## The Blended Librarian: A Job Announcement Analysis of the Newly Emerging Position of Instructional Design Librarian

### John D. Shank

This exploratory study uses job advertisements from periodicals (College and Research Libraries News, Library Journal, and The Chronicle of Higher Education), a job discussion list (libjobs), and an employment Web site (Educause) from 1999–2004 to investigate position announcements of the newly emerging position of Instructional Design Librarian. Ten unique position announcements were identified and examined to determine the positions' qualifications and job responsibilities. The research reveals some notable similarities and differences among these positions and identifies a broad set of key characteristics.



cademic libraries exist in a rapidly changing environment where it is critical to adapt, develop, and make

use of new and emerging technologies. These technologies can challenge the traditional role and means by which the library serves as the central body for collecting, storing, and disseminating information for an academic community. It is not surprising that one way libraries have responded to these challenges is by creating new positions. Joan Starr, in her article, "A Measure of Change: Comparing Library Job Advertisements of 1983 and 2003," surmises that "jobs utilizing new and more pervasive technologies have appeared, representing a kind of professional transformation."<sup>1</sup>

One position that represents this transformation is the Instructional Design

Librarian. This newly emerging position shares some of the more traditional roles of academic librarians such as reference, instruction, and collection development. However, it also adds the additional roles of both the instructional designer and instructional technologist. Steven Bell and John Shank<sup>2</sup> have given a more contemporary name and definition to these types of positions. They call it the 'blended librarian'. They define a "blended librarian" as

"an academic librarian who combines the traditional skill set of librarianship with the information technologist's hardware/software skills, and the instructional or educational designer's ability to apply technology appropriately in the teaching-learning process."<sup>3</sup>

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The following study examines position announcements for the recently appearing job title of Instructional Design Librarian to determine the key characteristics of the advertised positions' qualifications and job responsibilities. The results of this study are useful for library administrators who are interested in creating an Instructional Design Librarian or similar position. Additionally, the results detail an aspect of the changing nature of work in academic libraries. Anyone interested in learning more about the evolution of related academic library positions will find the results of interest.

#### Literature Review

Studies that analyze position announcements are numerous in the library literature. Gary White, head of the Schreyer Business Library at Penn State University, has published several such studies in the past decade. In one article, he summarized that position announcement studies can be sorted into one of the following three types: "those looking at specific types of positions..., those analyzing specific skills mentioned in position advertisements, and those studying more general issues."<sup>4</sup> This study is focused on the specific position type of the Instructional Design Librarian.

This paper identifies core skills desired and job duties associated with the position but does not attempt to trace the history or development of the position. Rather, this article highlights some of the shifts and trends in the profession that may have contributed to the formation of the position. To accomplish this, the present study will begin by exploring some of the preceding literature that has focused on analyzing position announcements in order to chart changes in the profession.

A segment of the position announcement literature focuses specifically on the examination of broad trends in librarianship. The two developments that are most relevant to the formation of the Instructional Design Librarian position are the increasing importance of computer skills and instruction skills. Zhou Yuan's<sup>5</sup> 1996 study ascertained that both technical and public services jobs from 1974 through 1994 increasingly required explicit computer skills. Beverly Lynch and Kimberley Robles Smith<sup>6</sup> found that computer skills were being integrated into all types of library jobs.

Penny Beile and Megan Adams<sup>7</sup> and Joan Starr<sup>8</sup> also support the prior findings that the demand for computing skills is on the rise across library positions. While it is important to realize that there are limitations to the content analysis of position announcements and, as Hong Xu asserts, "there are too many uncontrolled variables to support far-reaching conclusions,"<sup>9</sup> these studies support each other and clearly demonstrate that libraries are increasingly seeking librarians with computer skills.

