"PEOPLE SKILLS" AND TECHNOLOGICAL MASTERY:
WHAT U.S. ACADEMIC LIBRARIES REQUIRE OF CATALOGERS IN THESE
AREAS

by
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This study describes the responsibilities and requirements for professional catalog librarians in U.S. academic libraries, as specified in job advertisements in *American Libraries* from October 1999 through October 2000. The study focused on qualifications pertaining to "people skills"—also known as "personal skills"—and information technology. The content analysis of 77 advertisements found that 68 percent of the postings listed knowledge and skills in MARC (Machine-Readable Cataloging). A newer information technology area that academic libraries are requesting is metadata, which appeared in 30 percent of the advertisements. The study also indicated that catalog librarians were expected to have management responsibilities and skills, as well as strong communication abilities. It would benefit cataloging job applicants to have a background in information technology, in addition to management, communication, and interpersonal skills.

Headings:

    Catalogers

    Content analysis

    Job analysis

    Job-hunting

    Metadata

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INTRODUCTION

The cataloging profession has changed over the years. Catalogers must adapt to new environments and take on new challenges. When OPACs and copy cataloging became prevalent, some people warned that catalogers would become unnecessary since it was said that technicians and computers could do the bulk of the work (Leonhardt, 1998). It so happened that catalogers did not disappear, but OPACs and automation greatly altered the nature of catalogers' work (Furuta, 1990). In the 1980s, libraries actually suffered a shortage of catalogers (Furuta, 1990). Now, once again, some professional catalogers observe that their jobs are threatened, as outsourcing and de-professionalization of cataloging are ongoing realities (Bohannon, 1998; Leonhardt, 1998).

The long-term job market for cataloging professionals is the subject for another essay. Instead, this study analyzes those cataloging jobs that have opened in academic libraries during a recent time period—October 1999 through October 2000. These job postings are analyzed in an effort to pinpoint the skills and qualifications requested by academic library employers for catalogers. Specific attention is paid to the areas of information technology and "people skills"—two areas that are frequently covered in classified advertisements for catalogers.

Graduate students who plan to be catalogers in academic libraries as well as more seasoned catalogers who wish to adapt to an evolving marketplace could position

themselves better by knowing the skills and qualifications that employers seek. Employers are beginning to request that candidates have abilities in newer fields, such as metadata, while continuing to request the traditional skill sets and technologies. Additionally, employers often search for catalogers with specific personal traits. Employers report that social and teamwork skills are very important considerations when they interview potential catalogers ("Knowing How," 1994). The goal of this paper is analyze the skills and qualifications, as presented in recent classified advertisements, for catalog librarians in U.S. academic libraries. It is hoped that the results would benefit graduate students planning a career in cataloging as well as job-hunters. Employers, as well, could benefit by taking a look at the structure and composition of advertisements for catalogers in today's marketplace to aid them in composing a successful advertisement to target the employee they need.

LITERATURE REVIEW

Content analysis of job advertisements has been widely used to investigate the characteristics of the position of cataloger as well as the trends that shape this position over time. Some studies involving content analysis of job advertisements have focused on salary and benefits for catalogers; others have focused on skills and qualifications required for catalogers. This study focuses on skills and qualifications, specifically in the areas of "people skills" and technological skills. The previous literature on skills and qualifications of catalogers, as presented in job advertisements, has yielded a variety of conclusions.

One study is by Palmer (1992), who analyzed classified job advertisements in *American Libraries*. He initially undertook this research in order to share his findings with his M.L.S students, in an effort to convey to them the relevance and importance of cataloging skills in the contemporary marketplace for professional librarians. The study sample consisted of a total of 340 advertisements, distributed over two time periods—one from January through June of 1987 and the other from July/August 1988 through January 1989. The advertisements were all for positions that specifically mentioned cataloging skills or responsibilities. Palmer concluded that people with cataloging skills often undertake their cataloging responsibilities amidst a variety of other duties; supervision skills, for example, were required in half of all advertisements in the sample. In addition, 17 percent of all advertisements required training responsibilities; 6 percent required user

education; 27 percent required reference; 22 percent required acquisitions; and 18 percent required collection development. Thus, it appears from Palmer's findings that many of the jobs that required cataloging knowledge also entailed other types of knowledge and duties.

Copeland (1997) analyzed job advertisements for serials catalogers from 1980–1995 and found that "the role of the Serials Cataloger has broadened in scope with developments in automation and in national standards" (p. 27). As a result, she said that candidates now must meet higher expectations from employers. In the study, Copeland analyzed job advertisements for serials catalogers in *American Libraries* and *College & Research Library News*. Her objective was to determine the required and desired qualifications of serials catalogers and to measure the demand for serials catalogers. The author found that in the early 1980s, many job advertisements included knowledge of AACR2, OCLC, MARC and related standards and rules as required qualifications. By 1988, knowledge of these standard rules remained an expectation; however, there was also at this time a new generation of *desired* qualifications for serials catalogers. These desired qualifications included the knowledge of conventions and standards affiliated with cooperative programs (such as CONSER, NACO, and USNP); the ability to use local integrated systems; the ability to be flexible in the face of change; the ability to manage departments; and the ability to do non-cataloging tasks such as serials control and acquisitions. Thus, a combination of technical skills (rules, standards, and integrated systems) and personal skills (flexibility and management) were predominant among the desired qualifications expressed in advertisements toward the chronological end of her sample.

