A Survey of Information Professionals on What Skills STEM Graduates Need Entering the Workforce and What Librarians Teach

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INTRODUCTION

How well are science and engineering graduates prepared to transition from student to employee? As the corpus of information continues to expand exponentially, an understanding of competitive knowledge, patents, data management, standards documents, publishing, and navigating literature are becoming increasingly important to research, innovation, and entrepreneurship. We are providing an environmental scan through this survey of information professionals to determine what information professionals feel are important skills new scientists and engineers need to have. The information gathered in this survey will help inform further studies examining what faculty and industrial employers value in student education for new graduates.

METHODS

The survey was administered to professional library listservs including the American Library Association (ALA) Science and Technology Section (STS) and the Engineering Libraries Division (ELD) of the American Society for Engineering Education (ASEE). The survey was open for two weeks during which we received 54 responses, though one respondent did not answer all questions.

DEMOGRAPHICS

Role at Institution

- 40 Liaisons Librarians
- 7 Instruction Librarians
- 2 Reference Librarians
- 2 Administrators
- 1 Scholarly Communications Librarian
- 1 Staff Member

Type of Institution

- 44 University (large research/doctoral granting)
- 5 Four-year/baccalaureate
- 4 Comprehensive (undergraduate/graduate)
- 1 University system regional center

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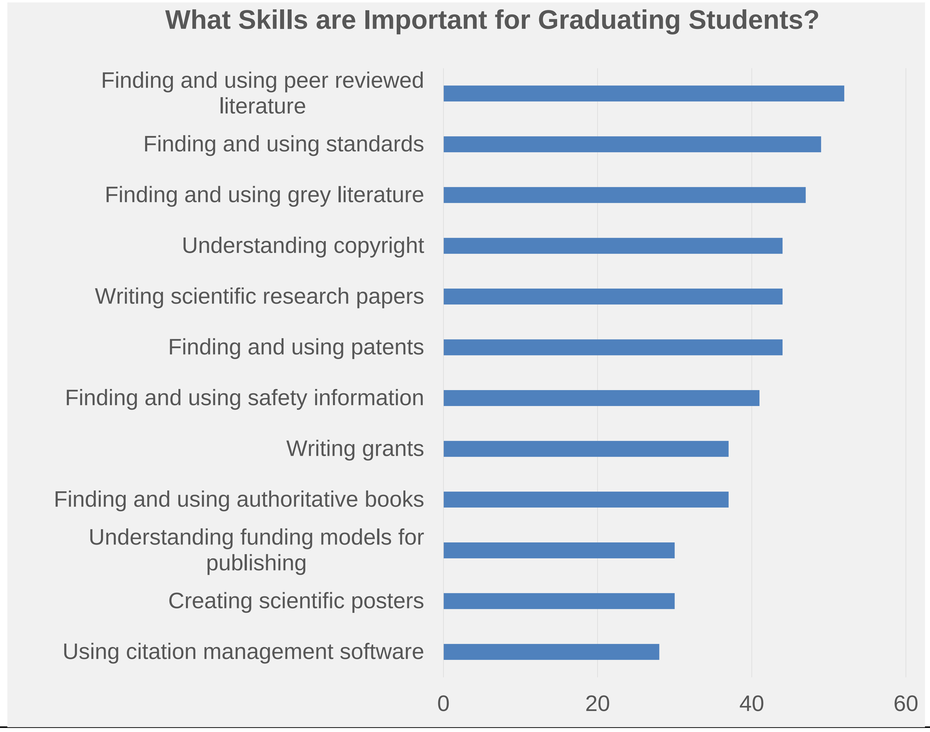
RESULTS

