Library and information science practitioners and research

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Abstract

There is a continuing need for more and better research in the field of library and information science (LIS). However, many LIS practitioners are not heavily involved in research. To add to our knowledge of practitioners' involvement in research, 1,444 questionnaires were sent to members of the American Library Association, the American Society for Information Science and Technology, the Medical Library Association, and the Special Libraries Association. An analysis of 615 responses revealed the following: almost 90% of LIS practitioners in the United States and Canada regularly read at least one research journal, nearly 62% regularly read research-based articles, approximately 50% occasionally apply research results to professional practices, and 42% occasionally or frequently perform research related to their job or to the LIS profession. The data analysis also identified factors related to practitioners' involvement in research and determined how practitioners assess their research training and skills. © 2002 Elsevier Science Inc. All rights reserved.

1. Introduction

Research by library and information science (LIS) practitioners is needed to create new knowledge and thereby contribute to the growth of LIS as a profession or discipline. It is needed to improve problem solving and decision making in the workplace, to make professional practitioners critical consumers of the research literature, and to better equip librarians to provide optimal information services to researchers in other fields. Reading and conducting research can contribute to career advancement for librarians, especially academic librarians on tenure track. It can also improve an individual's ability to think critically and

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analytically, improve staff morale, and enhance the library's status within its community (Powell, 1997).

On the importance of research, Larry R. Oberg, on May 7, 1999, initiated a discussion on "CRISTAL-ED," an Internet discussion group sponsored by the School of Information of the University of Michigan, with the following questions: "Is there a professional obligation for librarians who are not in tenure track positions to contribute to the knowledge base of the field? Does a smaller number of active [LIS faculty] researchers at our universities increase the obligation (if indeed, we agree that there is an obligation) of practicing librarians to conduct research?" Don Lanier (personal communication, May 7, 1999) responded, "Yes, most certainly! It is a responsibility of every professional and a part of the meaning of the word professional." Caroline Coughlin (personal communication, May 9, 1999) stated, "I believe there is an obligation on the part of every librarian to approach all problem solving activities with methodologies that acknowledge research as appropriate, desirable, and even necessary."

Hernon and Schwartz (1993) similarly argued,

> Research is not an activity that occurs at the fringes of the field. Rather, it is central to the continued development of library and information science as a profession or discipline represented by graduate programs within academia. Such a profession or discipline matures and gains stature through its theory and research, as well as through those who advance its theory and research. (p. 116)

In short, as Swisher (1986) pointed out, "Research is not a process that is the responsibility of others; research is a way of knowing, a way of making better practical decisions that is the responsibility of each of us" (p. 175). He also noted that librarians can make better decisions about how to achieve library effectiveness if they have a knowledge of the research process, and, as individuals, they can more effectively consume the professional research literature. He concluded that "the responsibility of practical research is probably the most important role a librarian can accept" (p. 177).

2. Why LIS practitioners are not involved in research

Yet in spite of the frequently stated reasons for LIS practitioners' conducting and applying research, it appears that many do not. In fact, there is a growing concern that they are devoting less attention to research than they once did (Riggs, 1994; Swisher, 1986). If true, what are some of the reasons that practitioners do not conduct and read research? Blick (1984) advanced some possible reasons:

1. There is poor communication between active researchers and practitioners;
2. Practitioners feel overwhelmed by the professional literature;
3. The great amount of research jargon discourages practitioners from reading the research literature;
4. Practitioners have all that they can handle keeping up with emerging information technology and service responsibilities;

5. There is inadequate education in research methods;
6. There is the perception that research is lacking in practical applications or mission orientation;
7. There is a lack of funding;
8. There is a natural resistance to change or new research ideas.

Given such reasons for not being involved in research, what can the profession do to improve the situation? Basker (1985) pointed out that librarians may need assistance in identifying ideas for research, mentoring by an experienced researcher, financial support, time to do research, rewards for completing research in a timely fashion, assistance in matching research projects with personal development, and encouragement to apply the results of the research. Powell (1997) noted that LIS degree programs, professional associations, and libraries have an obligation to prepare practitioners to conduct and critically consume research. Employers can, for example, provide appropriate incentives, support, and rewards including the following: staff development activities, released time for research, sabbatical or special leaves, merit salary increases, and financial and clerical support for research projects.

3. Related literature

These concerns have attracted the interest and study of researchers, practitioners, faculty, and students. For example, it often is perceived that research is not used effectively by the profession—and this is not just a North American issue. Cullen (1998) stated that "compared with other disciplines, it could be said, we do not make enough use of research to improve services or practice" (p. 12). She further stated that this lack of research use might be because, unlike other professions, LIS research has not changed practice. She offered several reasons: no incentives; no matters of life and death; libraries do not make a profit; no need to satisfy shareholders, nor (until recently) need to prove their value; and it is hard to measure library and information management and services precisely—what is the best book or best information for a client?

Waldhart (1980) agreed that library research has had limited impact on the profession and pointed to "the low quality of much of the research, and to the fact that much of the research is artificially contrived, or too specific, esoteric, or dated to be relevant to real-life problems facing the library community" (p. 105). He reported that those conducting research argue that the practitioners often "fail to understand the purpose of research, its limitation, or how it might be effectively used..." (p. 105). Riggs (1994) also cautioned that the lack and neglect of research activities to build upon could lead to erosion of the basis of LIS. However, Watson-Boone (2000) found existing research in her review of 11 issues of the *Journal of Academic Librarianship* from 1985 through 1995. She identified 56 research articles, 24 of which were contributed by practitioners. The articles illustrated the research methods of these "practitioner-researchers," a group she claims is growing within the knowledge-based professions. In addition, she listed a "set of seven steps common to research applicable to practice-based problem solving and project work" (p. 85).

The publication of research articles has been spotty, with a stable or declining publication pattern. Van de Water, Surprenant, Genova, and Atherton (1976) found that publication of research was stable for the period studied (1969–1971), and that the methods used by researchers had improved. Feehan, Gragg, Havener, and Kester (1987) compared their findings with earlier studies and found that although the number of published LIS research articles grew from 1970 to 1975, the period from 1976 to 1984 reflected a decline in this number. Most articles were geared toward applied aspects of the profession.