Copeland's findings are encouraging to those who wish to pursue careers in professional cataloging which would allow the use of a variety of personal and technological skills in addition to traditional cataloging skills. Copeland's study is also interesting because of its focus on jobs that have cataloging as among their main or only duties, unlike Palmer's study, which included job advertisements in which cataloging was not the major or only focus of a job. However, Copeland did not reveal data from her study to back up her conclusions; nor did she detail her methodology. It is worthwhile then to also consider other studies that treat the role of the cataloger in order to determine how and why the role of cataloger has been changed. Other researchers present conclusions that diverge significantly from Copeland's and are also worth investigating.

Furuta (1990) analyzed how automation in cataloging—specifically the use of bibliographic utilities such as OCLC—changed the roles and responsibilities of the professional cataloger. While other studies have demonstrated that automation led to certain changes in the library-cataloging department (such as more copy cataloging work being done by paraprofessionals and a reduction in cataloging staff size), Furuta explained that this study looked specifically at how the *professional* cataloger's job has changed. In addition, Furuta's study examined how the cataloger of 1989 compared with earlier forecasts made in the literature about the role of professional catalogers.

The research sample in Furuta's study consisted of classified advertisements from *American Libraries* from 1970 to 1989. Data were analyzed and two important groups emerged as being pertinent to a study of catalogers. These two groups were job postings for cataloger positions and job postings for administrators of cataloging. Postings for "administrators of cataloging" included advertisements for high ranking administrative

positions, such as department head and higher. The significance of automation was certainly reflected in the job advertisements in Furuta's study. By 1989, close to 90 percent of the nonadministrative job advertisements listed experience with automation as either a required or desired qualification compared with around 20 percent in 1975.

Furuta also examined whether catalogers were asked to have more supervisory responsibilities once bibliographic utilities allowed for more copy cataloging to be performed at the paraprofessional level. Furuta studied the percentage of postings for nonadministrative postings with supervisory responsibilities. Before 1984, the trend was upwards although the line in the graph was extremely jagged. However, after 1984 the line dropped, indicating no clear trend that supervisory responsibilities for catalogers were increasing. In summary, it appears from Furuta's study that it is not clear that catalogers were expected to have more supervisory responsibilities. However, advertisements certainly required more knowledge of technology from catalogers as time went on. Specifically, knowledge of automated bibliographic utilities was increasingly in demand.

While Furuta studied cataloging positions in a variety of library settings, Reser and Schuneman (1992) studied job advertisements for positions in academic libraries only. The sources for Reser and Schuneman's study were *American Libraries*, *College & Research Libraries News*, and *Library Journal* from one year—1988. Their goal was to examine differences between public services and technical services positions in terms of computer skills, previous work experience, foreign language requirements, and other variables.

Reser and Schuneman found that technical services position advertisements required more computer skills and more previous work experience than did advertisements for public services positions. At the same time, public services candidates were expected to have more advanced degrees. In this study, the phrase "computer skills" was not broken down into more specific subcategories, such as "word processing," "OCLC," or "online searching." Further specificity would have allowed for greater understanding of the nature of these technical skills as required by employers.

Xu (1996) also used content analysis to examine job advertisements for catalogers. The study focused on the impact of automation on required and preferred skills for reference and technical services librarians in academic libraries. Like Reser and Schuneman, Xu focused on the academic library setting. Xu's study, however, covers a longer period of time (1971–1990) than one year. Also, in contrast to Reser and Schuneman, Xu included subcategories for technical skills. The creation of subcategories allowed for Xu to make more conclusions about the types of technical skills requested by employers for technical services librarians and reference librarians. Xu also included both inferential and descriptive statistics in the analysis. For catalogers, Xu found that as libraries adopted online bibliographic utilities at a quick pace throughout the 1970s, use of OCLC was the most required or preferred technical skill for cataloging positions.

Xu's study also analyzed whether supervisory and other skills were mentioned in advertisements. Xu found that during the period 1981 to 1985, catalog librarian postings with supervisory or administrative responsibilities (44 percent) and coordination responsibilities (8 percent) together accounted for 52 percent of the total of 77 advertisements. In comparison, reference postings with supervisory or administrative (17

percent) and coordinating (8 percent) responsibilities only accounted for about 25 percent of the total 72 advertisements. In the fourth date range—1986–1990—catalog postings with administrative responsibilities decreased slightly to 47 percent of the total of 120, and reference postings decreased to 20 percent of the total of 155. These findings suggested that catalogers were beginning to experience more managerial responsibilities as time progressed. Also, Xu found that catalog librarians were asked to have supervisory responsibilities more often than reference librarians. In terms of other personal skills, Xu revealed that as time progressed, more postings for catalog librarians began asking for communication skills.

Xu also referred to the concept of a "cultural lag." This describes the delay wherein people generally do not adopt a new technology at the same time as the technology is implemented. In applying this phenomenon to job advertisements, the "cultural lag" would mean that job requirements concerning knowledge of a new technology do not appear in job advertisements right away. Thus, a job-hunter is not expected to have as much knowledge of a brand new technology as s/he would of an established technology. Xu's findings supported the "cultural lag" theory. One question for today is what technological skills will be required by employers in the future, but are "lagging"—or are not in as high demand—for catalogers now? Just as OCLC skills were not mentioned in as many advertisements in 1973 as in 1990 (Furuta, 1990, p. 6-7), there are probably skills that are not requested as much in 2000 as they will be in the future. How can librarians and library students prepare for the technological skills of now and the future?

A current topic concerning the organization of information is metadata, or "data about data." According to Milstead and Feldman (1999), "Used effectively, [metadata] makes information accessible by labeling its contents consistently" (p. 25). Metadata can be used to organize World Wide Web resources so that Web surfers can find pertinent information more quickly and efficiently.

