILS)-equivalent archival collections management databases with batch-processing functionality were not widely implemented in the cultural heritage community. Landis also noted that most archives focus instead on providing access to (and teaching how to use) the traditional access tool, a top-down finding aid. User studies of information-seeking behavior in archives indicate that the user is even less inclined to wade through boxes to locate the specific item being sought and may find it difficult to understand the complex and hierarchical nature of archival arrangement and description.

Schaffner, in a recent OCLC report, reviewed these and many other user studies of information-seeking behavior in archives and noted that studies show that users often do not want to search for collections by provenance, for example, as important as this principle is for archival collections.” Schaffner also noted that “librarians and archivists need to manage archival collections by provenance, but also must describe what is in the collections for their users.”

The articles described above share the same approach—improving the efficient processing of archival materials by archivists. The initiative at the Penrose Library differs in that it involves a collaborative and consolidated approach involving both an archives unit and technical services.

**Monographic Cataloging Compared to Archival Descriptive Practices**

Archival description traditionally takes a top-down approach through the creation of collection-level finding aids. Monographic cataloging takes the opposite (or bottom-up) approach, focusing on the discrete item in hand and associating it with subject-related objects through access points by creating cataloging records that appear in union catalogs, such as OCLC’s WorldCat and the local ILS. While book cataloging does not normally involve analyzing the contents and serials cataloging does not attempt this at all, researchers rely on other sources to locate the content within these items. For serials in particular, researchers use supplemental resources available to drill into the journal article. Those resources do not exist for archival materials. Catalog records usually follow the MARC format standard and Anglo-American Cataloging Rules, 2nd ed., revised (AACR2R). The library user can decide how to associate the record with other entities, usually by following the subject
discovery access points provided by the cataloger. With the evolution of the union catalog and widely available catalog records for published materials, technical services' functions have evolved from specialized original cataloging to copy cataloging that is primarily performed by highly trained—but non-MLS—catalogers. As this shift has occurred, professional librarians in technical services have been freed to focus more on original cataloging of unique materials and other functions within the library. The tradition of item-level bibliographic control in the technical services world, combined with a downturn in technical services functions, has uniquely placed catalogers to step into key roles in digital library projects and descriptive standards development.11

**Background**

The University of Denver was founded in 1859 and enrolls ten thousand students. Penrose Library is the central library, with holdings of more than four million volumes. Special Collections and Archives (SCA) is a unit of Penrose Library that holds the University Archives and eighteen thousand linear feet of manuscript collections, which include the Beck Archives of Colorado Jewish History and the Carson Briefly Dance Library. Prior to 2008, the SCA processed collections in a separate space in the Penrose Library building. In 1997, paper finding aids began to be replaced by online finding aids. By 2005, the library was participating in an Institute of Museum and Library Services (IMLS) grant to create EAD finding aids to contribute to the Rocky Mountain Online Archive (http://rmoa.unm.edu). While this approach resulted in increased access to collection information, creating stand-alone EAD finding aids was both inefficient and labor intensive. Meanwhile, as print monographs switched to digital format, the Technical Services unit was channeling cataloger expertise to other areas, such as creating XML files and metadata services for local applications.

Penrose Library utilizes a matrix structure to facilitate day-to-day production and delivery of user services while maximizing opportunities for staff input to program development and execution. All supervisory functions, production, and service delivery occur through a traditional management hierarchy with the library dean as head and library functions organized in a series of units, each with a specific area of responsibility (e.g., technical services, acquisitions, access services, and so on). This traditional management system was augmented in 1997 by a team structure that is designed to address issues involving multiple units, improve lateral communication, and facilitate broader participation in program development and decision making. Both professional librarians and paraprofessionals participate in the functional teams. In addition, the library created two groups, the Archives Policy Group (APG) and the Catalog Management Group (CMG) to deal with crosscutting issues. These groups also function as teams. The APG was created after the integration of the Archives Processing Unit (APU) into Technical Services, while the CMG was created in 1997 to handle ILS issues. The functional teams and groups have an independent line of communication to the dean through the Policy Council, on which the dean sits along with all the team facilitators.

The library’s team structure opened the way for effective collaboration between the teams involved with the archival processing initiative. In addition, current administrators in Penrose Library have a history of supporting and focusing on the importance of online access to cultural heritage materials. The combination of administrative support and a team structure that facilitates communication between related units smoothed the transition considerably.

In spring 2008, the University of Denver’s Penrose Library created a consolidated cataloging and archives unit to process all materials. This approach was intended to take advantage of the strong, existing technical services structure and workflow design and to utilize staff resources already in place to create and manage metadata and materials processing, including acquisitions, cataloging, binding, and stacks maintenance, regardless of the type of material. The APU consisted of one professional librarian and one paraprofessional with five student workers and four hourly staff members. The Technical Services unit consisted of two professional librarians, 6.5 FTE catalogers, and 1.5 FTE End Processing staff members with three student workers. With the integration, one professional librarian, 4.5 FTE catalogers, 0.5 FTE End Processing staff, and two student workers participate in the archives projects.

Penrose Library’s hybrid approach seeks to make access at a very granular level possible for little additional time and less effort than is required for higher-level (collection and series) description. The traditional model for archival arrangement and description largely fails to acknowledge both the necessity for minimal item-level control over digital objects in the digital repository environment and the potential for productivity tools and consistent descriptive standards to enable the standardized description of content below the series level. Just as collection development selectors approve monographic materials to be cataloged, Special Collections and Archives curators, as well as the University Records manager, make decisions on processing priorities. Not all items in each archival collection are cataloged at the item level, and the curators work with the processors to decide what is cataloged and digitized. This decision process varies
by collection and the research value of the collection.