Although the literature touts the need and importance of research in LIS, studies have often found that some LIS practitioners do not take research seriously and have difficulty in understanding original research. McClure and Bishop (1989) reported on a study of leading LIS researchers concerning the status of research. They found that in the opinion of the respondents,

> The profession as a whole is poorly equipped to recognize and strive for research quality. . . . Evidenced by much confusion that exists between what constitutes a research publication versus an opinion piece. . . . [T]he vast majority of those in the profession never received training in conducting research, only a handful of the profession obtains a Ph.D. degree, and many MLS graduates never take courses to assist them in consuming or understanding research—to say nothing of conducting it. (pp. 135–136)

Molholt (1998) also noted the paucity of research in the field; she criticized the field for its lack of "research-mindedness," and called for a research infrastructure. Her research framework would include four principle components: research centers, library schools, teaching libraries, and extension services. These, she claimed, would lead to improvement in LIS research.

Three studies found that most practitioners (and not just those in the United States) had little interest in performing research (Balslev, 1989; DeVinney & Tegler, 1983; Houser & Schrader, 1978). White and Momenee (1978) noted that, even though there was an increase in the number of PhD graduates in the 1970s, almost a quarter of those reported that, unless required, they did not plan to perform research. However, just the opposite (that research is important) has been observed by authors who feel that, as libraries continue to become more complex organizations, "research will become an even more significant tool for program planning, service delivery, organizational development, and problem solving" (Lenox, 1985, p. 302). Swisher (1986) noted that many practitioners believed they were "too busy" doing the necessary part of their jobs to do research, but declared to youth services personnel that "there is no more important activity than acquiring new information that may now or some day assist in the goals of improving our professional decision-making" (p. 176).

As noted previously, practitioners have numerous reasons why they do not make use of research findings (Blick, 1984). There is also some disagreement among practitioners about what constitutes a research journal and where practitioners should go for research findings. Ali (1986) found that most practitioners chose popular journals and felt they were "the most effective in disseminating research results" (p. 168). Among the journals cited frequently were *American Libraries, Illinois Libraries, Library Journal,* and *Wilson Library Bulletin.* Most LIS educators and researchers do not consider these journals to be true "research journals."

Tjoumas (1991) reviewed a number of studies on professional journal utilization and provided journal rankings made by public library directors. She reported journal prestige in terms of the following: usefulness for performance of work-related duties, internal consensus in journal rankings, other journals listed as important, and journals selected among the top five in the field. Most of the selected journals were oriented to applications and practice; scholarly titles were far less prominent in the reading of public library directors.

The teaching (or lack of teaching) of research in LIS programs has also been studied. As early as 1979, Shearer (1979) called for the Committee on Accreditation of the American Library Association to examine "how research findings are incorporated in library science curricula" (p. 126). A more recent study by Park and O'Connor (2001) found that only "32 programs [of 52 studied] require a research methods course" (p. 3). And, of the schools more highly ranked by *U.S. News and World Report* (1999), only one half of those in the top 20 required a research methods course.

Clearly, although the schools themselves do not always find research important enough to require a research methods course within their curricula, many within the profession believe that it should have a more important role in the education of LIS master's degree students. The report of the American Library Association (ALA; 1999) Congress on Professional Education called for the identification of core competencies for the profession. An emphasis on research was provided by the ALA Task Force on Core Competencies (2001) by identifying "research" as the seventh "core competency" in its report:

> We believe that a basic, demonstrated knowledge of the research process is important for all academic, public, school, and special librarians. Knowledge of the research process and the accompanying critical thinking skills are essential. This knowledge allows one to understand the framework in work the research occurred. New personnel entering the profession should be able to demonstrate a basic knowledge of the research process. [They should have the ability to perform the following:]
>
> - Evaluate the validity of research studies and methodologies
> - Design appropriate research studies
> - Use data-based decision-making and problem solving

4. Methodology

To make informed decisions about how best to encourage and facilitate more involvement in research by practitioners and, ultimately, to maximize the impact of research on the profession, LIS educators, researchers, and administrators need to know more about practitioners' research activities and views. Consequently, this study was designed to answer the following research questions:

- To what extent do LIS practitioners read the research literature?
- Do LIS practitioners apply the results of research to their practice?
- Do LIS practitioners conduct their own research?

- Are LIS practitioners interested in LIS research?
- What are LIS practitioners' attitudes toward research?
- How do LIS practitioners assess their research skills?

Attention was also given to whether practitioners publish the results of their research. To gather the data needed to answer these questions, and to make comparisons among different types of LIS practitioners, a questionnaire was mailed to randomly selected members of four major professional associations: ALA, the American Society for Information Science and Technology (ASIST), the Medical Library Association (MLA), and the Special Libraries Association (SLA). An accompanying cover letter stated that the protocol for the study had been approved by the Human Investigation Committee of Wayne State University and that the responses were to be treated confidentially. The questionnaire was pretested on a group of 10 university librarians and subsequently revised to incorporate some of their suggestions. Based on the pretest, it was estimated that the average time for completing the questionnaire was 8 minutes.

The most current, published membership directories were used as the population lists for three of the associations; the MLA provided the researchers with an electronic copy of its membership list. Each directory was treated as a separate population so as to facilitate making comparisons across associations, and a sample size formula was used to calculate the optimal sample size for each population. The population size (N) and sample size (n) for each association were as follows:

- ALA: $N = 52,502$; $n = 381$;
- ASIST: $N = 4,000$; $n = 351$;
- MLA: $N = 2,738$; $n = 338$;
- SLA: $N = 13,799$; $n = 374$.

The samples were selected using systematic sampling techniques and appropriate sampling intervals. The participants were limited to LIS practitioners in the United States and Canada. Persons living in other countries, retirees, students, LIS educators, and institutional members were not included in the samples. Also, individuals belonging to more than one of the associations were not selected for more than one sample.

So that every respondent would have the same basis for answering the questions, the 19-item questionnaire was prefaced with the following definition of research: The process of arriving at dependable solutions to problems/questions/hypotheses through the planned and systematic collection, analysis, and interpretation of data; it may be applied or theoretical in nature and use quantitative or qualitative methods. (This definition did not include library research that is limited to activities such as compiling bibliographies and searching catalogs.)