Although it was not originally developed to organize Internet resources, MARC (Machine-Readable Cataloging) is an example of a longstanding metadata schema. MARC has guided library automation and been the backbone for bibliographic utilities such as OCLC. Catalogers employ the input standards of MARC, along with cataloging and classification rules, as they create bibliographic records for books, journals, computer programs, electronic resources and many other types of resources. These bibliographic records form the basis of the library card catalog, or more typically today, the online public access catalog (OPAC).

In addition to MARC, there are now newer metadata schemas to guide the organization of information and enhance access to information. For the sake of simplicity, in the following discussion, metadata schemas other than MARC and AACR2 will be known as "metadata," while MARC/AACR2 will be called "MARC." There are several key differences between MARC and metadata. First, there is a need for metadata in a variety of settings, such as museums, archives, and business. Thus, a plethora of new standards have emerged that are tailored to discrete information communities. In contrast, MARC was specifically developed to fit the needs of the library community. Secondly, metadata schemas are usually applied to digital information, including information on the Internet. MARC, on the other hand, was not intended to be used for

cataloging electronic resources. Although MARC can now be used for this purpose, it has been noted that cataloging Internet resources according to MARC standards is not always satisfactory[1] (Brisson, 1999). Thirdly, metadata for an electronic document is often embedded within an electronic document—such as in a header, or in tags within the document—rather than in a separate database of surrogate records, such as in an OPAC. Lastly, a major difference between metadata and MARC is that highly trained catalogers must create MARC records, whereas metadata standards, in many cases, are meant to be implemented by originators or authors of electronic documents—not by cataloging specialists.

Wendler (1999) explains that catalogers—with their organizational and analytical abilities—are uniquely capable to serve in metadata projects in the library. In her view, "cataloging is metadata, although not all metadata is cataloging" (p. 43). Wendler adds that while academic and research libraries are not responsible for organizing the entire Internet, "catalogers can use their skills to guide research libraries to develop robust infrastructures for managing and accessing digital resources created, purchased, or otherwise selected by our institutions, some of which are Internet resources" (p. 44). In a recent article published by the U.S. Bureau of Labor Statistics, Crosby (2000/01) wrote that some library catalogers are now helping to organize the Internet by participating in metadata projects:

> Many pieces of material on the Internet have digital tags that describe them so that search engines can find them more easily. These tags—called metadata tags—might say who wrote the material or what it's about. To make searches better, catalogers are helping to establish rules and guidelines for tag writing (p. 7).

Included in this study is an examination of whether job advertisements for cataloging positions in academic libraries are requesting knowledge of metadata standards. It is expected that MARC is the most frequently requested metadata standard, but are other metadata standards requested now as well? Some examples of other metadata standards are Encoded Archival Description (EAD), which is an SGML Document Type Definition used in the archives community to make on-line finding aids searchable. The Text Encoding Initiative (TEI) is a widely used standard for describing electronic documents in the humanities. An important feature of TEI is the header, which can store valuable information about the document. Dublin Core, originated by OCLC in 1995, has emerged as a prominent schema for describing electronic resources (Chepesiuk, 1999). Dublin Core is simpler than MARC. The theory is that non-cataloging specialists may use Dublin Core tags to guide them in encoding digital resources. CORC (Cooperative Online Resource Catalog) is a project headed by OCLC that allows participating libraries—many of which are academic libraries—to input both MARC and Dublin Core records into a database.

A study that was very influential for this one is by Hosoi (2000). Hosoi studied the role of the cataloger through a content analysis of job advertisements in *American Libraries* and *College and Research Libraries News* from the year 1999. Her analysis focused on the qualifications pertaining to special cataloging skills, managerial skills, and skills related to library functions outside of the cataloging department, such as reference and collection development. Hosoi's study served to "provide a snapshot of the market situation for academic catalog librarians in 1999 and to suggest necessary preparation for a cataloging career with a focus on academic librarianship" (p. 5). Hosoi found that most

job advertisements with cataloging responsibilities involved many different activities. Special format cataloging was mentioned either as a requirement or responsibility in 63 percent of the postings. In addition, supervisory skills appeared as a requirement in 25 percent of the postings. Hosoi recommended that new catalogers be prepared to serve in various aspects of library services, including public service, management, and problem-solving in cataloging issues.

Similar to Hosoi's study, which was focused on one year of advertisements, this study also focuses on a relatively brief period of time: thirteen months from October 1999 through October 2000. The goal is to pinpoint the types of technological skills and "people skills"—also known as personal skills—requested in recent advertisements from one journal. Studies based on other journals and other years may yield different conclusions. While Hosoi's study focused on special cataloging skills, managerial skills, and non-cataloging skills, this study focuses on technological skills (including metadata skills) and personal skills for catalog librarians. Lastly, as Hosoi does in her study, this study will also attempt to suggest preparation for a cataloging career in academic libraries, based on the broadened role for catalogers that has emerged, and the complex technological skills and personal skills that employers wish for catalogers to have.

METHODOLOGY

Content analysis is a method used "to identify and record the meaning of documents and other forms of communication in a systematic and quantitative way" (Allen & Reser, 1990, p. 251). Content analysis typically requires "input documents" such as books, periodicals or other document formats, and it is a research method that has proven useful in information and library science (p. 251–52). In this study, the "documents" studied are classified advertisements for cataloging positions in U.S. academic libraries. Academic libraries were selected as the subject of investigation to determine the nature of technological and personal skills specific to this type of institution. As Hosoi states, many catalogers in academic libraries face changes common to academic institutions throughout the United States. Those changes affecting cataloging departments may include outsourcing, de-professionalization of cataloging functions, and diversification of library materials (Hosoi, 2000, p. 2). This study focuses on U.S. academic libraries to determine the nature of catalogers' jobs in response to the current challenges and changes in cataloging departments.

