Medical Reference Services Quarterly

Sustaining Librarian Vitality: Embedded Librarianship Model for Health Sciences Libraries

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Published online: 22 Jul 2013.

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With biomedical information widely accessible from anywhere at any time, health sciences libraries have become less centralized, and they are challenged to stay relevant and vital to the mission and strategic goals of their home institution. One solution is to embed librarians at strategic points in health professions' education, research, and patient care. This article discusses a proposed five-level model of embedded librarianship within the context of health sciences libraries and describes different roles, knowledge, and skills desirable for health sciences librarians working as embedded librarians.

INTRODUCTION

Technology has transformed how people access, locate, and use information. As information is widely accessible from anywhere and at any time, libraries have become less centralized. Library patrons come to the library's

physical space less for traditional library services such as reference and inter-library loan services but more for other activities such as using library space for independent study or group meetings and attending various instructional or noninstructional programs.[1] As a result, the use of traditional services (e.g., face-to-face reference) is declining.[1] This situation does not necessarily mean that library services are no longer needed, but it does signify changing needs for the services. Health sciences libraries are challenged to stay relevant and vital to the mission and strategic goals of their home institution. To sustain librarian vitality and raise the profile and value of health sciences libraries in the "changing information landscape,"[2] librarians must rethink their role and library functions and revitalize their approaches to library practice. One approach is to integrate librarians or practice embedded librarianship at strategic points of any efforts in health professions education, scholarly endeavors, and patient care.

The phrase "embedded librarian" has a wide range of meanings and varied definitions. Edward and her colleagues considered embedded librarians to be librarians involved at the macro (e.g., college, department, or program) and micro (e.g., course) levels.[3] Added to these two levels is the mega level that can represent librarians' outreach to or connection with the communities they serve. To Kesselman and Watstein, being embedded was characterized by two important factors: integration and collaboration.[4] They described embedded librarianship as an intense integration into the user group where information literacy content was recognized as essential and where patrons had multiple opportunities to interact with the librarian.[4] In his recent book *The Embedded Librarian: Innovative Strategies for Taking Knowledge Where it's Needed*, Shumaker identified some key characteristics of an embedded librarian, including anticipating user needs, building strong relationships with the customer groups, providing customized and value-added services, working as a team member and collaborator, and contributing to the success of ongoing projects.[1]

In health sciences libraries, the initial concept of embedded librarianship was rooted in clinical medical librarianship (CML). As expert literature searchers, CMLs were integrated into clinical settings through clinical and educational activities such as morning reports and clinical rounds. CMLs assisted clinicians with literature searches to support clinical decision making for patient care. CMLs were encouraged to "project themselves not as information 'servers' who trail the team in an auxiliary capacity, but as an integral part of the group with a specialized expertise that can contribute vitally to clinical situations."[5] Davidoff and Florance later conceptualized the term "informationist" as a medical librarian trained to provide similar services as information specialists.[6] In 2006, the Medical Library Association (MLA) Task Force further developed the concept into Information Specialist in Context

(ISIC). Within the ISIC model, health sciences librarians were expected to have solid understanding of both information science and the knowledge and skills to work in a clinical care team.[2] To reflect health sciences librarians' involvement at multiple levels and role expansion beyond the physical building to the community they served, MLA created a web page <http://www.mlanet.org/research/informationist/> dedicated to resources and publications related to ISIC.

New job titles such as outreach and liaison librarian have emerged to characterize the nature of work activities and outcomes of work expected or desired for librarians, especially in academic health sciences settings. Librarians were assigned to serve as liaisons to different colleges or departments or divisions in their home institutions. In visiting four academic health sciences libraries, Kronenfeld observed and found efforts to shift traditional librarians' duties to those of library liaison activities (e.g., curriculum development and faculty instructional support).[7] The library liaison's role was to be a contact person within the units he or she served, but the role was not as clearly defined and extensive as that of a CML or ISIC.

