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The Subject Specialist Librarian's Role in Providing Distance Learning Services

Mary Cassner
Kate E. Adams

ABSTRACT. Subject specialist librarians play a role in providing resources and services to distance students. The authors surveyed subject librarians and distance librarians, examining how and to what extent subject librarians provide service to distance learners.

KEYWORDS. Subject special librarians, distance librarians, survey, services to distance learners

INTRODUCTION

The *Guidelines for Distance Learning Library Services* (Association of College and Research Libraries [ACRL], 2004) state that it is the responsibility of the originating post-secondary institution to meet the teaching, learning, and research needs of distance students and distance faculty. Within the institution, the library has primary responsibility for distance learning library services. While the guidelines include a section that outlines the role and activities of the librarian-administrator or distance librarian, subject specialist librarians are also identified as participants in providing resources and services to distance clientele.

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Subject specialist librarians, or subject librarians, perform multiple activities in academic libraries. Traditionally, these have included reference, instruction, collection development, and liaison with faculty and students within academic departments. While these broad activities have not changed markedly in several decades, the technologies librarians use to accomplish these assignments have undergone significant diversification. At the same time, the library clientele base has changed from primarily residential to a mix of residential students and distance students. The professional literature includes many articles pertaining to subject specialist librarians, and the literature discussing the development of distance learning library services is extensive. However, few articles focus on subject specialist librarians who participate in providing distance learning services.

The authors' research was based on a survey of subject librarians and distance librarians, examining how and to what extent subject specialist librarians provide services to distance students and faculty. The primary research question was, what is the role of subject librarians in providing distance learning services? The methodology used was a survey distributed to academic librarians whose assignments or job titles are subject specialist librarians and/or distance librarians, with the commonality being service to distance students and distance faculty. The survey population was reached via electronic lists or e-mail LISTSERVS. Messages were sent to librarians subscribing to electronic lists in social science, humanities, and science/technology disciplines, as well as to a list for distance librarians.

Findings from the study will contribute to the understanding of subject librarians' current practice in serving distance learners. Findings will also inform the library community about additional approaches to support the scholarly and information needs of distance students and faculty.

LITERATURE REVIEW

Smith (1974) characterized the subject specialist librarian as having "considerable specialized knowledge and a strong clientele orientation" (p. 76). The subject specialist librarian builds collections and maximizes the use of them through reference assistance and subject guides.

Articles relating to subject specialists often mention changes in the nature of job responsibilities. Pinfield (2001) noted that subject librarians increasingly emphasize liaison with library users, advocacy of the collections, and, more recently, assessment of teaching quality. White (1999) reported on trends in subject specialist positions based on an

analysis of job announcements published during the 1990s. The majority of announcements listed reference, bibliographic instruction, and collection development as job responsibilities. While White cited 13 mentions of "outreach" as a job responsibility, there were no specific references to distance users. Feldmann (2006) discussed issues and trends that are changing the subject librarian's role in academic libraries. Using new technologies and tools such as "VR, IM, blogging, podcasts and Wikis" are ways for subject librarians to provide quick answers to the current generation of students (Feldmann, 2006, para. 11). There is no mention of distance learning in the White, Pinfield, and Feldmann articles.

The distance librarianship literature includes brief mention of subject librarians, often in conjunction with instruction opportunities. Caspers (2000) reported that distance librarians conduct general reference and refer specialized questions to subject librarians. She emphasizes the importance of distance librarians keeping subject librarians informed about distance education developments so subject librarians can serve distance learners.

Dewald, Scholz-Crane, Booth, and Levine (2000) discussed the distance librarian role with teaching instructors to select pedagogical objectives for information literacy in the online setting. Buehler, Dopp, Hughes, and Thompson's (2001) perspective is that "it takes a library to support distance learners" (p. 8). They specifically note that the subject librarian pairs with the distance librarian to prepare course-specific resources.

METHODOLOGY

For the purposes of this research study, the authors have defined a *subject specialist* as a librarian with specialized knowledge and experience who provides bibliographic instruction, reference service, collection development, and liaison to faculty and students in one or more academic disciplines or subjects. Subject librarians work with residential campus-based students and with distance students. A *distance librarian,* who often has coordinator responsibilities, specializes in the administration of distance library services. The distance librarian provides instruction, reference assistance, document delivery, and in some instances, develops library collections or serves as liaison to academic departments. *Distance library services* support students enrolled in college or university courses and programs offered away from a main campus or in the absence of a traditional campus. Courses may be delivered via the Internet, through course management systems, face-to-face, or other ways.