The questionnaire asked respondents to check any of the listed research journals that they read on a regular basis. The journal titles were drawn from previous studies that had listed major research journals (Blake & Tjoumas, 1992; Buttlar, 1991; Davis & Kohl, 1985) and the list was updated with titles identified by this study's authors. Respondents had the option to

add titles not in the list provided in the questionnaire. In addition to exploring the respondents' research-related reading, the questionnaire addressed the following: the extent to which the respondents were involved in doing research and writing research-based publications, the extent to which their employing institutions provided them with support for research activities, and the extent of their educational preparation in research methods. The final question was open-ended and asked for suggestions for making research more relevant or useful for the practicing information professional.

5. Results

A total of 1,444 questionnaires were mailed on June 13, 2000. A second mailing was sent to nonrespondents on July 18, 2000. Six hundred and sixty questionnaires were returned, 45 of which were unusable. The data gathered from the remaining 615 (42.6% of 1,444) usable questionnaires were analyzed using version 6 of SPSS. More MLA members responded to the questionnaire than did members of the other associations: MLA, $n = 191$ (31.1%); ALA, $n = 155$ (25.2%); SLA, $n = 138$ (22.4%); and ASIST, $n = 131$ (21.3%).

5.1. Reading and research

The first question asked respondents if reading research literature was part of their job expectation. The results revealed significant differences among the members of the four associations, χ^2 (3, $N = 611$) = 14.09, $p = .002$. (Significance was set at $p \leq .05$.) A higher percentage of members of ASIST (71.5%) and MLA (67.4%) responded that reading was a part of their job expectation, compared with ALA (55.2%) or SLA (54%) members.

The results were also significant in response to the second question—whether respondents had (or were given) the time to read research literature on the job, χ^2 (3, $N = 603$) = 17.42, $p = .001$. In response to this question, a higher percentage of MLA members (60.8%) indicated that they had more time to read on the job than did members of ASIST (51.2%), SLA (49.6%), or ALA (38.2%).

The next question listed 25 research-oriented journal titles. Respondents were requested to check the titles of any journals that they read all or part of on a regular basis. Space was also provided for them to include the names of other journals they regularly read. A one-way analysis of variance (ANOVA) revealed a significant difference among the associations, F(3, 611) = 6.06, $p = .001$. On average, ASIST members read slightly more journals ($M = 3.05$) than did members of the MLA ($M = 2.75$), SLA ($M = 2.39$), or ALA ($M = 2.08$). The majority of respondents (49.4% of 618) indicated that they read one to two journals on a regular basis (see Table 1).

Of interest was the finding that respondents from all four associations checked *College & Research Libraries*. Members of ALA, SLA, and ASIST all cited *Information Outlook* and *Information Technology and Libraries*. As expected, members of the MLA, SLA, and ASIST read their respective association journals on a regular basis. Whether ALA members read *American Libraries* on a regular basis could not be assessed because, as the authors did not

Table 1
Research journals read on a regular basis

No. of research journals read	No. of respondents ($N = 618$)	%
None	66	10.7
1 to 2	305	49.4
3 to 4	152	24.6
5 or more	95	15.4

consider it to be a research journal, it was not included in the list. The five most frequently read journals are listed in Table 2 and categorized by association.

If respondents indicated the "other" category, they were asked to specify the titles of journals that they read all or part of on a regular basis. The 134 unique titles mentioned by respondents reflected the reading differences among the members of the four associations. Subject categories of journals mentioned included the following: interlibrary loan and document delivery; law, science, and medicine; information technology; competitive intelligence; and school library media. Titles of the journals indicated by three or more respondents are listed here in descending order of frequency cited. The number in parentheses indicates the number of respondents who mentioned each title.

- *Library Journal* (14);
- *American Libraries* (13);
- *E-content/Online* (13);
- *Computers in Libraries* (11);
- *Searcher* (9);
- *Journal of the American Medical Association* (7);
- *Academic Medicine* (5);

Table 2
Five top research journal preferences by association

Rank	ALA members	SLA members	MLA members	ASIST members
1	College & Research Libraries	Information Outlook	Bulletin of the Medical Library Association	Journal of the American Society for Information Science
2	Public Libraries	Bulletin of the Medical Library Association	Medical Reference Services Quarterly	Information Outlook
3	Reference and User Services Quarterly	College & Research Libraries	College & Research Libraries	College & Research Libraries
4	Library Resources and Technical Services	Reference and User Services Quarterly	Information Outlook	Information Technology and Libraries
5	Information Technology and Libraries	Information Technology and Libraries	Journal of the American Medical Informatics Association	Journal of Academic Librarianship

- *Library Administration and Management* (5);
- *Communications of the ACM* (4);
- *Information Today* (4);
- *Knowledge Quest* (4);
- *Law Library Journal* (4);
- *Bibliotheca Medica Canadiana* (3);
- *DLIB* (3);
- *Library High Tech* (3);
- *New England Journal of Medicine* (3);
- *Spectrum* (3).

Cross-tabulations were performed to determine if the number of research journals read differed among the members of the four associations. The results, outlined in Table 3, revealed a significant difference among the members of the associations in the number of journals read (partially or totally) on a regular basis.

Question 4 asked if respondents regularly read any of the research-based articles in the journals they had checked in Question 3. A total of 176 respondents replied "no," while another 51 of them checked the "not applicable" response. Of the 367 positive responses, a higher percentage of MLA (67.7%) and ASIST (63.5%) members regularly read research-based articles, compared with members of SLA (60.4%) and ALA (54.1%). The difference among the association members was significant, χ^2 (16, N = 594) = 21.56, p = .001.