Regardless of what titles health sciences librarians have, whether CML, ISIC, outreach, or liaison librarian, current literature abounds with examples and cases showing that health sciences librarians have been redefining their role beyond the traditional library boundaries and integrating with those they serve to provide complex and value-added services in their home institution.[8–12]

More academic health sciences libraries have reorganized their service points into a single-service desk that relieves librarians of staffing the desk for in-depth research and consultation services.[13,14] Schulte described the process and outcomes for an academic health sciences library to replace traditional reference services with an in-depth Personalized Information Consult Service (PICS).[15] Adopting the PICS paradigm compelled librarians to explore and seek collaborations while providing more in-depth and lengthy consultation sessions.[15] Increased degrees of librarian "embeddedness"[18] also resulted in positive effects on student learning as evidenced in student writing assignments.[16] Health sciences libraries are moving toward providing more specialized, customized, and personalized services to meet changing needs and demands of their stakeholders in accomplishing their goals of learning and providing health professions education and patient care and undertaking scientific discovery. The concept of embedded librarianship has pervaded the general library literature; however, only a few studies use the term embedded librarian in the health sciences library literature.[8,9,12,17] A comprehensive review of library literature reveals multiple meanings and activities in the practice of embedded librarianship and a wide range of approaches and interpretation of the term.[18]

MODEL OF EMBEDDED LIBRARIANSHIP FOR
HEALTH SCIENCES LIBRARIES

Given the "polysemantic nature of embedded librarianship"[18] and a wide range of activities and tasks performed by embedded librarians, it is not realistic to seek or agree upon a definition of embedded librarianship, which can circumscribe its usages in many forms and contexts. However, to promote embedded librarianship as an approach to health sciences library practice and to guide decisions about the future of health sciences libraries, a framework or mechanism is needed to characterize different levels of embedded librarianship and successful assimilation. In response to the need, a five-level working model of embedded librarianship is proposed (see Table 1). The model is intended to identify and embrace many forms and degrees of librarian embeddedness in the context of health sciences libraries. It may be used as a way to improve the quality of library services, enhance the value of librarians, promote professional growth, recruit new hires, or achieve librarian vitality.

The model illustrates different levels of embedded librarianship, role delineation, activities/duties performed, and knowledge and skills associated with and desirable for various roles undertaken. The model is proposed on the premise that the higher level (or degree) of librarian integration, the more likely librarians can contribute to the growth and success of their library and ultimately the mission and goals of their home institution. In circumstances and contexts in which a faculty member, department, or college is unaware of the true value or merit of embedded librarians or is reluctant to accept reference, research consultation, or instructional services, librarians can start with partial embedding by tactfully offering their services.[19] As the librarian's role and value are realized and ascertained through evidence of student learning outcomes and faculty research productivity, many steps can be taken to embed librarians fully into a course, program, academic unit, or college or at the micro and macro levels.[3]

The following are examples of strategies and steps that can be taken to achieve a high level of embedded librarianship:

- Develop a presence physically and culturally, and be fully integrated into a specific academic unit, department, or a school of health professions education, to connect the librarians' work to their important customer outcomes;
- Build close relationships with faculty members from multiple disciplines across different academic departments and units to improve the quality of teaching and learning;
- Collaborate with faculty and students to develop a more relevant collection of print, media, and electronic resources that meet curricular, course, instructional, and research needs;

TABLE 1 Five-Level Model of Embedded Librarianship for Health Sciences Librarians

Level	Librarian's role	Examples of activities (or duties performed)	Knowledge and skills recommended (or desirable)
Level 1	• Service provider • Resource purchaser • Collection developer	• Collection development to support a course, curriculum, or educational efforts of a department/unit/school • Library services based in the physical library	• Knowledge of course requirements • Understand faculty's needs in teaching and research • Understand students' needs in learning
Level 2	• Guest lecturer • Guest speaker • Collection developer	• Develop and provide stand-alone, one-time lecturing in a course • Supporting role in education and research • Develop web-based library resource guide	• Knowledge of course requirements • Anticipate faculty and student information needs • Basic knowledge of learning principles and instructional design
Level 3	• Team member • Collaborator • Co-presenter • Co-instructor • Library liaison • Librarian on call	• Integrate library instruction into a course/curriculum • Develop and maintain a collaborative workspace for a research project • Maintain institutional repository • Customize references and research consultation services • Provide on-call or one-on-one research services	• Research skills • Knowledge of scholarly communications and open access • Skills in instructional design • Skills in applying technologies to organize and manage information • Knowledge of learning theories
Level 4	• Faculty status in the library context • Educator • Information specialist • Course developer • Clinical medical librarian • Consumer health librarian	• Teach a credit-based course • Share work space with faculty • Located in the environs of faculty and students • Go on clinical rounds with healthcare professionals in clinical settings • Provide specialized, customized, and personalized services • Develop a consumer health collection and fulfill health information needs of consumers	• Skills in instructional design • Knowledge of learning theories • Research skills • Understand translational research process • Skills in applying technologies to organize and manage information • Cultural competency • Knowledge of consumer health information needs • Project management skills • Second master's degree, certificate, or course work in another discipline or library liaison area