The authors' research is based on two surveys conducted concurrently in fall 2007. One study population, subject librarian practitioners, was asked to respond to the survey based on their level of activity with distance learners. The other population, distance librarians, was asked to report on the knowledge of subject librarians' work with distance learners at their institution.

Research questions for the study included: What distance learning library services are being performed by subject specialists? How do subject specialists and distance learning librarians collaborate in providing these services? To what degree are subject librarians and distance librarians engaged in course planning and assessment? What changes do both librarian populations anticipate will occur in the future that affect distance users?

The authors identified services or activities in which subject librarians might participate in serving distance learners. One multi-part question asked these librarians to indicate how frequently they use particular technologies to support distance learners. Several questions were intended to gain background information related to distance learning programs. The researchers asked both survey populations how they see the role of subject librarians changing in the provision of services and resources for distance learners.

The survey instrument consisted of fourteen questions, some with multiple parts. Eight questions were partially close-ended, offering the opportunity to mark suggested responses. Six questions were completely open-ended. All but one question provided an option for respondents to expand the answer or add comments. The survey was submitted to the university's Institutional Review Board for required approval. Following approval, survey questions were formatted using Flashlight Online software to create the test instrument.

An e-mail message was sent on December 10, 2007, to four electronic discussion lists: EBSS-L, LES-L, STS-L, and OFFCAMP. EBSS-L, which has 560 subscribers, is an electronic mailing list for education and behavioral science librarians. LES-L reports 335 members and is aimed toward literature in English. The focus of STS-L, which has 1,176 members is science and technology librarians. The OFFCAMP list membership is primarily distance librarians, and it has 691 subscribers. All four electronic lists are affiliated with sections of the ACRLdivision of the American Library Association.

The e-mail message served as a cover letter, outlining the research study and inviting subject librarians and distance librarians to participate. The message provided links to two versions of the survey, one for subject

librarians and one for distance librarians. The survey questions were identical with one exception; distance librarians were given the opportunity to mark "uncertain" as one of the response options. After the original survey deadline date had passed, a second e-mail message was posted on the four discussion lists indicating that the deadline was being extended. The survey was closed as of December 21, 2007.

The survey was anonymous as it did not ask questions that could identify individuals, institutions, or e-mail addresses. When each Web survey was submitted, the data were sent to a secure server operated by Flashlight Online. Both raw and compiled data were collected and made available to the researchers. The researchers later analyzed the raw data.

RESULTS

In response to the e-mail message seeking participation in the survey, 122 surveys were submitted through the Flashlight Online Web link. One hundred surveys were submitted through the link for subject librarians, while 22 surveys were sent through the distance librarians' link. Below is a summary of the questions asked in the survey and the results of the answers. Some survey results are presented in table format. Many respondents used the optional comments boxes to expand on their responses. A synopsis of these comments is included. For each survey question, responses from subject librarians are provided first, followed by responses from distance librarians. Percentage figures were tabulated although the results occasionally do not add up to 100% due to rounding.

Services or Activities

Q1. [subject librarians' survey] Mark all of the following services or activities you as a subject librarian provide to distance learners or faculty at your institution. See Table 1.

Q1. [distance librarians' survey] Mark all of the following services or activities that subject librarians at your institution provide to distance learners or faculty. See Table 1.

Subject librarians were given the opportunity to describe additional services or activities they provide to distance students and faculty. Respondents cited travel to branch campuses or centers, conducting workshops or library instruction sessions onsite or through live interactive video, and activities related to course management software. Two subject

TABLE 1. Services and Activities.

Services and activities	Subject librarians	Distance librarians
Reference—subject specific, often in-depth	94%	82%
Reference—general	88%	86%
Liaison/outreach with faculty or students in an assigned subject area or academic discipline	88%	68%
Collection development/management—print or electronic	81%	82%
Instructional design (such as tutorials or course modules)	61%	64%
Web page design/updating	59%	55%
Document delivery	18%	18%
Electronic reserves	11%	18%

librarians mentioned embedded presence in courses via CMS software. One librarian indicated involvement with projects and grantsmanship. Another reported frequent interaction with scholars worldwide through co-authoring of publications.