Respondents who answered "no" to Question 4 were asked to respond to Question 5, which included three possible explanations and an "other" category for why they did not read research-based articles. No significant difference among members of the associations was found for any of the four response categories. Sixty-two respondents (of 239) indicated that they did not consider research-based articles to be relevant to their jobs. Another 61 respondents stated that they preferred to read essay or opinion pieces. Thirty-seven others felt that they did not have enough expertise in research methods. Seventy-nine respondents checked the "other" category. Their comments revealed four overlapping reasons why they did not read research-based articles. "Not enough time" and "lack of relevance to their

Table 3
Research journals read by association

No. of research journals read	ALA members	SLA members	MLA members	ASIST members	Total
None	32 (20.6%)	13 (9.4%)	9 (4.7%)	10 (7.6%)	64 (10.4%)
1	40 (25.8%)	33 (23.9%)	57 (29.8%)	27 (20.6%)	157 (25.5%)
2	35 (22.6%)	45 (32.6%)	39 (20.4%)	28 (21.4%)	147 (23.9%)
3	19 (12.3%)	20 (14.5%)	29 (15.2%)	23 (17.6%)	91 (14.8%)
4	13 (8.4%)	11 (8.0%)	24 (12.6%)	13 (9.9%)	61 (9.9%)
5 or more	16 (10.3%)	16 (11.6%)	33 (17.3%)	30 (22.9%)	95 (15.4%)
Total	155 (100%)	138 (100%)	191 (100%)	131 (100%)	615 (100%)

χ^2 (15, N = 615) = 43.96; p = .000.

work" were the two most often cited reasons for not reading research articles. Some examples of comments on these two reasons included the following:

- "No time to read articles with necessary attention."
- "Research that is reported is not relevant to my work."
- "I read articles irregularly because of time constraints and no time allowed on job."
- "Dry and boring usually, I skim for relevance."
- "Only read articles that are of interest at the time and applicable to my library."
- "I am not satisfied with methodologies of articles/studies . . . [they] were too academic for practical implementation in my current work."

A few respondents stated that they read research articles only occasionally. The remarks of one respondent were typical: "Can't say I do it 'regularly.' I do it occasionally, when the research article is relevant to my job or our library's user population." Lack of access to research journals was proffered as another reason for not regularly reading research articles. Finally, one respondent commented on the difficulty of reading research articles: "Literary style is often a roadblock, many use tables, stats poorly—not considering the readers' needs and limited time."

5.2. Research activity

Four questions focused on conducting and publishing research. In Question 6, respondents were asked if they conducted research related to their specific position of employment. Cross-tabulations revealed no statistically significant difference among the association members. Table 4 lists the results.

Question 7 asked if respondents conducted research related to the LIS profession. A significant difference was found among association members (see Table 5). Higher percentages of MLA and ASIST members conduct research related to LIS on an occasional basis, whereas a higher percentage of ASIST members frequently conduct LIS-related research.

If they had conducted research, respondents were then asked if the results had been published (Question 8). Overall, a majority of respondents ($n = 421$, 83.7%) indicated that they had not published the results of their research. Of those who had published ($n = 150$, 26.3%), higher percentages of them belong to ASIST and MLA. Slightly more than half of

Table 4
Research related to specific position

Job-related research	ALA members	SLA members	MLA members	ASIST members	Total
Never	61 (39.4%)	45 (32.8%)	65 (34.2%)	29 (23.2%)	200 (32.9%)
Seldom	47 (30.3%)	36 (26.3%)	50 (26.3%)	34 (27.2%)	167 (27.2%)
Occasionally	36 (23.2%)	43 (31.0%)	55 (28.9%)	40 (32.0%)	174 (28.7%)
Frequently	11 (7.1%)	13 (9.5%)	20 (10.5%)	22 (17.6%)	66 (10.9%)
Total	155 (100%)	137 (100%)	190 (100%)	125 (100%)	607 (100%)

χ^2 (9, $N = 607$) = 16.19; $p = .062$.

Table 5
Conduct research related to LIS

Conducts LIS-related research	ALA members	SLA members	MLA members	ASIST members	Total
Never	66 (42.6%)	66 (48.2%)	78 (40.8%)	39 (31.0%)	249 (40.9%)
Seldom	52 (33.5%)	34 (24.8%)	47 (24.6%)	33 (26.2%)	166 (27.3%)
Occasionally	30 (19.4%)	30 (21.9%)	52 (27.2%)	34 (27.0%)	146 (24.0%)
Frequently	7 (4.5%)	7 (5.1%)	14 (7.3%)	20 (15.9%)	48 (7.9%)
Total	155 (100%)	137 (100%)	191 (100%)	126 (100%)	609 (100%)

χ^2 (9, $N = 609$) = 24.81; $p = .003$.

SLA and ALA members stated that they did not publish results of their research. Finally, a higher than expected percentage of ALA members checked the "not applicable" response, indicating that they have not conducted research. The results can be found in Table 6.

The last question in this section (Question 9) asked respondents to name two of the most recent publications in which they had published. One hundred and forty respondents listed the names of journals, technical reports, or conference proceedings. *Bulletin of the Medical Library Association* was the most frequently mentioned journal by members of MLA ($n = 21$), and also received mention by members of ASIST ($n = 3$) and SLA ($n = 2$). Following, in rank order, are the titles that were listed by more than one respondent. The number of times they were mentioned is included in parentheses.

- *Bulletin of the Medical Library Association* (26)
- *Academic Medicine* (5)
- *College and Research Libraries* (5)
- *Library Trends* (4)
- *Medical Reference Services Quarterly* (4)
- *Journal of Chemical Information and Computer Science* (3)
- *Journal of American Society for Information Science* (3)
- *Special Libraries* (3)
- *Behavioral and Social Sciences Librarian* (2)
- *Bibliotheca Medica Canadiana* (2)
- *Indiana Libraries* (2)
- *Information Outlook* (2)
- *Information Processing and Management* (2)

Table 6
Published results of research

Published results	ALA members	SLA members	MLA members	ASIST members	Total
Yes	27 (19.1%)	22 (17.2%)	54 (29.7%)	47 (39.2%)	150 (26.3%)
No	74 (52.5%)	76 (59.4%)	86 (47.3%)	56 (46.7%)	292 (51.5%)
Not applicable	40 (28.4%)	30 (23.4%)	42 (23.1%)	17 (14.2%)	129 (22.6%)
Total	141 (100%)	128 (100%)	182 (100%)	120 (100%)	571 (100%)

χ^2 (6, $N = 571$) = 23.81; $p = .001$.

