

Subject Expertise Among MEDLINE Searchers: Results of a Survey and Analysis of Job Openings*

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ABSTRACT

To determine the current demand for subject expertise among MEDLINE searchers, position announcements in the *MLA News* from January, 1981 to September, 1982 were examined. Of 125 reference/search analyst positions listed, 63 (50%) required or preferred a health sciences or related subject background. To ascertain how well the current medical library search analyst workforce meets these requirements of expertise 111 MEDLINE searchers were surveyed. Participants were queried as to the type of institution in which they were currently employed, searching experience, searching workload, educational background, and value placed on subject expertise in online searching. Differences were noted among the responses of hospital, academic health sciences, and corporate MEDLINE searchers.

THE LITERATURE of library science reflects an ongoing concern with required subject specialty as well as an MLS degree for librarians. Much of this literature has focused on subject backgrounds for bibliographers [1, 2]. Faculty, too, have suggested that subject specialists are needed in the library [3]. More recently, librarians have been questioning the need for subject specialties for reference and online searching.

According to Gunning, "Reference librarians with expertise in both a subject area and in information retrieval are of great help to researchers" [4]. Subject expertise has been listed by Van Camp as an important attribute of online search analysts [5], and this opinion was echoed by Hock during the 1982 ALA Conference [6].

ANALYSIS OF JOB OPENINGS

Medical library statistics reveal the widespread use of online search services in health sciences

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libraries [7]. It can therefore be assumed that the need for medical librarians with online search skills would be widespread. The question is whether health sciences library administrators are also requiring subject background for reference librarians and search analysts.

Several studies have examined position announcements to determine the qualifications required by prospective employers. For reference and information specialists, online search skills and subject background have frequently been listed as desired or required. Schmidt and Swanton [8] examined the *MLA News* advertisements for 1977-78 and reported that 95 out of 115 (83%) reference positions required or preferred NLM online search experience. Furthermore, 37% of the positions mentioned subject background as preferred or required. In 1979 the American Society for Information Science (ASIS) Placement Service jobs were examined by Spivack [9] who reported 50% of the 101 jobs called for a technical or scientific background. "As placement officer in a library graduate school," she wrote, "I have difficulty in filling jobs requiring this background. The data suggest that the situation is . . . too few people with technical or scientific backgrounds." Job advertisements reflect a continued need for subject background. Content analysis of health sciences library positions advertised in the *MLA News* (January 1981-September 1982) provides further insight into the perceived need for subject background for online searchers. After eliminating duplicate advertisements, 379 position descriptions were examined to determine the number of reference or information specialist positions listing both online searching and subject background as required or preferred.

Of the 379 job openings listed, 125 (33%) were classified as reference positions, based on the following criteria: all positions listed as Reference

Librarian, Head of Reference, or Search Analyst were counted. In addition, those positions listed as Head of Public Services were included when it appeared that the individual would have direct supervision of online search services. Of the 125 positions examined, 100% required or preferred experience or training in online searching. Furthermore, sixty-three (50%) of the advertisements listed subject background as preferred or required. Thus, over the past several years the requirement for online search skills and the desirability of subject background for reference positions has increased.

In examining the job advertisements it is apparent that many positions, while not advertised as reference positions, have online search ability requirements. These include most hospital, AHEC, and clinical librarians and some cataloging, audio-visual, acquisitions, collection development, and technical service positions. When all positions in the *MLA News* requiring some reference service component were counted, a total of 198 positions were found that required online searching. Of these, 99 positions (50%) listed subject background as preferred or required.

SURVEY OF MEDLINE SEARCHERS

Requirements for job openings in the *MLA News* indicate a trend toward administrative preference for subject background among applicants for positions in medical library reference departments and online search services. To determine how well the current medical librarian workforce meets these requirements a survey of 130 MEDLINE searchers was conducted. The target group included registrants at the annual NLM MEDLINE Update sponsored jointly by the MEDLINE Users Group of the Midwest and the Midwest Health Sciences Library Network (now known as the Greater Mid-

TABLE 2

EXPERIENCE AS A MEDLINE SEARCHER

Years of Experience	Number of Searchers	% of Searchers
One year or less	16	14
1 to 3 years	36	32
3 to 5 years	25	23
More than 5 years	32	29
No answer	2	2

west Regional Medical Library Network), held in Milwaukee, Wisconsin on October 6-7, 1982. Of the 130 MEDLINE searchers present at the Update, 111 participated in the survey. Participants were queried as to: (1) the type of institution in which they were currently employed, (2) search experience, (3) searching workload, (4) educational background, (5) and opinion regarding the value of subject expertise in online searching.

Hospital, academic health sciences, and corporate librarians comprised 91% of the respondents (Table 1). The respondents were experienced online searchers (Table 2), who performed a significant number of online searches each week (Table 3).

Table 4 shows that although most of the MEDLINE searchers surveyed (59%) indicated they possessed a formal education in the health, biological, or chemical sciences, most of their subject background consisted of coursework at the undergraduate level. Only 13 (20%) of the 65 searchers with a subject background had taken courses at the graduate or professional school level, and of these, only five had earned a graduate degree.