Several distance librarians noted that subject librarians at their institutions also provide bibliographic instruction. One respondent stated that nearly all interaction with distance students is carried out by the distance librarian, while subject librarians are responsible only for phone reference services and collection development activities. Two distance librarians reported that subject librarians troubleshoot access problems with document delivery and e-reserves, both of which are handled by different units in the library.

Instructional Information or Research Support

Q2. [subject librarians' survey] How often do you as a subject librarian use the following to support distance learners? See Table 2.

Many of the subject librarian responses were related to online methods that provide instructional information or research support for distance learners. A subject librarian reported sending PDFs of handouts to distance learners. Some subject librarians participate in discussion lists within course management systems. One reported that discipline-specific support is limited to subject guides.

Q2. [distance librarians' survey] How often do subject librarians use the following to support distance learners at your institution? See Table 3.

TABLE 2. Support methods used by subject librarians—Subject librarian response

Support methods for distance learners	Frequently	Occasionally	Not at all
Web pages for distance learners on library Website	31%	45%	24%
Course- or discipline-specific Web pages	41%	40%	19%
Tutorials or learning modules	22%	59%	20%
Subject or research guides	57%	37%	6%
Course-specific guides	34%	47%	19%
Print handouts	18%	42%	40%
Online FAQs	12%	40%	48%

One distance librarian indicated that subject librarians keep distance librarians in the loop about new resources in the field through subject-specific Web sites.

Use of Technologies

Q3. [subject librarians' survey] How often do you as a subject librarian use the following technologies to support distance learners? See Table 4.

One subject librarian reported using virtual reference that includes screen sharing/pushing. Another is creating a Wiki. One respondent

TABLE 3. Support methods used by subject librarians— Distance librarian response

Support methods for distance learners	Frequently	Occasionally	Not at all	Uncertain
Web pages for distance learners on library Website	41%	27%	18%	14%
Course- or discipline-specific Web pages	24%	52%	14%	10%
Tutorials or learning modules	32%	55%	9%	5%
Subject or research guides	36%	50%	5%	9%
Course-specific guides	18%	32%	36%	14%
Print handouts	18%	27%	50%	5%
Online FAQs	14%	57%	24%	5%

TABLE 4. Technologies used by subject librarians—Subject librarian responses

Technologies	Frequently	Occasionally	Not at all
Chat	21%	38%	41%
Embedded chat (e.g. Meebo)	15%	24%	61%
Instant Messaging (IM)	16%	25%	59%
Skype or other Voice Over Internet Protocol software	2%	6%	92%
Text messaging	2%	8%	90%
Twitter/Pownce/Microblogging	0%	2%	98%
Photo sharing sites (Flickr, etc.)	1%	8%	91%
Blogs	8%	31%	60%
DVD/CD-ROM	5%	16%	78%
Streaming video	5%	16%	79%
Video conferencing	2%	19%	79%
Live satellite TV	2%	10%	88%
Screencasts	5%	26%	69%
Web browser extensions	2%	11%	87%
Wikis	9%	21%	70%
Podcasts	4%	11%	85%
Video podcasts	3%	12%	85%
RSS feeds	3%	30%	67%
Social networking (e.g. MySpace, Facebook, LinkedIn)	2%	28%	70%
Bookmark sharing/management (e.g. Del.icio.us, Furl, ma.gnolia.com)	3%	11%	86%
Electronic newsletters to distance students or faculty	10%	31%	59%
Online presentation (e.g. slideshare.net, Breeze)	6%	20%	73%
Virtual Worlds (Second Life, etc.)	0%	2%	98%
E-mail	76%	23%	1%
Telephone	56%	41%	3%

indicated that chats, blogs, and podcasts are handled by other staff within the library.

Q3. [distance librarians' survey] How often do subject librarians use the following technologies to support distance learners at your institution? See Table 5.

One distance librarian responded that subject librarians use Elluminate and Wimba for VOIP synchronous training and will utilize Tegrity for Webcasts in the near future. Another reported that subject librarians are