The source of advertisements is *American Libraries* from October 1999 through October 2000. *American Libraries* was selected as the single source publication for this content analysis for several reasons. First, it is the official publication of the American Library Association (ALA). As such, *American Libraries* is distributed to all ALA members. Secondly, academic libraries are more likely than public or special libraries to

advertise in *American Libraries* (Palmer, 1992). This is an asset for this study since it includes only academic library positions. The analysis in this study covers cataloging job advertisements from one 13-month period and from one publication. Further studies would be necessary to compare advertisements over a longer period of time or to include more than one source of advertisements.

According to Allen and Reser (1990), there are two main methods of content analysis: classification analysis, in which documents are assigned to "classes or categories to quantify one or more of their characteristics" and elemental analysis, in which "the frequency of words or word groups is studied" (p. 253). This study relies on both types of content analysis. The reasoning behind the different methods is explained in the operationalization of variables.

In order for a job advertisement to be included, several criteria had to be met. Positions that involved direct supervision of the work of catalogers were included. However, advertisements for high-level positions that are remote from the day-to-day management of cataloging operations were excluded. If it appeared that the job-holder would be required to spend 50 percent or more of his or her time doing cataloging and/or directly managing cataloging operations, the advertisement was included in the study. Generally, department head positions were included, but deans and higher positions were excluded. The reason for excluding higher-level positions was to focus the study on positions that would likely entail some technical and hands-on cataloging work as well as management. Positions that involved the cataloging of non-book formats were included in the study, as were foreign language materials. All positions had to be listed in the general "Academic Library" section of the classified advertisements. Thus cataloging

positions in the "Law Library" or "Medical Library" sections—which may also be academic libraries—were excluded. Also, advertisements for jobs outside the United States were not included. As in Hosoi's study (2000), "both temporary and permanent positions, full-time or part-time, were included" and "it was assumed that all positions posted in the journals were professional positions unless otherwise specified" (p. 6).

A total of 82 advertisements matched the criteria for the study, of which five were duplicate announcements. These five advertisements represented "search re-opened" or unfilled positions, since they were for the same jobs, and had the same contents, as did advertisements in issues from a few months earlier. Duplicated announcements and re-opened positions were excluded from the analysis, leaving 77 job advertisements as the source of this study.

A pilot study was conducted first. The sample in the pilot study consisted of advertisements in the "Academic Library" job posting section from three issues of *American Libraries* from October 1999–October 2000. Both job responsibilities and job qualifications were analyzed. Subcategories were created for the categories of "information technology" and "personal skills." It was determined that it would be permissible for more than one subcategory to be chosen per job posting. For the category of information technology, eleven subcategories were created. These variables are operationally defined as:

> *M.S. Office*—Ability to use Microsoft Office applications (Word, Excel, Access, PowerPoint). This category was selected if the employer asked for these types of skills in general—word processing, spreadsheet, database design, and graphics program—even if MS Office was not specifically named. Also, if Windows was specified as a requirement, this category was selected.

> *OCLC*—Ability to use OCLC or other bibliographic utility such as RLIN.

MARC—Ability to use MARC format according to AACR2. The acronyms "AACR2" and/or "MARC" should be specifically expressed. It was determined that "AACR2" is an acceptable identifier because in this day and age, the two are usually used together, unless it is specified in the advertisement that the library is not automated.

Internet Skills—Ability to use the Internet for email, WWW searching, or other general Internet tasks. The phrase "internet skills" or "internet abilities" is expressed.

Automated/Online Library System—Ability to use an automated online library system, such as GEAC or DRA, which may or may not be specifically named.

HTML/Web Authoring—Ability to create WWW pages and documents using HTML and/or HTML editors.

PC Applications—Ability to use a PC; general comfort with PCs. The phrase "PC Applications" or something comparable is specifically requested in the ad.

Database Admin/Maintenance or Authority Control—Ability to maintain databases and to work with name, series, or other authority files.

Metadata—Familiarity with metadata and ability to use emerging standards. The word "metadata" must be particularly named, and/or specific standards, not including MARC, are named (Examples: EAD, Dublin Core, XML)

Cataloging/Organization of Internet Resources—Organization of Internet resources; may include use of metadata or MARC records to organize Internet resources. The word "metadata" is not necessarily named.

Cataloging/Organization of Non-Print Resources (not Internet)— Organization of CD's, audiovisual materials, computer software, and the like.

For the category of Personal Skills, five subcategories were named. They are

defined below:

Organizational Skills—The word "organizational" in reference to skills or abilities is mentioned in advertisement.

Communication Skills—The word "communication" in reference to skills or abilities is mentioned in advertisement. May be written and/or oral communication skills and abilities.

Management Skills—Either the word "management" in reference to skills or abilities is mentioned in advertisement, or, supervisory skills, budgetary responsibilities, policy drafting, manual writing or other management skills are mentioned.

Interpersonal Skills—Either the word "interpersonal" or the word "teamwork" in reference to skills or abilities is mentioned in advertisement.

Analytical Skills—The word "analytical" in reference to skills or abilities is mentioned in advertisement.

A data collection sheet was completed for each advertisement. (See Appendix.)

Following Hosoi's data analysis process, coding was completed for each subcategory

based on the degree of emphasis in advertisements. Each subcategory was ranked as

being one of the following:

- Not mentioned in advertisement
- Mentioned as a responsibility
- Mentioned as a preferred qualification
- Mentioned as a required qualification

If a subcategory was mentioned both as a job responsibility and as a job qualification,

then it was counted as a qualification. This allowed for the greatest amount of emphasis

to be attributed to a subcategory if it was mentioned more than once in any

advertisement.