Advancing the New Approach

The implementation of the consolidated cataloging and archives processing units at Penrose Library was the result of more than a year of discussion, planning, and staff training. The goal was to streamline all processing, especially archives processing, and integrate the management of unique digital content and standards-based record creation into the materials-processing workflow. Both the technical services area and library administration were committed to creating a flexible, sustainable, and scalable model for processing the library’s unique materials to promote the awareness and use of these valuable collections. Before this could be accomplished, the library had to reconcile two seemingly opposing cultures.


To facilitate the interdisciplinary training and to ensure that professional standards were being maintained, the archives staff worked with an archival metadata consultant to produce the Descriptive Policies and Practices Manual (DPPM). This manual provided a much-needed local content standard based on existing national and international content standards and best practices for cataloging unique materials, such as AACR2R and DACS as well as format standards like EAD, MARC, Dublin Core (DC), and Metadata Object Description Schema (MODS).

The DPPM identifies the desired data elements for each level of archival description: collection, series, container or folder, and item. Definition, format guidelines, best practices and standards, and local examples are included for each element. Crosswalks to existing metadata standards’ equivalent fields are also included. Definitions for each element were transcribed from the Society of American Archivists’ (SAA) A Glossary of Archival and Records Terminology; Describing Archives: A Content Standard; the Encoded Archival Description Tag Library, version 2002; or were defined locally. Locally defined elements were noted as such.

Each data element described in the manual was categorized as either mandatory or optional. Mandatory fields had to contain the appropriate information or a locally defined default statement and could not be left blank. Optional elements were left to the processor or archivist to determine whether the use of the element was appropriate and to provide the information. The work that went into defining the necessary descriptive elements and mapping them to existing format standards, such as EAD, MARC, DC, and MODS, would prove to be integral to the success of the first implementation of SCA’s item-level descriptive cataloging and online access to digitized collection materials in PEAK Digital, the library’s digital repository.

Implementing a Collection Management System

While the DPPM was being written, plans were made to select a new standards-based archival collection management system. SCA needed a system that would serve both as a collections management system and as a vehicle to output metadata. The system needed to be able to map to MODS, EAD, DC, MARC, and potentially other metadata standards. It needed to be scalable, standards-based, and interoperable. The SCA chose Re:discovery Proficio, a standards-based system that would serve as a management tool for both print and digital formats and as the metadata provider for a public access tool. Each of the data elements described in the DPPM corresponded directly with a field in a Re:discovery record, depending on the applicable level of description.

The DPPM provided standards for field use so that productivity tools inherent in database management systems could be used to minimize data entry time. These tools made it possible to copy and clone records as well as set up templates so that fields with homogeneous metadata (subject access terms, physical characteristics, etc.) could be automatically populated, much in the same way that records in an ILS can be generated. These tools facilitated the kind of efficiency required to make the item-level cataloging of unique materials a reality. This is the case because, especially in lower levels of description, individual records within any particular collection or series are almost entirely homogeneous in many respects and can be batch-generated.

Cataloging staff added information on the basis of the unique nature of the object in hand. The resulting record has both unique information about that object and contextualizing information that make sorting and grouping this item by numerous attributes possible. The addition of basic, controlled subject-access terms (descriptors) to each item-level record, each of which is presented individually within the digital repository with proper attribution as to collection and series, frees the record from the constraints of being discoverable only within the context of its collection.

Rather than being an access or discovery system in itself, the collections management system is a source of data for other systems. For that reason, the system had to have the ability to export content in multiple formats. The DPPM provided the standard for content description and provided the basis for developing export template mapping. Beginning with the database fields, which, although based on MARC and MODS, were schema
agnostic, the management system allowed staff to output data in several metadata schemas and formats, including MARC, MARC Extensible Markup Language (MARCXML), MODS, Metadata and Encoding Transmission Standard (METS), DC, and Resource Description Framework (RDF).15

Further, Technical Services cataloging staff configured the MARC mapping so that collection-level records could be exported to MARC–based systems. This effort was especially important because it helped cataloging staff learn about the back end of the software and allowed the special collections staff to become familiar with library metadata approaches. Since the original MARC mapping, additional metadata maps have been created, including METS, MODS, DC, EAD, and Text Encoding Initiative (TEIP4).16 These maps are used to export data to various access systems as needed.

Archival Training Program

Training was essential to combining the units and merging workflows. Archival processing is an organic process that is dependent on continuing discussion between everyone who has a stake in the outcome. Therefore all staff involved in archival processing were trained in the basics of contemporary archival theory and practice. Experience suggests that a better product would result from all staff understanding how the work they did fit into the larger picture, even if the staff person was not directly involved in all stages of processing. The archival training program set up by the Archives and Technical Services librarians included both theoretical and practical aspects of the archival profession. A series of two-hour training sessions was offered to all staff who would be involved in archival processing. The program was an opportunity to develop new skill sets while building on standard archival skills and to promote team building.

Physical Environment

The reorganization of library resources to improve workflow in the Special Collections Unit was an enterprise-wide integration of the needs of special collections into the greater resources of the library. The APU was created by separating the archives processing staff from archives reference services staff and transferring responsibility for archival processing to the Technical Services Unit. Other staff reassignments followed on the basis of a library-wide assessment of changing workflows and needs. Organizational changes were not limited to the Archives and Technical Services units. As workflows and procedures shifted, Stacks Maintenance staff members managed the Special Collections and Archives shelves. Physical space for archives processing was created in the Technical Services area. The area occupies 34,665 square feet; approximately 14,598 square feet (approximately 42 percent) were converted for use by the APU. Several modifications to the physical space were made to accommodate this unit’s special needs. Security practices were reviewed and determined to be adequate to properly protect the library’s collections during processing.