TABLE 5. Technologies used by subject librarians—Distance librarian response

Technologies	Frequently	Occasionally	Not at all	Uncertain
Chat	18%	32%	45%	5%
Embedded chat (e.g. Meebo)	14%	23%	55%	9%
Instant Messaging (IM)	14%	36%	45%	5%
Skype or other Voice Over Internet Protocol software	0%	9%	82%	9%
Text messaging	0%	27%	59%	14%
Twitter/Pownce/Microblogging	0%	5%	82%	14%
Photo sharing sites (Flickr, etc.)	0%	14%	73%	14%
Blogs	5%	32%	55%	9%
DVD/CD-ROM	0%	27%	64%	9%
Streaming video	5%	23%	64%	9%
Video conferencing	5%	18%	68%	9%
Live satellite TV	0%	5%	86%	9%
Screencasts	9%	18%	59%	14%
Web browser extensions	0%	18%	59%	23%
Wikis	9%	0%	82%	9%
Podcasts	0%	23%	73%	5%
Video podcasts	0%	14%	77%	9%
RSS feeds	9%	32%	55%	5%
Social networking (e.g. MySpace, Facebook, LinkedIn)	9%	32%	50%	9%
Bookmark sharing/management (e.g. Del.icio.us, Furl, ma.gnolia.com)	5%	23%	50%	23%
Electronic newsletters to distance students or faculty	10%	29%	48%	14%
Online presentation (e.g. slideshare.net, Breeze)	0%	52%	38%	10%
Virtual Worlds (Second Life, etc.)	0%	5%	86%	9%
E-mail	82%	14%	0%	5%
Telephone	73%	23%	0%	3%

using Skype on a test basis, and that distance students could make use of this technology.

Course Management Software

Q4. [subject librarians' survey] How often do you as a subject librarian use course management software (e.g., Blackboard, WebCT, Angel, Moodle, or Sakai) to reach distance students? See Table 6.

TABLE 6. Course management software used—Subject librarian response

Course management software	Frequently	Occasionally	Not at all
Monitor the course as an associate instructor or observer	12%	42%	45%
Participate in discussion boards/threaded discussions	8%	41%	51%
Post links to course- or discipline-specific guides	22%	40%	38%
Prepare a digital course pack (linked bibliography)	9%	30%	61%
Contribute to the preparation of a digital syllabus (i.e. locate relevant articles, locate permanent/persistent links, add links to articles)	13%	29%	58%
Include subject librarian contact information	52%	29%	19%
Link to subject librarian Web page	33%	39%	28%
Link to specific course resources recommended by the subject librarian	27%	36%	36%
Answer course management system-related questions from students	16%	30%	54%

Three subject librarian respondents indicated that subject librarians are striving to be included as players in course management systems. Another posts interactive quizzes about the library's online resources within the CMS. One developed subject-based tutorials posted on Blackboard for use by all students, both distance and residential. Another subject librarian reported that research papers from online students are reviewed by librarians to assess information literacy skills. One respondent reports holding virtual office hours in the chat room of the course management system.

Q4. [distance librarians' survey] How often do subject librarians use course management software (e.g., Blackboard, WebCT, Angel, Moodle, or Sakai) to reach distance students? See Table 7.

One distance librarian reported that subject librarians have prepared interactive Web tutorials for specific courses. While one distance librarian indicated that subject librarians are just beginning to become embedded

TABLE 7. Course management software used—Distance librarian response

Course management software	Frequently	Occasionally	Not at all	Uncertain
Monitor the course as an associate instructor or observer	18%	41%	36%	5%
Participate in discussion boards/threaded discussions	14%	55%	27%	5%
Post links to course- or discipline-specific guides	27%	41%	23%	9%
Prepare a digital course pack (linked bibliography)	5%	41%	41%	14%
Contribute to the preparation of a digital syllabus (i.e. locate relevant articles, locate permanent/persistent links, add links to articles)	5%	50%	27%	18%
Include subject librarian contact information	32%	27%	32%	9%
Link to subject librarian Web page	23%	27%	45%	5%
Link to specific course resources recommended by the subject librarian	23%	45%	18%	14%
Answer course management system-related questions from students	14%	41%	27%	18%

in courses, another indicated using course management software, although subject librarians at her library do not.

Collaborative Activity

This section of the survey consisted of four open-ended questions.

Q5. [subject librarians' survey] As a subject librarian supporting distance learners, comment on your collaborative activity with your institution's distance librarian.

One subject librarian indicated frequent collaboration with the distance librarian in preparing welcome messages sent to all distance learners. Another responded that the two librarians design tutorials, screencasts, and Web pages, and they conduct research to determine the content for the distance learner Web page. A subject librarian reported co-teaching instruction sessions using various software systems and tele- or video-conferencing. Another subject librarian reported pairing with the distance

librarian to conduct face-to-face presentations for distance cohorts at remote sites. A number of respondents answered that the distance librarian is often the first point of contact, followed by referrals to subject librarians as needed.