FINDINGS

An analysis of basic elements in the job advertisements is provided to give a general overview of the positions. Personal skills and technological skills as requested in the job advertisements are also analyzed. The overview is based on Hosoi's. It includes a discussion of geographical distribution, job titles, educational requirements, and minimum years of experience.

Geographic Distribution

State-by-state and regional tabulations were conducted in order to determine the geographic distribution of this sample. Thirty-one states were represented in this study. Figure 1 gives an overview of the number of advertisements per state.

The advertisements were classified by region as well as by state. A regional classification system used by the Job Line of the Library and Information Technology Association (LITA), which is a division of the ALA, was used for this study.[2] The jobs appeared mainly in the Northeast, South, and Midwest. Several large states had multiple listings, which increased their region's representation. The regional distribution appears in Figure 3.

Figure 1: Advertisements by State

State	No. of ads
Texas	9
New York	8
Illinois	5
Louisiana, Maryland	4
California, Georgia, Iowa, Minnesota, Nebraska, Ohio, Pennsylvania	3
Florida, Indiana, Massachusetts, New Jersey, North Carolina, Oregon, Tennessee	2
Alabama, Arkansas, Colorado, Kansas, Maine, Mississippi Missouri, Montana, Nevada, New Mexico, Washington, West Virginia	1

Figure 2: Regional Distribution of Jobs

West
13%

South
39%

Midwest
27%

Northeast
21%
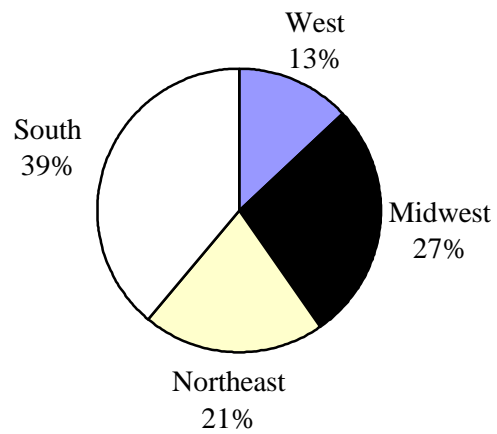
Job titles

Positions with cataloging as a major or primary function do not all have the same job title. A range of different job titles was identified. Ten broad classifications were created, and the overview can be seen in Figure 3. Of the total 77 postings, 23 (29 percent) had the job title "catalog librarian" or "cataloger." Although the job title "Cataloger/Catalog Librarian," appeared the most frequently, the majority of the postings (71 percent) had other job titles, indicating that catalogers are expected to have a variety of major job duties and responsibilities in addition to cataloging. These findings are in concurrence with Hosoi's findings. She found that 33 postings of 124 postings (27 percent) had the title "catalog librarian," while 73 percent of the advertisements were for positions with other titles.

Figure 3: Job Titles

Job Title	No. of Ads	Percentage
Cataloger/Catalog Librarian	23	29
Technical and/or Public Services Librarian	13	17
Head of Cataloging	9	12
Serials Cataloger/Librarian	7	9
Special Formats/Electronic Resources Cataloger	7	9
Rare Books, Special Collections, Archives, Manuscript Cataloger	6	8
Subject Librarian, Cataloger	4	5
Database Manager	3	4
Head of Technical Services	3	4
Metadata Specialist	2	3
Total	77	100

Educational Requirements

The advertisements were analyzed for educational requirements. Of the 77 advertisements, 65 (85 percent) required an ALA-accredited master's degree. Two advertisements (3 percent) stipulated requirements for an advanced degree (post-baccalaureate) as well as an ALA-accredited master's degree. Five (6 percent) required an advanced degree (post-baccalaureate) or an ALA-accredited master's degree. Two (3 percent) required the master's in library science degree, but did not specify that the degree has to be ALA-accredited. Three advertisements did not include an educational degree as a requirement, although one of these three mentioned an ALA-accredited master's degree as a preferred qualification. Clearly, the ALA-accredited master's degree is the single most required degree. An overview of educational requirements is provided in Figure 4.

The majority of advertisements, 59 (75 percent), did not mention other advanced degree requirements besides the ALA-accredited master's degree. A total of 19 postings (25 percent) stated a second master's degree among the required or preferred qualifications for the position. These findings again correspond with Hosoi's. As Hosoi found, the number of postings that listed the second master's degree as a preferred or required qualification—which was 31 postings or 25 percent—is much higher than the figure in Xu's study (7.5 percent for the period 1980-1990). One may expect to see a growing trend of advanced subject knowledge becoming a job requirement for cataloger. An advanced degree in another subject will remain a real bonus for those candidates who seek cataloging employment. The overview of degree requirements appears in Figure 4.

Figure 4: Educational Requirements
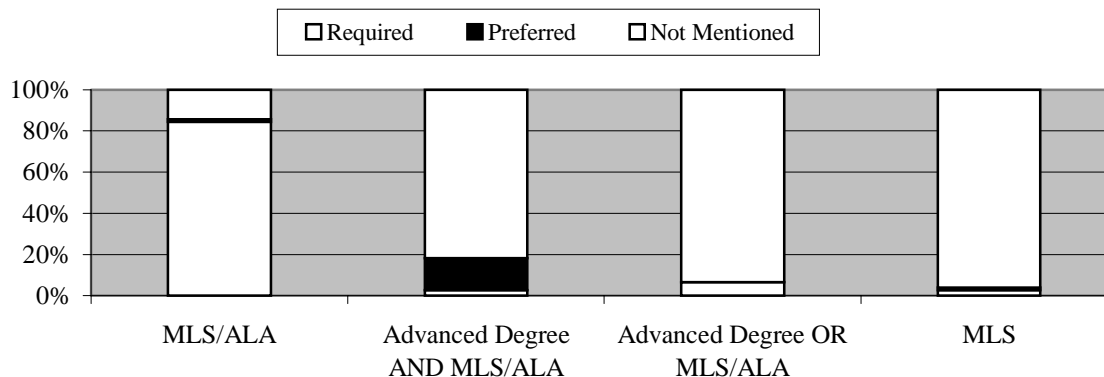
Minimum Years of Experience