The increase in the number of library position announcements requiring computer skills over the past several decades is mirrored by an increase in job ads that seek instruction skills. Sherri Edwards, in discussing the increasing role that instruction is playing in libraries services, states:

During the past quarter of a century, interest and concern for library instruction has grown dramatically, as evidenced by the increasing number of workshops and conferences held on the topic, as well as the number of committees and organizations dedicated to bibliographic instruction. Perhaps the strongest evidence of this surge of interest, however, is the number of bibliographies, monographs, and journal articles focusing on all aspects of BI [Bibliographic Instruction].<sup>10</sup>

James Marcum, in "Rethinking Information Literacy," notes that "information literacy has emerged as a central purpose for librarians, particularly academic librarians."<sup>11</sup> Laurel Clyde concludes her study of the instructional role of librarians, asserting that "libraries of all types, but particularly university and college libraries, are seeking to recruit professionals who have skills in bibliographic instruction, user education, and information literacy development."<sup>12</sup>

Further evidence that library instruction is becoming increasingly important is also found in several studies, including one conducted by Beverly Lynch and Kimberley Smith, who note that "instruction has become an integral part of every reference job,"13 and Rebecca Albitz who surmises that "skills in reference and instruction are becoming desirable for candidates applying for positions across all functional lines."14 The increasing emphasis on library instruction, in all its variety of names and types (i.e., bibliographic instruction, information literacy, user instruction, library research courses, research instruction), is creating a work environment that places greater emphasis on librarians obtaining and enhancing their instruction skills.

These two trends, the increased need for computer skills and instruction skills, have followed in step with the increase in the number and types of OPACs, electronic indexes, databases, and search engines. Libraries are focusing on further integrating information literacy skills into the curriculum so that users can appropriately and effectively find, use, and evaluate the vast array of resources now available both in print and electronic format. Not surprisingly, this has led to the creation of various new positions like "Instructional Librarian"<sup>15</sup>, "Instructional Design Librarian"16, "Instructional Technology Librarian"17, Learning Technologies Librarian, and "Instructional Development Librarian." Due to their more sophisticated knowledge of pedagogy and their abilities to utilize technologies in designing instructional materials, librarians with both instructional design and technology skills are finding this a ripe environment for employment opportunities.

### Methodology

This present study examines the content of Instructional Design Librarian job announcements to determine the positions' core qualifications and job responsibilities. The fact that the identified position is new to the field presents two primary challenges that previous studies have yet to encounter.

First, the position titles' nomenclature has only recently emerged in the field. Consequently, there is no agreed-upon, authoritative consensus for defining the title of the position, the qualifications, or the responsibilities. Daniel Surry and Mary Ann Robinson, in their study, "A Taxonomy of Instructional Technology Service Positions in Higher Education," explain that "because there was no consistency in the terminology used to title the positions, we categorized them based on the stated responsibilities of the position."18 They discovered that, by categorizing positions in this manner, they were able to distinguish between an Instructional Technologist and Instructional Designer. Surry and Robinson found that an Instructional Technologist "helps faculty learn about technology, become proficient with technology, and integrate technology into their teaching."19 In contrast, they revealed that an Instructional Designer plays a larger role "in leading the development of specific instructional products."20 Additionally, Margaret Merrill, Robert Sebek, and Lewis Erksine further elaborate on the role of instructional designers, explaining, "they analyze how people learn, the contexts in which people learn best, and the instructional strategies that promote learning."21

Consequently, the author decided to keep the scope of the title search very precise. Only position announcements that included both the phrase "instructional design/er" and the word "librarian" in the title of the job advertisement were collected. If the word "librarian" was absent from the title but the status was listed as librarian, it was included in the study. This was done both to eliminate a large number of positions (reference and instruction librarians) that were seeking some instructional design skills and knowledge as part of a much broader job description, as well as to collect the most homogenous samples possible. Thus, the

aforementioned newly emerging positions (e.g., instructional technologist) that have different titles but may have some related functions were excluded. This study also excluded duplicate job and reopened position announcements.

Second, it was necessary to search many diverse sources starting from the period when the first position announcement was listed (which occurred in 1999) to accomplish this study's goals. To that end, job advertisements from the periodicals College and Research Libraries News, Library Journal, and The Chronicle of Higher Education, along with a job discussion list (Libjobs) and, lastly, a popular employment Web site (Educause) were searched from 1999 through 2004. The decision to use the aforementioned journals was based on the desire to focus on national academic librarian job advertisements and their large circulation numbers. The rationale behind searching online job ads stems from Starr's findings that "future inquiries of this type must include online job listings."22 However, she also notes that this poses a serious challenge to future investigations because most are not archived. Therefore, the Web sites for Libjobs (www.ifla.org/II/ lists/libjobs.htm), an international listserv of the International Federation of Library Associations and Institutions (IFLA), and Educause (www.educause.edu), an organization that supports the advancement of higher education "by promoting the intelligent use of information technology,"23 were used because they archive old position announcements.