TABLE 1 Continued

Level	Librarian's role	Examples of activities (or duties performed)	Knowledge and skills recommended (or desirable)
Level 5	• Faculty status in an academic department or college • Educator sharing space with faculty across disciplines • Coauthor • Research collaborator or partner • Curriculum/ program developer • Community outreach partner	• Involvement in the decision-making process in setting up and reaching strategic goals of home institution • Located in the environs of faculty and students • Develop an educational program or curriculum • Serve on institutional/ departmental committees • Coauthor a manuscript (e.g., book chapter, systematic review) • Collaborate in grant writing and conducting research projects • Develop and provide community outreach programs	• Subject content knowledge in a discipline related to health care profession education • Knowledge of instructional design and learning theories • Research skills • Knowledge of the translational research process • Project management skills • Cultural competency • Knowledge of consumer health information needs • Specialized expertise in an area that contributes vitally to strategic goals of the home institution • Second master degree or doctoral degree in education or a liaison area

- Be involved in curriculum development and teach or co-teach credit-based courses in face-to-face or online environments;
- Team with faculty and researchers in designing and conducting research projects;
- Serve on institution- or organization-wide committees to influence educational reform, curriculum/program development and implementation, policy formation, and strategic planning processes; and
- Reach out to the community and serve as a bridge to connect the home institution with the community.

The implementation and practice of embedded librarianship requires librarian job redesign, which in turn leads to job growth for librarians. A high level of embeddedness requires effort and investment from both individual librarians and library administration. It is important for individual librarians to set up personal goals and a professional development plan to gain new knowledge, skills, and abilities to take on the embedded librarian role and perform the high-level duties/tasks of embedded librarians. The model lists some areas of knowledge and skill sets recommended or desirable for librarians who seek to become embedded librarians.

For library administrators, it is important to first conduct an environmental scan of their organization to develop a better understanding of organizational culture and strategic goals, customer groups, their needs and expectations. Meanwhile, administrators can anticipate challenges and obstacles in achieving the results they envision. A job analysis is useful to collect information about the duties, tasks, and responsibilities involved in incorporating librarians into their users' workspace. The analysis will help the process of developing clear job descriptions and specifications and responsibilities for librarians to achieve a high level of performance, productivity, and outcomes. To reach that goal, a mechanism is needed for recognizing successful assimilation and best practices in embedded librarianship. Opportunities must be available for librarians to structure individual training efforts to develop new knowledge, skills, and expertise in taking on the embedded librarian role.

The working model of embedded librarianship presents an alternative approach to improving the quality of services and library practice. It may be used to complement existing methods for career advancement in health sciences libraries. Other possible uses for the model include redefining library functions and goals in integrating librarians at strategic points of the home institutional mission and goals, assisting individual librarians in formulating a professional development plan, adding a different dimension or perspective to existing criteria for librarians' promotion and career advancement, specifying qualifications and job descriptions for new hires, and planning library budgeting.

SUMMARY

The role for health sciences librarians continues to evolve. New challenges are emerging for librarians in the transformed information landscape as a result of many forces colliding in the world of information technology and the digital universe. It has become a constant for health sciences libraries to face the impact of a volatile library budget and shifting priorities among many competing goals of their home institution in relation to patient care, research, and health professions education. A working model of embedded librarianship is proposed to help address important library issues and to offer a mechanism for librarians to maintain vitality and to remain relevant to the mission and goals of their home institution.

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