Table 7
Support for conducting research

Support	ALA members	SLA members	MLA members	ASIST members	Total
Time[a] ($N = 593$)	41 (27.0%)	48 (36.9%)	83 (45.1%)	54 (41.7%)	225 (37.9%)
Internal[b] ($N = 600$)	27 (18.0%)	28 (20.9%)	52 (27.7%)	46 (35.9%)	153 (25.5%)
External[c] ($N = 604$)	17 (11.1%)	18 (13.3%)	27 (14.4%)	28 (21.9%)	90 (14.9%)

[a] χ^2 (3, $N = 593$) = 12.61; $p = .005$.
[b] χ^2 (3, $N = 600$) = 13.74; $p = .003$.
[c] χ^2 (3, $N = 604$) = 6.95; $p = .074$.

- *Information Technology and Libraries* (2)
- *Issues in Science and Technology Librarianship* (2)
- *Journal of the American Medical Association* (2)
- *Journal of the American Medical Informatics Association* (2)
- *Library Journal* (2)
- *Searcher* (2)
- *Science and Technology Libraries* (2)
- *Research Strategies* (2)
- *RUSQ* (2)

5.3. Support for conducting research

Three questions involved support for research. Respondents were asked if they have time during working hours to do research (Question 10) and if they received either internal (Question 11) or external support (Question 12) for research. Significant differences were found among association members for amount of time during working hours and for internal support, but not for external support. A higher percentage of MLA members indicated that they had time during regularly scheduled work hours to do research. A higher percentage of ASIST members indicated that they received external support. The results are outlined in Table 7.

5.4. Applying research to practice

The frequency with which the results of published research are applied to practice was also addressed in this study in Question 13. Response categories ranged from ''never'' to

Table 8
Apply published research results to practice

Responses	ALA members	SLA members	MLA members	ASIST members	Total
Never	27 (18.5%)	22 (17.1%)	17 (9.2%)	10 (8.0%)	76 (13.0%)
Seldom	37 (25.3%)	29 (22.5%)	46 (24.9%)	23 (18.4%)	135 (23.1%)
Occasionally	69 (47.3%)	64 (49.6%)	91 (49.2%)	66 (52.8%)	290 (49.6%)
Frequently	13 (8.9%)	14 (10.9%)	31 (16.8%)	26 (20.8%)	84 (14.4%)
Total	146 (25.0%)	129 (22.1%)	185 (31.6%)	125 (21.4%)	585 (100%)

χ^2 (9, $N = 585$) = 20.19; $p = .017$.

Table 9
Years in which respondents received degrees

Range of years	Master's in LIS	PhD in LIS
1950–1959	3	—
1960–1969	41	—
1970–1979	159	4
1980–1989	131	5
1990–1999	173	10
2000	4	1

"frequently," and a significant difference was found among association members. Overall, approximately half of the respondents occasionally apply research results to their practice. A higher percentage of ALA members indicated either a "never" or "seldom" response, whereas a higher percentage of ASIST members replied "occasionally" or "frequently." The breakdown of responses by association is outlined in Table 8.

5.5. Education

Respondents were asked if they held a master's or doctoral degree in LIS. They were also asked to record the year in which they received their degree. The majority of respondents (542, or 88.9%) have a master's degree in LIS; 21 respondents (7.3%) have a doctorate in this discipline. More respondents had earned their master's or doctoral degrees in the 1990s than in any other decade (see Table 9).

The next two questions asked respondents whether they believed that their LIS master's degree program adequately prepared them (a) to read and understand research-based publications and (b) to conduct original research. On the question of reading and under-standing research, 310 (51.6%) said "yes," 222 (36.9%) said "no," and 69 (11.5%) checked "not applicable (no LIS master's degree)." Conversely, with regard to conducting research, over half of the respondents (348, or 58.6%) replied "no," another 68 indicated "not applicable (no LIS master's degree)," and only 178 (30.0%) said "yes." For both questions, significant differences were noted among members of the four associations. Table 10 lists the positive responses according to association. Overall, these results show that slightly more than half the respondents believed that the LIS master's program they attended prepared them to read and understand research, but less than one third thought that they could do research.

Table 10
LIS master's degree program as preparation for research

LIS master's degree as preparation	ALA members	SLA members	MLA members	ASIST members	Total no. of positive responses
Read and understand[a] (N = 601)	85 (55.6%)	75 (56.5%)	91 (48.1%)	60 (46.9%)	310 (51.6%)
Conduct[b] (N = 594)	52 (34.2%)	45 (34.1%)	45 (24.5%)	36 (28.6%)	178 (30.0%)

[a] χ^2 (6, N = 601) = 16.41; p = .011.
[b] χ^2 (6, N = 594) = 17.00; p = .009.

The final question in this section inquired about any educational activities concerning research methods in which the respondents had participated. Respondents were given seven categories of answers and asked to check all that applied. An "other" category was included with space for additional comments. The first four categories refer to formal degree courses, while the other three categories refer to less formal educational methods.

Significant differences among association members were noted for three categories. A higher percentage of ASIST members participated in non-LIS master's and PhD level courses than did members of the other three associations. Slightly more than half of MLA members appeared to prefer continuing-education programs. Of interest was the high percentage of members of all four associations who indicated self-education as a way of learning about research methods. Table 11 lists the positive responses.