As a result of the aforementioned scope of this study, the total population of this study was small—less than two dozen. A total of 10 unique job advertisements were identified (worthy of note is the large number of reopened positions versus the total number of positions, which may be indicative of the difficulty of finding applicants who were qualified to fill the positions) representing approximately half of the total population of instructional design librarians. Because of the collection size and the relatively recent postings of a large majority of the ads, duplicate position announcements were identified and the more comprehensive of the listings was used. Also, the content of each position was analyzed to determine tenure status, salary range, reporting line, educational requirements, requisite qualifications, desired experience, and job responsibilities.

### **Findings**

Findings in previous studies have shown evidence of the changing nature of the profession: both the increasing importance of computer skills, and the increased sharing of responsibility for reference and instruction across various functional areas in the academic library. Because of the nature and limitations of this study, it would be premature to draw far-reaching conclusions, but it is clear that the collection supports the previous findings.

### **Tenure & Faculty Status**

Tenure and faculty status was specifically stated in only 30 percent of the position announcements. Another 30 percent of the ads referred to research and service requirements for the position, which are typical components of faculty tenuretrack positions. A large percentage of the announcements (40%) did not state if the position was staff/faculty or non-tenure/ tenure status. Because of the size of the collection, it is difficult to draw conclusions about what employers believe the status of an Instructional Design Librarian should be.

### Salary Ranges

Salary ranges were supplied in only approximately half the ads, and those listed varied greatly. Because of the limited number of announcements that provided salary data, comments on the salary range were not possible.

### **Reporting Structure**

There was little direct information on departments and slightly more on reporting lines in the ads. Forty percent of the announcements did mention the reporting lines of the Instructional Design Librarian reporting to: the Head of Reference Services; the Associate Director for Client Services; the Head of Instructional Services; and the Dean of Library Services. Additionally, 80 percent of the announcements included ties or relationships that are associated with public services (reference, instruction, and liaison).

### Educational Requirements/Preferences

All of the position announcements listed the Master's in Library Science

as required or preferred educational degrees. An ALA-accredited MLS degree was required or preferred in 90 percent of the ads, while the remaining 10 percent required an ALA-accredited MLIS degree. The majority (60%) of the study population listed an equivalent degree (Education, Instructional Technologies) as acceptable in place of the ALA-accredited MLS degree. Three of the ads listed a second graduate degree as required or preferred, with one of the ads listing specific undergraduate

TABLE 1       Required Qualifications Frequency of Appearance in Position       Announcements		
Туре	Number	
Web/Multimedia application skills (Adobe/Macromedia/Microsoft)	9	
Communication/interpersonal skills	8	
Organizational skills	6	
Instructional technologies skills/experience (current & emerging)	6	
Project management skills/experience	4	
Teaching/instructional methodologies	4	
2 years experience (academic library or instructional designer/tech.)	4	
Academic library familiarity/experience	3	
Developing online/web resources/tools (modules/tutorials/guides)	3	
Instructional design skills	3	
Demonstrated professional/scholarly activity	2	
Creating instructional materials	2	
Online courseware skills/experience (CMS/LMS)	2	
Library instruction skills (bi/user education)	2	
Diversity	2	
Information literacy theory	2	
2nd graduate degree (no degree type listed)	1	
2nd graduate degree (instructional/educational technology)	1	
Professional commitment	1	
Web site management skills	1	
1 year experience (Web & interface design)	1	
Computer networking skills (Windows NT, Unix)	1	
Problem-solving skills	1	
Reference experience	1	
User-interface design skills	1	

degrees in either education or instructional technologies.

### Required Qualifications (Skills & Experience)

The required skills and experiences listed in the announcements varied more than the desired qualifications. While the types of required qualifications were more varied than any other category, there remained quite a few similarities among the advertisements. The requirement stated most often was the ability to use Web (authoring and publishing tools) and other multimedia software technologies; this occurred in 90 percent of the ads. Not surprisingly, 80 percent of the announcements required candidates to possess excellent communication and/or interpersonal skills.

The ability to use and keep current with emergent instructional technologies was tied with "organizational skills" for the third most frequent at 60 percent. After the aforementioned skills and experiences, the various types of requirements remaining were listed in less than half of the position advertisements. The remaining 21 types of requirements occurred in 40 percent or less of the collection. It is important to note that six types of qualifications can be placed in the instruction category, as well as six in the computer skills category, leaving a total of nine types that do not easily fit into either group.

