



April 2002

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## Recommended Citation

Baker, Mary Lou; Lembo, Mary Frances; Manasco, James; and Sandy, John (2002) "Recruiting Entry-Level Sci-Tech Librarians: An Analysis of Job Advertisements and Outcome of Searches," *Sci-Tech News*: Vol. 56: Iss. 2, Article 4.  
Available at: <http://jdc.jefferson.edu/scitechnews/vol56/iss2/4>

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## Recruiting Entry-Level Sci-Tech Librarians: An Analysis of Job Advertisements and Outcome of Searches

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What qualifications are academic library administrators looking for in candidates for entry-level science and technology librarian positions? The Student Relations Committee of the Sci-Tech Division decided to explore this question, with the objective of providing career development information to students in library and information science who are interested in science or technology library positions.

### Literature Review

Researchers have approached the so-called science/technology librarian shortage in a variety of ways in the last twenty-five years. Some have studied the recruitment challenges (Brown, 1988; Vazakas and Wallin, 1992); some have examined the education and recruitment issues together (Stuart and Drake, 1992; Storm and Wei, 1994); others have analyzed job ads in order to demonstrate how science librarianship has changed (Osorio, 1999) or how candidate pools compare to employers' expectations (Dewey, 1986).

Brown (1988) stated that employers seem to have resigned themselves to hiring applicants who do not possess either the preferred science/technology degree or the background experience. She quoted a 1983 Ellis Mount survey that found only 32 percent of science librarians have science or technology degrees. She advocated specific courses of action for recruiting undergraduates to careers in librarianship from both science and nonscience majors.

Vazakas and Wallin (1992) acknowledged the shortage of librarians with education or training in science/technology and advised that science librarians promote interest in their profession among various groups of potential future science librarians.

Stuart and Drake (1992) stated that scientists and engineers are poorly served when librarians have little background in science/technology. The authors noted

there is little hope for improvement in the science/technology background level of science/engineering librarians. Storm and Wei (1994) responded to Stuart and Drake by arguing that librarians without science/technology backgrounds who are committed to professional development can become very competent science/technology librarians. They observed that the issue of science/technology competency has been altered by the advent of other pressing competencies for successful science/technology librarianship, such as information technology skills and teaching ability.

Dewey (1986) found that libraries were experiencing great difficulty in generating reasonably sized applicant pools when they advertised for science librarians. Her study examined 112 science librarian job ads received by the Indiana University School of Library and Information Science Placement Office during a six-month period in 1985 and ads posted at the American Library Association 1985 Annual Conference Placement Center. Fifty-six percent of the respondents had asked for a science background in their ads, and 57 percent of the respondents filled the position with a candidate with a science background. However, only 32 percent of the respondents were satisfied with the number and quality of their applications.

Osorio (1999) analyzed the science and engineering position descriptions of ads in *American Libraries* and *College and Research Library News* in a longitudinal study. The results showed how both qualifications and job responsibilities changed through the 1970s, 1980s, and 1990s.

### Methodology

The purpose of this study was to discover employer qualifications for entry-level science/technology librarian positions. Data were collected from position announcements for a six-month period. As a follow-

up, the researchers contacted six employers who had placed ads. These employers provided information on the candidate pools their ads had produced and on the outcomes of their searches.

This study analyzed 167 science/technology job ads published between June and December 2000 in *American Libraries*, *The Chronicle of Higher Education*, *College and Research Libraries News*, *Information Outlook*, and *Library Journal*. Additional ads were collected from listservs used by science and technology librarians from November 2000 through May 2001. The listservs included STS-L, SLAPAM-L, ELDNET-L, SLA-ST, and GEO-NET-L. A few ads were also obtained from OhioLINK-L, KLA-LIST, BI-L, CHMINF-L, and RUSA-L. The ads from listservs were used primarily to provide context to the types of positions offered and the kinds of employers looking for science and technology librarians.

The list of 167 job ads was reduced to about fifty ads after the elimination of duplicate ads, those that asked for one or more years of post-M.L.S. experience, those that did not include reference service among the position's duties, and those for medical or health sciences positions. In phase two of this research, six institutions (from the sample of fifty ads) were sent a questionnaire asking for information on the results of their searches.

This study focused on both required qualifications and preferred or desired qualifications (known hereafter as "preferred qualifications") as stated in position announcements.

#### Analysis of Job Ads

The most commonly required qualification, listed in almost all of the ads, was the M.L.S. or M.L.I.S. degree. The next most frequently stated required qualification, included in slightly more than half of the job ads, was skill in communication. This was closely followed by a set of skills that imply computer and technology literacy.

Thus, the analysis shows that the three most frequently required qualifications for this set of science/technology library positions were not science/technology-specific. In fact, science/technology-specific qualifications also occur less frequently than the qualifications of reference experience, teaching experience

or ability, and team orientation.

The most commonly required science/technology-specific qualifications were familiarity with the literature or reference sources of science, an understanding of the needs or research methods of scientists, and an undergraduate or graduate degree in science. Only two position announcements asked for candidates with a master's degree in a science area and only five asked for a bachelor's degree in a science area.

The preferred qualifications provide an interesting contrast to this picture. Seventeen ads preferred a bachelor's degree in science, while thirteen preferred a master's degree. Teaching experience or ability was the next most frequently mentioned preferred qualification, with about one-fifth of the ads listing some form of teaching as a preferred qualification. Reference experience and computing skills were also mentioned as preferred characteristics in about one-tenth of the ads.