Staffing and Workflow

Workload responsibilities and priorities within the Technical Services Unit were modified to support archives processing. Inventory and database maintenance projects schedules were extended to provide more time. The item-level cataloging of archives materials in the collection management system was added to the responsibilities of three catalogers. Catalogers are also responsible for assigning subject headings to collection-level records.

Both the Monographs and Serials units were already cataloging special collections books and serials, and that work was integrated into the new structure. Student workers from the Technical Services Unit, who label books and process government documents for remote storage, were assigned basic tasks for archives processing. End Processing staff members were assigned three hours per week to assist Special Collections in various lower-level tasks, such as box building. In addition, an experienced catalog technician, working with the head of Technical Services, was assigned to work on the back-end configuration of the collections management system to align it to meet the standards for MARC and export through MODS. Four catalogers now spend at least some portion of their time processing archival materials. One spends a minimum of twenty hours per week on some phase of archival cataloging (e.g., authority work or importing spreadsheets). Three other catalogers spend three to four hours per week on item-level processing.

The team structure has proved especially beneficial in maintaining communication across the newly reorganized units, necessary because the culture of archival processing changed from a one person–one collection relationship to a many people–one collection relationship. The higher, intellectual levels of description, collection, and series are still performed by either professional archivists or highly trained staff members under the supervision of trained archivists, but many people touch the collection at different stages of work. Student processors and hourly workers are assigned lower-level tasks as needed. All stages of processing are highly important and contribute to the quality of the description of archival collections, and that concept always is conveyed to all staff.

Handling Legacy Collections

Processing backlogs exist in most archival collections, and the local situation—with a significant backlog of
legacy collections having little or no processing—was no different. Since one goal of the APU is to gain complete physical control over all collection materials, these materials were integrated into the workflow in multiple ways. One approach to dealing with some of these legacy collections has been to use scanning requests from users as processing opportunities. Another approach is to gain basic physical control over boxes and use that information to inform processing decisions.

For example, the university’s extensive historical photograph collection has a high demand for reproduction requests, yet relatively few of the images have been scanned, and they lack subject access beyond the particular folder in which they reside (buildings, sports, etc.). Under the new workflow, a photograph requested for scanning is first sent to the APU. The staff enters the photograph into the collections management system and is given the next number in the numerical sequence for that collection. The photograph then has an identification number that can be used as the file name when the photograph is scanned. The photograph is then sent to the Digital Production Services Unit for scanning following the scanning standards set up for archival materials.

Early in the process, the APG decided to implement standard subject access points within the collections management system to organize and describe photographs and other images. In this way photographs can be cataloged in the order that scanning requests are presented. Because the access point is a subject term rather than an intellectual series, when this record is exported to an access system a user is not required to look in the artificial Buildings series to locate images of university buildings. Instead, an access system will aggregate all cataloged images with the term “buildings,” regardless of their place within a physical arrangement scheme.

In addition to being more flexible in terms of workflow, the addition of multiple subject access terms to each image enables the user to find an image that may not have “buildings” as its primary subject matter or content. A subject heading may denote the presence of a university building in the image, thus providing the user with the ability to retrieve more useful resources and to recontextualize the object depending on his or her needs. This access to the photograph does not require the user to understand where that particular record resided in a largely arbitrary organization. In this way, processing workflow is not only more efficient, it also supports more flexible discovery for the user.

Not all collections are as homogeneous and easy to process as the photograph collection. Many collections, especially personal papers, contain random boxes of material that have little or no intrinsic order. Since these materials were already part of the collection, they could not be accessioned again, yet needed to be accounted for and managed prior to processing. A separate database, called the Unprocessed Materials Database (UMDB), was set up in the collections management system to handle accessioned but unprocessed material. The UMDB allows the APU to gain physical and basic intellectual control over newly accessioned material and create a preliminary collection inventory. Once an accession is complete, the processor creates a collection-level record in the UMDB with the accession number used as the collection number and a brief descriptive title that mirrors the origin of the material. These are the only two fields that are filled at this level.

The processor creates a record for each box or container record under the collection record in the UMDB, and numbers all boxes consecutively, without regard to intellectual order. Processors are instructed to take no more than two minutes to look in the box or container and come up with a few words about its contents. If conservation or preservation issues are present, they are noted in the description field. The processor then adds a barcode to the box or container and scans the barcode into the barcode field. Accessioned boxes are stored in barcode order in the unprocessed materials area. This preliminary inventory is later used to create a processing plan. When a box is taken for processing, its box record is cancelled in the UMDB. When all boxes have been processed, the collection record is cancelled from the UMDB. This process allows for basic descriptive access and physical control over all special collections materials, processed and unprocessed, while not taking an inordinate amount of time.

**Metadata Creation and Management**

Processing on demand and the unprocessed materials database solve two specific challenges facing the APU, but they do not address the issue of providing highly granular access to large groups of items. Creating metadata for thousands of unique collection objects in a manuscript or archival collection has long been considered cost-prohibitive. In the pre-automated environment this was usually the case, and item-level cataloging was reserved for only the most valuable collections. Changing user behaviors and demand for item-level access in the digital environment continued to indicate that developing some means of automated, mass metadata creation that could satisfy user demand for highly granular access was imperative.