Sixty-three advertisements (82 percent) mentioned work experience among the required or preferred qualifications. Only 14 postings (18 percent) did not include any mention of experience in the advertisement. Twenty-one advertisements (28 percent) had a mention of experience, but the number of years was not specified. Ten postings (13 percent) specified 1 year of experience; 13 (17 percent) specified at least 2 years of experience; 10 (13 percent) specified at least 3 years of experience; 1 (1 percent) specified at least 4 years of experience; while 8 postings (10 percent) specified 5 years or more of experience. These findings diverge somewhat from Hosoi's due to different tabulation methods. Hosoi chose to exclude those positions which stated a preference or requirement for work experience, but which did not mention the number of years of experience desired (p.12). Therefore, in her study, 48 percent of all postings had no mention of minimum years of experience. However, both Hosoi's study as does this one indicates that prior experience is considered valuable. The types of experience requested

vary, with some libraries requesting cataloging experience in particular, while others request general experience in academic libraries. An overview of the minimum years of work experience appears in Figure 5.

Figure 5: Work Experience, Required and Preferred
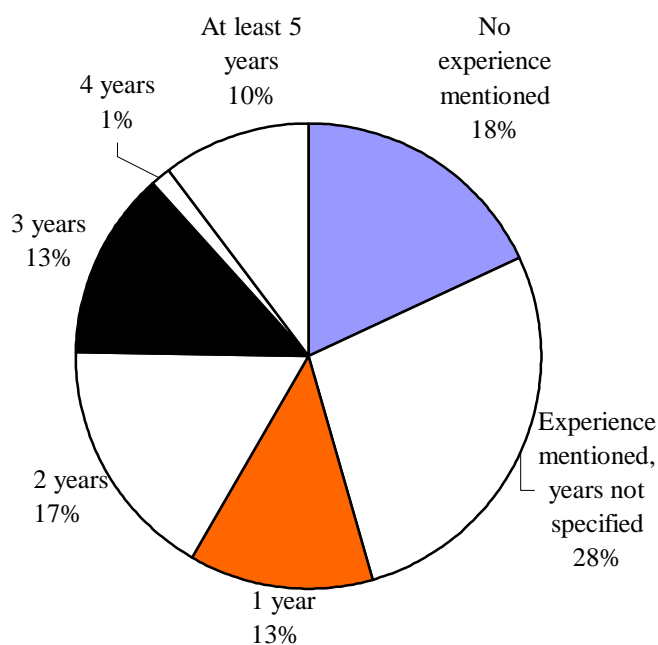
Information Technology Skills

Most of the jobs mentioned some type of information technology skill, 75 of 77 (97 percent). Based on the advertisements, candidates for professional cataloging positions are expected to have strong skills and knowledge in information technology. An overview of technological skills is provided in Figure 6. The information technology knowledge that was the most frequently required was familiarity with MARC. It was mentioned as a required skill in 52 advertisements (68 percent). Further, MARC was

mentioned as a preferred qualification in three additional postings, and as a responsibility in three others, bringing the total number of postings that included the mention of MARC skills to 58 (75 percent). Skills in the use of OCLC or other bibliographic utilities were mentioned in 57 advertisements (74 percent). These results indicated a continued need for people skilled in automation, a trend noted by Furuta (1990), who found in 1988, that 80 percent of non-administrative cataloging jobs required knowledge and skills using automated technology (p. 248). The drop to the level of 74 percent noted in this study could mean that fewer employers are choosing to stipulate these requirements in advertisements, assuming that applicants for cataloging positions will have these abilities. Knowledge of an automated library system was mentioned in 53 advertisements (69 percent). Database administration/authority work was included in 43 advertisements (56 percent). Other skill/knowledge sets were mentioned comparatively fewer times: MS Office 13 times (17 percent), Internet skills 7 times (9 percent), and PC applications 12 advertisements (16 percent). It may be that employers chose not to include these skill sets in advertisements, since these skills have come to be expected in today's high-tech workplace.

Included in cataloging job advertisements today is the area of organization of non-print information. Thirty-one advertisements (40 percent) mentioned cataloging of non-print resources. The category of "non-print resources" did not include Internet resources but did include audiovisual materials, computer software and other non-print media. Twenty-four ads (31 percent) specifically mentioned cataloging Internet resources. Twenty-three advertisements (30 percent) mentioned metadata skills. It is notable that, although 23 advertisements mentioned metadata, only 5 included it as a requirement.

Rather, 15 advertisements mentioned metadata as a preferred qualification, and three

mentioned it as a responsibility. This would seem to indicate that metadata, including

knowledge of specific metadata standards such as XML, EAD, and TEI, as a new

technological skill, is not required by most employers at this time, but is a sought-after

skill that would be highly prized. Metadata may be representative of the "cultural lag"

theory discussed by Xu. Although these skills are not required currently, they may be in

the future, when academic libraries become more involved with metadata standards and

technologies. It would be beneficial for cataloging students to acquire metadata

knowledge now so as to anticipate future needs.