### Desired Qualifications (Skills & Experience)

Only a total of four positions announced listed desired or preferred qualifications. The two most common desired qualifications were "project management" skills and "coursework" in either instructional design or instructional technology. Both appear in 20 percent of the collection. Interestingly, of the 15 various types of desired qualifications remaining, five fit neatly into the instruction category and six are geared more for the computer skills category, thereby leaving a total of four types that do not easily fit into either category.

### Primary Responsibilities

The primary responsibilities were more

TABLE 2		
Desired Qualifications Frequency of Appearance in Position Announcements		
Туре	Number	
Project management experience	2	
Coursework (instructional design/technology)	2	
Online courseware experience (CMS/LMS)	1	
Library instruction experience (bi/user education)	1	
Developed online/web resources/tools (modules/tutorials/guides)	1	
Diversity	1	
Reference experience	1	
Instructional technologies skills/experience (current & emerging)	1	
2nd graduate degree	1	
Web/multimedia application skills (adobe/macromedia/microsoft)	1	
Interface design skills	1	
Computer programming skills	1	
Assessment methodologies	1	
Training experience	1	
Teaching methodologies	1	

Primary Responsibilities Frequency of Appearance in Position		
Announcements		
Туре	Number	
Creating online/Web resources/tools (modules/tutorials/guides)	10	
Instructional technologies skills/experience (current & emerging)	8	
Library instructional programs	6	
Assessment	6	
Reference	5	
Faculty/staff training programs	5	
Information literacy	4	
Professional/scholarly activity	4	
Liaison	3	
Planning	3	
Collection development	2	
Web site management	2	
Instructional design	2	
Supervise students	2	
Team member	2	
Supervise staff	1	
Budget	1	
Project management	1	
Computing support (general)	1	

# TABLE 3

homogenous than the required qualifications. All of the collection listed that candidates would create online resources such as tutorials, guides, and/or learning modules. The second most common responsibility was keeping current with emergent instructional technologies, which occurred in 80 percent of the collection.

"Library instruction programs" and "assessment" occurred in sixty percent of the group. "Reference" and "faculty/staff training programs" were listed in half of the position announcements. Of the remaining 13 identified responsibilities, each of which occurred in less than half of the announcements, three can be placed in the instruction category, and two in the computer skills category. This leaves a total of eight types that do not easily fit into either category.

### Discussion

The Instructional Design Librarian position is still quite new to the field of academic librarianship. Consequently, it is not surprising that few job announcements exist and that they have a diverse range of qualifications and responsibilities. Despite the diversity of these qualifications and responsibilities, there are many notable similarities.

The greatest similarities that occurred among the required qualifications were:

 90 percent of the position announcements required candidates to possess knowledge of using Web and other multimedia creation software, such as Adobe or Macromedia products;

• a majority (60%) of the ads also required that the candidate have skills and/or experience with current and emergent instructional technologies.

The most common similarities among the responsibilities were:

 all candidates would create online library resources;

• a large majority (80%) also listed that the candidate would use current and emerging instructional technologies to accomplish their duties;

• a majority (60%) of the announcements required participation in both "library instructional programs" and "assessment."

There also exists a great deal of homogeny between the assorted positions' educational requirements. As mentioned earlier, all announcements required an ALA-accredited MLS or MLIS degree. A majority (60%) of the ads also listed an equivalent degree (Education, Instructional Technologies) as acceptable in place of the ALA-accredited degree. While there was no standardization among the positions' reporting structures, 80 percent of the collection included ties or relationships that are associated with public services (reference, instruction, and liaison).

Additionally, an examination of the seven position announcements that included detailed position descriptions reveals the following similarities:

• All seven announcements stated that the candidate will be creating online library instructional resources (e.g., tutorials, modules);

 Additionally, two of the above ads list that the candidate will be creating online resources for additional curricula;

• Four ads mentioned staff/faculty training as an important part of the position's responsibilities.