Archival and manuscript collections arrangement and descriptive cataloging have always been highly labor-intensive, frequently involving extensive physical arrangement (though not generally description) down to the item level. The archival community has made progress in
emphasizing production and throughput, establishing format and content standards for archival description, such as EAD and DACS, and in using collections management software options and online content delivery systems. Still, the professional archival community’s focus has remained on the collection as the primary unit of description and access. This pattern persists despite evidence that users of archives are confused by both archival terminology and the ways that metadata about primary resources is made available.18

The library’s solution to this dilemma was to use the power of database tools to mass create metadata for groups of homogenous content (e.g., items in an archival series that would allow access systems to aggregate these items into contextualizing groups). The implementation of an item-level archival cataloging content standard (the DPPM) required some in-house adjustment, since neither AACR2rev nor DACS specifically focuses on the cataloging of item-level unpublished content. Rather than try to choose one schema that could meet all possible needs, the item-level field content in the collections management system was created according to a flexible local content standard that could be mapped to multiple metadata schemas. In this way the APU was strategically placed to support multiple metadata consumers. Understanding metadata normalization and crosswalks also allowed the unit to play a major role in the development of a batch ingest process for item-level records into the consortial digital repository supported by the Colorado Alliance of Research Libraries (www.coalliance.org).

The next major decision that affected metadata was that the item records would not use precoordinated Library of Congress Subject Headings (LCSH) but would instead employ individual LCSH terms as descriptors. This decision was made because most Web-based access tools are not designed to handle subdivided headings, preferring to use subject descriptors instead. The use of this widely implemented source of authority records still allows for the aggregation of like records within consortial content delivery systems and aggregators like the University of Michigan’s OAISter (www.oaister.org). This has the added benefit of not requiring either the processors of these records or the end-user to understand the precoordinated structure of LCSH.

The University of Denver Athletics Project: The New Structure in Action

Much of the impetus for the changes described in this paper came when Penrose Library received substantial funding from the University of Denver Athletics Department to process and digitize athletics records collected over many years (media guides, game programs, statistics, etc.), as well as photographs, negatives, and videos. This project acted as the laboratory where the theories that nonarchivists could process archival collections and mass item-level processing was possible were tested. The broad range of materials in the collection helped determine that the new process was sustainable and scalable.

As described earlier, the DPPM provided standards for field use so that productivity tools inherent in database management systems could be used to minimize data entry time. These tools made it possible to copy records and set up templates so that fields with homogeneous metadata (subject access terms, physical characteristics, etc.) could be automatically populated, much in the same way that records in an ILS can be generated. These tools facilitated the kind of efficiency required to make the item-level cataloging of unique materials a reality. This is the case because, especially in lower levels of description, individual records within any particular collection or series are almost entirely homogeneous and can be mass generated. This mass-generated metadata is then available for multiple uses. While generating metadata for unique materials in this manner was technically and procedurally possible, the question was whether or not this metadata is useful.

The first use of the metadata was for ingesting both the metadata and related primary content object (in this case, a scanned image) into the digital repository. The ingest process required metadata export from the collections management system into MODS and DC, which was packaged in a METS wrapper for transmission. The descriptive guidelines for item-level still image materials were revisited to ensure that all locally mandated elements in the DPPM, as well as the repository-mandated metadata elements that were based on the Digital Library Federation/Aquifer Guidelines for Creating Shareable MODS Records, were included in each record.19 For example, the “Title” element was listed as mandatory, so the processor was required to enter data into this field. However, because the majority (approximately 90 percent) of the photographs have no formal title, the metadata and materials processing librarian worked with the archives processing librarian to define guidelines for creating supplied titles on the basis of both DACS and AACR2rev as well as Parker’s Graphic Materials: Rules for Describing Original Items and Historical Collections and the Chicago Manual of Style.20 The SAA Glossary was also referenced when clarification on field definitions was necessary.

As processors worked with the photographs, they developed a number of techniques to accurately date University of Denver athletics photographs. These techniques proved to be applicable in some cases to cataloging other university photographs. Processors could date photographs on
the basis of the type of uniform worn, padding worn, styles of haircuts, or in which building the game was played. Scores could be gleaned from photographs and video that included the scoreboards with the final score. While this level of detailed research at the item level may seem excessive, it was considered an investment in the knowledge base of the system. As the body of processed content grew, a critical mass of data became embedded in the database so that it became self-referencing. It became increasingly less necessary to refer to external sources for the validation of many information points, since those questions had already been answered in earlier records. As work progressed, the processors became faster and more accurate with the descriptions and formulations of titles and spent less time doing external research.

Cataloging programs for football and hockey games was another area that benefited from this collaborative effort. These materials were closer to the type of materials with which monograph catalogers work on a day-to-day basis, and the catalogers played an important part in setting up and customizing templates to facilitate the batch processing of these records. The item-level perspective that the catalogers brought to these programs resulted in richly detailed records that, without their expertise, would not have been nearly as robust or consistent.

Next Steps

As the library gains control over more archival content at an increasingly granular level, providing researchers with a more robust discovery experience becomes possible. Penrose Library developed a discovery and access tool called FACTS (Faceting Archival Content Transmission System) that is based on direct access to item-level metadata and digital surrogates. Additionally, item-level records will be harvested and included in the results list in the library catalog’s main discovery platform that combines results from not only the library catalog but external resources as well. While moving from the item to a more traditional finding aid or collection guide will be possible, the expectation is that researchers will use the item-centric search function more often than the finding aid for initial discovery and access. Item-based access makes it possible to incorporate archival material into modern discovery and access systems rather than segregating them in finding aid repositories. All of this is possible because the changes made to the library structure and workflow enables granular access to archival collections.