More than one-fourth of subject librarian respondents indicated that their library does not have a position called "distance librarian" or "distance librarian coordinator." Several reported that they serve as both subject librarian and distance librarian. Several others indicated that their subject librarians are expected to serve all students, whether they are distance or residential. In a number of cases, there is little collaboration between subject librarians and distance librarians due to the organizational structure of the library.

Q5. [distance librarians' survey] Comment on subject librarians' collaborative activity with you as a distance librarian.

One distance librarian respondent reported that subject librarians direct distance learners to the distance librarian regardless of the specific discipline or subject. Another stated that subject librarians assist distance learners but expect the distance librarian to be the main contact. A distance librarian replied that the two librarians team teach for orientations, while another cited collaboration on a subject-based tutorial for distance learners. One distance librarian indicated that with the merger of reference services, serving distance students became everyone's responsibility.

Q6. [subject librarians' survey] As a subject librarian supporting distance learners, comment on your collaborative activity with instructional designers within your library.

A subject librarian respondent reported collaboration with instructional media staff on podcasts and collaboration with instructional technology staff to post and manage Web sites. Another respondent reported collaboration on tutorials and planned to collaborate on creating a space in Second World. One subject librarian replied that the instructional designer position is new and anticipates collaborative work with tutorials. Another subject librarian relies on instructional designers to implement her ideas.

One respondent from a small institution reported working with outsourced contractors for Web site design and course management systems. Another replied that although instructional designers are in the same building, there is little collaboration. One subject librarian collaborates with another subject specialist who is experienced with WebCT.

Q6. [distance librarians' survey] Comment on subject librarians' collaborative activity with instructional designers within your library.

One distance librarian reported that two subject librarians work extensively with instructional designers in the library with Blackboard courses. Another replied that subject librarians make up the instruction design team that develops and maintains courses. A distance librarian reported that there are resource design collaborations between subject librarians and instructional designers. One replied that increasing collaboration brings good results for all.

Q7. [subject librarians' survey] As a subject librarian supporting distance learners, comment on your collaborative activity with instructional designers external to the library.

A respondent reported that subject librarians meet with instructional designers to discuss collaboration related to distance learners' reference needs. Another reported frequent collaboration with the E-learning Center in delivery and design approaches. A subject librarian commented that the library benefits from sharing space with instructional designers in the Faculty Assistance Center for Teaching.

One subject librarian has worked with an instructional designer to develop a customizable online tutorial that can be tailored for distance learners. Another has regular conversations with designers, who were "at first surprised by my interest but now understand what the library can do to support distance learning." A subject librarian stated that the instruction team brings in IT people for training and technical assistance.

Q7. [distance librarians' survey] Comment on subject librarians' collaborative activity with instructional designers external to the library.

A respondent indicated that two subject librarians will teach an online information literacy course for distance learners and have collaborated with the Outreach School instructional designers on course development. Another reports some interaction with the graduate school instructional designers.

A distance librarian said that subject librarians collaborate with instructional designers on development of pretest/posttests for several disciplines as well as an online orientation for doctoral students.

One distance librarian replied that young subject librarians are more likely to apply training from instructional designers. Another reported that some limited collaboration has occurred, but vacancies in the instructional design office have created an uncertain future. A distance librarian reported that instructional design is the province of the teaching faculty.

Q8. [subject librarians' survey] As a subject librarian supporting distance learners, comment on your collaborative activity with instructional/teaching faculty.

One subject librarian collaborates with instructors to create modules within the courseware and offers online quizzes in Blackboard. A respondent reported that faculty include her on management pages so that she can maintain contact with students regarding their research. Another indicated a semester-long collaborative effort to provide technical and bibliographical support. One subject librarian respondent has worked with faculty to provide live and recorded video and Web-based presentations to distance learners.

One subject librarian collaborates on a daily basis with teaching faculty to find content resources pertinent to their course. Another collaborates on assignments and information competence instruction. One subject librarian reported excellent support for both on- and off-campus instruction, with many requests for class visits, so much so that the librarians cannot keep up physically with the demand for services. Another respondent stated that faculty tend to contact the distance librarian first rather than the subject librarian. Another subject librarian reported creating online instruction, course Wiki, and chat sessions for distance learners.