**Figure 6: Information Technology Skills**
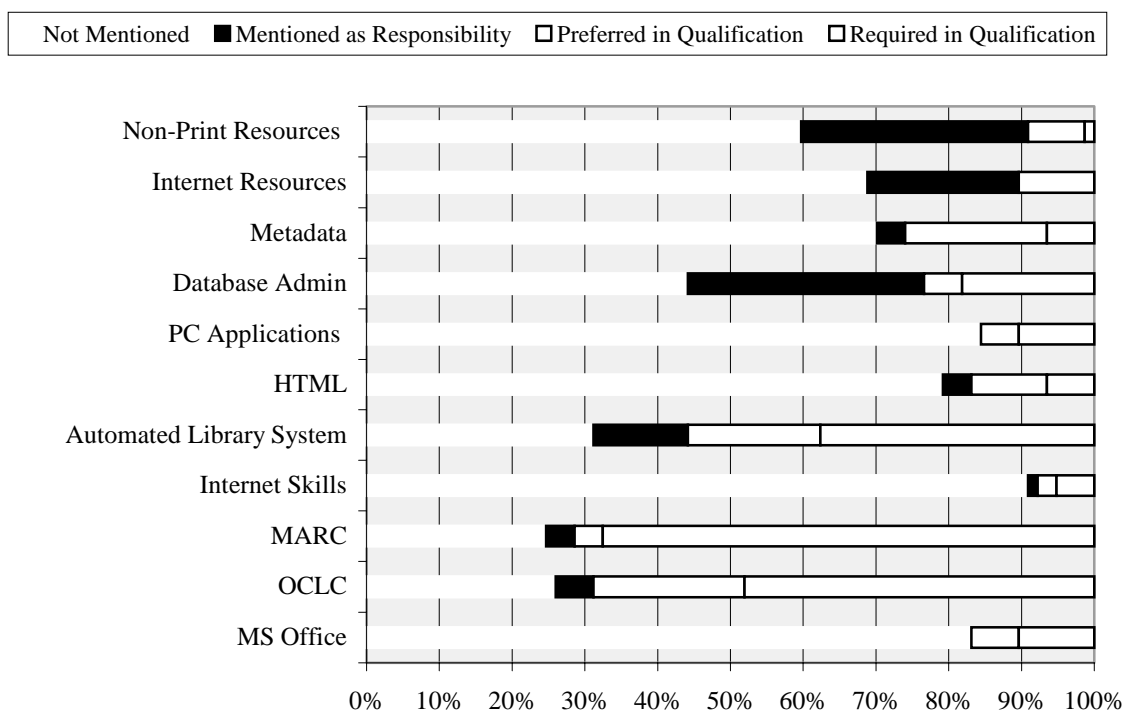
Personal Skills

The emphasis on management skills and other "people skills" in advertisements for catalogers has not gone unnoticed in other studies. Hosoi noted that supervisory skills were the most frequently mentioned management skill (71 percent). Hosoi broke down management skills further down in her study than was done in the current study. It appears from the current study as well as others that management skills are needed and used on the job for the cataloger. Communication skills also appear increasingly important, a trend that Xu noted in an earlier study.

The most frequently mentioned set of "people skills" (personal skills) was "management skills," which was mentioned in 59 advertisements (77 percent). (See overview in Figure 7.) Next was "communication skills," (in 54 postings, 70 percent). Interpersonal skills were cited in 42 postings (55 percent), and organizational skills were mentioned in 20 advertisements (26 percent). Lastly, analytical skills appeared in 16 postings (21 percent). Organizational skills and analytical skills were the least frequently cited skill sets. One could speculate several possible reasons for this. Perhaps, organizational skills and analytical skills are typically held by catalogers, and employers do not feel the need to list them. Possibly employers are de-emphasizing these skills for catalogers because they feel that some of the other personal skills (communication skills, management skills, or interpersonal skills) are more essential, and wish to attract those people who have these skill sets. A separate study of employers would be necessary to develop answers to these questions.