Lessons Learned

While the integrated approach to archives processing is working well at Penrose Library, the transition was not without problems. The process was one of trial and error, with some things working well while others had to be abandoned. This section will try to describe what worked well and what did not work as well so others may benefit from the successes and learn from the failures.

What Worked Well

• The increase in the number of staff performing item-level cataloging resulted in a significant increase in production.
• The quality of the metadata produced was enhanced because of the participation by experienced, trained catalogers. Catalogers are trained in a standards-based approach to metadata production, while archivists typically are not.
• The entire staff who worked on the project was energized by the opportunity to work on something interesting and different. This project extended their skill set beyond the norm.
• The formation of the Archives Policy Group established a regular channel of communication for the professional librarians that was extremely effective when curators and processors needed to be on the same track. The unit and team meetings also advanced the effort toward constant communication. The benefits extend beyond this project by providing an opportunity for staff to engage in library planning and policy development.
• The need to involve other units earlier in the process, most notably Stacks Maintenance and End Processing, was necessary to streamline workflow. These units were invaluable in contributing their expertise and their resources.
• One unanticipated benefit of integration was a noticeable improvement in morale for the catalogers and archival processors. Copy catalogers had an opportunity to perform original cataloging in the collections management system. The catalogers juggled archives with monographic cataloging and learned to fit this new form of cataloging into their everyday work. For the catalogers, varying their routine with new projects and learning new skills was seen as a professional benefit that is rewarded in performance reviews. Archival processors had assistance in producing item-level records at a level of detail that is rare in the archival world.

What Did Not Work As Well

• The collection management system selected was not able
to handle authority records as expected. Without “see” and “see also” references, the processors needed to enter two forms of the same name in a record (e.g., the earlier name of a building and the later name).

- Because there was no funding for new positions, new technologies workflow processes had to be developed by temporary hourly staff. The use of temporary staff, usually graduate students, has proved somewhat problematic because of high rates of staff turnover, resulting in the loss of specialized technical skills. This loss meant an increase in training needs.

- A comprehensive staff training plan needs to be in place to develop broader skill sets for staff so that they understand multiple metadata standards. For example, MARC catalogers needed to understand MODS and needed to be able to catalog in MODS or DC. Likewise, staff members who were familiar with collections in an EAD–centric way needed more training so that they could be comfortable breaking collections apart, thus advancing to the goal of not limiting users by provenance.

Conclusions

Libraries and archives are immersed in the trend toward rapidly growing demand for services while facing stagnant or diminished resources. Success in this environment requires innovative management practices that maximize resources while focusing on the needs of current and prospective users. This paper described one approach to improving and extending services without adding staff or significantly increasing the overall operational budget.

The University of Denver’s Penrose Library improved access to archival collections by creating a hybrid organization of staff drawn from the previously separate Technical Services and Archive Processing units. Partnering people from two disciplines, each with its own culture and practices, is a significant departure from the way typical library and archival organizations organize their resources. New processes and procedures have been put into place that will borrow from both areas. The result is expanded capabilities and improved access to information for users.

Penrose Library is now able to sustain the archives workflow while meeting the demands of users for a greater amount and more precisely described information about archival collections. Establishing the hybrid unit and implementing techniques of mass generation of metadata increased production. Between January 2008 and January 2009, nine staff members, none of whom worked full time on processing, created more than ten thousand item-level records. Now that the process is fully integrated, productivity levels are expected to increase dramatically.

The effect of the changes has been positive. The quality and quantity of information about the university’s archival collections have been vastly improved for the user community. This improved quality and quantity has been accomplished with existing staff and resources. The response from users and other library staff has been universally positive. This reorganization is but one example of the evolution taking place as libraries struggle to keep up with rapidly changing demands for services and products.

References


9. Ibid.


Richard P. Smiraglia, professor at the Palmer School of Library and Information Science at Long Island University, published his first edition of Shelflisting Music in 1981, a time when most libraries kept a card shelf-list and when the card catalog proliferated as the primary means of accessing the library’s holdings. Libraries have undergone significant changes since that time, increasingly automating their card catalogs to provide online access to patrons. Despite the change in means of access, the intellectual process of shelflisting music remains intact. It continues to be a complex process in which additional guidance is warranted.

Smiraglia’s guidelines are intended to be used with the Library of Congress Classification (LCC) M schedule. They “represent an update and expansion of those first set in print by Virginia Cunningham in 1961, and incorporate rules presented by Helvi Jaakola at the 1971 Institute on Library of Congress Music Cataloging Policies and Procedures” (ix). He further bases his guidelines on years of experience as a music cataloger, evident by his practical suggestions throughout the text.

In keeping with the first edition, this technical report contains an analysis of the shelflisting process through the use of flowcharting, helpful tables, shelflisting guidelines with examples, and a glossary. In fact, the changes between editions are minor, consisting largely of wording differences, updated references, and the addition of the introductory statement to the instruction sheet for shelflisting music materials from the Subject Cataloging Manual: Shelflisting. Given the intricacies of the content that these guidelines are meant to accompany, this technical report serves music catalogers or those catalogers whose responsibilities include the shelflisting of music; in other words, Smiraglia assumes a general understanding of LCC and shelflisting.