A number of subject librarians reported that collaboration varies by department or individual faculty members. One subject librarian has created Web pages and tutorials for instruction with faculty but observed that distance faculty have not expressed interest in these. Several subject librarians also remarked on the difficulty of making and keeping contact with adjunct faculty.

Q8. [distance librarians' survey] Comment on subject librarians' collaborative activity with instructional/teaching faculty at your institution.

One distance librarian characterizes collaboration as ranging from excellent to nearly non-existent, depending on the department and individual faculty member. That respondent added that communication with adjuncts, especially online instructors, is particularly difficult. According to another distance librarian, subject librarians have plenty of contact with on-campus faculty but see distance faculty as the responsibility of the distance librarian. Another distance librarian stated that collaborative activity is "not as much as it should be. . .the idea of being integrated with the instructional side is really foreign to some."

Course Assessment

Q9. [subject librarians' survey] How often do you as a subject librarian participate in course assessment of distance courses? See Table 8.

One subject librarian has developed learning goals and objectives for online distance courses. Two report evaluating the library instruction part

TABLE 8. Course assessment—Subject librarian response

Course assessment	Frequently	Occasionally	Not AT ALL
Develop objectives/outcomes for course assessment	6%	16%	78%
Help design course assessment instrument	5%	16%	78%
Participate in data collection for the course	6%	13%	81%
Participate in data analysis	5%	8%	87%
Share in writing of assessment reports	3%	9%	87%

of the course. Another subject librarian reported that the library does its own assessment.

Q9. [distance librarians' survey] How often do subject librarians at your institution participate in course assessment of distance courses? See Table 9.

One distance librarian indicated that course assessment of distance courses is her responsibility, which includes developing assessment questions, collecting data, and analyzing feedback. Another respondent said that they are just getting started on assessment.

Inter-Institutional Collaboration

Q10. Mark all of the types of inter-institutional collaboration in which your library participates. See Table 10.

One subject librarian reported collaborative collection development projects, digital projects, and sharing of methods on information literacy.

TABLE 9. Course assessment—Distance librarian response

Course assessment	Frequently	Occasionally	not at all	Not at all
Develop objectives/outcomes for course assessment	0%	32%	50%	18%
Help design course assessment instrument	0%	27%	55%	18%
Participate in data collection for the course	0%	27%	55%	18%
Participate in data analysis	0%	23%	59%	18%
Share in writing of assessment reports	0%	18%	64%	18%

TABLE 10. Inter-institutional collaboration

Inter-institutional collaboration	Subject librarians	Distance librarians
Document delivery	88%	82%
Chat reference	53%	41%
Consortial purchasing of print or electronic materials	88%	91%
Shared online catalogs	59%	59%

A distance librarian indicated that there is collaborative instruction at sites with more than one university offering distance courses. Another mentioned a memorandum of understanding with state community colleges that will provide assistance to distance learners.

Changing Role of the Subject Librarian

Q11. How do you see the role of subject librarians changing in the provision of services and resources offered for distance users?

One subject librarian stated that subject librarians must continue to move toward a proactive model of service provision, reaching out to students who may not have a persistent connection to school. Another called for providing service "at the point of need, including subject-specific service."

A subject librarian commented that many students can be considered both distance and face-to-face, since some courses have elements of both, and some students take both types of courses. That respondent added that the distinction is not important and that "we help who we can using whatever tools we have available." Similarly, another stated that "all students are distance in the age of the Web portal." Another subject librarian argued that there will "continue to be a blurring of artificial lines between distance librarians and subject librarians and that institutions will realize that distance and residential students need the same resources and services."

Another subject librarian suggested that there will be more targeted Web pages for distance users, "along with the usual IM, chat, and other virtual assistance options." One respondent indicated that the hope that subject librarians would become more embedded in course development "with a more obvious presence."

A subject librarian indicated that more coordination and planning are needed. Another called for assistance with instructional design and the pedagogy of online learning.

One distance librarian stated that librarians with subject expertise should reach out to distance learners. Another distance librarian said, "we have ten diverse programs and I can't be an expert in all of them. Having the subject librarians involved would really lead to better services and better instruction for our students."

New technologies will change the role of subject librarians, according to one distance librarian. Another called for more embedded presence in courses for beginning students and providing more online synchronous courses.

Q12. Additional comments related to the survey

A subject librarian commented, "We are just getting on board with distance learning, and all librarians haven't learned everything yet, hence the numerous 'occasionally' choices made on the survey." Another librarian stated that her institution does not have a distance education program. Another subject librarian said that some of their Web-based services, such as subject guides and tutorials, do not distinguish between on-campus and distance students.