Other activities mentioned by respondents were coded into six categories. Each category and a few representative comments are as follows:

1. *Job-related experience*
   Created research skills class for community college
   On-the-job experience
   Currently work for a market research company
   Presented workshops on research for library staff development

2. *Formal graduate programs*
   PhD in American Studies; PhD in Linguistics
   Master's degrees in Business Administration, Public Health, or Statistics

Table 11
Participation in educational programs about research methods

Educational activity	ALA members	SLA members	MLA members	ASIST members	Total no. of positive responses
LIS courses, master's level	74 (47.7%)	66 (47.8%)	94 (49.2%)	55 (42.0%)	289 (47.0%)
LIS courses, PhD level	5 (3.2%)	5 (3.6%)	6 (3.1%)	10 (7.6%)	26 (4.2%)
Non-LIS courses, master's level[a]	34 (21.9%)	22 (15.9%)	35 (18.3%)	43 (32.8%)	134 (21.8%)
Non-LIS courses, PhD level[b]	5 (3.2%)	5 (3.6%)	7 (3.7%)	22 (16.8%)	39 (6.3%)
Continuing education programs[c]	58 (37.4%)	48 (34.8%)	107 (56.0%)	64 (48.9%)	277 (45.0%)
Staff development programs	37 (23.9%)	30 (21.7%)	50 (26.2%)	32 (24.4%)	149 (24.2%)
Self-education activities	87 (56.1%)	70 (50.7%)	102 (53.4%)	77 (58.8%)	336 (54.6%)
Other activities	11 (7.1%)	13 (9.4%)	15 (7.9%)	12 (9.2%)	51 (8.3%)

[a] χ^2 (3, $N = 615$) = 13.48; $p = .003$.
[b] χ^2 (3, $N = 615$) = 30.65; $p = .000$.
[c] χ^2 (3, $N = 615$) = 19.58; $p = .000$.

Table 12
Reading as part of job and regularly reads research articles

Reading as part of job	Regularly reads research articles			Total
	Yes	No	NA	
Yes	277 (75.7%)	84 (48.6%)	13 (25.5%)	374 (63.4%)
No	89 (24.3%)	89 (51.4%)	38 (74.5%)	216 (36.6%)
Total	366 (100%)	173 (100%)	51 (100%)	590 (100%)

χ^2 (2, N = 590) = 71.81; p = .000.

3. *Formal undergraduate programs*
   Degrees in statistics, psychology, anthropology, marketing research, sciences
   Courses in statistics, research methods

4. *Directed research for master's thesis*
5. *Research for financial institution, library user survey*
6. *Collaboration or support*
   Consulted with campus experts on survey research
   Supervisor of untenured faculty
   Collaboration with clinical and epidemiology faculty
   Worked with consultants who planned [and] conducted research on the library's behalf

5.6. Factors related to reading research-based articles

The data were analyzed to determine if significant relationships existed between regularly reading research-based articles and the following:

- Job environment
- LIS master's degree preparation to read and understand research-based publications
- Number of educational activities attended

Cross-tabulations revealed a significant relationship between reading research literature as part of one's job and regularly reading research-based articles. A higher percentage of respondents who read research literature as part of their job also read research-based articles

Table 13
Time to read research literature and regularly reads research articles

Time on job to read research literature	Regularly reads research articles		Total
	Yes	No	
Yes	206 (57.2%)	78 (44.6%)	248 (53.1%)
No	154 (42.8%)	97 (55.4%)	251 (46.9%)
Total	360 (100%)	175 (100%)	535 (100%)

χ^2 (1, N = 535) = 7.57; p = .006.

Table 14
LIS master's degree preparation and regularly reads research articles

LIS master's degree preparation	Regularly reads research articles		Total
	Yes	No	
Yes	191 (58.4%)	86 (55.1%)	277 (57.3%)
No	136 (41.6%)	70 (44.9%)	206 (42.7%)
Total	327 (100%)	156 (100%)	483 (100%)

χ^2 (1, N = 483) = 0.464; p = .495.

regularly. Conversely, a higher percentage of those who do not read research literature as part of their job do not regularly read research-based articles. Table 12 outlines the responses.

A significant relationship was also found between having time on the job to read research literature and regularly reading research-based articles. Again, a higher percentage of respondents who had time to read while on the job also reported reading research-based articles regularly. The results are listed in Table 13.

Of interest was the finding that no significant relationship existed between LIS master's degree preparation to read and understand research-based publications and regularly reading research-based articles. Table 14 outlines the results.

Finally, there was a significant relationship between the number of educational activities in which the respondents had participated and the reading of research articles on a regular basis. A higher percentage of people who participated in educational activities about research methods appeared to read regularly more research-based articles (see Table 15).

5.7. Factors related to conducting research

Another point of interest concerned the factors related to conducting research. Two questions asked whether respondents conducted research related to their specific position of employment or to the LIS profession. These variables were combined to form one variable (i.e., conducting research). The "never" responses were coded as "no;" the "seldom," "occasionally," and "frequently" responses were coded as "yes." Of the 612 responses, there were 188 (30.7%) in the "no" category and 424 (69.3%) in the "yes" category.

Table 15
No. of educational activities and regularly reads research articles

No. of educational activities	Regularly reads research articles		Total
	Yes	No	
None	37 (10.1%)	40 (22.7%)	77 (14.2%)
1	67 (18.2%)	52 (29.5%)	119 (21.9%)
2	92 (25.0%)	35 (19.9%)	127 (23.3%)
3	91 (24.7%)	23(13.1%)	114 (21.0%)
4 or more	81 (22.0%)	26 (14.8%)	107 (19.7%)
Total	368 (100%)	176 (100%)	544 (100%)

χ^2 (4, N = 544) = 32.74; p = .000.

Table 16
Time on job to do research and conducts research

Time on the job to do research	Conducts research		Total
	Yes	No	
Yes	214 (52.3%)	11 (6.0%)	225 (38.1%)
No	195 (47.7%)	171 (94.0%)	366 (61.9%)
Total	409 (100%)	182 (100%)	591 (100%)

χ^2 (1, $N = 591$) = 114.41; $p = .000$.

Analyses were performed to ascertain if any relationship existed between conducting research and five factors representing resources and preparation for research. Those five factors and the results of the corresponding data analyses are reported in the following sections.

5.7.1. Time during regularly scheduled work hours to do research

Cross-tabulations revealed a significant relationship between having time on the job to do research and conducting research. A high percentage of respondents who did not have time on the job did not conduct research. Of the respondents who indicated that they did have time during regularly scheduled work hours, a higher percentage of them did research (see Table 16).

5.7.2. Internal and external support for doing research

Significant relationships were found for both internal and external support and conducting research. A higher than expected percentage of respondents did research if they received internal or external support. As expected, a high percentage of respondents who do not receive support do not conduct research. The results (see Tables 17 and 18) suggested that internal support was more available for doing research than was external support.

5.7.3. LIS master's degree program as adequate preparation for conducting research

Cross-tabulations revealed no significant relationship between conducting research and respondents' belief about being adequately prepared by their LIS master's degree program to conduct research (see Table 19).