Some conclusions can be inferred from the frequency of various qualifications included in the preferred or required categories. Administrators, when recruiting candidates for science/technology positions, value communication and computing skills so highly that they do not want to consider candidates without them. It also appears that, even though they would very much like to get candidates who have science degrees, they seem to be resigned to not finding candidates with those degrees and therefore do not insist on them.

Two other qualifications appeared with sufficient frequency in this set of job ads to merit mentioning. Experience in or commitment to public service showed up in either required or preferred qualifications twelve times. An interest in pursuing either professional development or promotion and tenure requirements was listed eleven times. The recurrence of these two qualifications highlights an unusual characteristic of several of the position announcements: An ambiguity is evident about whether the employer was looking for entry-level candidates or for experienced candidates. Sometimes it was fairly obvious that an entry-level candidate could fulfill required qualifications, but an experienced librarian could only fulfill preferred qualifications for the same ad.

Some ads worded the required qualifications suffi-

ciently vaguely that a candidate with an M.L.S. and some academic or preprofessional library experience, but no professional experience, could consider applying. An experienced librarian might read the same ad and not consider it aimed at entry-level candidates.

The following tables present the frequency of occurrence and the science/technology specificity of required and preferred qualifications in the ads. Qualifications that appeared in fewer than five ads have not been included.

TABLE 1. Frequency and Sci-Tech Specificity of Required Qualifications in Job Advertisement

Required Qualifications	Sci/Tech Specific	Number of Ads
M.L.S./M.L.I.S.	No	49/50
Skill in communication	No	26/50
Computing/technology literacy	No	22/50
Reference experience/expertise	No	19/50
Team orientation	No	15/50
Teaching ability/experience	No	14/50
Familiarity with scientific literature	Yes	12/50
Knowledge of scientific research methods	Yes	10/50
Public service experience/orientation	No	10/50
Interest in research or professional development	No	8/50
Bachelor's degree in sci/tech area	Yes	5/50

TABLE 2. Frequency and Sci-Tech Specificity of Preferred Qualifications in Job Advertisement

Preferred Qualifications	Sci/Tech Specific	Number of Ads
Bachelor's degree in sci/tech area	Yes	17/50
Master's degree in sci/tech area	Yes	13/50
Teaching ability/experience	No	10/50
Reference experience/expertise	No	7/50
Computing/technology literacy	No	6/50
Collection development or liaison experience	No	5/50

## Outcome of Searches

How successful were searches conducted with the advertisements reviewed in this study? Six employers were contacted and asked about the outcome of their searches. First, the number of candidates for each position varied widely, from three to sixteen applicants. One-half of the institutions reported small pools (five or fewer applicants) while the other institutions had pools averaging fourteen applicants.

Most applicants at most institutions satisfied the minimum required qualifications. At one institution, required qualifications were worded so as to leave

open the possibility that "we could grow our own," according to the personnel librarian. One major Midwest university indicated that the pool was small, with most applicants not meeting the minimum required qualifications.

The required qualification most often lacking was science education/subject background. Applicants at more than one institution did not have appropriate experience or educational background in either science or engineering. However, at a major Northeast university, with a pool of thirteen applicants, only one applicant did not satisfy this required qualification.

When asked if applicants satisfied most/all of the preferred qualifications, two-thirds of the responding institutions said no. However, at the same Northeast university mentioned above, all the candidates met most/all of the preferred qualifications. At another institution, one-half of the applicants had most/all of the preferred qualifications. The preferred qualification most commonly met was work experience in a science or engineering library. Two institutions indicated that a few applicants had a bachelor's degree or second master's degree in science.

Almost all institutions said job ads were written with some "ambiguity" to draw in more applicants. At one institution the qualifications were made even more general in a second search for the same position. At another institution qualifications were broadened to encourage applicants with a background in any field of science (undergraduate or graduate) and some experience. This same institution required a second master's degree for tenure. However, applicants without a second master's would be considered and, if hired, be expected to obtain a second master's while working.

All of the institutions contacted in this survey sought entry-level applicants. But, unsure of the qualifications applicants might have, most institutions were open to hiring at a higher level or rank. One institution indicated that its administration would hire at any of three levels, appropriate to the experience of the candidate offered the job.

When asked about the success of their searches, half of the institutions indicated a poor outcome and half were satisfied. At one institution, the personnel officer reported, "Our search was not at all success-



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ful.” Of the institutions reporting successful searches, one would have liked a larger pool of applicants and more “well-qualified applicants.” Two institutions were very or extremely satisfied with the outcome of their searches.

### Conclusion

Recruitment of qualified science/technology librarians remains a major challenge for academic libraries. A science/technology background, if not required, more often becomes a preferred qualification. Even so, applicants for science/technology jobs often lack educational backgrounds or appropriate experience in science and technology. Recruitment results are mixed. Some employers are able to find highly qualified applicants, while others have little or no success. Employers are responding to the science/technology librarian marketplace by emphasizing general qualifications, such as good communication skills. The goal of employers is to find highly qualified librarians with strong science/technology backgrounds, but many employers are willing to consider applicants who have knowledge of or related experience in science or engineering plus solid general credentials and a willingness to learn science/technology librarianship on the job.

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