There are some notable differences among the job advertisements. Somewhat surprisingly, only 40 percent of the collection specifically mentioned that candidates should have knowledge of instructional methodologies or learning theories. Likewise, only 40 percent of the announcements listed "information literacy" as being part of the position responsibilities. Unexpectedly, only a third required candidates to have instructional design skills even though the phrase "instructional design" occurred in all the job titles of the collection. However, this matched the findings in Mahnaz Moallem's<sup>24</sup> 1995 study of instructional technology job announcements. He found that approximately a third of position announcements for master's-degreed candidates required instructional design skills and experience.

The word "Web" appeared in only two job titles from the group. The words "reference" and "curriculum" each appeared separately in only one job title. The limited occurrence of the word "Web" in the job title may explain why "Web Site Management Skills" were a required qualification in only one announcement and "Web Site Management" was listed as a responsibility in only two job advertisements.

The study's aforementioned similarities make it possible to identify a broad, while not comprehensive, set of basic qualification characteristics that employers expect a candidate to possess. This study finds that an Instructional Design Librarian, either tenure/non-tenure or faculty/staff, must possess:

• an ALA-accredited MLS or MLIS degree (or equivalent degree);

• Web and other multimedia creation software expertise;

 experience with current and emergent instructional technologies;

• skill in utilizing current and emergent instructional technologies;

- instructional/training skills;
- excellent communication skills;
- · good organizational skills.

This study also identifies several key responsibilities that employers anticipate an Instructional Design Librarian to have, which include:

 creating and assessing online library instructional resources;

• utilizing existing and emerging instructional technologies;

 participating in library instructional programs;

- providing reference services;
- training faculty and staff.

Based on this set of 12 qualifications and responsibilities characteristics, an Instructional Design Librarian appears to lean toward public services with some associated systems side functions.

### **Recommendations for Further Study**

The primary purpose of this study was to identify a broad set of key characteristics that makes up the Instructional Design Librarian position. This study has a very specific scope that limits the total number of potential position announcements to less than two dozen. Although this leads to a small collection, by analyzing the similarities and differences among the position's announcements, it was possible to identify a principal set of 12 qualifications and responsibilities.

Principally, this study agrees with the findings of Surry and Robinson. Their study reveals that the newly emerging position of Instructional Technology Librarian trains faculty, staff, and students in the use of library technologies, while the results of the present study reveal that the Instructional Design Librarian is primarily focused on developing library instructional products. Several of this study's position announcements listed duties and responsibilities that overlap with the Instructional Technology Librarian position. Future studies should look at related position titles such as Instructional Technology Librarian, Learning Technologies Librarian, and Instructional Development Librarian to determine if they are related or completely distinct positions and whether the job titles are being used synonymously.

Additionally, the limited range of years examined in this study could not be helped because the position has only been advertised for approximately five years. Future studies should seek to expand upon the date range and, ideally, cover a period between 10 and 20 years. Finally, like all position announcement studies, not all of the existing positions are advertised. Karen Croneis and Pat Henderson<sup>25</sup> acknowledge in their study

that there exist positions that are never advertised externally.

### Conclusion

It should come as no surprise that, in the current environment, where there is a proliferation of print and electronic resources, libraries are seeking to create positions that utilize technology to help with user education. Additional evidence of this trend is demonstrated in the rapid growth of the Blended Librarian Online Community (www.blendedlibrarian.org). This community was founded to assist librarians in integrating both instructional design and instructional technology into their profession. It has existed approximately two years and has grown to 1500 members nationwide. Also, during the research gathering phase of this study, the author noted that many current public services position announcements are listing instructional design and technology as desired skills. In this fertile setting, positions like the Instructional Design Librarian should continue to grow and flourish.

Because of the scope of this study, it is not appropriate to use the results to make far-reaching conclusions about the direction of the field. However, nothing in this study contradicts prior position announcement studies that have established that library positions are increasingly requiring computer, reference, and user instruction skills. Cherrie Noble, in her article, "Reflecting on Our Future: What Will the Role of the Virtual Librarian Be?" asks the question, "Will we (librarians) become instructional designers as well, or at least become part of an instructional design team ...?"26 This study demonstrates that libraries are creating positions that seek librarians who have both instructional design and instructional technology skills and knowledge. In the coming decade, further research will need to be conducted to determine how the qualifications and responsibilities of the Instructional Design Librarian, along with other newly emerging positions (e.g., Instructional Technology Librarian, Learning Technologies Librarian, and Instructional Development Librarian) are evolving and what impact these "Blended Librarian" positions have on the profession.