5.7.4. Number of educational activities about research methods

A one-way ANOVA revealed a significant difference between the number of educational activities about research methods in which respondents had participated and whether they

Table 17
Internal support for doing research and conducts research

Internal support for doing research	Conducts research		Total
	Yes	No	
Yes	143 (34.3%)	10 (5.5%)	153 (25.6%)
No	274 (65.7%)	171 (94.5%)	445 (74.4%)
Total	417 (100%)	181 (100%)	598 (100%)

χ^2 (1, $N = 598$) = 54.86; $p = .000$.

Table 18
External support for doing research and conducts research

External support for doing research	Conducts research		Total
	Yes	No	
Yes	81 (19.3%)	6 (3.3%)	87 (14.5%)
No	338 (80.7%)	177 (96.7%)	515 (85.5%)
Total	419 (100%)	183 (100%)	602 (100%)

χ^2 (1, $N = 602$) = 26.55; p = .000.

conducted research, $F(1, 610) = 51.11$, $p = .000$. The mean number of educational activities was higher for those who conducted research ($M = 2.40$) than for those who did not ($M = 1.49$).

5.8. Suggestions for making research more relevant for practicing professionals

The final question asked for suggestions to make research more relevant or useful for the practicing information professional. The authors performed a content analysis of the 154 suggestions by the respondents. Few categories were mutually exclusive because many respondents offered a number of suggestions. An attempt has been made to group similar categories together and provide a few examples of comments to demonstrate the concerns or suggestions of respondents.

A number of respondents suggested making research more practice-oriented and less theoretical, although one respondent expressed the opposite view. A few suggested making research more applicable to specific settings, such as small and rural public libraries, corporate libraries, and school libraries. Other comments were as follows:

- "Stop making research a requirement for tenure, promotion, etc. Too much useless research done solely for that purpose, not for furthering the profession."
- "Some research being published reads like it was done for the sake of getting published. I would like to see research that 'discovers' some new ideas/practices that can be applied to our daily work activities. It would be interesting to me to find out what percentage of the scholarly, theoretical articles are written by 'practicing' librarians. I suspect most of these articles are written by faculty in schools of library and information science."

Table 19
LIS master's degree preparation and conducts research

LIS master's degree preparation	Conducts research		Total
	Yes	No	
Yes	127 (35.0%)	50 (30.9%)	177 (33.7%)
No	236 (65.0%)	112 (69.1%)	348 (66.3%)
Total	363 (100%)	162 (100%)	525 (100%)

χ^2 (1, $N = 525$) = 0.85; p = .356.

- "Specific suggestions (as in bullet points) on how to implement research findings would be very helpful in the conclusion portion of published research reports. Most librarians are practitioners who need timely and concise recommendations, reading obtuse research reports seems boring and irrelevant to most of us."
- "Theoretical research is nice but has no practical application to the workplace. I read *JASIS* [*Journal of the American Society for Information Science*] for interest—not because I'd ever find anything in it that I could apply."
- "We should quit fooling ourselves by thinking that there is something to be researched in a scholarly manner. Our research should resemble more the model of market research—highly customer driven."
- "Make it about something that really matters."
- "More research on key questions facing practitioners, perhaps by having LIS faculty collaborate more frequently with practitioners in defining and conducting research."
- "Conduct and use information provided by lower level professionals, i.e., those not 'heads' of departments. Their views and insights are often different from those who hold upper level positions."
- "Standard critique for most disciplines: too much published literature is of the 'how I done good' as a librarian—rather than discussion of problems and theoretical issues behind them. They involve practical, often trivial discussion of library and information issues. Probably publication requirements dictate this volume but it would be nice to have more speculative articles and fewer practical ones. Others (*JASIS* articles) are excellent but almost unreadable."

Although one group of respondents expressed their appreciation of the value of research, another commented on the need to disseminate the results more effectively. Suggestions were made to publish research in more generalized and widely read journals and to provide overviews and condensed versions of research results with references to the original papers. Other comments included the following:

- "Build greater respect among librarians for the place research and the literature hold in our field. My experience is that MLS holders in general have very little regard for our appreciation of the increasing amount and value of the research in our field. Without knowledge of the base on which the field stands, spread among its occupants, it is fast becoming a very clerically oriented endeavor. Few know what bibliometrics are, or know the user studies coming out of Rutgers, or even Zipp's [*sic*] law. Many librarians laugh at [the] very idea…[of] research."
- "More dialog between practitioners and academia. Email current awareness services that provide digests of research relevant to particular areas of practice. In publishing research, [do a] better job of presenting abstract/intro/conclusions in layman's terms."
- "Create an online, peer-reviewed article (full text) database along the lines of those in physics, biology/medicine and related disciplines which is free to the user."
- "I usually read the beginning of article and the end—*summary* [respondent's emphasis]. To non-research professionals, the rest is language I do not want to read nor take the time

to understand. I just want to read the *results* [respondent's emphasis] of the study *and how it can help me* [respondent's emphasis] in my library situation."

The style of writing received some attention. Respondents suggested that researchers use a more practitioner-friendly style of writing by eliminating research jargon. One respondent commented that

> Most articles are written in formal tone, "appropriate for academia," but I work in the real world w/patients and staff. I need it in less formal—less imposing tones—more reader friendly.

A few comments concerned the quality of LIS research:

- "Most of the research being published is just plain boring. Maybe if people picked 'jazzier' topics it would help. I have no interest in reading about increasing user statistics or the like (snore!)."
- "Most library research is of poor quality. Raising the level of what is published would help. Library schools could help by adopting 'evidence-based practice' from the medical field, or data-based decision making from business."