Smiraglia’s presentation of his music shelflisting guidelines is concise but thorough, dense but effective. Particularly noteworthy is the section “Guidelines for Shelflisting Music,” in which he provides an organized narrative of his guidelines complete with helpful examples that clearly demonstrate the author’s intent. When using this guide in shelflisting music materials, it is important to distinguish between the process of shelflisting and the application of the shelflisting guidelines. The two are undoubtedly interconnected; however, Smiraglia makes the distinction by separating them, so becoming familiar with the overall structure of the book is necessary before attempting to make practical use of it.

In light of the fact that the Library of Congress published the first edition of their shelflisting manual in 1987, and that today it can be accessed both in print and online, it is unfortunate that this particular technical report was not issued simultaneously, if not exclusively, as an online publication, available through download purchase or through subscription service. The flowcharts are a perfect demonstration of why an online format might have been a more appropriate medium. Due to the limitations of page length, a symbol bearing Greek lettering is presented in order to connect between charts that run over more than one page. These limitations do not exist online; furthermore, the online format could easily address the font size issue so that the reader would not need to make use of a magnifying glass in order to read the flowcharts. The flowcharts themselves are tremendously useful and describe at the most granular level the thought process the cataloger must use to properly shelflist music materials.

Other materials are available that offer coverage similar to that of Smiraglia’s Shelflisting Music, in particular the guidelines presented on the Yale Music Cataloging website. Nevertheless, no other individual has presented a guide quite as thorough and with as much clarity as Smiraglia; oftentimes other available guides make reference to his guidelines. The author clearly met his objectives for the publication of the second edition by providing updated content that is as relevant today as it was in 1981. But in a world where so many of the tools used in cataloging are accessible online through Cataloger’s Desktop or other products, the opportunity to offer these valuable guidelines in this format may have been overlooked.
librarian can be a student, a volunteer, a musician in the ensemble, or one in a team of librarians. In his manual, Russ Girsberger, the ensemble librarian at the Juilliard School, provides “the basic principles and practices for acquiring, processing, preparing, and distributing music to performers . . . [and] procedures for the organization, cataloging, care, and preservation of the library’s holdings” (ix).

The manual begins with a chapter defining the duties of a performance librarian through a survey of desirable qualifications and responsibilities most often listed in job advertisements. This is especially informative for those interested in pursuing a career as a performance librarian. Girsberger’s book is logically organized, covering acquisitions, cataloging, processing, part preparation, distribution, and other related duties. Following the text is an extensive appendix containing examples of forms, sample categories for musical forms and subject headings, and a list of recommended supplies for the performance library. He also includes a short glossary, comprehensive bibliography, and an index.

Although Girsberger claims to provide the basics of operating and maintaining a performance library, he is thorough in his use of examples, strategies for problem solving, and inclusion of checklists and reproducible forms. In this way, it is evident that the manual not only serves as a starting point for the new performance librarian but as a reference tool for the more seasoned performance librarian. Because the author handles each primary responsibility separately, any chapter can be isolated and consulted; however, if the content of the chapter does not delve into the depth of coverage needed, Girsberger provides a valuable bibliography that will lead the reader to resources that expand on specific topics, such as copyright and preservation, that fall outside the scope of his manual.

As the author has attempted to produce a manual that can address all ensemble types, there are some sections that may not apply to a given reader, notably the section on bowings. Girsberger does an excellent job of encompassing the various aspects of the wide range of performing ensembles, addressing everything from paper-based libraries to fully automated libraries. As a result, decisions must be applied on the basis of what would most appropriately fit the needs of the particular ensemble and considering the available resources. However, Girsberger never explicitly stresses the need for keeping a local practices-and-procedures manual. While implicit in the decision-making process, it carries enough significance to warrant emphasis in a manual that aims to be inclusive.

Surveying the literature reveals the manual’s uniqueness in coverage. Whereas other handbooks and manuals focus on a particular type of library, Girsberger provides overarching guidelines for the performance library, regardless of size, means, and type. By highlighting the common responsibilities and challenges, a Manual for the Performance Library is an accessible and useful tool for the full spectrum of performance librarians.—Sandy Rodriguez (rodriguezsanc@umkc.edu), University of Missouri–Kansas City.

References

Index to Advertisers

Archival Products ...........................................................................................................................................................215
Etherington ......................................................................................................................................................................253
Library of Congress.................................................................................................................................................cover 2
Library Technologies...............................................................................................................................................cover 3
LITA ..................................................................................................................................................................................276
Index

Volume 53, 2009

Compiled by Edward Swanson

General Procedures Used in Compiling the Index

The following types of entries are included:

a. authors—of articles, reviews, and letters
b. titles—of articles and of articles about which letters were published
c. subjects—of articles and of books reviewed

Subject entries for individuals and corporate bodies are identified by “about”; letters are identified by “letters”; pictures of individuals are identified by “port.” Reviews are indexed by name of reviewer and by subject of the work reviewed, identified by “reviews.” They also are listed by title under the heading “Books Reviewed.”