One distance librarian respondent stated that at smaller schools, job responsibilities of distance librarians may not differ significantly from subject librarians. She explained that most of the librarians at her institution have some subject responsibilities irrespective of their other duties or job titles. The librarian further stated that her institution is seeing a large increase in hybrid classes, blurring the boundaries between online and "on ground" courses. She added that nearly all students benefit from "distance services" and that many distance learning services may soon be "normal" services.

Background Information

Q13. Mark all of the broad academic disciplines for which your institution offers distance academic degree programs that your library supports. See Table 11.

TABLE 11. Academic distance degree programs

Distance academic degree programs	Subject librarians	Distance librarians
Humanities	58%	64%
Social Science	82%	95%
Science/Technology	78%	64%

Q14. Please indicate the electronic list from which you received this survey. See Table 12.

DISCUSSION AND CONCLUSION

The authors note limitations to the study. More than one-fourth of subject librarians indicated that there was not a position in their library designated as distance librarian or that they also served as distance librarian. While survey questions did not ask whether each library had a separate distance librarian position, this information became apparent from responses regarding collaboration between subject librarians and distance librarians. Job responsibilities may vary for subject librarians serving distance learners in institutions without a position designated as distance librarian. This may not be an important limitation to the study since job responsibilities vary in nature due to the size of the institution, number of distance students, organizational structure, and so forth. A second limitation to the study was that a low number of distance librarians responded to the survey, making it difficult to generalize the findings to all distance librarians. Another limitation relates to the geographic characteristics of the survey population. The survey was posted to four electronic mailing lists affiliated with the ACRL division within the American Library Association. Because subscribers to the electronic mailing lists are primarily from U.S. academic libraries, survey results cannot be generalized to subject librarians in other countries.

Findings revealed that subject librarians continue to perform traditional responsibilities to support distance learners and faculty such as subject-specific and general reference, liaison/outreach in assigned subject areas, and collection development. Survey results found that well over half of the subject librarians reported instructional design or Web page

TABLE 12. Electronic list from which survey was received

Electronic list	Subject librarians	Distance librarians
EBSS-L (Education & Behavioral Science Section)	42%	5%
LES-L (Literature in English Section)	6%	0%
OFFCAMP (Off-Campus)	11%	95%
STS-L (Science & Technology Section)	42%	0%

design/updating as a responsibility. Few subject librarians are responsible for electronic reserves or document delivery.

Subject librarians use the following to support instructional information or research support to distance learners, in order of decreasing frequency: subject or research guides, course- or discipline-specific Web pages, course-specific guides, Web pages for distance learners, tutorials or learning modules, print handouts, and online FAQs.

Few of the newer technologies show significant usage by subject librarians. The only technologies used frequently by more than 10% of subject librarians are chat (21%), embedded chat (15%), and instant messaging (16%). However, survey respondents indicated frequent e-mail usage (76%) and frequent telephone usage (56%).

Subject librarians are using course management software to a limited extent with distance learners. Fifty-two percent of respondents frequently include subject librarian contact information in course management systems. Thirty-three percent of respondents frequently link to the subject librarian Web page, while 27% frequently link to specific course resources.

The extent of subject librarian collaboration with distance librarians, instructional designers, and teaching faculty varies. As noted earlier, more than one-quarter of the subject librarian respondents reported that there is no distance librarian position at their library. Also, few subject librarian respondents reported frequent participation, or even occasional participation, in assessment of distance courses.

What will be the role of the subject librarian in serving distance users in the future? The *Environmental Scan 2007* prepared by the Research Committee of the Association of College and Research Libraries (2008) offers some predictions. The scan lists trends and the top ten assumptions that define the future of academic and research libraries and librarians. The assumptions are provided in ranked order. The second assumption reads, "The skill set for librarians will continue to evolve in response to the changing needs and expectations of the population they serve" (p. 9). The eighth assumption reads, "Online learning will continue to expand as an option for students and faculty—both on campus and off—and libraries will gear resources and services for delivery to a distributed academic community" (p. 18). Responses from survey participants appear to support these assumptions. As one subject librarian stated, "All students are distance in the age of the Web portal." Another subject librarian said the job responsibilities of subject librarians and distance librarians will continue to blur, and more institutions "will realize that distance and non-distance students need the same resources and services."

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