Some respondents focused their remarks on LIS or continuing education on research methods:

- "Conduct research as part of master's program. The project can be small. The nursing literature shows many examples of small projects related to decision making. Research as a habit in the workplace would require rearranging time priorities."
- "Recommend they take course work in departments *apart* [respondent's emphasis] from library/information schools. My library science education was worthless. I am an administrator today and today's students are more ill-prepared than I was. I learned how to do research in another program [not] related to my master's level education. Having numerous colleagues with PhDs and working with many on a daily basis, I see *no* [respondent's emphasis] advantage to the so-called doctoral education. I have won three national research/publication awards and received several million dollars for funding my projects. I developed the skills to do this, in part, in other academic programs but mostly on my own. Frankly, I think LIS programs need to be abolished or revamped. Today's grads are poor at best."
- "For the practicing information professional, I suggest actively participating in any research-related activities and projects. Practice one's own writing on a regular basis, or keep a journal. Document the research process, include your own interpretation then express it. And, attend any continuing education workshops or short courses addressing research."

Another category that emerged from the data concerned the need to expand research horizons by going outside the LIS field or by collaborating with colleagues in the workplace, as shown in the following comments.

- "I hope more information professionals will participate in new areas of information such as knowledge management and competitive intelligence."
- "Get away from that tired, old, narrow definition of research (as defined above). We are not all scientists, nor want to be. Some of us are humanists, artists, creative writers. Our field should embrace and promote a broad definition of research that includes all kinds of serious writing. The thoughtful essay is often more useful, more meaningful than the stilted, oh-so-clinical piece that so commonly fills our journals. Wait — I forgot people have to get tenure!"
- "We need more communication and cooperation between the research community and the community of practitioners. Research agendas don't work... practitioners need to recognize and articulate the need for research results."
- "Researchers could invite participation via email and/or postal system. Some librarians may welcome participation opportunities if they are guided through the process by a mentor."

As shown in the following comments, the final category stressed the need for funding and support in order for practicing librarians to conduct research:

- "Time, time and money."
- "Take into account the dwindling supply of both time and people when suggesting different research projects. I've read accounts of projects which were incredibly complex and time consuming, thinking 'how in the world could the time and people be found to do this project? Oh well, perhaps it is the nature of the beast."

6. Summary and conclusion

This study gathered considerable information on the research-related activities and attitudes of LIS professionals in the United States and Canada. Some of the findings were expected; others were not. For example, in responding to the questionnaire items related to the first research question ("To what extent do LIS practitioners read the research literature?"), over 89% of the respondents reported that they read at least one research journal on a regular basis. ASIST members read an average of three research journals, followed in decreasing order by members of MLA, SLA, and ALA. Almost 62% of the respondents indicated that they regularly read research-based articles in those journals. The most frequently read research journals varied by association, but a surprising number of titles were among the most popular for the members of more than one association.

The researchers were also interested in identifying factors that might be related to the degree to which practitioners read research literature. Three variables — whether reading research literature was a job expectation, whether time was provided for reading research literature on the job, and the number of educational activities about research methods in which the respondents had participated — were found to be statistically associated with the amount of reading. Somewhat surprisingly, the amount of reading was not found to be

significantly related to how well the respondents' master's degree program had prepared them to read and understand research-based publications. The reasons that were most frequently cited by respondents for not reading research-based articles were that they did not find them to be relevant to their jobs and the lack of time to read them.

Relevant to the second research question ("Do LIS practitioners apply the results of research to their practice?"), about half of the respondents reported that they do occasionally apply research results to their practice. Yet considerably higher percentages of practitioners were found to read research journals and articles.

For the third research question ("Do LIS practitioners conduct their own research?"), almost 40% of the respondents indicated that they occasionally or frequently conduct research related to their specific job; almost 32% reported that they occasionally or frequently do research related to the library or information profession. Forty-two percent of the respondents occasionally or frequently conduct research related to their job, the profession, or both. All of these percentages are somewhat higher than expected.

Variables found to have statistically significant associations with the amount of research of either or both kinds conducted by the responding practitioners were as follows: released time for research, internal support for research, external support for research, and educational activities about research methods. Similar to the variables about reading research, the investigators were surprised to find that respondents' perception of how well their master's degree program had prepared them to conduct research was not statistically related to how often they do research. However, that particular question referred to their total master's degree program, not to research methods courses specifically, and a number of master's degree programs do not require, or even offer, a course on basic research methods. The next question did itemize master's degree courses about research methods, and that variable did prove to be significantly related to conducting, as well as reading, research.

Although no questionnaire items directly asked participants why they did not do research, some of the responses to the last open-ended question did shed light on that issue. Also, one could probably safely infer that if practitioners have little or no support or training for doing research, they will be less likely to do so. As noted previously, with the exception of the master's degree program variable, those factors were found to be related positively to the amount of research conducted by the respondents.

The fourth and fifth research questions were as follows: "Are LIS practitioners interested in LIS research" and "What are LIS practitioners' attitudes toward research." No questionnaire items addressed those issues directly, but answers can be inferred from data gathered by other items. It was found, for example, that a considerable number of practitioners regularly read research journals and articles, do research, apply the results of research, and engage in self-education as a means for learning about research methods—activities that indicate a positive attitude toward research.

The final research question was "How do LIS practitioners assess their research skills." Approximately 15% of those who gave reasons for not reading research-based articles checked that they did not have enough expertise in research methods. A little more than half of the respondents thought that their master's degree program adequately prepared them to read and understand research-based publications, but only 30% indicated that their master's

degree program adequately prepared them to conduct original research. It is the researchers' opinion that the difference in assessments is at least partially due to the perception that it is more difficult to do original research than it is to read reports of research.

In conclusion, the results of this study are mixed regarding the extent to which LIS practitioners read, conduct, and apply research. The findings indicate that a substantial number of practitioners do engage in and care about research. For example, almost 9 of 10 respondents reported reading at least one research journal on a regular basis. But at the same time, only 15% read more than four research journals. Also, the level of research activity was found to vary by professional specialization, as represented by association memberships, and was higher for the members of MLA and ASIST—a phenomenon that suggests that information scientists and health sciences librarians place a relatively strong emphasis on research. At least in the case of the information scientists, that relatively high interest in research is not surprising. However, if research is "to play an important role in understanding the societal needs to which libraries should be responsive, assessing the effectiveness of approaches to delivering library services, and guiding the evolution of library processes, practices, and policies" (Wallace & Van Fleet, 2001, p. xix), then LIS professionals of all types, the agencies responsible for educating them, and their employing organizations must give more attention to this critical activity.

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