Figure 7: Personal Skills
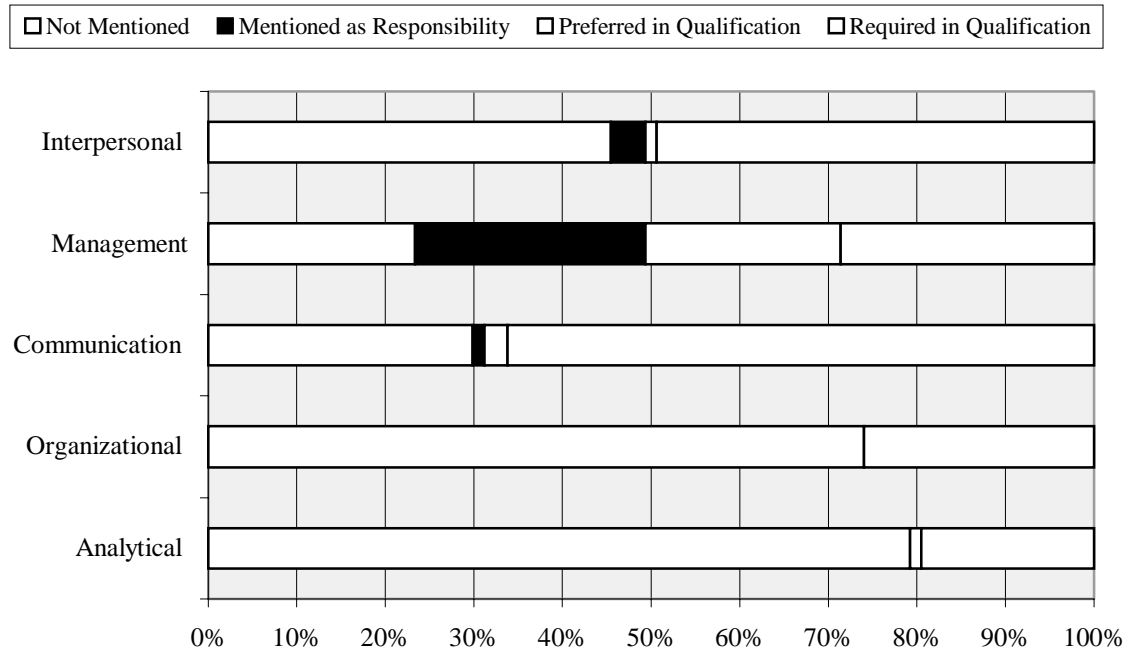
CONCLUSIONS

The results of this study indicate that advertisements for cataloging positions are geographically diverse. As in Hosoi's study, most of the cataloging positions involve a variety of major responsibilities, as reflected in the varied job titles stated in the advertisements. The ALA-accredited master's degree was required in the vast majority (85 percent) of the positions. The combination requirement of the ALA-accredited master's degree and another advanced degree remains a rare requirement (3 percent of the postings). Hosoi reported that 21 percent of cataloging positions listed a second master's degree as a preferred qualification. In this study, 16 percent of cataloging positions listed a second master's degree as a preferred qualification. It is quite clear that the possession of a second master's degree is beneficial to an applicant seeking cataloging work in an academic library.

As in Hosoi's study, it was found that most of the postings stated a requirement or preference for previous work experience. Sixty-three postings (82 percent) had some mention of previous work experience. Again, as with a second master's degree, it is quite advantageous for applicants for cataloging positions in academic libraries to have cataloging work experience in addition to an ALA-accredited master's degree.

MARC was the most frequently cited knowledge area, appearing in 68 percent of the advertisements. This clearly indicates that it is important for cataloging job applicants to be familiar with this standard. The desire for familiarity with other

metadata standards is also beginning to appear in advertisements. Metadata knowledge was mentioned in 30 percent of the advertisements. It is very likely that an increasing number of future job postings may stipulate requirements for metadata knowledge and a higher level of that knowledge in the future. Currently, most of the postings that mention metadata state that it is a preferred rather than a required qualification.

Management skills were the most frequently cited "people skills" or personal skills. They appeared in 77 percent of the advertisements. Since cataloging departments rely heavily on paraprofessional and clerical support staff to carry out many significant cataloging duties, it would appear from the advertisements that professional catalogers are expected to play an essential management role as well as take on the more difficult cataloging jobs. Communication skills are also an expectation of catalogers. These skills were mentioned in 70 percent of the job postings.

In today's academic libraries, catalogers are engaged not only in the cataloging of traditional materials such as monographs and serials. Their role has also expanded to include special materials, particularly Internet resources. Moreover, they are vitally engaged in the management of cataloging operations. It is essential that aspiring catalogers develop excellent communication and management skills in addition to their technical expertise in the organization of information. Although the type of cataloging job that has emerged in today's market place may be challenging, today's students of cataloging should not feel daunted if they are prepared to take on a range of responsibilities and hold a solid background in information technology and "people skills."

NOTES

[1]According to Brisson, using MARC and AACR2 to describe Internet resources is inherently difficult because of the dynamic and volatile nature of Web resources. In addition, the creation of MARC records for Web resources is extremely time-consuming for a cataloging staff with many other duties. See pages 12–14 of Brisson's article (1999) for his discussion of the MARC format and Internet resources.

[2]In this regional breakdown, the Northeastern region includes Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, Connecticut, New York, New Jersey and Pennsylvania. The Southern region includes Maryland, District of Columbia, Delaware, Virginia, West Virginia, Kentucky, North Carolina, South Carolina, Tennessee, Georgia, Alabama, Mississippi, Arkansas, Louisiana, Texas, and Florida. The Midwestern region includes Ohio, Michigan, Indiana, Illinois, Wisconsin Minnesota, Iowa, Missouri, Oklahoma, Kansas, Nebraska, South Dakota, and North Dakota. The Western region includes Montana, Idaho, Washington, Oregon, Wyoming, Colorado, Utah, Nevada, New Mexico, Arizona, California, Hawaii, and Alaska. The regional breakdown can be seen at http://www.lita.org/jobs/postings.html

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APPENDIX

DATA COLLECTION SHEET

I. POSTING INFORMATION

ID No.   __ __ __ __ __   Issue [yr/month/page] _____|_____|_____

II. POSITION INFORMATION

Title:_____

State: _____

III. MINIMUM YEARS EXPERIENCE

_____ / _____   [ ]   Not specified

Years   Code

IV. EDUCATION

MLS/ALA / _____   MLS/ALA or foreign equivalent / _____   MLS / _____   BA/BS / _____
                    Code   Code   Code   Code

[ ] Not specified   MA or MS / _____   Other / _____
                                        Code   Code

_____   _____

        Describe   Describe

V. INFORMATION TECHNOLOGY

M.S. Office/ ___   Automated/Online Library System/ ___   Metadata/ ___

                                                        _____

OCLC/ ___   HTML/Web Authoring/ ___   _____

MARC/ ___   PC Applications/___   Cataloging/Organization of
                                                        Internet Resources/ ___

Internet Skills/ ___   Database Admin/Maintenance/___
                        Or Authority Control   Cataloging/Organization of Non-Print Resources
                                                        (not Internet or Internet not specified)/ ___

VI. PERSONAL SKILLS

Analytical skills/ ___

Organizational skills/ ___

Communication skills/ ___

Management skills/ ___

Interpersonal skills/ ___