Paging of Volume 53:
Pages 1–64 = Number 1 (January)
Pages 65–136 = Number 2 (April)
Pages 137–212 = Number 3 (July)
Pages 213–276 = Number 4 (October)

A
Academic dissertations
subject access to: 243–50
Academic libraries
graphic novels in: 166–73
Academic libraries, 139–58
Acquisition of library materials, 231–42
bibliography, 240–42
electronic resources, 236–37
organization of, 238–39
“Acquisitions Globalized: The Foreign Language Acquisitions Experience in a Research Library” 86–93
Adley, Helen, reviews 62–63
ALCTS, see Association for Library Collections & Technical Services
Alonso-Ragalado, Jesús, 139–58
American Library Association
and Library of Congress card distribution program, 68–78
Archival materials
cataloging of, 261–70
integration into technical services workflow, 261–70
Association for Library Collections & Technical Services
Annual Report, 2008–9, 216–18
LRTS editorial board, 2, 214
“Association for Library Collections and Technical Services Annual Report 2008–9” 216–18
Audiovisual materials
cataloging of, reviews 208–9
“Author-Assigned Keywords versus Library of Congress Subject Headings: Implications for the Cataloging of Electronic Theses and Dissertations” 243–50
Author-supplied data, 243–50
Authority control of series, 79–85
“Automated Metadata Harvesting: Low-Barrier MARC Record Generation from OAI-PMH Repository Stores Using MarcEdit” 121–34
B
“Better, Faster, Stronger: Integrating Archives Processing and Technical Services” 261–70
Bibliographic data
consistency in, 25–40
quality of, 25–40
Bibliographic records
batchloading of, 53–61
Blake, Kirsten, 94–107
Blogs
use in cataloging, 251–60
“Book Reviews” 208–12, 271–72
Books Reviewed

Analyzing Library Collection Use with Excel (Greiner and Cooper), 209–10
Building Digital Libraries: A How-to-Do-It Manual (Reese and Banerjee), 212
Cataloging of Audiovisual Materials and Other Special Materials: A Manual Based on AACR2 and MARC 21 (Olson, with Bothmann and Schomer), 208–9
A Manual for the Performance Library (Girsberger), 271–72
Metadata (Zeng and Qin), 135–36
Radical Cataloging: Essays at the Front (Roberto, ed.), 210–12
Shelflisting Music: Guidelines for Use with the Library of Congress Classification: M (Smiraglia), 271–72

Booksellers, 235–36; see also Library materials—vendors of British Library, 108–20
Budgets, 232–33

C
“Can Blogging Help Cataloging? Using a Blog and Other Web 2.0 Tools to Enhance Cataloging Section Activities” 251–60
Caribbean area studies library services in, 139–58
Carr, Patrick L., 3–14
Catalog cards, see also Printed catalog cards
Catalog codes, see Cataloging—rules
Catalogers training of, 219–30
Cataloging, reviews 210–12
rules—influence of Library of Congress on, 68–78
rules—revision of, 15–24
standards—influence of Library of Congress on, 68–78
use of blogs in, 251–60
Chen, Sherab, 251–60
Colati, Gregory C., 261–70
Collection analysis, reviews 209–10
“Comparing Catalogs: Currency and Consistency of Controlled Headings” 25–40
Continuing resources, see also Serial publications
Copy cataloging study and teaching, 219–30
Corporate name headings authority control of, 94–107
creation in electronic resources management systems, 94–107
Idaho, 197–207
“Creating Organization Name Authority with an Electronic Resources Management System” 94–107
“Criticalism of Cataloging Code Reform, as Seen in the Pages of Library Resources and Technical Services (1957–66)” 15–24
Crowe, Katherine M., 261–70

D
Davis, Trisha L., 231–42
Digital libraries, reviews 212
Digitization projects name authority control in, 185–95
Dissertations, see Academic dissertations
Dragon, Patricia M., 185–95
Dunham, Barbara S., 231–42

E
East Carolina University, 185–95
Eastern North Carolina Postcard Collection, 185–95
“Editorial” 2, 66–67, 138, 214
Edmunds, Jeff, 53–61
Ehlert, Mark K., reviews 135–36
Electronic journals, see also Serial publications cataloging of, reviews 62–63
Electronic resources access to, 53–61
acquisition of, 236–37
licensing of, 238
management of, 237–38
subject access to, 243–50
Electronic resources management systems name authority control in, 94–107
ERM, see Electronic resources management systems
Excel, reviews 209–10
Extensible Markup Language, 41–52

F
Facsimiles cataloging of—rules, 159–65
Folkner, Cheri A., 197–207
Foreign language publications, see Non-English language publications
“From Innovation to Transformation: A Review of the 2006–7 Serials Literature” 3–14
Fund allocation, 232–33

G
Giambi, M. Dina, 216–18; port., 216
Glackin, Barbara C., 197–207
Graphic novels, 166–73
“Graphic Novels in Libraries Supporting Teacher Education and Librarianship Programs” 166–73

H
Hearn, Stephen, 25–40
“How the Current Draft of RDA Addresses the Cataloging of Reproductions, Facsimiles, and Microforms” 159–65

I
“Ideology Participation in NACO: The Effect on Idaho Corporate Name Authority Control” 197–207

J
Johnson, Peggy, 2, 66–67, 138, 214; port., 2, 66, 138, 214
Juvenile literature, 166–73

K
Keywords author-assigned, 243–50
in cataloging academic dissertations, 243–50
Knowlton, Steven A., 15–24, 159–65
Koval, Kimberly C., 108–20