The 65 MEDLINE searchers who indicated having a subject background listed 126 different subjects they had taken as formal courses. The

TABLE 1

TYPE OF LIBRARY IN WHICH CURRENTLY EMPLOYED

Type of Library	Number of Searchers	% of Searchers
Hospital	62	56
Academic health sciences	30	27
Corporate	9	8
Academic non-health sciences	4	4
Other health institution	1	1
Other institution	4	4
No answer	1	1

TABLE 3

NUMBER OF MEDLINE SEARCHES PROCESSED BY INDIVIDUALS SURVEYED

Number of Searches Processed	Number of Searchers	% of Searchers
More than 50 per week	5	5
10 to 50 per week	51	46
1 to 9 per week	46	41
1 to 3 per month	3	3
Less than 1 per month	5	5
No answer	1	1

SUBJECT EXPERTISE

TABLE 4
EDUCATIONAL BACKGROUND OF MEDLINE SEARCHERS SURVEYED

Type of Education	Number of Searchers	% of Searchers
With master's degree in library science	93	84
Without master's degree in library science	18	16
With formal education in the health, biological, or chemical sciences	65	59
Without formal education in the health, biological, or chemical sciences	46	41

three subjects most often listed, biology, chemistry, and zoology, accounted for a little over half of the responses.

Individuals without health, life, or chemical science backgrounds were also asked about their formal education. Fifty-three of these searchers indicated having B.A. degrees, six held M.A. degrees, one had earned a Ph.D., and six had attained other levels of education, such as Associate of Arts degrees. A total of 98 subjects were listed as part of the educational backgrounds of these MEDLINE searchers. The three subjects

listed most often, literature, history, and education, accounted for 42% of the responses.

As a group, the searchers attending the NLM Update revealed a higher percentage (59%) with subject specialty than the requirements in the *MLA News* (50%) specify. Even though the subject background listed by those surveyed often refers to undergraduate study, the data suggest that emphasis on subject background for searchers may be increasing. Library literature discussing subject expertise for collection development librarians suggests a second master's degree, a trend which may apply to requirements for online searchers as well.

ANALYSIS OF SURVEY RESULTS

Shown in Table 5, an analysis of the survey results by type of library represented reveals several differences among the three largest groups of searchers—hospital librarians, academic health sciences librarians, and corporate librarians—with respect to educational background, MEDLINE experience, searching workload, and value placed on subject background for online searchers.

The group with the largest percentage of searchers with subject backgrounds was the corporate librarians (67%), followed by academic health sciences librarians (63%) and hospital librarians (56%).

Our data suggest that corporate libraries may be

TABLE 5
COMPARISON OF HOSPITAL, ACADEMIC HEALTH SCIENCE, AND CORPORATE MEDLINE SEARCHERS

Characteristic Being Compared	% Academic Health Sciences Searchers	% Corporate Searchers	% Hospital Searchers
Educational background: With master's degree in library science	100	44	82
With formal education in health, biological, or chemical sciences	63	67	56
Experience: % With 3+ years MEDLINE experience	57	67	44
Workload: % who individually process 10 or more searches per week	66	22	52
Effect of subject background on searching performance: % who felt that subject background improved searching performance; —% who felt that lack of subject background weakened searching performance	84	83	61
	58	100	55

hiring searchers with subject background in preference to searchers with master's degrees in library science. Although six (67%) of the corporate library MEDLINE searchers had a subject background, only four (44%) held master's degrees in library science. Most of the hospital librarians (fifty, or 82%) had earned master's degrees in library science. The academic health sciences librarians were at the other end of the spectrum, with all MEDLINE searchers having graduate degrees in library science. It would seem that the MLS degree, or its equivalent, is more often required of academic MEDLINE searchers than of either hospital-based or corporate MEDLINE searchers.

The group with the highest percentage of experienced searchers was the corporate librarians with six (67%) having three or more years of experience searching MEDLINE. The second most experienced group was academic librarians, with 57% having three or more years of experience, whereas most of the hospital librarians (thirty-four, or 56%) had searched MEDLINE for less than three years.

Searching workload was heaviest among the academic health sciences MEDLINE searchers: 13% run more than 50 searches per week and 40% run between 10 and 50 per week. Hospital librarians were the next busiest; although none indicated a workload of more than 50 searches per week, 52% process between 10 and 50 searches per week. Corporate librarians seemed to have the lightest workload; only 22% ran as many as 10 searches per week.

Results of our survey indicated that librarians value subject specialization in addition to their library education. In response to the following question: "If you were hiring an online searcher for your library, how important would you consider an appropriate subject background?", 71% replied that they would not specifically look for subject expertise if hiring a searcher, but that a subject background might be a factor in hiring. Almost four times as many individuals (20%) indicated they would require a subject background than replied that subject expertise was not needed by searchers in their libraries (5%). Four people did not respond.

Searchers with and without a subject background were asked how they felt this education or lack of it might have affected their performance as searchers. The answers revealed interesting differences among the three largest institutional groups of MEDLINE searchers with respect to the value placed on subject background. Academic health

sciences MEDLINE searchers felt strongest about the benefits of a subject background, with 84% of those with subject training reporting an improvement in their searching performance; and 58% without subject background reporting their searching performance weakened.

Hospital librarians were less certain about the effect of subject education on searcher performance, but most of those with subject background (61%) and 55% of those without subject background considered background beneficial to searching performance.

Five of the six corporate librarians with subject expertise (83%) felt it had improved their searching skills, whereas the three corporate librarians without subject background either felt that their searching performance was perhaps weakened, or were unsure of the effect on their performance as searchers.

CONCLUSION

Our analysis of requirements for job openings for health sciences librarians together with our survey of MEDLINE searchers points to an increasing need for librarians with subject expertise in addition to graduate training in library science. Librarians can certainly anticipate the impact of the report by Nina Matheson for the Association of American Medical Colleges (AAMC) on the role of the library in information management. The AAMC report calls for a "cadre of health information specialists who can bridge the disciplines of the health sciences and information sciences..." [10]. Online searchers with subject expertise may well be in the forefront of those health sciences librarians who rise to answer this call.

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