Instruction Statistics

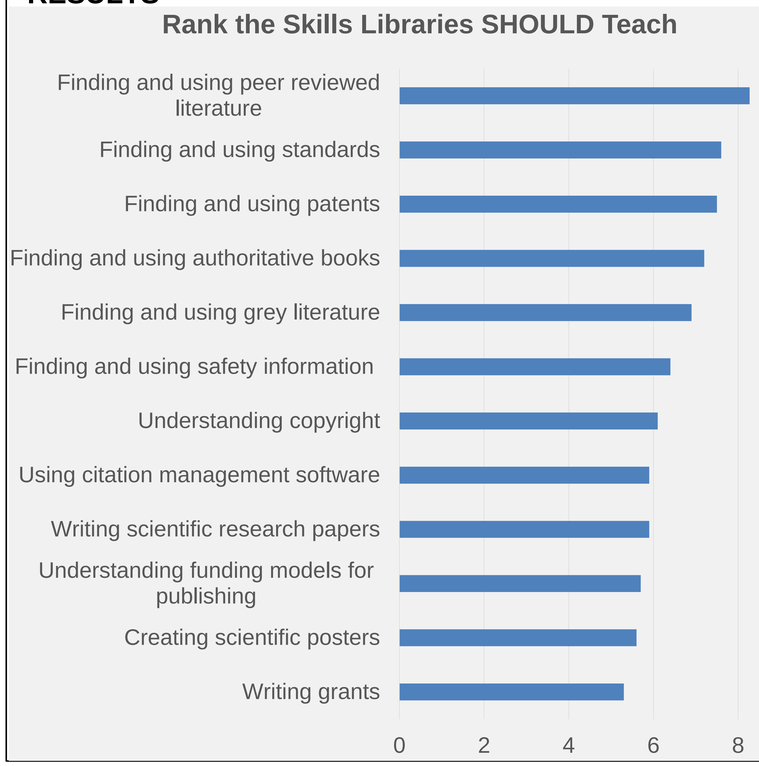
- 96.2% of respondents do provide instruction in one of the 12 areas identified in the survey.
- 96.2% of respondents work with faculty in their subject area at least sometimes to create instruction, while only 3.8% did not.

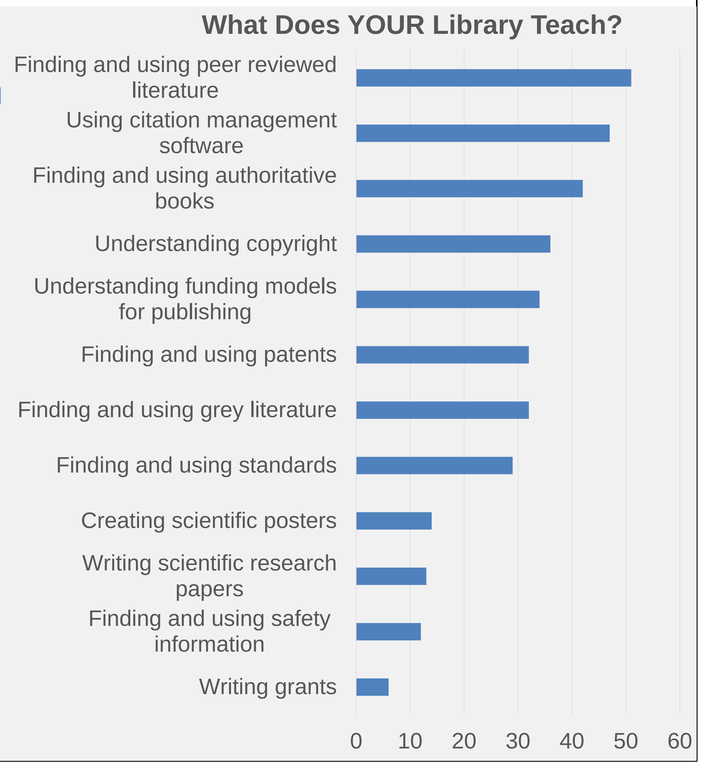
Subject Specialties

- 31 in Engineering and Computer Science
- 26 In Physical Sciences
- 23 in Life and Health Sciences
- 20 in Mathematics
- 8 in Agriculture and Environmental Science
- 1 in Patents and Trademarks



RESULTS





DISCUSSION

This survey of the opinions of STEM librarians sought to identify:
1.Those skills most valued by library respondents,
2.What respondents feel the library ought to teach, and
3.What respondents indicate they do teach.

The results indicate that respondents feel many of these skills are important to new graduates in their future employment. Based on responses, survey participants identified some of these skills as areas the library should not provide instruction in. Knowing how to write research papers and grants were ranked in the bottom four for skills the respondents felt should be included in library instruction. However, respondents selected these two skills much more frequently as necessary skills for graduating students. Perhaps surprisingly, the respondents selected understanding funding models for publishing and citation management software as less important for a student to have upon graduating considering these were among the most included in instruction. Based on responses, they may be attributed to whether information professionals feel these two skills were important for graduates entering industry specifically.

Some of the limitations of this study included a small sample base of two listservs, potential confusion in the wording of the ranking question, and a predetermined list of skills.

FUTURE RESEARCH

The authors plan to investigate the perceptions of faculty members as well as professional research scientists to evaluate the skills they feel are most important for the students to be adept in when they begin working in academia or the private sector.

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