L
Latin American area studies library services to, 139–58
Librarians position descriptions, 139–58
Library collections subject access to, 174–84
Library materials prices of, 233–34
vendors of, 235–36; see also Booksellers
Library of Congress card distribution program, 68–78
Library of Congress classification Class M, reviews 271–72
Library of Congress subject headings
cchanges to, 25–40
Library Resources & Technical Services,
2, 15–24, 214
Licensing
electronic resources, 238
"Literature of Acquisitions in Review,
2004–7" 231–42
Literature reviews
acquisitions, 2004–07, 231–42
serials, 2006–07, 3–14
LRTS, see Library Resources & Technical
Services
M
Management
electronic resources, 237–38
Maps
digitization of, 108–20
metadata for, 108–20
MARC records, 121–34
MarcEdit, 121–34
Martyn, Christophe, 108–20
Meagher, Elizabeth S., 261–70
Metadata, reviews 135–36
for maps, 108–20
harvesting of, 121–34
name authority control of, 41–52
Microforms
access to, 53–61
cataloging of—rules, 159–65
Mugridge, Rebecca L., 53–61
Music materials
shelllisting of, reviews 271–72
N
NACO, see Name Authority Cooperative Program
Name authorities, 41–52, 185–95, 197–207
"Name Authority Control in Local Digitization Projects and the Eastern North Carolina Postcard Collection" 185–95
Name Authority Cooperative Program
Idaho, 197–207
Non-English language publications
acquisition of, 86–94
cataloging of, 251–60
"Notes on Operations" 41–61, 86–134, 185–207, 251–70
O
OAIP–PMH, see Open Archives Initiative Protocol for Metadata Harvesting
Ohio State University, 243–50, 251–60
Open Archives Initiative Protocol for Metadata Harvesting, 121–34
Oregon State University, 79–85
P–Q
Paraprofessional staff members
training of, 219–30
PCC, see Program for Cooperative Cataloging
Performance libraries, reviews 271–72
Peterson, Damen V., 166–73
Postcards
cataloging of, 185–95
Printed catalog cards
history of, 68–78
Program for Cooperative Cataloging,
Name Authority Cooperative Program, see Name Authority Cooperative Program
R
Ragalado, Jesús Alonso–,
see Alonso–Ragalado, Jesús
RDA, see Resource Description and Access
Reese, Terry, 121–34
Reproductions
cataloging of—rules, 159–65
Research libraries, 129–38
Resource Description and Access, 159–65
Rodríguez, Sandy, reviews 271–72
Rolla, Peter J., 174–84
Rutgers University, 86–94
S
Samples, Jacquie, 94–107
Sapon-White, Richard E., 79–85
Saylor, Nicole, reviews 212
Serial publications, 3–14; see also
electronic journals
access to, 7–9
bibliography, 12–14
management of, 9–10
Serials librarianship, 3–14
“Series Authority Control at Oregon State University after the Library of Congress’s Serials Policy Change” 79–85
Series
authority control of, 79–85
Shelllisting
music materials, reviews 271–72
Strader, C. Rockelle, 243–50
Subject access
with user-supplied data, 174–84
Subject headings, 174–84
“Supporting Name Authority Control in XML Metadata: A Practical Approach at the University of Tennessee” 41–52
Swanson, Edvard, 62–63, 135–36, 208–12, 271–72, 273
T
Technical services
integration of archival materials into workflow, 261–70
Theses, see Academic dissertations
"Training Successful Paraprofessional Copy Catalogers" 219–30
U
University of Denver, 261–70
University of Tennessee, 41–52
“User Tags versus Subject Headings: Can User–Supplied Data Improve Subject Access to Library Collections?” 174–84
User-supplied data
for subject access, 174–84
“Using Batchloading to Improve Access to Electronic and Microform Collections” 53–61
V
Valente, Colleen, 219–30
Van Ullen, Mary K., 139–58
Veve, Marielle, 41–52
W
Ward, Judit H., 86–93
Wartzok, Sue, reviews 210–12
Web 2.0 tools
in cataloging, 251–60
Weihs, Jean, reviews 208–9
White, Richard E. Sapon–, see Sapon–White, Richard E.
Williams, Ginger, see Williams, Virginia Kay
Williams, Virginia Kay, 166–73; reviews 209–10
X–Z
XML, see Extensible Markup Language
Yee, Martha M., 68–78
Writing for the Web
Speaker: Brenda Reeb, University of Rochester

Learn how to present text and words on a webpage in ways that enhance findability and readability of webpage content. You have the opportunity to receive feedback on your own writing during the workshop and critique Web copy on sites selected by the presenter.

Leave the workshop with quick-fixes you can apply to your site immediately as well as strategies for tackling long range projects that will enhance the quality of your library website.

Creating Library Web Services: Mashups and APIs
Speaker: Karen Coombs, University of Houston

Del.icio.us subject guides, Flickr library displays, YouTube library orientation; with mashups and APIs, it’s easier to bring pieces of the Web together with library data. Learn what an API is and what it does, the components of Web services, how to build a mashup, how to work with PHP, and how to create Web services for your library. Participants should be comfortable with HTML markup, have an interest in learning about Web scripting and programming, and are encouraged to bring a laptop for hands-on participation.
If you have been searching for an easy way to authority control your library’s current cataloging, try LTI’s Authority Express service.

With Authority Express, a library uses the Internet to transmit a file of newly cataloged bibliographic records to LTI (via ftp). LTI immediately processes the records through its state-of-the-art authority control system. Then, at the library’s convenience, it logs into LTI’s ftp server to retrieve fully authorized catalog records, along with linked LC name and subject authority records.

Authority Express
- Keeps authority control current at an affordable price
- Integrates easily into existing workflows
- Lowers cost by reducing staff time spent on catalog maintenance
- Provides 1 hour turn around for up to 1,000 catalog records

“Authority Control for the 21st Century”

LIBRARY TECHNOLOGIES, INC.
2300 Computer Avenue, Suite D-19 Willow Grove, PA 19090
(215) 830-9320 Fax: (215) 830-9422
(800) 795-9504 email: LTI@LibraryTech.Com

Visit our website at:
www.LibraryTech.Com