#### Notes

1. Joan Starr, "A Measure of Change: Comparing Library Job Advertisements of 1983 and 2003," Library and Information Science Research Electronic Journal 14 (Sept. 2004). Available online at http://libres.curtin.edu.au/libres14n2/index.htm. [Accessed May 10, 2005].

2. Steven J. Bell and John Shank, "The Blended Librarian: A Blueprint for Redefining the Teaching and Learning Role of Academic Librarians," College & Research Libraries News 65 (July/ Aug. 2004): 372-75.

3. Ibid., 374.

 Gary W. White, "Academic Subject Specialists Positions in the United States: A Content Analysis of Announcements from 1990 through 1998," Journal of Academic Librarianship 25 (Nov. 1999): 373.

5. Zhou Yuan, "Analysis of Trends in Demand for Computer-Related Skills for Academic Librarians from 1974 to 1994," College & Research Libraries 57 (May 1996): 259-72.

6. Beverly P. Lynch and Kimberley Robles Smith, "The Changing Nature of Work in Academic Libraries," College & Research Libraries 62 (Sept. 2001): 407-20.

7. Penny M. Beile and Megan M. Adams, "Other Duties as Assigned: Emerging Trends in the Academic Library Job Market," College & Research Libraries 61 (July 2000): 336-47.

8. Starr, "A Measure of Change."

9. Hong Xu, "The Impact of Automation on Job Requirements and Qualifications for Catalogers and Reference Librarians in Academic Libraries," Library Resources and Technical Services 40 (Jan.1996): 26.

10. Sherri Edwards, "Bibliographic Instruction Research: An Analysis of the Journal Literature From 1977 to 1991," Research Strategies 12 (Spring 1994): 68.

11. James W. Marcum, "Rethinking Information Literacy," Library Quarterly 72, no.1 (2002): 1.

12. Laurel A. Clyde, "An instructional Role for Librarians: An Overview and Content Analysis of Job Advertisements," Australian Academic and Research Libraries 33 (Sept. 2002). Available online at http://www.alia.org.au/publishing/aarl/33.3/full.text/clyde.html [Accessed Mar. 29, 2005].

 Lynch and Smith, "The Changing Nature of Work in Academic Libraries." 417.
Rebecca S. Albitz, "Electronic Resource Librarians in Academic Libraries: A Position Announcement Analysis, 1996-2001," portal: Libraries and the Academy 2, no. 4 (2002). Available online at http://muse.jhu.edu/journals/portal\_libraries\_and\_the\_academy/v002/2.4albitz.pdf. [Accessed Mar. 29, 2005].

15. Starr, "A Measure of Change."

16. Sha Li Zhang, "Meeting the Challenges of Human Resources Development in the Global Library Resources Sharing Environment." (Paper presented at the 2<sup>nd</sup> China/US Conference on Libraries, Flushing, New York-Washington, D.C., August 11-16, 2001. Available online at http:// www.worldlinq.org/us\_china\_conf2001/Paper/paper\_zhang.htm. [Accessed Mar. 29, 2005].

17. Daniel W. Surry and Mary Ann Robinson, "A Taxonomy of Instructional Technology Service Positions in Higher Education," Innovations in Education & Teaching International 38, no. 3 (2001), 231-38.

18. Ibid., 232.

19. Ibid., 233.

20. Ibid., 235.

21. Margaret Merrill, Robert Sebek, and Lewis Erksine, "Designing and Building Online Information Literacy Instruction," Virginia Libraries 51, No. 2 (2005): 29.

Starr, "A Measure of Change."

23. Educause. Available online at http://www.educause.edu/. [Accessed June 20, 2005].

24. Mahnaz Moallem, "Analysis of Job Announcements and Required Competencies for Instructional Technology Professionals." Paper presented at the American Educational Research Association Annual Meeting, San Francisco, Calif., April 1995: 6.

25. Karen S. Croneis and Pat Henderson, "Electronic and Digital Librarian Positions: A Content Analysis of Announcements from 1990 through 2000," The Journal of Academic Librarianship 28, no. 4 (2002): 232-37.

26. Cherrie Noble, "Reflecting on Our Future: What Will the Role of the Virtual Librarian Be?" Computers in Libraries 18, no. 2 (1998). Available online at http://www.infotoday.com/cilmag/feb98/ story2.htm. [Accessed Mar. 24, 2004].